

Rare and scarce vascular plants and
bryophytes in Natural Areas

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**Rare and Scarce Vascular Plants and Bryophytes
in Natural Areas**

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PLANTS IN NATURAL AREAS

1. INTRODUCTION

Over the last four years English Nature has been developing the concept of Natural Areas, conceived as a delivery framework for nature conservation in England. It is a framework that recognises distinct biogeographical zones inherent within the English landscape, one that is not reflected in present day administrative boundaries or vice-counties. In collaboration with the Countryside Commission, a definitive Natural Areas map was launched in December 1996. This divides England into 120 Natural Areas. Many Natural Areas cut across administrative boundaries, but individually they all show ecological integrity and share similar conservation issues.

The validation of Natural Areas from the biogeographical perspective can only be tested by examining the distribution of taxonomic groups. The distribution of plants is influenced by climate, geology, soils, topography and the particular life-strategy of the plant. Superimposed upon this natural pattern is the relatively recent but significant influence of man. The boundaries of Natural Areas were drawn with these factors in mind, and this present botanical study has demonstratively shown just how close the correlation is between Natural Areas and the English flora.

1.1 Scope of report

At the outset the intention was to cover vascular plants, bryophytes, lichens, algae and fungi. However, in the time frame available, this soon became unrealistic if adequate treatment of each plant group was to be attained. Information on vascular plants and bryophytes is relatively accessible in a computerised form, but this is not the case for lichens, algae (with the exception of charophytes) and fungi. Indeed for these groups there is still a need to better understand their distribution and taxonomy. It is anticipated that they will be the subject of future treatments, and due recognition can then be given that the fungi especially are a unique group on their own, quite unrelated to plants. The present work therefore deals with vascular plants (flowering plants, conifers, ferns, horsetails, club mosses), bryophytes (mosses, liverworts, hornworts) and charophytes (note that charophytes are only shown where scarce or rare species are present). Apart from *Alchemilla*, *Sorbus*, *Euphrasia* and *Limonium* other critical taxa and apomictic groups are not covered.

1.2 Objectives

The main objectives of the report are to:

- indicate the importance of a Natural Area for a particular plant group/species
- indicate those species of high priority within the Natural Area
- assist staff in characterisation of Natural Area core profiles and policy decisions
- identify areas of importance for plants in England

1.3 Maritime Natural Areas

The coastline of England has been zoned into 23 Maritime Natural Areas, but for the present botanical profiles that deal with vascular plants and bryophytes, features such as sand-dunes, shingle banks and maritime cliffs are treated as components of terrestrial Natural Areas. *Zostera* beds, although obviously marine, are also included here.

2. METHODS

2.1 Sources of data

- **Databases**

Vascular plants: The *JNCC vascular plants database* holds records of Nationally Rare plants (species occurring in 15 or fewer 10 km squares in Britain). The records are the basis for the Red Data Book 3rd ed. (in prep.) and adopt the revised IUCN criteria (World Conservation Union, 1994) of critically endangered, endangered and vulnerable (collectively known as the Red List). Near Threatened (in the IUCN Lower Risk category) species, also held on the JNCC database, are plants occurring in 15 or fewer 10km squares but not included in the Red List. For Red List vascular plants the JNCC database is considered to be more current than the BRC database.

The *BRC database* is the source for Nationally Scarce vascular plants (species occurring in 16 to 100 10 km squares), placed in the Lower Risk category under the revised IUCN criteria.

Bryophytes: The *BRC database* is the source for Red List, Near Threatened, Nationally Scarce and Data Deficient (plants with inadequate information to decide whether or not to include in the Red List).

Charophytes: The *BRC database* holds records for Red List and Near Threatened plants. It is worth noting that charophytes contain a higher proportion of threatened taxa than any other group in Britain (Stewart & Church, 1992).

- English Nature Natural Area draft profiles
- Published atlases, floras and red data books
- Colleagues and personal knowledge

2.2 Data handling

Data from JNCC and BRC were transferred to MAPINFO, a GIS mapping software package. This enables species to be mapped onto a Natural Area backdrop, and to produce listings of species each Natural Area. It is important to understand the data if it is to be interpreted correctly. In Britain plant recording has traditionally been done at the vice-county level or 10 km square level, and this has implications for localising plants to Natural Areas. Many of the records are accompanied by six-figure or four-figure national grid references, and so can be mapped with a high degree of confidence that they are allocated to the correct Natural Area. Even though Red List plants were mapped to an accuracy of either 100 m or 1 km, where a plant falls on or close to a Natural Area boundary, there remains a degree of uncertainty as to which Natural Area it belongs. In these circumstances species are checked and amended if necessary. The data from JNCC consists of a range of dates, but the majority are relatively recent, derived from surveys carried out in the 1980's and 1990's. The montane *Alchemilla* species illustrate the situation where there are very few recent records, and therefore a later cut off date would have resulted in a distorted picture. A species at a particular locality often has multiple records made at various dates; in these cases only the most recent record is shown. Those species that include 10 km coordinates tend to be early records, and more

recent records with accurate coordinates effectively resolve the problem, providing locality names are unambiguous.

The position with data from BRC is different. To present a relatively up to date occurrence of plants within a Natural Area, a date of 1970 onwards was chosen. Also a very much larger proportion of Nationally Scarce vascular plants are without four or six figure grid references than exists for Red List plants. This has meant that a significant proportion of plants accompanied by 10 km coordinates could not be mapped.

The data for bryophytes was compiled from records dated 1950 onwards. Data for 1970 onwards was initially used, but the resultant maps gave a very incomplete and misleading picture. A significant proportion of rare and scarce bryophytes have few records after 1970, partly because the plants have not been searched for in recent years, but also because they are much harder to find than vascular plants, and there are less botanists looking for them. It should also be recognised that some counties have been better worked, and more recently, than others. Counties with a Bryophyte Site Register will invariably result in more records on the database - hence a concentration of records in Cornwall, Cambridgeshire and Surrey (the latter also a result of Gardiner's (1981) flora of Surrey). This is clearly seen when all mosses and all liverworts are plotted on a Natural Area map. Older records are also often poorly localised, and even many recent records are only mappable to the 10 km² level. It is for these reasons that the distribution maps generated for the botanical profiles are not identical to maps in the Atlas (Hill *et al.*, 1991,1992,1994).

The distribution maps represent records only, and convey no information on size of plant populations. Such information, where known, will be given in the botanical profiles. However, the number of dots in a Natural Area do give an indication of how important it is for a particular plant or plants.

2.3 Evaluation of botanical interest

An evaluation procedure is required to identify those Natural Areas that are most important for a particular plant group in England. The criteria used are explained below, but it should be noted that they are rather different from those for birds (Grice *et al.*, 1994) and lowland grasslands (Jefferson, 1996). It is also important to realise that the various designations and status of plants are at the national or European level. Data is not readily available to adapt this to England only. It could be argued that the British Isles is the most appropriate biogeographical area within which to assess the botanical importance of Natural Areas. An indication of the botanical importance of each Natural Area is graphically shown by the use of GIS, plotting all records of Red List (Map 2) or Lower Risk plants, or a combination of both. Quite distinct areas of England clearly emerge as being of high importance, including the north-west and south-west of England, the Brecklands, Chilterns, Cotswolds and the New Forest. This of course will be no surprise to most botanists.

In assessing the botanical interest of each Natural Area, numbers of plants are initially taken into account: numbers of Internationally designated, scheduled, Red List, Lower Risk, endemics, Atlantics (bryophytes only) and also the proportion of Natural Area introductions. A series of scores was produced based on an appropriate range of values, summed and allocated to a five point scale representing the significance ratings shown in Table 1.

Map 1. Distribution of all records of Red List and Near Threatened vascular plants in England.

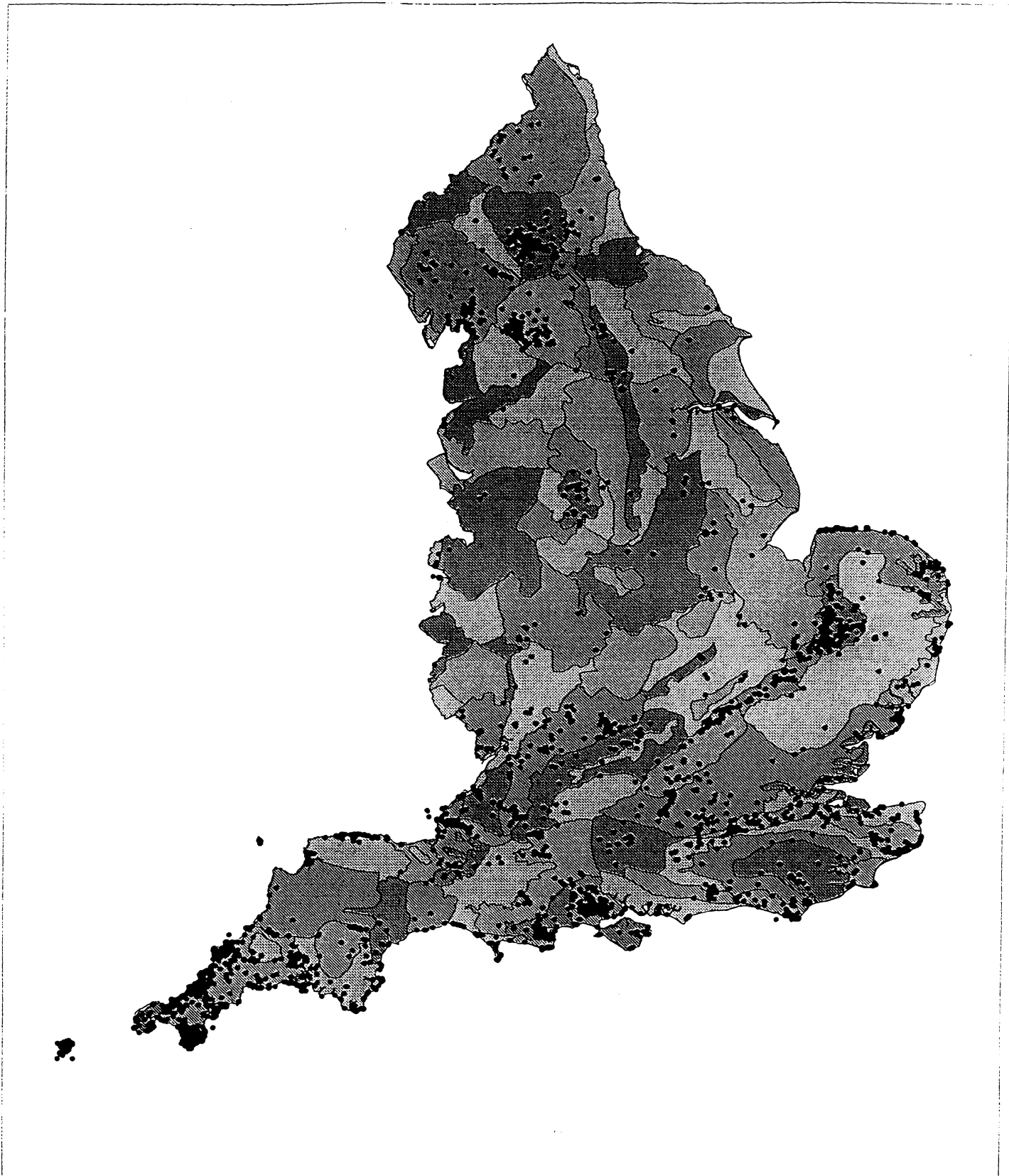


Table 1. Significance ratings and botanical objectives

outstanding	botanical objectives should be of the highest priority
considerable	botanical objectives should be regarded overall as high priority
significant	botanical objectives should be regarded overall as medium priority, although certain species, in particular international or scheduled, or assemblages of species, may require high priority
notable	botanical objectives should be regarded as medium priority, although some red list plants may require high priority
some	botanical objectives should be regarded as low priority, and conservation of plants will generally be achieved through initiatives targeted at habitats or issues within the Natural Area

This produced an objective first ranking but it was necessary to take other factors into account. These include communities of plants that would not otherwise be recognised (such as the Wealden Sandrock communities), species known to have their sole station in a particular Natural Area, or have very few occurrences in England. The size of a Natural Area will also inevitably affect such a numerical ranking. The initial botanical significance list was thus subsequently revised following careful consideration of each profile; in most cases the significance rating was adjusted upwards. Table 2. Summarises the number of Natural Areas falling into the five significance categories. Decisions on the relative importance of the various factors is to some extent problematical and subjective, and are based on the main author's opinion. It should be noted that all the species listed on the profiles (and some that are not) require some conservation action, although how this is to be achieved will vary.

Table 2. Summary of significance assessments by Natural Area

Botanical significance	Number of Natural Areas	
	Vascular plants	Bryophytes
outstanding	15	3
considerable	14	7
significant	35	23
notable	16	25
some	18	40

2.4 Nomenclature

For vascular plants names follow Stace (1991) and stoneworts Stewart & Church (1992). For mosses names follow Corley *et al.* (1981, 1991), liverworts and hornworts Grolle (1983). The species selected to include in the botanical profiles, and their respective status, are taken from The Pink Book of Plants (Hodgetts *et al.*, 1996).

2.5 Explanation of botanical profile fields

Each Natural Area is presented as a standard table designed to convey the botanical interest in a consistent manner, thus enabling comparisons across Natural Areas to be made.

Name and number

This gives the name and number of the Natural Area as given on the definitive map revised to December 1996. (Map 1)

Botanical significance

The botanical significance of each Natural Area for vascular plants and bryophytes is given. For consistency the terminology is similar to that used in Birds in England: a Natural Areas approach (Grice *et al.*, 1994) and Lowland grassland in Natural Areas (Jefferson, 1996). Five categories are used: outstanding; considerable; significant; notable and some. How these are allocated is explained in section 2.3.

General botanical character

An attempt is given here to present a résumé of the essence of the botanical interest of the Natural Area, the character of which is closely tied to type and extent of semi-natural habitat, and geology. Plants not covered in the succeeding lists are mentioned here as they contribute to the botanical identity, for example, Atlantic bryophytes are of international importance as a group but very few are threatened or rare in Britain. Other features highlighted are strongholds for a particular plant, plants on the edge of their European range or those threatened on a global level. Key plants are highlighted as priority species within the Natural Area, and conversely any rare species that are considered to be of low priority, for whatever reason, are likewise highlighted.

Plant groups and status

The status within the vascular plants, bryophytes and charophytes is indicated by a particular font type. The categories used are as follows (see section 2.1 for definitions):

- International designations (Habitats & Species Directive, Bern Convention, Conservation Regulations).
- Protection under the Wildlife & Countryside Act 1981 (Schedule 8).
- Red List (Red Data Book: critically endangered, endangered, vulnerable)
- Lower Risk (includes Near Threatened, Nationally Scarce)
- Data Deficient
- Endemics (Britain and England)
- Introductions (Britain and Natural Area)

A key to the fonts used is given at the end of each profile.

Endemics

The situation regarding endemics is at the moment rather unsatisfactory. The present work follows draft revisions of the Guidelines for the selection of biological SSSIs: vascular and non-vascular plants 1996 Revision (Palmer & Hodgetts, 1996) which lists endemics to Britain. This includes England, Wales and Scotland but excludes Ireland, the Isle of Man and the Channel Isles. A much better approach is to consider the British Isles as a phytogeographical unit (as adopted by Stace, 1991). With some reservations therefore, English endemics are indicated. In addition, Sell & Murrell (1997) gives *Orchis militaris* var *temuifrons* as an endemic.

Introductions

Introductions to particular Natural Areas are indicated in the profiles, whereas most plants considered to be introductions to Britain are not given (Scots Pine is omitted as it is not considered native to England). This is because under the revised IUCN guidelines (World Conservation Union, 1994) several species covered in the second edition of the vascular plant red data book (Perring & Farrell, 1983) are excluded from the 3rd. edition of the vascular plant red data book (Wigginton, In prep.), for example *Crocus vernus* and *Tetragonolobus maritimus*. An exception is *Equisetum ramosissimum*, the status of which is currently being debated.

Most of the known introduced populations on the JNCC database (red list and near threatened vascular plants) had already been filtered out, but the BRC database (nationally scarce vascular plants) contains all records, native or introduced. Scarce Plants in Britain (Stewart *et al.*, 1994) was used to determine whether or not a particular species was native to a Natural Area. Thus if a plant is a known introduction it should be of low conservation priority in that Natural Area.

From the data sources used to compile the profiles, it was estimated that an average of 22% of scarce and rare vascular plant species are introductions in any one Natural Area. As part of the evaluation of botanical significance process, those profiles that show introductions significantly above this level were reviewed and, if appropriate, adjusted.

Key habitats

Each species is allocated to a broad vegetation type based on the National Vegetation Classification (Rodwell, 1991, 1992a, 1992b, 1995, In prep.):

◆	woodland and scrub	W
◆	mire	M
◆	heath	H
◆	mesotrophic grassland	MG
◆	calcicolous grassland	CG
◆	calcifugous grasslands and montane	U
◆	Aquatic	A
◆	Swamps and tall-herb fens	S
◆	Sand-dune, strandline and shingle	SD
◆	Salt-marsh	SM
◆	Maritime cliffs	MC
◆	Open vegetation and weed communities	OV
◆	Other	O

The category *other* is required to provide for those species, particular bryophytes, that do not fit adequately within one of the described phanerogamic-dominated communities. In many cases a judgement has to be made of where plants should be allocated since they do not appear in British Plant Communities. There are also geographical differences in habitat preferences of many species; a plant may occur for example in beechwoods in southern England, in open birch woodland in the north and in dune slacks on the coast. In such cases a plant is allocated to the habitat relevant to that particular Natural Area. Totals of plants in particular vegetation types are given to aid comparison across Natural Areas, but it should be noted that a plant may occur in more than one type and therefore totals do not represent actual number of plants.

Summary of interest

The botanical importance of a Natural Area must take into account those plants that are threatened, protected by legislation and those that Britain have special responsibility for such as endemics. The numbers of plants in each category are summarised, including total number of species in a Natural Area. This enables some degree of quantification of the botanical interest and comparison across the Natural Areas.

3. ACKNOWLEDGEMENTS

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**BOTANICAL PROFILE: 1. NORTH
NORTHUMBERLAND COASTAL PLAIN**

**Vascular plant significance: SOME
Bryophyte significance: SIGNIFICANT**

General botanical character: Sand dune and maritime cliffs are important here - inland the landscape is more agricultural and semi-natural habitat is harder to come by. The occurrence of *Petallophyllum ralfsii* is the most notable to date, although this is also the only English station for *Atriplex praecox* which is on southern limit of its range.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Allium schoenoprasum</i>	MC	<i>Persicaria laxiflora</i>	OV
<i>Atriplex longipes</i>	SM	<i>Potentilla neumanniana</i>	MC
<i>Atriplex praecox</i>	SD	<i>Pyrola rotundifolia ssp. rotundifolia</i>	SD
<i>Carex divisa</i>	MC	<i>Ribes spicatum</i>	W
<i>Carex maritima</i>	SD	I _{NA} <i>Sedum forsterianum</i>	MC
<i>Centaurium littorale</i>	SD	<i>Sedum villosum</i>	M
<i>Corallorhiza trifida</i>	W	<i>Sesleria caerulea</i>	MC
<i>Dianthus deltoides</i>	U	I _{NA} <i>Vicia bithynica</i>	MC
<i>Epipactis leptochila var. dunensis</i>	SD	<i>Zostera marina</i>	O
<i>Equisetum variegatum</i>	SD	<i>Zostera noltii</i>	O
<i>Fumaria purpurea</i>	MC		
<i>Hippophae rhamnoides</i>	SD		
<i>Lathyrus japonicus</i>	SD		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Amblyodon dealbatus</i>	SD	<i>Drepanocladus lycopodioides</i>	SD
<i>Bryum intermedium</i>	SD	<i>Parapholis incurva</i>	SD
<i>Campylium elodes</i>	SD	PETALOPHYLLUM RALFSII ⁸	SD
<i>Campylium polygamum</i>	SD		
<i>Catascopium nigrum</i>	SD		

EXTINCT AND/OR DECLINING SPECIES

Bryophytes	Habitat (NVC)	Flowering plants	Habitat (NVC)
<i>Bryum calophyllum</i>	SD	<i>Mertensia maritima</i>	SD
<i>Bryum knowltonii</i>	SD		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	1	1				1			9	1	7	2	2	
Bryophytes									7					
Charophytes														
Total	1	1				1			16	1	7	2	2	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants				24				24
Bryophytes	1	1	1	6				7
Charophytes								
Total	1	1	1	30				31

<p>KEY:</p> <p><i>INTERNATIONAL DESIGNATION</i></p> <p>Schedule 8 =⁸</p> <p>Data Deficient = _{DD}</p> <p>English endemic = EE</p> <p>NA Introduction = I_{NA}</p>	<p><i>Red List</i></p> <p>Lower risk</p> <p>GB endemic = E</p> <p>GB Introduction = I</p>
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BOTANICAL PROFILE
02. BORDER UPLANDS

Vascular plant significance: SIGNIFICANT
Brvophyte significance: SIGNIFICANT

General botanical character: The NA is characterised by the heather and grass moorland which covers the rolling uplands. These areas have been affected by agricultural improvement, heavy grazing and drainage, so that *Molinia* dominated grassland is extensive, although substantial areas of heathland remain. River valleys cut into the uplands and lead down to more fertile land. Native woodland is scarce throughout the area and commercial forestry is widespread. The Area is a stronghold for *Ribes spicatum* and is the only NA in England for *Vaccinium microcarpum*. It is also the only known station for *Fossombronia fimbriata* in England.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Alchemilla glomerulans</i>	MG/U	<i>Goodyera repens</i>	W
<i>Alchemilla gracilis</i>	CG	<i>Hammarbya paludosa</i>	M
<i>Allium schoenoprasum</i>	CG/U	<i>Hordelymus europaeus</i>	W
<i>Alopecurus borealis</i>	M/U	<i>Impatiens noli-tangere</i>	W
<i>Asplenium trichomanes</i> spp.	O	<i>Meum athamanticum</i>	MG/U
<i>pachyrachis</i> ^{DD}		<i>Minuartia verna</i>	CG/OV
<i>Betula nana</i>	M	<i>Myosotis stolonifera</i>	M
<i>Carex magellanica</i>	M	<i>Nymphoides peltata</i>	A
<i>Corallorrhiza trifida</i>	W/M	<i>Orobanche rapum-genistae</i>	H/W
<i>Crepis mollis</i>	MG/W	<i>Persicaria laxiflora</i>	OV
^{I_{NA}} <i>Cyperus longus</i>	MG	<i>Polemonium caeruleum</i>	W
<i>Dianthus deltooides</i>	CG/U	<i>Potamogeton filiformis</i>	A
<i>Draba muralis</i>	CG/MG	^{I_{NA}} <i>Primula elatior</i>	W
<i>Eleocharis austriaca</i>	U/M	<i>Pyrola media</i>	W/H
<i>Epipactis leptochilla</i> var. <i>dunensis</i>	W/OV	<i>Ribes spicatum</i>	W
<i>Epipactis leptochilla</i> var. <i>leptochilla</i>	W	^{I_{NA}} <i>Sedum forsterianum</i>	CG
<i>Epipactis phyllanthes</i>	W	<i>Sedum villosum</i>	M
<i>Epipactis youngiana</i> ⁸ EE	W	<i>Sesleria caerulea</i>	CG
<i>Equisetum variegatum</i>	M	<i>Thlaspi caerulescens</i>	
<i>Euphrasia frigida</i>	U	<i>Vaccinium microcarpum</i>	
<i>Euphrasia rostkoviana</i> ssp. <i>montana</i>	MG/M		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Amblyodon dealbatus</i>	M	<i>Philonotis caespitosa</i>	O
<i>Anomobryum filiforme</i> var. <i>concinatum</i>	O	<i>Philonotis arnellii</i>	OV/O
<i>Amblystegium compactum</i>	O	<i>Plagiothecium laetum</i>	W
<i>Barbilophozia atlantica</i>	W/O	<i>Pohlia filum</i>	U/OV
<i>Barbilophozia kunzeana</i>	M/U	<i>Pterigynandrum filiforme</i>	O
<i>Brachydontium trichodes</i>	O	<i>Pylaisia polyantha</i>	W
<i>Bryum intermedium</i>	OV	<i>Racomitrium elongatum</i>	U/CG
<i>Calypogeia integristipula</i>	U/W	<i>Rhabdoweisia crenulata</i>	O
<i>Campylium calcareum</i>	O	<i>Riccia cavernosa</i>	OV
<i>Campylostelium saxicola</i>	W	<i>Riccia huebeneriana</i>	OV
<i>Cephalozia catenulata</i>	W	<i>Scapania aequiloba</i>	CG
<i>Dicranum bergeri</i>	M	<i>Seligeria pusilla</i>	O
<i>Didymodon nicholsonii</i>	OV	<i>Sphagnum angustifolium</i>	M/W
<i>Ephemerum sessile</i>	OV	<i>Sphagnum austinii</i>	M
<i>Fissidens rufulus</i>	A	<i>Sphagnum balticum</i> ⁸	M
<i>Fossombronia fimbriata</i>	OV	<i>Sphagnum majus</i>	M
<i>Grimmia orbicularis</i>	O	<i>Sphagnum pulchrum</i>	M
<i>Henediella macrophylla</i>	OV	<i>Splachnum vasculosum</i>	M/U
<i>Hygrohypnum dilatatum</i>	A	<i>Tetralophozia setiformis</i>	U
<i>Hypnum imponens</i>	M	<i>Tomentypnum nitens</i>	M
<i>Jungermannia subelliptica</i>	O	<i>Trochobryum carniolicum</i>	O
<i>Kiaeria blyttii</i>	U		
<i>Kurzia sylvatica</i>	M/W		
<i>Meesia uliginosa</i>	M		
<i>Nardia geoscyphus</i>	O		
<i>Oedipodium griffithianum</i>	U/O		
<i>Orthotrichum sprucei</i>	O		

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Pyrola media</i>	W/H	<i>Buxbaumia aphylla</i>	W

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	14	11	2	6	7	6	2					4	1	
Bryophytes	8	13			2	8	2					9	16	
Charophytes														
Total	22	24	2	6	9	14	4					13	17	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		1	2	37		1	1	40
Bryophytes		1	6	32				38
Charophytes								
Total		2	8	69		1	1	78

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = _{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
3. SOLWAY BASIN

Vascular plant significance: SOME
Bryophyte significance: NOTABLE

General botanical character: Raised bogs are an important feature with many notable bryophytes including *Dicranum bergeri*. There are very few stations in England for *Goodyera repens*, this usually associated with *Pinus sylvestris* plantations which are vulnerable to clear felling. *Mertensia maritima* occurs in only 3 NAs.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Coincya monensis ssp.monensis</i>	SD	I _{NA} <i>Medicago sativa ssp.falcata</i>	OV
<i>Dianthes deltoides</i>	U	<i>Mertensia maritima</i>	SD
<i>Elatine hexandra</i>	A	I _{NA} <i>Nymphoides peltata</i>	A
<i>Goodyera repens</i>	W	I _{NA} <i>Verbascum virgatum</i>	O
<i>Limosella aquatica</i>	A		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Calypogeia integristipula</i>	M/W	<i>Dicranum bergeri</i>	M
<i>Cephalozia loitlesbergeri</i>	M	<i>Hypnum imponens</i>	M
<i>Cephalozia macrostachya</i> <i>var.macrostachya</i>	M	<i>Sphagnum austinii</i>	M
<i>Cephaloziella elachista</i>	M	<i>Sphagnum pulchrum</i>	M
<i>Cephaloziella spinigera</i>	M	<i>Tritomaria exsecta</i>	W
<i>Dicranum polysetum</i>	M/W		

EXTINCT AND/OR DECLINING SPECIES

<i>Centarium littorale</i>	SD		
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KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	1					1	3		2			1	1	
Bryophytes	3	10												
Charophytes														
Total	4	10				1	3		2			1	1	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants				10				10
Bryophytes			1	10				11
Charophytes								
Total			1	20				21

KEY:	<i>INTERNATIONAL DESIGNATION</i>	<i>Red List</i>
	Schedule 8 = ⁸	<i>Lower risk</i>
	Data Deficient = ^{DD}	GB endemic = E
	English endemic = EE	GB Introduction = I
	NA Introduction = I _{NA}	

BOTANICAL PROFILE:
04. NORTH PENNINES

Vascular plant significance: CONSIDERABLE
Bryophyte significance: SIGNIFICANT

General botanical character: The main feature of botanical significance centres on the concentrations of rare arctic-alpine flora associated with the upland blocks of Teesdale, Moor House and Appleby Fells, largely associated with limestone grassland and base-rich flush and mire communities. Elsewhere, a thick layer of peat underlies heather moorland, acid grassland, and blanket bog in the wetter areas to the west. The Area contains the internationally important *Saxifraga hirculus*, whilst locally important species include *Epipactis leptochila*, *Melampyrum sylvaticum* and *Hordelymus europaeus*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Alchemilla acutiloba</i>	MG	<i>Juncus alpinoarticulatus</i>	M
<i>Alchemilla glomerulans</i>	MG	<i>Juncus filiformis</i>	OV
<i>Alchemilla minima</i> EE	CG	<i>Kobresia simpliciuscula</i>	M
<i>Alchemilla monticola</i>	MG	I _{NA} <i>Lathyrus aphaca</i>	OV
<i>Alchemilla subcrenata</i>	MG	I _{NA} <i>Linnaea borealis</i>	W
<i>Alchemilla wichurae</i>	MG	<i>Maianthemum bifolium</i>	W
<i>Alopecurus borealis</i>	M/U	<i>Minuartia stricta</i> ⁸	M
<i>Asplenium septentrionale</i>	OV/O	<i>Minuartia verna</i>	OV
<i>Bartsia alpina</i>	M	<i>Myosotis alpestris</i>	CG
<i>Betula nana</i>	M	<i>Myosotis stolonifera</i>	M
I _{NA} <i>Brassica oleracea</i> var. <i>oleracea</i>	U	<i>Orobanche rapum-genistae</i>	H/W
<i>Carex capillaris</i>	CG/U	<i>Phleum alpinum</i>	CG
<i>Carex ericetorum</i>	CG	I _{NA} <i>Pinus sylvestris</i>	W
<i>Carex magellanica</i>	M	<i>Poa alpina</i>	CG/U
<i>Carex ornithopoda</i>	CG	<i>Polygala amarella</i>	CG
<i>Cephalanthera longifolia</i>	W	<i>Potentilla fruticosa</i>	CG
<i>Circaea alpina</i>	W/M	<i>Potentilla crantzii</i>	CG/U
<i>Crepis mollis</i>	W/MG	<i>Primula farinosa</i>	M
<i>Dianthus deltooides</i>	CG/O	<i>Pyrola media</i>	W/H
<i>Dryas octepetala</i>	O	<i>Ribes spicatum</i>	W
<i>Dryopteris submontana</i>	OV/O	<i>Ribes alpinum</i>	W
<i>Epipactis atrorubens</i>	W/CG	SAXIFRAGA HIRCULUS ⁸	M
<i>Epipactis leptochila</i> var. <i>dunensis</i>	W/OV	<i>Saxifraga nivalis</i>	CG/O
<i>Epipactis leptochila</i> var. <i>leptochila</i>	W	I _{NA} <i>Sedum forsterianum</i>	CG
<i>Equisetum pratense</i>	W/U	<i>Sedum villosum</i>	M
<i>Equisetum variegatum</i>	M	<i>Sesleria caerulea</i>	CG
<i>Euphrasia rostkoviana</i> subsp. <i>rostkoviana</i>	MG	<i>Sorbus rupicola</i>	CG/U
<i>Gentiana verna</i> ⁸	CG	<i>Thlaspi caerulescens</i>	OV
<i>Goodyera repens</i>	W	<i>Viola rupestris</i>	CG
<i>Gymnocarpium robertianum</i>	OV		
<i>Hammarbya paludosa</i>	M		
<i>Helianthemum canum</i>	CG		
<i>Helianthemum canum</i> spp. <i>laevigatum</i> EE	CG		
I _{NA} <i>Iberis amara</i>	OV		
<i>Hordelymus europaeus</i>	W		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Amblyodon dealbatus</i>	CG/OV	<i>Plagiopus oederi</i>	O
<i>Aplodon wormskjoldii</i>	M	<i>Pseudoleskea catemulata</i> var.	O
<i>Brachydontium trichodes</i>	O	<i>catenulata</i>	
<i>Calypogeia integristipula</i>	U/O	<i>Pseudobryum cinclidioides</i>	M
<i>Campylium calcareum</i>	O	<i>Racomitrium sudeticum</i>	O
<i>Cephaloziella stellulifera</i>	H/OV	<i>Rhytidium rugosum</i>	CG
<i>Cololejeunea rossettiana</i>	O	<i>Riccia beyrichiana</i>	OV
<i>Discelium nudum</i>	OV	<i>Scapania aequiloba</i>	CG/O
<i>Ditrichum plumbicola</i>	OV	<i>Scapania cuspiduligera</i>	CG/U/O
<i>Encalypta rhaptocarpa</i>	CG/O	<i>Scapania uliginosa</i>	M
<i>Fissidens rufulus</i>	A	<i>Schistidium agassizii</i>	A
<i>Grimmia ovalis</i>	O	<i>Schistidium trichodon</i>	O
<i>Kiaeria blyttii</i>	U	<i>Seligeria acutifolia</i>	O
<i>Lophozia heterocolpos</i>	CG/U	<i>Seligeria doniana</i>	O
<i>Lophozia longidens</i>	W/O	<i>Seligeria pusilla</i>	O
<i>Lophozia obtusa</i>	W/CG/U	<i>Seligeria trifaria</i>	O
<i>Meesia uliginosa</i>	M	<i>Tomentypnum nitens</i>	M
<i>Nardia geoscyphus</i>	H/O	<i>Tortella densa</i>	O
<i>Oncophorus virens</i>	M	<i>Weissia controversa</i> var. <i>densifolia</i>	OV
<i>Pedinophyllum interruptum</i>	CG/O		

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)		
<i>Meum athamanticum</i>	MG		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	16	14	2	7	20	8						9	4	
Bryophytes	2	6	2		8	5	2					6	20	
Charophytes														
Total	18	20	4	7	28	14	2					14	24	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red list	Lower risk	GB endemic	English endemic	Data deficient	No. of species
Vascular plants	1	3	5	59	1	1		64
Bryophytes			2	36				38
Charophytes								
Total	1	3	7	95	1	1		102

KEY:***INTERNATIONAL DESIGNATION***Schedule 8 = ⁸Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}***Red List****Lower risk*

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE: 5. NORTHUMBRIA COAL MEASURES	Vascular plant significance: SIGNIFICANT Bryophyte significance: SOME
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General botanical character: Much of the wildlife interest here is focussed on the coast in southern Northumberland, where cliffs and sandy and rocky shores are the most important habitats. Other habitats - heaths, wetlands and herb-rich grasslands are scattered over the remainder of the NA. The English endemic, *Epipactis youngiana* is supported here.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Alchemilla acutiloba</i>	MG	^{I_{NA}} <i>Meconopsis cambrica</i>	W
<i>Alchemilla monticola</i>	MG	^{I_{NA}} <i>Medicago sativa ssp. falcata</i>	SD
^{I_{NA}} <i>Apera spica-venti</i>	OV	<i>Minuartia verna</i>	OV
^{I_{NA}} <i>Brassica oleracea var. oleracea</i>	MC	<i>Myriophyllum verticillatum</i>	A
<i>Corallorhiza trifida</i>	W	^{I_{NA}} <i>Ribes alpinum</i>	W
<i>Epipactis leptochila var. leptochila</i>	SD	<i>Ribes spicatum</i>	W
<i>Epipactis youngiana</i> ⁸ EE	W	^{I_{NA}} <i>Sedum forsterianum</i>	MC
<i>Equisetum pratense</i>	U	<i>Thlaspi caerulescens</i>	OV
^{I_{NA}} <i>Hippophae rhamnoides</i>	SD	^{I_{NA}} <i>Tilia platyphyllos</i>	W
<i>Hordelymus europaeus</i>	W	<i>Vicia lutea</i>	MC
^{I_{NA}} <i>Iberis amara</i>	OV	<i>Zostera angustifolia</i>	O
<i>Linum perenne</i>	SD		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Bryum intermedium</i>	SD	<i>Orthotrichum sprucei</i>	O
<i>Buxbaumia aphylla</i>	OV/W		

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Carex maritima</i>	SD	<i>Drepanocladus lycopodioides</i>	SD

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	7			2		1	1		4		3	4	1	
Bryophytes	1								1			1	1	
Charophytes														
Total	8			2		1	1		5		3	5	2	

SUMMARY OF INTEREST

	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		1	1	22				23
Bryophytes				3				3
Charophytes								
Total		1	1	25				26

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 =⁸

Data Deficient = ^{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

**BOTANICAL PROFILE: 6. DURHAM
MAGNESIAN LIMESTONE PLATEAU**

**Vascular plant significance: SOME
Bryophyte significance: SOME**

General botanical character: The main botanical interest of this NA is confined to the calcareous grasslands on the magnesian limestone scarp and plateau and the woodlands, grasslands and small scattered mires on the limestone coast. The Area is the edge of range for *Trollis europaeus*, *Hypericum montanum* and *Juncus subnodulosus*. Rarer species in the NA include the *Linum perenne subsp anglicum* and *Primula farinosa*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Brassica oleracea</i> var. <i>oleracea</i>	MC	<i>Pyrola rotundifolia</i> ssp. <i>rotundifolia</i>	SD
<i>Epipactis atrorubens</i>	CG/W	<i>I_{NA} Ribes alpinum</i>	W
<i>I_{NA} Hippophae rhamnoides</i>	SD	<i>Ribes spicatum</i>	W
<i>I_{NA} Iberis amara</i>	OV	<i>Sesleria caerulea</i>	CG
<i>Linum perenne</i> subsp. <i>anglicum</i> E	SD		
<i>I_{NA} Polemonium caeruleum</i>	CG/W		
<i>Primula farinosa</i>	M		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Amblystegium compactum</i>	MC	<i>Distichium inclinatum</i>	CG
<i>Lophozia perssonii</i>	CG/O		

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)		
<i>Carex ericetorum</i>	CG		
<i>Cephalanthera longifolia</i>	W		
CYPRIPEDIUM CALCEOLUS ⁸	W		

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	4	1			3				3		1	1		
Bryophytes					2						1		1	
Charophytes														
Total	4	1			5				3		2	1	1	

SUMMARY OF INTEREST

	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants				11	1			11
Bryophytes				3				3
Charophytes								
Total				14	1			14

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
7. TEES LOWLANDS

Vascular plant significance: SOME
Bryophyte significance: NOTABLE

General botanical character: This Natural Area is comprised of the Tees estuary, where saltmarsh and sand dunes provide much of the botanical significance; free-draining arable and limestone pastures to the north and a steep escarpment face characterised by mixed and broadleaved woodlands. The red list bryophytes *Homomallium incurvatum* and *Bryum knowltonii* both occur in this NA.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
I _{NA} <i>Adiantum capillus-veneris</i>	OV	I _{NA} <i>Lepidium latifolium</i>	SD
I _{NA} <i>Allium schoenoprasum</i>	MC	<i>Puccinellia rupestris</i>	OV
<i>Atriplex longipes</i>	SM	<i>Ribes alpinum</i>	W
I _{NA} <i>Brassica oleracea</i> var. <i>oleracea</i>	MC	<i>Ribes spicatum</i>	W
<i>Centaurium littorale</i>	SD	I _{NA} <i>Sedum forsterianum</i>	MC
I _{NA} <i>Daphne mezereum</i>	W	<i>Tilia platyphyllos</i>	W
I _{NA} <i>Erodium moschatum</i>	MC		
<i>Festuca arenaria</i>	SD		
I _{NA} <i>Gymnocarpium robertianum</i>	OV		
I _{NA} <i>Hippophae rhamnoides</i>	SD		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Amblyodon dealbatus</i>	SD	<i>Homomallium incurvatum</i>	W
<i>Amblystegium humile</i>	O	<i>Moerckia hibernica</i>	SD
<i>Brachythecium mildeanum</i>	SD	<i>Ricciocarpos natans</i>	A
<i>Bryum knowltonii</i>	SD		
<i>Drepanocladus sendtneri</i>	SD		

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)		
<i>Potamogeton coloratus</i>	A		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	4								4	1	4	3		
Bryophytes	1						1		5				1	
Charophytes														
Total	5						1		9	1	4	3	1	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants				16				16
Bryophytes			2	6				8
Charophytes								
Total			2	22				24

KEY:

<i>INTERNATIONAL DESIGNATION</i>	<i>Red List</i>
Schedule 8 = ⁸	<i>Lower risk</i>
Data Deficient = _{DD}	GB endemic = E
English endemic = EE	GB Introduction = I
NA Introduction = I _{NA}	

BOTANICAL PROFILE:
08. YORKSHIRE DALES

Vascular plant significance: OUTSTANDING
Bryophyte significance: CONSIDERABLE

General botanical character: The Natural Area is dominated by low intensity sheep farming, with heather and grass moorland covering the moors and meadows in the dales, woodland is very limited. Recent agricultural intensification has resulted in losses of heathland, wetland and unimproved grassland, but the Area retains internationally important habitats such as limestone pavements, limestone grasslands, upland heathland and 'northern' hay meadows. A number of species endemic to England occur here, as does the internationally protected orchid, *Cypripedium calceolus*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Actaea spicata</i>	W	<i>Juncus filiformis</i>	OV
<i>Alchemilla glomerulans</i>	MG	<i>Limosella aquatica</i>	A
<i>Alchemilla glaucescens</i>	CG	<i>Linum perenne</i>	CG
<i>Alchemilla minima</i> EE	CG	I _{NA} <i>Meconopsis cambrica</i>	W/O
<i>Alchemilla wichurae</i>	MG	<i>Minuartia hybrida</i>	CG
I _{NA} <i>Apera spica-venti</i>	OV	<i>Minuartia verna</i>	CG/OV
<i>Arenaria norvegica ssp. anglica</i> ⁸	CG	<i>Myosotis stolonifera</i>	M
EE	M	<i>Orchis ustulata</i>	CG
<i>Bartsia alpina</i>	W	<i>Orobanche alba</i>	CG/O
<i>Bromopsis benekenii</i>	S	<i>Persicaria laxiflora</i>	OV
<i>Calamagrotis stricta</i>	W/MG	<i>Poa alpina</i>	CG
<i>Cardamine impatiens</i>	M/S	<i>Polemonium caeruleum</i>	W
<i>Carex appropinquata</i>	CG/U	<i>Polygala amarella</i>	CG
<i>Carex capillaris</i>	CG	<i>Polygonatum odoratum</i>	W
<i>Carex muricata ssp. muricata</i>	CG	<i>Potentilla crantzii</i>	CG/U
<i>Carex ornithopoda</i>	W/M	<i>Potentilla neumanniana</i>	CG
<i>Circaea alpina</i>	W/M	<i>Primula farinosa</i>	M
<i>Corallorhiza trifida</i>	W/MG	<i>Pyrola rotundifolia ssp. rotundifolia</i>	S/W
<i>Crepis mollis</i>	W	<i>Ribes alpinum</i>	W
CYPRIPEDIUM CALCEOLUS ⁸	M/S	<i>Ribes spicatum</i>	W
<i>Dactylorhiza traunsteineri</i>	W	SAXIFRAGA HIRCULUS ⁸	M
<i>Daphne mezereum</i>	CG/MC	<i>Sedum villosum</i>	M
<i>Draba muralis</i>	CG/U	<i>Sesleria caerulea</i>	CG
<i>Dryas octopetala</i>	OV/O	<i>Sorbus rupicola</i>	CG/U
<i>Dryopteris submontana</i>	U/M	<i>Thlaspi caerulescens</i>	OV
<i>Eleocharis austriaca</i>	W/CG	<i>Veronica spicata ssp. hybrida</i>	CG
<i>Epipactis atrorubens</i>	M	<i>Viola rupestris</i>	CG
<i>Equisetum pratense</i>	M		
<i>Equisetum variegatum</i>	MG		
<i>Euphrasia rostkoviana ssp. montana</i>	OV		
<i>Gymnocarpium robertianum</i>	M		
<i>Hammarbya paludosa</i>	W		
<i>Hordelymus europaeus</i>	CG		
<i>Hornungia petraea</i>	M		
<i>Juncus alpinoarticulatus</i>			

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Amblyodon dealbatus</i>	CG/OV	<i>Leucobryum juniperoideum</i>	W/H
<i>Amblystegium jungermannioides</i>	W/O	<i>Mnium thomsonii</i>	CG/U
<i>Anomobryum filiforme</i> var. <i>concinatum</i>	O	<i>Moerckia hibernica</i>	M
<i>Barbilophozia atlantica</i>	W/O	<i>Myurella julacea</i> var. <i>julacea</i>	CG/U
<i>Barbilophozia kunzeana</i>	M/U	<i>Orthodontium gracile</i>	O
<i>Barbilophozia lycopodioides</i>	CG/U	<i>Orthothecium rufescens</i>	CG/U
<i>Bartramia hallerana</i>	O	<i>Orthotrichum sprucei</i>	O
<i>Brachythecium mildeanum</i>	S/MG	<i>Pedinophyllum interruptum</i>	CG/O
<i>Bryum elegans</i>	OV	<i>Philonotis caespitosa</i>	O
<i>Bryum weigeli</i>	M	<i>Plagiopus oederiana</i>	O
<i>Calypogeia azurea</i>	M/O	<i>Plagiothecium cavifolium</i>	CG/O
<i>Calypogeia integristipula</i>	U/O	<i>Plagiothecium denticulatum</i> var. <i>obtusifolium</i>	U
<i>Campylium elodes</i>	M	<i>Plagiothecium ruthei</i>	W/S
<i>Cephalozia catenulata</i>	O	<i>Pottia bryoides</i>	CG/O
<i>Cinclidium stygium</i>	M	<i>Pseudoleskea catenulata</i> var. <i>catenulata</i>	O
<i>Cololejeunea rossettiana</i>	O	<i>Racomitrium sudeticum</i>	O
<i>Colura calyptrifolia</i>	W/O	<i>Rhabdoweisia crenulata</i>	O
<i>Coscinodon cribrosus</i>	O	<i>Rhytidium rugosum</i>	CG
<i>Dicranella crispa</i>	OV	<i>Riccia beyrichiana</i>	OV
<i>Dicranodontium uncinatum</i>	H/U	<i>Riccia subbifurca</i>	OV
<i>Dicranum flagellare</i>	W	<i>Scapania aequiloba</i>	CG/O
<i>Didymodon nicholsonii</i>	OV	<i>Scapania cuspiduligera</i>	CG/U/O
<i>Discelium nudum</i>	OV	<i>Scapania praetervisa</i>	O
<i>Encalypta ciliata</i>	CG/U	<i>Schistidium alpicola</i> var. <i>alpicola</i>	A
<i>Encalypta rhaptocarpa</i>	CG/O	<i>Schistostega pennata</i>	O
<i>Fissidens rufulus</i>	A	<i>Seligeria acutifolia</i>	O
<i>Funaria muhlenbergii</i>	CG	<i>Seligeria donniana</i>	O
<i>Gymnostomum calcareum</i>	O	<i>Seligeria pusilla</i>	O
<i>Homomallium incurvatum</i>	W	<i>Seligeria trifaria</i>	O
<i>Isothecium striatulum</i>	O	<i>Thamnobryum cataractarum</i> EE	A
<i>Jungermannia caespiticia</i>	U/OV	<i>Tomentypnum nitens</i>	M
<i>Jungermannia leiantha</i>	W/O	<i>Tortella densa</i>	O
<i>Lophozia gillmanii</i>	M/O	<i>Tortula subulata</i> var. <i>graeffii</i>	CG/U
<i>Lophozia heterocolpos</i>	CG/U	<i>Tortula virescens</i>	O
		<i>Zygodon gracilis</i> *	O

EXTINCT AND/OR DECLINING SPECIES			
<i>Anomodon longifolius</i>	W/O		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	16	15		5	23	5	1	4			1	7	3	
Bryophytes	15	8	2	1	16	13	3	2				8	36	
Charophytes														
Total	31	23	2	6	39	18	4	6			1	15	39	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants	2	3	5	56		2		62
Bryophytes		1	6	63		1		69
Charophytes								
Total	2	4	11	119		3		131

KEY:	<i>INTERNATIONAL DESIGNATION</i>	<i>Red List</i>
	Schedule 8 = ⁸	<i>Lower risk</i>
	Data Deficient = _{DD}	GB endemic = E
	English endemic = EE	GB Introduction = I
	NA Introduction = I _{NA}	

BOTANICAL PROFILE: 9. EDEN VALLEY	Vascular plant significance: SIGNIFICANT Bryophyte significance: SOME
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General botanical character: The River Eden and its riparian habitats provide much of the floristic diversity in this Area, whilst other separate habitats of importance include lowland heath and a number of basin mires which have formed in glacially derived depressions.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
I _{NA} <i>Apera spica-venti</i>	OV	<i>Goodyera repens</i>	W
I _{NA} <i>Arabis glabra</i>	U	<i>Lycopodiella inundata</i>	M
<i>Carex magellanica</i>	M	<i>Primula farinosa</i>	M
I _{NA} <i>Daphne mezereum</i>	W	<i>Thelypteris palustris</i>	M

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Amblystegium jungermannioides</i>	O	<i>Hypnum imponens</i>	M
<i>Calypogeia integristipula</i>	M/W	<i>Kurzia sylvatica</i>	M
<i>Campylium elodes</i>	CG	<i>Leucobryum juniperoideum</i>	W/H
<i>Dicranum polysetum</i>	W/H	<i>Orthotrichum sprucei</i>	O
<i>Eurhynchium schleicheri</i>	W	<i>Schistostega pennata</i>	O
<i>Fissidens exiguus</i>	A	<i>Seligeria pusilla</i>	O
<i>Fissidens rufulus</i>	A	<i>Tomentypnum nitens</i>	M
<i>Fossombronia foveolata</i>	OV		
<i>Funaria muhlenbergii</i>	CG		

Charophytes	Habitat (NVC)	Charophytes	Habitat (NVC)
<i>Chara hispida var. rudis</i>	A		

EXTINCT AND/OR DECLINING SPECIES			

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	2	3												
Bryophytes	4	4	2		2		2					1	4	
Charophytes							1							
Total	6	7	2		2		3					1	4	

SUMMARY OF INTEREST								
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species
Vascular plants			1	7				8
Bryophytes				16				16
Charophytes				1				1
Total			1	24				25

KEY:	<i>INTERNATIONAL DESIGNATION</i>	<i>Red List</i>
	Schedule 8 = ⁸	<i>Lower risk</i>
	Data Deficient = _{DD}	GB endemic = E
	English endemic = EE	GB Introduction = I
	NA Introduction = I _{NA}	

BOTANICAL PROFILE:
10. CUMBRIA FELLS & DALES

Vascular plant significance: OUTSTANDING
Bryophyte significance: OUTSTANDING

General botanical character: This NA owes its outstanding botanical diversity to the extremely wide range of environmental conditions and consequent habitat diversity. The variations in altitude are complemented by the oceanic climate and a full spectrum of soil types. Habitats of especial significance include the montane heaths, rock and scree communities; submontane mires, grasslands (particularly in the calcareous areas), tarns and woodlands which maintain a strong population of Atlantic bryophytes; woodland and valley bottom mire are both significant in the lowlands. The mires support the internationally threatened moss, *Drepanocladus vernicosus* and vascular plants of note include *Najas flexilis*, *Lychnis alpina* and *Woodsia ilvensis*

Vascular Plants	Habitat	Vascular Plants	Habitat
I _{NA} <i>Aconitum napellus</i>	W	<i>Gentiana pneumonanthe</i>	M
<i>Actaea spicata</i>	W	<i>Gymnocarpium robertianum</i>	OV
<i>Adiantum capillus-veneris</i>	MC	<i>Hammarbya paludosa</i>	M
<i>Ajuga pyramidalis</i>	H	<i>Helianthemum canum</i>	CG
<i>Alchemilla glaucescens</i>	CG	I _{NA} <i>Helleborus foetidus</i>	CG/W
<i>Alchemilla wicherurae</i>	MG	<i>Hordelymus europaeus</i>	W
<i>Allium schoenoprasum</i>	CG/U	<i>Hornungia petraea</i>	CG
I _{NA} <i>Arabis glabra</i>	OV	<i>Hypochaeris maculata</i>	MC
<i>Asplenium obovatum</i>	MC	<i>Impatiens noli-tangere</i>	W
<i>Asplenium septentrionale</i>	OV/O	<i>Isoetes echinospora</i>	A
<i>Aster linosyris</i>	MC	<i>Juncus filiformis</i>	OV
<i>Atriplex longipes</i>	SM	<i>Limonium humile</i>	SM
<i>Bartsia alpina</i>	M	<i>Linum perenne</i>	CG
<i>Brassica oleracea</i> var. <i>oleracea</i>	MC	<i>Lychnis alpina</i> ⁸	OV
<i>Calamagrostis purpurea</i> ssp. <i>phragmitoides</i>	M/S	<i>Lycopodiella inundata</i>	H/M/OV
<i>Callitriche truncata</i>	A	<i>Lycopodium annotinum</i>	U/M
I _{NA} <i>Cardamine bulbifera</i>	W	I _{NA} <i>Meconopsis cambrica</i>	W/O
<i>Cardamine impatiens</i>	W/MG	<i>Meum athamanticum</i>	MG/U
<i>Carex atrata</i>	CG/U	<i>Minuartia verna</i>	OV
<i>Carex capillaris</i>	CG/U	<i>Myosotis stolonifera</i>	M
<i>Carex digitata</i>	W/U	<i>NAJAS FLEXILIS</i> ⁸	A
<i>Carex elongata</i>	W/S	<i>Orobanche rapum-genistae</i>	H/W
<i>Carex ericetorum</i>	CG	<i>Pilularia globulifera</i>	OV/A
<i>Carex flava</i>	M	<i>Poa alpina</i>	CG/U
<i>Carex magellanica</i>	M	<i>Poa glauca</i>	CG/U
<i>Carex maritima</i>	SD	<i>Polygala amarella</i>	CG
<i>Carex ornithopoda</i>	CG	<i>Polygonatum odoratum</i>	W
<i>Cerastium alpinum</i>	U	<i>Potamogeton coloratus</i>	A
<i>Circaea alpina</i>	W/M	<i>Potentilla crantzii</i>	CG/U
<i>Crepis mollis</i>	W/MG	<i>Potentilla fruticosa</i>	CG
<i>Crepis praemorsa</i>	CG	<i>Potentilla neumanniana</i>	CG
I _{NA} <i>Daphne mezereum</i>	W	<i>Primula farinosa</i>	M
<i>Dryas octopetala</i>	CG/U	I _{NA} <i>Ribes alpinum</i>	W
<i>Dryopteris submontana</i>	OV/O	<i>Ribes spicatum</i>	W
<i>Elatine hexandra</i>	A	<i>Salix lapponum</i>	CG/U
<i>Epipactis atrorubens</i>	W	<i>Saxifraga nivalis</i>	CG/U
<i>Equisetum variegatum</i>	M	I _{NA} <i>Sedum forsterianum</i>	CG
<i>Euphorbia portlandica</i>	MC	<i>Sedum villosum</i>	M
<i>Euphrasia frigida</i>	U	<i>Sesleria caerulea</i>	CG
<i>Euphrasia ostensfeldii</i>	CG	<i>Sorbus lancastriensis</i> EE	W
<i>Euphrasia rivularis</i> E	U	<i>Sorbus rupicola</i>	CG/U
<i>Euphrasia rostkoviana</i> subsp. <i>montana</i>	MG	I _{NA} <i>Verbascum virgatum</i>	O
<i>Euphrasia rostkoviana</i> ssp. <i>rostkoviana</i>	MG	<i>Veronica spicata</i> ssp. <i>hybrida</i> ⁸	CG/U
<i>Galeopsis angustifolia</i>	OV	<i>Viola rupestris</i>	C
		<i>Woodsia ilvensis</i> ⁸	M

Bryophytes	Habitat	Bryophytes	Habitat
<i>Aloina aloides</i> var. <i>ambigua</i>	CG	<i>Kiaeria blyttii</i>	U
<i>Amblyodon dealbatus</i>	CG/OV	<i>Kiaeria starkei</i>	U
<i>Amphidium lapponicum</i>	O	<i>Kurzia sylvatica</i>	M/W
<i>Anastrophyllum hellerianum</i>	W	<i>Leptodon smithii</i>	W
<i>Andreaea frigida</i>	O	<i>Lophozia opacifolia</i>	O
<i>Andreaea mutabilis</i>	O	<i>Lophozia wenzelii</i>	M/U
<i>Barbilophozia atlantica</i>	W/O	<i>Marsupella adusta</i>	U/O
<i>Bartramia halleriana</i>	O	<i>Marsupella boeckii</i> var. <i>stableri</i>	O
<i>Brachydontium trichodes</i>	O	<i>Marsupella sphacelata</i>	A
<i>Bryum intermedium</i>	OV	<i>Meesia uliginosa</i>	M
<i>Bryum pallescens</i>	OV/O	<i>Mnium thomsonii</i>	CG/U
<i>Bryum riparium</i>	A/OV	<i>Moerckia hibernica</i>	M
<i>Bryum weigelii</i>	M	<i>Oedipodium griffithianum</i>	U/O
<i>Calypogeia azurea</i>	M/O	<i>Oncophorus virens</i>	M
<i>Campylium calcareum</i>	O	<i>Orthothecium rufescens</i>	CG/U
<i>Campylium elodes</i>	M	<i>Orthotrichum sprucei</i>	O
<i>Campylopus schwarzii</i>	M/U/O	<i>Paraleptodontium recurvifolium</i>	CG/O
<i>Campylopus setifolius</i>	M/U/O	<i>Pedinophyllum interruptum</i>	CG/O
<i>Campylopus subulatus</i>	OV	<i>Philonotis arnellii</i>	OV/O
<i>Campylostelium saxicola</i>	O	<i>Philonotis caespitosa</i>	O
<i>Cephalozia catenulata</i>	W/O	<i>Plagiopus oederiana</i>	O
<i>Cephalozia loitlesbergeri</i>	M	<i>Plagiothecium cavifolium</i>	U/CG
<i>Cephaloziella elachista</i>	M	<i>Plagiothecium denticulatum</i> var.	U
<i>Cinclidium stygium</i>	M	<i>obtusifolium</i>	
<i>Cololejeunea rossettiana</i>	O	<i>Plagiothecium laetum</i>	W
<i>Colura calyptrifolia</i>	W/O	<i>Pleurochaete squarrosa</i>	MC/CG
<i>Conostomum tetragonum</i>	U/O	<i>Pohlia elongata</i> ssp. <i>polymorpha</i>	CG/U
<i>Coscinodon cribrosus</i>	O	<i>Pohlia ludwigii</i>	U
<i>Cryptothallus mirabilis</i>	W/M	<i>Pohlia flexuosa</i>	OV
<i>Cynodontium jenneri</i>	O	<i>Porella pinnata</i>	A
<i>Dicranodontium uncinatum</i>	H/U	<i>Pterigynandrum filiforme</i>	O
<i>Dicranoweisia crispula</i>	O	<i>Racomitrium affine</i>	O
<i>Dicranum polysetum</i>	W/M/H	<i>Racomitrium elongatum</i>	U
<i>Didymodon nicholsonii</i>	OV	<i>Racomitrium sudeticum</i>	O
<i>Diplophyllum obtusifolium</i>	W/U	<i>Radula aquilegia</i>	W/O
<i>Ditrichum zonatum</i> var. <i>zonatum</i>	U/O	<i>Radula voluta</i>	W/O
DREPANOCCLADUS VERNICOSUS⁸_{DD}	M	<i>Rhabdoweisia crenulata</i>	O
<i>Encalypta ciliata</i>	CG/U	<i>Rhytidium rugosum</i>	CG
<i>Ephemerum serratum</i> var. <i>serratum</i>	OV	<i>Riccia beyrichiana</i>	OV
<i>Eurhynchium striatulum</i>	O	<i>Scapania aequiloba</i>	CG/O
<i>Fissidens limbatus</i>	O	<i>Scapania degenii</i>	CG/U
<i>Fissidens rufulus</i>	A	<i>Scapania ornithopodioides</i>	CG/U
<i>Fissidens taxifolius</i> ssp. <i>pallidicaulis</i>	OV	<i>Scapania uliginosa</i>	M
<i>Funaria muhlenbergii</i>	CG	<i>Schistidium agassizii</i>	A
<i>Glyphomitrium daviesii</i>	O	<i>Seligeria pusilla</i>	O
<i>Grimmia arenaria</i>	O	<i>Sematophyllum micans</i>	W
<i>Grimmia atrata</i>	O	<i>Sphagnum affine</i>	M
<i>Grimmia elongata</i>	O	<i>Sphagnum austinii</i>	M
<i>Grimmia lisae</i>	O	<i>Sphagnum flexuosum</i>	M/S/W
<i>Grimmia montana</i>	O	<i>Sphenolobopsis pearsonii</i>	O

Charophytes	Habitat (NVC)	Charophytes	Habitat (NVC)
<i>Chara curta</i>	A	<i>Chara rudis</i>	A

EXTINCT AND/OR DECLINING SPECIES			
Bryophytes	Habitat (NVC)		
<i>Grimmia anodon</i> <i>Habrodon perpusillus</i>	O O		

KEY HABITATS															
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total	
Vascular plants	19	13	3	6	26	16	6	2		1	5	9	5		
Bryophytes	15	21	2		15	21	6	1			1	11	50		
Charophytes							2								
Total	34	34	5	6	41	37	14	3		1	6	20	55		

SUMMARY OF INTEREST								
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species
Vascular plants	1	4	8	80	1	1		89
Bryophytes	1	1	1	103			1	107
Charophytes				2				2
Total	2	5	9	185	1	1	1	198

KEY:	INTERNATIONAL DESIGNATION	Red List
	Schedule 8 = ⁸	Lower risk
	Data Deficient = _{DD}	GB endemic = E
	English endemic = EE	GB Introduction = I
	NA Introduction = _{NA}	

BOTANICAL PROFILE: 11. WEST CUMBRIA COASTAL PLAIN	Vascular plant significance: NOTABLE Bryophyte significance: NOTABLE
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General botanical character: As can be inferred from the lists below, the coastal habitats of this area contribute most of the NA's botanical interset, with sand dune and cliff habitats being the main features of importance. *Coincya monensis monensis* and *Limonum binervis* are among the notable occurrences here.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Althaea officinalis</i>	SM/MC	<i>Limonium humile</i>	SM
<i>Asplenium obovatum</i>	MC	<i>I_{NA} Marrubium vulgare</i>	MC/OV
<i>Coincya monensis ssp. monensis</i>	SD/MC	<i>I_{NA} Meconopsis cambrica</i>	MC
<i>Corallorhiza trifida</i>	W	<i>Mertensia maritima</i>	SD
<i>Elatine hexandra</i>	A	<i>I_{NA} Nymphoides peltata</i>	A
<i>Epipactis leptochila var. dunensis</i>	SD	<i>Ophioglossum azoricum</i>	MC
<i>Epipactis phyllanthes</i>	W	<i>Orobanche purpurea</i>	MC
<i>Equisetum variegatum</i>	SD	<i>Pilularia globulifera</i>	OV/A
<i>Gentiana pneumonanthe</i>	M	<i>Ruppia cirrhosa</i>	A
<i>Hypochaeris glabra</i>	U/OV	<i>I_{NA} Sedum forsterianum</i>	MC
<i>Lathyrus japonicus</i>	SD	<i>Zostera angustifolia</i>	O

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Brachythecium mildeanum</i>	SD	<i>Drepanocladus sendtneri</i>	SD
<i>Bryum intermedium</i>	SD	<i>Moerckia hibernica</i>	SD
<i>Bryum warneum</i>	SD	<i>Tortella inclinata</i>	SD
<i>Campylium polygamum</i>	SD	<i>Sphagnum pulchrum</i>	M

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)		
<i>Lathyrus japonicus</i>	SD		
<i>Vicia lutea</i>	SD/MC		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	1	1				1	4		5	2	7	3	1	
Bryophytes		1							7					
Charophytes														
Total	1	2				1	4		12	2	7	3	1	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species
Vascular plants			1	22				23
Bryophytes			1	7				8
Charophytes								
Total			2	29				31

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 =⁸

Data Deficient = ^{DD}

English endemic = EE

NA Introduction = ^I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
12. FOREST OF BOWLAND

Vascular plant significance: SOME
Bryophyte significance: NOTABLE

General botanical character: The Forest of Bowland NA is comprised of an upland massif with extensive tracts of heather moorland and blanket bog with deep river valleys harbouring high quality woodlands and the Bowland Fringe, where herb-rich hay meadows and marshy pasturelands are of particular importance. Species of significance here include Marsh Gentian and the mosses *Habrodon perpusillus*, *Hygrohypnum luridum* and *Weissia rostellata*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Alchemilla glaucescens</i>	CG	<i>Gentiana pneumonanthe</i>	M
<i>Corallorhiza trifida</i>	W/M	<i>Juncus filiformis</i>	OV
<i>Dactylorhiza traunsteineri</i>	M/S	<i>Limosella aquatica</i>	O
<i>Dryopteris submontana</i>	OV/O	<i>Myosotis stolonifera</i>	M
<i>Eleocharis austriaca</i>	U/M	<i>Primula farinosa</i>	M
<i>Euphrasia rostkoviana</i> <i>ssp.rostkoviana</i>	MG	<i>Scandix pecten-veneris</i>	OV

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Bryum elegans</i>	CG/O	<i>Philonotis arnellii</i>	OV/O
<i>Bryum pallescens</i>	OV/O	<i>Philonotis caespitosa</i>	M/OV
<i>Bryum riparium</i>	A/OV	<i>Physcomitrium sphaericum</i>	OV
<i>Campylopus subulatus</i>	O	<i>Pohlia flexuosa</i>	OV
<i>Cololejeunea rossettiana</i>	O	<i>Pohlia lescuriana</i>	O
<i>Dicranodontium uncinatum</i>	H/U	<i>Pottia bryoides</i>	CG/O
<i>Didymodon nicholsonii</i>	O	<i>Seligeria pusilla</i>	O
<i>Discelium nudum</i>	OV	<i>Riccia beyrichiana</i>	O
<i>Ephemerum sessile</i>	OV	<i>Tortula subulata</i> var. <i>subinermis</i>	O
<i>Fissidens limbatus</i>	W/O	<i>Weissia controversa</i> var. <i>densifolia</i>	OV
<i>Habrodon perpusillus</i>	O	<i>Weissia microstoma</i> var. <i>brachycarpa</i>	CG
<i>Jungermannia subelliptica</i>	CG/U	<i>Weissia rostellata</i>	OV
<i>Leucobryum juniperoideum</i>	W/H		
<i>Orthotrichum sprucei</i>	O		
<i>Nardia geoscyphus</i>	H		

EXTINCT AND/OR DECLINING SPECIES

Draba muralis

CG/M

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	1	7		1	2	1		1				3	2	
Bryophytes	2	1	3		4	2	1					11	13	
Charophytes														
Total	3	8	3	1	6	3	1	1				14	15	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants				13				13
Bryophytes			1	26				27
Charophytes								
Total			1	39				40

KEY:	<i>INTERNATIONAL DESIGNATION</i>	<i>Red List</i>
	Schedule 8 = ⁸	<i>Lower risk</i>
	Data Deficient = _{DD}	GB endemic = E
	English endemic = EE	GB Introduction = I
	NA Introduction = I _{NA}	

BOTANICAL PROFILE:**13. LANCASHIRE PLAIN AND VALLEYS**Vascular plant significance: **SOME**Bryophyte significance: **SIGNIFICANT**

General botanical character: Intensive agriculture has greatly diminished the botanical interest of this NA, reducing the main semi-natural habitats to largely isolated fragments. Some relatively common species on a national scale have dwindled to critically low populations in the NA and have consequently been selected for conservation action, these include *Lamium galeobdolon*, *Schoenoplectus lactustris* and *Hydrocharis morsus-ranae*. The endemic vascular plants *Coincya monensis subsp. monensis* and *Fumaria purpurea* both occur within the NA boundary.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Allium schoenoprasum</i>	MC	<i>I_{NA} Impatiens noli-tangere</i>	W
<i>Atriplex longipes</i>	SM	<i>Juncus filiformis</i>	OV
<i>Centaureum littorale</i>	SD	<i>Limonium humile</i>	SM
<i>Coincya monensis subsp. monensis</i> E	MC	<i>Limosella aquatica</i>	O
<i>Epipactis atrorubens</i>	W/CG	<i>Myriophyllum verticillatum</i>	A
<i>Epipactis leptochila var. dunensis</i>	SD	<i>I_{NA} Nymphoides peltata</i>	A
<i>Epipactis phyllanthes</i>	W	<i>Persicaria laxiflora</i>	OV
<i>Equisetum variegatum</i>	SD	<i>Potamogeton trichoides</i>	A
<i>Fumaria purpurea</i> E	OV	<i>Pyrola rotundifolia ssp. maritima</i>	SD
<i>I_{NA} Hippophae rhamnoides</i>	SD	<i>I_{NA} Ribes alpinum</i>	W
<i>I_{NA} Illecebrum verticillatum</i>	OV	<i>I_{NA} Verbascum virgatum</i>	MC
		<i>I_{NA} Vicia bithynica</i>	MC
		<i>Vulpia fasciculata</i>	SD

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Bryum calophyllum</i>	SD	<i>Discelium nudum</i>	OV
<i>Bryum dunense</i>	SD	<i>Drepanocladus lycopodioides</i>	SD
<i>Bryum intermedium</i>	SD	<i>Drepanocladus sendtneri</i>	SD
<i>Bryum knowltonii</i>	SD	<i>Phascum cuspidatum var. piliferum</i>	OV
<i>Bryum marratii</i>	SD	<i>Plagiothecium ruthei</i>	W
<i>Bryum uliginosum</i>	SD		
<i>Bryum warneum</i>	SD		
<i>Campylium elodes</i>	SD		
<i>Campylium polygamum</i>	SD		
<i>Catascopium nigratum</i>	SD		

EXTINCT AND/OR DECLINING SPECIES

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KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	3	1			1		3		6	2	4	4	1	
Bryophytes	1								12			2		
Charophytes														
Total	4	1			1		3		18	2	4	6	1	

SUMMARY OF INTEREST

	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants				25	2			25
Bryophytes			5	10				15
Charophytes								
Total			5	35	2			40

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE: 14. SOUTHERN PENNINES	Vascular plant significance: SIGNIFICANT Bryophyte significance: SOME
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General botanical character: The NA consists of wild, open plateaux, standing above large urban concentrations. Underlain by acidic Millstone Grit, the main habitats are wet heathland and blanket bog. *Luronium natans* is an important occurrence here.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Betula nana</i>	M	I _{NA} <i>Medicago minima</i>	OV
<i>Calamagrostis stricta</i>	S	<i>Myosotis stolonifera</i>	M
<i>Daphne mezereum</i>	W	<i>Nymphoides peltata</i>	A
<i>Eleocharis austriaca</i>	U/M	I _{NA} <i>Peucedanum palustre</i>	S
<i>Gymnocarpium robertianum</i>	OV		
LURONIUM NATANS⁸	A		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Brachythecium salebrosum</i>	W	<i>Pohlia flexuosa</i>	OV
<i>Buxbaumia aphylla</i>	W/O	<i>Pohlia lescuriana</i>	O
<i>Cephalozia catenulata</i>	W/O	<i>Schistostega pennata</i>	O
<i>Discelium nudum</i>	OV	<i>Weissia rostellata</i>	OV
<i>Jubula hutchinsiae</i>	W		
<i>Jungermannia caespiticia</i>	U/OV		
<i>Nardia geoscyphus</i>	U/O		
<i>Philonotis caespitosa</i>	O		

EXTINCT AND/OR DECLINING SPECIES			

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	1	3				1	2	2				2		
Bryophytes	4					2						4	6	
Charophytes														
Total	5	3				3	2	2				6	7	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants	1	1		10				10
Bryophytes				12				12
Charophytes								
Total				22				22

<p>KEY:</p> <p><i>INTERNATIONAL DESIGNATION</i></p> <p>Schedule 8 =⁸</p> <p>Data Deficient = _{DD}</p> <p>English endemic = EE</p> <p>NA Introduction = _{NA}I</p>	<p><i>Red List</i></p> <p><i>Lower risk</i></p> <p>GB endemic = E</p> <p>GB Introduction = I</p>
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BOTANICAL PROFILE :
15. PENNINE DALES FRINGE

Vascular plant significance: NOTABLE
Bryophyte significance: NOTABLE

General botanical character: This Natural Area is effectively a transition from the Penines to the lowlands further east. The area contains ancient woodland, fens, marshes, moorland and a farmed landscape with neutral grassland, species-rich hedgerows and parkland. *Anomodon longifolius*, *Riccia huebeneriana* and *Scapania paludicola* are important bryophyte species in the NA.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Alchemilla glaucescens</i>	CG	<i>Minuartia hybrida</i>	CG
<i>Alchemilla monticola</i>	MG	<i>Minuartia verna</i>	OV
<i>Arabis glabra</i>	OV	<i>Orchis ustulata</i>	CG
<i>Carex digitata</i>	W	<i>Orobanche reticulata</i> ⁸	MG
<i>Epipactis leptochila</i> var. <i>leptochila</i>	W	<i>Pilularia globulifera</i>	OV/A
<i>Epipactis phyllanthes</i>	W	<i>Potentilla fruticosa</i>	CG
<i>Galeopsis angustifolia</i>	OV	<i>Primula farinosa</i>	M
I _{NA} <i>Helleborus foetidus</i>	W	<i>Ribes alpinum</i>	W
<i>Hordelymus europaeus</i>	W	<i>Ribes spicatum</i>	W
<i>Juncus filiformis</i>	OV	<i>Sesleria caerulea</i>	CG
<i>Limosella aquatica</i>	A	<i>Tilia platyphyllos</i>	W
<i>Meum athamanticum</i>	MG/U		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Amblystegium compactum</i>	O	<i>Gymnostomum calcareum</i>	O
<i>Anomodon longifolius</i>	O	<i>Octodiceras fontanum</i>	A
<i>Bryum tenuisetum</i>	OV	<i>Philonotis caespitosa</i>	O
<i>Cephaloziella stellulifera</i>	OV/H	<i>Physcomitrium sphaericum</i>	OV
<i>Cololejeunea rossettiana</i>	O	<i>Platydictya confervoides</i>	O
<i>Dicranum polysetum</i>	W/H	<i>Riccia huebeneriana</i>	OV
<i>Discelium nudum</i>	OV	<i>Scapania paludicola</i>	M
<i>Fissidens rufulus</i>	A		

EXTINCT AND/OR DECLINING SPECIES

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KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	8	1		3	5	1	2					5		
Bryophytes	1	1	2				2					5	6	
Charophytes														
Total	9	2	2	3	5	1	4					10	6	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		1	1	22				23
Bryophytes			3	12				15
Charophytes								
Total			4	34				38

<p>KEY:</p> <p><i>INTERNATIONAL DESIGNATION</i></p> <p>Schedule 8 =⁸</p> <p>Data Deficient = _{DD}</p> <p>English endemic = EE</p> <p>NA Introduction = I_{NA}</p>	<p><i>Red List</i></p> <p><i>Lower risk</i></p> <p>GB endemic = E</p> <p>GB Introduction = I</p>
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BOTANICAL PROFILE:
16. VALE OF YORK & MOWBRAY

Vascular plant significance: NOTABLE
Bryophyte significance: SOME

General botanical character: The main habitats here are riverine, in particular the floodplain grasslands, and the few remaining heathlands which have survived the spread of intensive agriculture. *Orobanche reticulata* is more or less restricted to this NA in England, also one of the few stations for *Lysimachia thrysiflora* in England.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Apera spica-venti</i>	OV	^{I_{NA}} <i>Medicago polymorpha</i>	OV
<i>Arabis glabra</i>	OV	<i>Minuartia verna</i>	OV
<i>Bromopsis benekenii</i>	W	^{I_{NA}} <i>Nymphoides peltata</i>	A
<i>Carex appropinquata</i>	M	<i>Oenanthe silaifolia</i>	MG
<i>Carex elongata</i>	W/O	<i>Orobanche reticulata</i> ⁸	MG
^{I_{NA}} <i>Cyperus longus</i>	MG	<i>Pilularia globulifera</i>	A/OV
^{I_{NA}} <i>Fritillaria meleagris</i>	MG	^{I_{NA}} <i>Polypogon monspeliensis</i>	MG
<i>Gentiana pneumonanthe</i>	M	<i>Potamogeton coloratus</i>	A
<i>Lathyrus palustris</i>	M/S	<i>Sium latifolium</i>	S/M
<i>Lysimachia thrysiflora</i>	M/S	<i>Thelypteris palustris</i>	S/M
<i>Maianthemum bifolium</i>	W	<i>Tilia platyphyllos</i>	W

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Bryum creberrimum</i>	O	<i>Myrinia pulvinata</i>	O
<i>Bryum intermedium</i>	O	<i>Octodiceras fontanum</i>	A
<i>Bryum torquescens</i>	CG/O	<i>Orthotrichum sprucei</i>	O
<i>Henediella stanfordensis</i>	OV		
<i>Leptobarbula berica</i>	O		

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Pilularia globulifera</i>	A/OV	<i>Bryum uliginosum</i>	O
<i>Sium latifolium</i>	S/M	<i>Orthotrichum speciosum</i>	O

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	3	2		5			2	4				5		
Bryophytes					1		1					1	6	
Charophytes														
Total	3	2		5	1		3	4				6	6	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		1	2	20				22
Bryophytes				8				8
Charophytes								
Total		1	2	28				30

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 =⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE: 17. NORTH YORKSHIRE MOORS & HILLS	Vascular plant significance: NOTABLE Bryophyte significance: NOTABLE
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General botanical character: The NA contains a wide range of extensive moorland habitats, along with broadleaved woodland, species-rich grassland and unpolluted rivers. Species selected for conservation action include *Trichomanes speciosum*, *Actaea spicata* and *Dactylorhiza traunsteineri*. *Cypripedium calceolus* is also supported in the NA.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Actaea spicata</i>	W	<i>Maianthemum bifolium</i>	W
I _{NA} <i>Cardamine bulbifera</i>	W	<i>Myosotis stolonifera</i>	M
<i>Carex digitata</i>	W	<i>Orchis ustulata</i>	CG
CYPRIPEDIUM CALCEOLUS	CG	<i>Primula farinosa</i>	M
<i>Dactylorhiza traunsteineri</i>	M/S	<i>Pyrola media</i>	W/H
I _{NA} <i>Daphne mezereum</i>	W	<i>Ribes alpinum</i>	W
<i>Dianthus deltoides</i>	CG/U	<i>Tilia platyphyllos</i>	W
<i>Hordelymus europaeus</i>	W		
<i>Lysimachia thyrsoflora</i>	M/S		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Bryum warneum</i>	SD	<i>Mielichhoferia mielichhoferiana</i>	OV
<i>Campylium calcareum</i>	O	var. <i>elongata</i>	
<i>Cephalozia catenulata</i>	W/O	<i>Plagiothecium laetum</i>	W
<i>Coscinodon cribrosus</i>	O	<i>Orthotrichum sprucei</i>	O
<i>Discelium nudum</i>	OV		

EXTINCT AND/OR DECLINING SPECIES

Vascular Plants	Habitat (NVC)	Bryophytes	Habitat (NVC)
CYPRIPEDIUM CALCEOLUS ⁸	W	<i>Bryum warneum</i>	SD

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	9	4	1		2	1		2						
Bryophytes	2								1			2	4	
Charophytes														
Total	11	4	1		2	1		2	1			2	4	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants			1	14				15
Bryophytes			2	6				8
Charophytes								
Total			3	20				23

KEY:

<i>INTERNATIONAL DESIGNATION</i>	<i>Red List</i>
Schedule 8 = ⁸	<i>Lower risk</i>
Data Deficient = _{DD}	GB endemic = E
English endemic = EE	GB Introduction = I
NA Introduction = I _{NA}	

BOTANICAL PROFILE: 18. VALE OF PICKERING	Vascular plant significance: SOME Bryophyte significance: SOME
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General botanical character: Intensive agriculture has had a profound effect on this NA, the main areas of importance are rivers, their adjacent floodplain habitats and the remaining fragments of lowland heath.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Actaea spicata</i> <i>Apera interrupta</i>	W/O OV	<i>Scandix pecten-veneris</i>	OV

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Gentiana pneumonanthe</i> <i>Sium latifolium</i>	U/M S/M	<i>Drepanocladus sendtneri</i>	O

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	1											2	1	
Bryophytes														
Charophytes														
Total	1											2	1	

SUMMARY OF INTEREST								
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species
Vascular plants				3				3
Bryophytes								
Charophytes								
Total				3				3

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 =⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
19. YORKSHIRE WOLDS

Vascular plant significance: SOME
Bryophyte significance: SOME

General botanical character: Calcareous grassland and occasional woodland set on steep hillsides provide most of the diversity in this NA. This is complemented by spring-fed flushes coming up through chalk on escarpment faces. The Area is the most northerly station in GB for *Seligeria calcarea*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Actaea spicata</i>	W/O	<i>I_{NA} Iberis amara</i>	OV/CG
<i>Apera interrupta</i>	OV	<i>Linum perenne</i>	CG
<i>I_{NA} Cardamine impatiens</i>	W	<i>I_{NA} Minuartia hybrida</i>	OV/CG
<i>I_{NA} Cyperus longus</i>	MG	<i>Orobanche reticulata</i> ⁸	MG
<i>Galeopsis angustifolia</i>	OV	<i>I_{NA} Ulmus plotii</i> E	W

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Aloina brevirostris</i>	CG	<i>Pottia bryoides</i>	OV
<i>Campylium polygamum</i>	M	<i>Seligeria calcarea</i>	O
<i>Phascum floerkeanum</i>	CG	<i>Tortella inflexa</i>	O

EXTINCT AND/OR DECLINING SPECIES

Bryophytes	Habitat (NVC)		

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	M	M C	O V	O	Total
Vascular plants	3			2	3							4	1	
Bryophytes					2					1		1	2	
Charophytes														
Total	3			2	5					1		5	3	

SUMMARY OF INTEREST								
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species *
Vascular plants		1		12				12
Bryophytes				1				1
Charophytes								
Total		1		13				13

<p>KEY:</p> <p><i>INTERNATIONAL DESIGNATION</i></p> <p>Schedule 8 = ⁸</p> <p>Data Deficient = _{DD}</p> <p>English endemic = EE</p> <p>NA Introduction = _{NA}</p>	<p><i>Red List</i></p> <p><i>Lower risk</i></p> <p>GB endemic = E</p> <p>GB Introduction = I</p> <p>* Some species may have more than one designation.</p>
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BOTANICAL PROFILE: 20. HOLDERNESS	Vascular plant significance: SOME Bryophyte significance: SOME
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General botanical character: Wetlands are the principal features of conservation interest, particularly freshwater lakes and ponds, rivers and their associated habitats and saline lagoons at the coast. Significant species include *Stratoides aloides* and *Calamagrostis stricta*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Apera interrupta</i>	OV	<i>Peucedanum palustre</i>	M
<i>Calamagrostis stricta</i>	S/M	<i>Ruppia cirrhosa</i>	A
<i>Carex appropinquata</i>	M	<i>Sium latifolium</i>	S/M
<i>Fumaria parviflora</i>	OV	<i>Stratiotes aloides</i>	A/S
I _{NA} <i>Helleborous foetidus</i>	W	<i>Thelypteris palustris</i>	M
<i>Lathyrus palustris</i>	M/S		
I _{NA} <i>Medicago sativa ssp. falcata</i>	SD		
<i>Myriophyllum verticillatum</i>	A		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Anthoceros punctatus</i>	OV	<i>Ricciocarpos natans</i>	A
<i>Brachythecium mildeanum</i>	SD	<i>Sphaerocarpos michelii</i>	OV
<i>Drepanocladus lycopodioides</i>	SD	<i>Weissia rutilans</i>	OV
<i>Leptobarbula berica</i>	O		

EXTINCT AND/OR DECLINING SPECIES			

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	1	6					2	4	4			2		
Bryophytes							1		2			3	1	
Charophytes														
Total	1	6					3	4	3			5	1	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species
Vascular plants				13				13
Bryophytes				7				7
Charophytes								
Total				20				20

KEY:***INTERNATIONAL DESIGNATION***Schedule 8 =⁸Data Deficient = ^{DD}

English endemic = EE

NA Introduction = I_{NA}***Red List****Lower risk*

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
21. HUMBER ESTUARY

Vascular plant significance: SOME
Bryophyte significance: SOME

General botanical character: The estuary contains the usual broad range of habitats associated with British estuaries - saltmarsh, sand dunes, mud flats, saline lagoons, sandy beaches and other environments all provide botanical interest. *Orobanche purpurea* may not be an introduction in this NA.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Apera spica-venti</i>	OV	^{I_{NA}} <i>Medicago sativa ssp. falcata</i>	SD
<i>Bupleurum tenuissimum</i>	MG/SM	^{I_{NA}} <i>Nymphoides peltata</i>	A
<i>Carex divisa</i>	MG	^{I_{NA}} <i>Orobanche purpurea</i>	MC
<i>Hippophae rhamnoides</i>	SD	<i>Parapholis incurva</i>	SD/OV
^{I_{NA}} <i>Lepidium latifolium</i>	MG/O	<i>Potamogeton trichoides</i>	A
^{I_{NA}} <i>Meconopsis cambrica</i>	O	<i>Trifolium suffocatum</i>	MC
		^{I_{NA}} <i>Verbascum virgatum</i>	O

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Bryum torquescens</i>	O		
<i>Campylium calcareum</i>	O		

EXTINCT AND/OR DECLINING SPECIES

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KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants				3			2		3	1	2	2	3	
Bryophytes													2	
Charophytes														
Total				3			2		3	1	2	2	5	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants			1	12				13
Bryophytes				2				2
Charophytes								
Total			1	13				15

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = ^{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
22. HUMBERHEAD LEVELS

Vascular plant significance: **NOTABLE**
 Bryophyte significance: **SIGNIFICANT**

General botanical character: The dominant semi-natural habitat is a large expanse of peatland, where bogs and fens cover c.3000hectares. The surrounding land has been drained and is now agricultural, although some areas of wildlife interest remain. *Sphagnum balticum* is a species of particular note from the Area's bog habitat.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Apera interrupta</i>	OV	<i>Orchis ustulata</i>	CG
<i>Apera spica-venti</i>	OV	<i>Persicaria laxiflora</i>	OV
<i>Callitriche truncata</i>	A	<i>Pilularia globuliflora</i>	A/OV
<i>Epipactis leptochila var. dunensis</i>	W	<i>Potamogeton coloratus</i>	A
<i>Festuca longifolia</i>	U	<i>Potamogeton compressus</i>	A
<i>I_{NA} Fritillaria meleagris</i>	MG	<i>Potamogeton trichoides</i>	A
<i>Gentiana pneumonanthe</i>	M	<i>Rhinanthus angustifolius</i>	OV
<i>Lathyrus palustris</i>	M/S	<i>Sium latifolium</i>	S/M
<i>I_{NA} Medicago polymorpha</i>	OV	<i>Thelypteris palustris</i>	M
<i>Myriophyllum verticillatum</i>	A	<i>I_{NA} Verbascum virgatum</i>	O
<i>Oenanthe silaifolia</i>	MG		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Bryum creberrinum</i>	O	<i>Gymnostomum calcareum</i>	O
<i>Bryum intermedium</i>	O	<i>Gymnostomum viridulum</i>	O
<i>Bryum torquescens</i>	O	<i>Henediella stanfordensis</i>	OV
<i>Brachythecium mildeanum</i>	CG	<i>Nardia geoscyphus</i>	M
<i>Dicranum spurium</i>	M	<i>Sphagnum balticum</i> ⁸	M
<i>DREPANOCLADUS VERNICOSUS</i> ^{8 DD}	M	<i>Weissia rostellata</i>	OV

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Orchis ustulata</i>	CG	<i>Sphagnum balticum</i> ⁸	M

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	1	4		2	1	1	5	1				6	1	
Bryophytes		4			1							2	5	
Charophytes														
Total	1	8		2	2	1	5	1				8	6	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants			2	19				21
Bryophytes	1	1	1	10			1	12
Charophytes								
Total	1	1	3	29			1	33

KEY:	<i>INTERNATIONAL DESIGNATION</i>	<i>Red List</i>
	Schedule 8 = ⁸	<i>Lower risk</i>
	Data Deficient = _{DD}	GB endemic = E
	English endemic = EE	GB Introduction = I
	NA Introduction = I _{NA}	

**BOTANICAL PROFILE: 23. SOUTHERN
MAGNESIAN LIMESTONE**

**Vascular plant significance: SIGNIFICANT
Bryophyte significance: SIGNIFICANT**

General botanical character: Ancient woodland and calcareous grasslands are the habitats with the greatest concentrations of rare species. Species which are especially notable include *Epipactis youngiana*, *Orobanche reticulata* and the internationally threatened liverwort, *Hamatocaulis vernicosus*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aconitum napellus</i>	W	<i>Limosella aquatica</i>	OV
<i>Actaea spicata</i>	W	<i>Linum perenne ssp. anglicum</i>	CG
<i>I_{NA} Apera interrupta</i>	OV	<i>Minuartia hybrida</i>	CG
<i>Apera spica-venti</i>	OV	<i>Orchis ustulata</i>	CG
<i>I_{NA} Campanula patula</i>	W	<i>Orobanche reticulata</i> ⁸	MG
<i>Carex digitata</i>	W/U	<i>Persicaria laxiflora</i>	OV
<i>Carex ericetorum</i>	CG	<i>Potamogeton coloratus</i>	A
<i>Carex montana</i>	U	<i>Potentilla neumanniana</i>	CG
<i>Cicuta virosa</i>	M/S	<i>Pulsatilla vulgaris</i>	CG
<i>I_{NA} Daphne mezereum</i>	W	<i>Ribes alpinum</i>	W
<i>Epipactis atrorubens</i>	W/CG/O	<i>Silene nutans</i>	CG/O
<i>Epipactis phyllanthes</i>	W	<i>Tilia platyphyllos</i>	W
<i>Epipactis youngiana</i> ⁸ EE	W	<i>I_{NA} Vulpia ciliata ssp. ambigua</i>	OV
<i>I_{NA} Fritillaria meleagris</i>	MG		
<i>I_{NA} Helleborus foetidus</i>	W		
<i>Hordelymus europaeus</i>	W		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Aloina ambigua</i>	CG/O	<i>Gymnostomum viridulum</i>	CG/O
<i>Aloina brevirostris</i>	CG/O	<i>Hennediella stanfordensis</i>	OV
<i>Aloina rigida</i>	CG/O	<i>Leptobarbula bercia</i>	O
<i>Amblystegium compactum</i>	O	<i>Lophozia perssonii</i>	CG/O
<i>Anomodon longifoilius</i>	W/O	<i>Myrinia pulvinata</i>	O
<i>Bryum dunense</i>	CG/O	<i>Octodicerias fontanum</i>	A
<i>Bryum uliginosum</i>	SD/O	<i>Orthodontium gracile</i>	O
<i>Campylium calcareum</i>	O	<i>Orthotrichum sprucei</i>	O
<i>Cololejeunea rossettiana</i>	O	<i>Phascum floerkeanum</i>	OV
<i>Desmatodon cernuus</i>	O	<i>Thuidium abietinum ssp.</i>	CG
<i>Didymodon acutus</i>	CG/O	<i>abietinum</i>	
<i>Didymodon tomaculosis</i>	OV	<i>Tortula virescens</i>	O
<i>Distichium inclinatum</i>	CG	<i>Trichostomopsis umbrosa</i>	O
HAMATOCAULIS VERNICOSUS ⁸	M		
<i>Eurhynchium schleicheri</i>	W		
<i>Fissidens rufulus</i>	A		
<i>Gymnostomum calcareum</i>	O		

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitats (NVC)	Bryophytes	Habitats (NVC)
		<i>Pterygoneuron lamellatum</i> <i>Pterygoneuron ovatum</i> <i>Weissia squarrosa</i>	CG/O CG/O OV

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	12	1		2	8	2	1	1				5	1	
Bryophytes	2	1			9		2		1			3	20	
Charophytes														
Total	14	2		2	17	2	3	1	1			8	21	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		2	1	28		1		30
Bryophytes	1	1	4	24				29
Charophytes								
Total		2	3	48	1	1		59

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 =⁸

Data Deficient = ^{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
24. COAL MEASURES

Vascular plant significance: SIGNIFICANT
Bryophyte significance: SOME

General botanical character: This NA contains a significant number of introduced species possibly related to the dense human population which is a major influence on the Area. Agriculture has also contributed to the fragmentation of the remaining semi-natural habitat, of which woodlands and aquatic habitats are among the most significant. *Luronium natans* is the Area's rarest occurrence.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aconitum napellus</i>	W	<i>I_{NA} Mentha pulegium</i> ⁸	OV
<i>I_{NA} Apera interrupta</i>	OV	<i>Myriophyllum verticillatum</i>	A
<i>Apera spica-venti</i>	OV	<i>I_{NA} Nymphoides peltata</i>	A
<i>Hordelymus europaeus</i>	W	<i>Potamogeton trichoides</i>	A
<i>I_{NA} Illecebrum verticillatum</i>	OV	<i>Ribes alpinum</i>	W
<i>I_{NA} Impatiens noli-tangere</i>	W	<i>I_{NA} Stratiotes aloides</i>	A
<i>I_{NA} Lepidium latifolium</i>	MG/O	<i>Tilia platyphyllos</i>	W
LURONIUM NATANS ⁸	A	<i>I_{NA} Ulmus plotii</i>	W
<i>I_{NA} Lysimachia thyrsiflora</i>	S/M	<i>I_{NA} Verbascum virgatum</i>	O
<i>I_{NA} Meconopsis cambrica</i>	O	<i>I_{NA} Vulpia ciliata ssp. ambigua</i>	U

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Amblystegium humile</i>	MG/W	<i>Distichium inclinatum</i>	O
<i>Didymodon tomaculosus</i>	OV	<i>Ephemerum serratum var. serratum</i>	OV
<i>Discelium nudum</i>	OV		

EXTINCT AND/OR DECLINING SPECIES

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KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	6	1		1		1	5	1				4	3	
Bryophytes	1			1								3	1	
Charophytes														
Total	7	1		2		1	5	1				7	4	

SUMMARY OF INTEREST

	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants	1	2	1	19				20
Bryophytes				5				5
Charophytes								
Total	1	2	1	24				25

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 =⁸

Data Deficient = ^{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
25. DARK PEAK

Vascular plant significance: SOME
Bryophyte significance: SIGNIFICANT

General botanical character: Essentially acidic in character, the main habitats of Dark Peak are blanket bog on the plateaux, with heathland on the better drained slopes and acidic grassland cropping up where overgrazing or burning has occurred. The steep-sided cloughs contain woodlands, flushes and other wet streamside habitats. Red list bryophyte species include *Orthotrichum pallens* and *Seligeria brevifolia*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aconitum napellus</i>	W	<i>I_{NA} Meconopsis cambrica</i>	W/O
<i>I_{NA} Allium schoenoprasum</i>	CG/U	<i>Minuartia verna</i>	OV
<i>Cardamine impatiens</i>	W/MG	<i>Myosotis stolonifera</i>	M
<i>I_{NA} Chamaemelum nobile</i>	MG/M	<i>Polemonium caeruleum</i>	CG/W
<i>Daphne mezereum</i>	W	<i>Ribes alpinum</i>	W
<i>Dianthes deltoides</i>	CG/U	<i>Thelypteris palustris</i>	M
<i>Draba muralis</i>	CG/MG		
<i>I_{NA} Helleborus foetidus</i>	CG/W		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Andreaea rothii</i> ssp. <i>rothii</i>	O	<i>Racomitrium sudeticum</i>	O
<i>Barbilophozia atlantica</i>	W/O	<i>Scapania cuspiduligera</i>	CG/U/O
<i>Discelium nudum</i>	OV	<i>Seligeria brevifolia</i>	O
<i>Ephemerum sessile</i>	OV	<i>Seligeria doniana</i>	O
<i>Jungermannia caespiticia</i>	U/OV	<i>Seligeria pusilla</i>	O
<i>Nardia geoscyphus</i>	CG/U	<i>Weissia microstoma</i> var. <i>brachycarpa</i>	CG
<i>Orthotrichum pallens</i>	O		
<i>Philonotis caespitosa</i>	M/OV		
<i>Physcomitrium sphaericum</i>	OV		
<i>Pohlia lescuriana</i>	OV		
<i>Pohlia flexuosa</i>	OV		

EXTINCT AND/OR DECLINING SPECIES

Vascular Plants	Habitat (NVC)		
<i>Daphne mezereum</i>	W		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	7	3		2	5	2						1	1	
Bryophytes	1	1			3	3						7	8	
Charophytes														
Total	8	4		2	8	5						8	9	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants				14				14
Bryophytes			2	15				17
Charophytes								
Total			2	29				31

<p>KEY:</p> <p><i>INTERNATIONAL DESIGNATION</i></p> <p>Schedule 8 =⁸</p> <p>Data Deficient = ^{DD}</p> <p>English endemic = EE</p> <p>NA Introduction = I_{NA}</p>	<p><i>Red List</i></p> <p>Lower risk</p> <p>GB endemic = E</p> <p>GB Introduction = I</p>
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BOTANICAL PROFILE:
26. URBAN MERSEY BASIN

Vascular plant significance: SIGNIFICANT
Bryophyte significance: CONSIDERABLE
Charophyte significance: SOME

General botanical character: Coastal and estuarine habitats are of particular significance here. The area holds the only English station for *Juncus balticus*. For the critically endangered *Schoenoplectus pungens*, it is the only site in England and, has been re-established from original stock following loss. The sand dunes are excellent for bryophytes, particularly the genus *Bryum* (some may have seen a real decline but probably inadequately recorded). *Corynephorus canescens* has a westerly outlier here.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Adiantum capillus-veneris</i>	MC	<i>I_{NA} Marrubium vulgare</i>	MC
<i>Centaureum littorale</i>	SD	<i>Myriophyllum verticillatum</i>	A
<i>Coincya monensis ssp. monensis</i>	SD	<i>I_{NA} Nymphoides peltata</i>	A
<i>Corynephorus canescens</i>	SD	<i>Potamogeton compressus</i>	A
<i>I_{NA} Cyperus longus</i>	MG	<i>Potamogeton trichoides</i>	A
<i>Epipactis leptochila var. dunensis</i>	SD	<i>Pyrola rotundifolia ssp. maritima</i>	SD
<i>Epipactis phyllanthes</i>	SD	<i>Schoenoplectus pungens</i>	SD
<i>Equisetum variegatum</i>	SD	<i>I_{NA} Sesleria caerulea</i>	O
<i>Euphorbia portlandica</i>	MC	<i>I_{NA} Silene otites</i>	U
<i>Fumaria purpurea</i>	OV	<i>Stratiotes aloides</i>	A
<i>Gentiana pneumonanthe</i>	M	<i>I_{NA} Verbascum lychnitis</i>	O
<i>I_{NA} Hippophae rhamnoides</i>	SD	<i>I_{NA} Verbascum virgatum</i>	O
<i>Hordelymus europaeus</i>	W	<i>I_{NA} Vicia lutea</i>	SD/MC
<i>Juncus balticus</i>	SD	<i>Vulpia fasciculata</i>	SD
<i>I_{NA} Illecebrum verticillatum</i>	O		
<i>Lathyrus aphaca</i>	MC		
<i>I_{NA} LURONIUM NATANS</i> ⁸	A		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Amblyodon dealbatus</i>	SD	<i>Campylium polygamum</i>	SD
<i>Brachythecium mildeanum</i>	SD	<i>Dicranum polysetum</i>	H/W
<i>Bryum calophyllum</i>	SD	<i>Distichium inclinatum</i>	SD
<i>Bryum dunense</i>	O	<i>Drepanocladus lycopodiodes</i>	SD
<i>Bryum inclinatum</i>	SD	<i>Drepanocladus sendtneri</i>	SD
<i>Bryum intermedium</i>	SD/O	<i>Meesia uliginosa</i>	SD
<i>Bryum knowltonii</i>	SD	<i>Moerckia hibernica</i>	SD
<i>Bryum neodamense</i>	SD	<i>PETALOPHYLLUM RALFSII</i> ⁸	SD
<i>Bryum pallescens</i>	SD	<i>Tortula freibergii</i>	O
<i>Bryum warneum</i>	SD		
<i>Calypogeia integristipula</i>	MC		
<i>Campylium elodes</i>	SD		

Charophytes	Habitat (NVC)	Charophytes	Habitat (NVC)
<i>Chara aspera</i> var. <i>curta</i>	A		

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitats (NVC)	Bryophytes	Habitat (NVC)
<i>Myriophyllum verticillatum</i> <i>Stratiotes aloides</i>	A A	<i>Bryum donianum</i> <i>Bryum mamillatum</i> ⁸ <i>Bryum marratii</i> <i>Bryum uliginosum</i> <i>Catascopium nigrescens</i>	SD SD SD SD SD

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	2	1		1		1	6		12		5	1	3	
Bryophytes	1		1						17		1		3	
Charophytes							1							
Total	3	1	1	1		1	7		29		6	1	6	

SUMMARY OF INTEREST									
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species	
Vascular plants	1	1	1	31				32	
Bryophytes	1	1	6	15				21	
Charophytes				1				1	
Total	2	2	7	47				54	

KEY:	
<i>INTERNATIONAL DESIGNATION</i>	<i>Red List</i>
Schedule 8 = ⁸	<i>Lower risk</i>
Data Deficient = _{DD}	GB endemic = E
English endemic = EE	GB Introduction = I
NA Introduction = I _{NA}	

BOTANICAL PROFILE:
27. MOSSES AND MERES

Vascular plant significance: SIGNIFICANT
Bryophyte significance: NOTABLE

General botanical character: The principal interest in this NA comes from wetland habitats, particularly standing open waters and bogs formed from moss vegetation. These habitats are frequently surrounded by fen, carr and moss woodland, which also contribute to the botanical diversity of this area. *Desmatodon cernuus* and *Dicranum bergerii* are two significant moss species occurring here. *Luronium natans* is also of note.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aconitum napellus</i>	W	<i>Myriophyllum verticillatum</i>	A
<i>Bromopsis benekenii</i>	W	<i>Nuphar pumila</i>	A
<i>Calamagrostis stricta</i>	MG	<i>I_{NA} Nymphoides peltata</i>	A
<i>Campanula patula</i>	W	<i>Persicaria laxiflora</i>	OV
<i>Carex elongata</i>	W/O	<i>Pilularia globulifera</i>	A/OV
<i>Cicuta virosa</i>	S	<i>Potamogeton compressus</i>	A
<i>Cyperus longus</i>	MG	<i>Ribes alpinum</i>	W
<i>Dianthes deltoides</i>	U	<i>Senecio cambensis</i>	O
<i>Elatine hexandra</i>	A	<i>Silene gallica</i>	O
<i>I_{NA} Erodium moschatum</i>	O	<i>Silene nutans</i>	OV
<i>Fritillaria meleagris</i>	MG	<i>Thelypteris palustris</i>	M
<i>Hypochaeris glabra</i>	H	<i>Tilia platyphyllos</i>	W
<i>I_{NA} Lepidium latifolium</i>	O	<i>I_{NA} Verbascum virgatum</i>	O
<i>Linum perenne</i>	O	<i>I_{NA} Vicia lutea</i>	O
LURONIUM NATANS ⁸	A		
<i>I_{NA} Marrubium vulgare</i>	O		
<i>I_{NA} Meconopsis cambrica</i>	O		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Aloina brevirostris</i>	O	<i>Henediella stanfordensis</i>	OV
<i>Atrichum tenellum</i>	O	<i>Lophozia capitata</i>	O
<i>Brachythecium mildeanum</i>	S	<i>Moerckia hibernica</i>	M
<i>Bryum intermedium</i>	O	<i>Octodiceras fontanum</i>	A
<i>Calypogeia azurea</i>	M	<i>Philonotis caespitosa</i>	M
<i>Calypogeia integristipula</i>	M	<i>Plagiothecium ruthei</i>	W
<i>Cephaloziella elachista</i>	M	<i>Platygyrium repens</i>	W
<i>Desmatodon cernuus</i>	O	<i>Riccia canaliculata</i>	OV
<i>Dicranum bergeri</i>	M	<i>Ricciocarpos natans</i>	A
<i>Dicranum polysetum</i>	M/W	<i>Schistostega pennata</i>	O
<i>Discelium nudum</i>	OV	<i>Sphagnum pulchrum</i>	M
<i>Ditrichum pusillum</i>	OV	<i>Sphagnum flexuosum</i>	M
<i>Drepanocladus sendtneri</i>	M	<i>Sphagnum angustifolium</i>	M
<i>Funaria muhlenbergii</i>	O	<i>Trichostomopsis umbrosa</i>	O

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Flowering plants	Habitat (NVC)
<i>Dryopteris cristata</i>	M	<i>Lycopodiella inundata</i>	M
<i>Gentiana pneumonanthe</i>	M	<i>Mentha pulegium</i> ⁸	OV
<i>Hammarbya paludosa</i>	M	<i>Pilularia globulifera</i>	A/OV
<i>Hypochaeris glabra</i>	H	<i>Stratiotes aloides</i>	A
LURONIUM NATANS ⁸	A		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	6	1	1	3		1	7	1				3	10	
Bryophytes	3	11					2	1				4	8	
Charophytes														
Total	9	12	1	3		1	9	2				7	18	

SUMMARY OF INTEREST								
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species
Vascular plants	1	1		31				31
Bryophytes			3	24				27
Charophytes								
Total	1	1	3	55				58

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 =⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
28. POTTERIES AND CHURNET VALLEY

Vascular plant significance: SIGNIFICANT
Bryophyte significance: SOME

General botanical character: This NA has been heavily affected by urbanisation and its industrial past. The main remaining interest lies in the woodlands in the steep-sided river valleys of the R. Churnet and its tributaries. Most habitats in this area are characterised by being transitional in nature between the uplands of the Southern Penines and the lowland beneath. *Luronium natans* has been recorded in this Natural Area.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aconitum napellus</i>	W	<i>I_{NA} Meconopsis cambrica</i>	O
<i>Cardamine bulbifera</i>	W	<i>I_{NA} Nymphoides peltata</i>	A
<i>I_{NA} Helleborus foetidus</i>	W	<i>Tilia platyphyllos</i>	W
<i>Limosella aquatica</i>	OV	<i>Ulmus plotti</i> E	W
LURONIUM NATANS⁸	A		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)

EXTINCT AND/OR DECLINING SPECIES

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KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	5						1					1	1	
Bryophytes														
Charophytes														
Total	5						1					1	1	

SUMMARY OF INTEREST

	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants	1	1		9				9
Bryophytes								
Charophytes								
Total	1	1		9				9

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 =⁸

Data Deficient = ^{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE: 29. SOUTH WEST PEAK	Vascular plant significance: SIGNIFICANT Bryophyte significance: SOME
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General botanical character: Open moor is now the characteristic habitat, interrupted by rush pasture, dry and wet heath, blanket mire and occasional woodland on the clough sides. Internationally important plants *Trichomanes speciosum* and *Luronium natans* both occur in the Area.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aconitum napellus</i>	W	<i>LURONIUM NATANS</i> ⁸	A
<i>Minuartia verna</i>	OV	<i>Ribes alpinum</i>	W
<i>Limosella aquatica</i>	A	<i>TRICHOMANES SPECIOSUM</i> ⁸	O

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Barbilophozia atlantica</i>	W/O	<i>Physcomitrium sphaericum</i>	OV
<i>Brachydontium trichodes</i>	O	<i>Plagiothecium laetum</i>	W
<i>Calypogeia integristipula</i>	U/O	<i>Rhynchostegium alopecuroides</i>	A
<i>Discelium nudum</i>	OV	<i>Riccia cavernosa</i>	OV
<i>Kurzia sylvatica</i>	M/W	<i>Schistostega pennata</i>	O
<i>Leucobryum juniperoideum</i>	W/H	<i>Tomentypnum nitens</i>	M
<i>Nardia geoscyphus</i>	U		

EXTINCT AND/OR DECLINING SPECIES			

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	2						2					1	1	
Bryophytes	4	2	1			2	1					3	4	
Charophytes														
Total	6	2	1			2	3					4	5	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants	2	2	1	5				6
Bryophytes				13				13
Charophytes								
Total	2	2	1	18				19

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 =⁸

Data Deficient = ^{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
30. WHITE PEAK

Vascular plant significance: NOTABLE
Bryophyte significance: SIGNIFICANT

General botanical character: The primary habitats of interest in this NA are ashwoods, calcareous grasslands and limestone rivers, although the traditional farming landscape is largely intact and this has retained some scattered remnants of habitat in the form of hay meadows, dewponds, metal rich grassland and occasional vestiges of heath. The English endemic moss *Thamnobryum angustifolium* is recorded here.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Arabis glabra</i>	OV	<i>Minuartia verna</i>	OV
<i>Cardamine impatiens</i>	W/MG	<i>Narcissus pseudonarcissus</i>	W/MG
<i>Carex digitata</i>	W/U	<i>Oenanthe silaifolia</i>	MG
<i>Carex muricata ssp. muricata</i>	CG	<i>Orchis ustulata</i>	CG
<i>Carex ornithopoda</i>	CG	<i>Polemonium caeruleum</i>	CG/W
<i>Circaea alpina</i>	W/M	<i>Polygonatum odoratum</i>	W
<i>Daphne mezereum</i>	W	<i>Potentilla crantzii</i>	CG/U
<i>Dianthus deltoides</i>	CG/U	<i>Potentilla neumanniana</i>	CG
<i>Draba muralis</i>	CG/M	<i>Primula farinosa</i>	M
<i>Dryopteris submontana</i>	OV/O	<i>Pyrola rotundifolia ssp. rotundifolia</i>	S/W
<i>Epipactis atrorubens</i>	W/CG	<i>Ribes alpinum</i>	W
<i>Galeopsis angustifolia</i>	OV	<i>Sedum forsterianum</i>	CG
<i>Gymnocarpium robertianum</i>	OV	<i>Sesleria caerulea</i>	CG
<i>I_{NA} Helleborus foetidus</i>	CG/W	<i>Silene nutans</i>	CG/OV
<i>Hordelymus europaeus</i>	W	<i>Sorbus rupicola</i>	CG/U
<i>Hornungia petraea</i>	CG	<i>Thlaspi caerulescens</i>	OV
<i>I_{NA} Meconopsis cambrica</i>	W/O	<i>Tilia platyphyllos</i>	W
<i>Minuartia hybrida</i>	CG	<i>I_{NA} Verbascum pulverulentum</i>	O
		<i>I_{NA} Verbascum virgatum</i>	O

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Amblystegium compactum</i>	O	<i>Pottia bryoides</i>	CG/O
<i>Amblystegium jungermannioides</i>	O	<i>Pottia starkeana</i> ssp. <i>starkeana</i>	CG
<i>Brachythecium appleyardiae</i>	O	<i>Rhytidium rugosum</i>	CG
<i>Campylium calcareum</i>	O	<i>Seligeria acutifolia</i>	O
<i>Cololejeunea rossettiana</i>	O	<i>Seligeria donniana</i>	O
<i>Eurhynchium striatulum</i>	O	<i>Seligeria pusilla</i>	O
<i>Fissidens limbatus</i>	W/O	<i>Targionia hypophylla</i>	O
<i>Funaria muhlenbergii</i>	CG	<i>Thamnobryum angustifolium</i> ⁸ EE	O
<i>Grimmia laevigata</i>	O	<i>Tortula subulata</i> var. <i>subinermis</i>	O
<i>Grimmia orbicularis</i>	O	<i>Tortula virescens</i>	O
<i>Gymnostomum calcareum</i>	O	<i>Trichostomopsis umbrosa</i>	O
<i>Mnium thomsonii</i>	CG/U		
<i>Orthotrichum sprucei</i>	O		
<i>Plagiopus oederi</i>	O		
<i>Pleurochaete squarrosa</i>	CG		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	13	2		3	16	4		1				6	4	
Bryophytes	1				6	1								21
Charophytes														
Total	14	2		3	22	5		1				6	25	

SUMMARY OF INTEREST								
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species
Vascular plants			1	38				39
Bryophytes		1	1	25		1		26
Charophytes								
Total		1	2	63		1		65

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 =⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = _{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

**BOTANICAL PROFILE: 31. DERBYSHIRE
PEAK FRINGE AND LOWER DERWENT**

Vascular plant significance: NOTABLE
Bryophyte significance: SOME

General botanical character: The principal habitats of value here are woodland, grasslands of varying soil type, swamp, mire and open water. The NA is the most northerly station in England for *Fissidens rivularis*. There is some doubt as to the presence of *Mentha pulegium*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aceras anthropophorum</i>	CG	<i>Potamogeton compressus</i>	A
<i>I_{NA} Aconitum napellus</i>	W	<i>Ribes alpinum</i>	W
<i>Cardamine impatiens</i>	W/MG	<i>Sorbus rupicola</i>	CG/U
<i>Daphne mezereum</i>	W	<i>Thlaspi caerulescens</i>	OV
<i>I_{NA} Helleborus foetidus</i>	W	<i>Tilia platyphyllos</i>	W
<i>Hordelymus europaeus</i>	W	<i>I_{NA} Verbascum virgatum</i>	O
<i>Mentha pulegium</i> ⁸	OV		
<i>Minuartia verna</i>	OV		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Fissidens rivularis</i>	A	<i>Sphagnum flexuosum</i>	W/M/S
<i>Riccia cavernosa</i>	OV		

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)		
<i>Mentha pulegium</i> ⁸	OV		
<i>Ribes alpinum</i>	W		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	7			1	2	1	1					3	1	
Bryophytes	1			1			1	1				1		
Charophytes														
Total	8			2	2	1	2	1				4	1	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		1	1	13				14
Bryophytes				3				3
Charophytes								
Total		1	1	16				17

<p>KEY:</p> <p><i>INTERNATIONAL DESIGNATION</i></p> <p>Schedule 8 = ⁸</p> <p>Data Deficient = _{DD}</p> <p>English endemic = EE</p> <p>NA Introduction = I_{NA}</p>	<p><i>Red List</i></p> <p>Lower risk</p> <p>GB endemic = E</p> <p>GB Introduction = I</p>
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BOTANICAL PROFILE: 32. SHERWOOD	Vascular plant significance: SOME Bryophyte significance: SOME
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General botanical character: Agriculture and commercial forestry have taken a heavy toll on this area, but some semi-natural habitat remains in the form of heathland, wet woodland, wood pasture and streams and rivers.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Callitriche truncata</i>	A	<i>Lepidum latifolium</i>	O
<i>Hordelymus europaeus</i>	W	<i>Myriophyllum verticillatum</i>	A
<i>Hypochaeris glabra</i>	U	<i>I_{NA} Nymphoides peltata</i>	A
		<i>Tilia platyphyllos</i>	W

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Anthoceros agrestis</i>	OV	<i>Schistostega pennata</i>	O
<i>Riccia subbifurca</i>	OV	<i>Trichostomopsis umbrosa</i>	O

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	2					1	3							
Bryophytes												2	2	
Charophytes														
Total	2					1	3					2	2	

SUMMARY OF INTEREST								
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species
Vascular plants				7				7
Bryophytes				4				4
Charophytes								
Total				11				11

KEY:

<i>INTERNATIONAL DESIGNATION</i>	<i>Red List</i>
Schedule 8 = ⁸	Lower risk
Data Deficient = ^{DD}	GB endemic = E
English endemic = EE	GB Introduction = I
NA Introduction = ^{I_{NA}}	

BOTANICAL PROFILE:
33. TRENT VALLEY AND RISES

Vascular plant significance: NOTABLE
Bryophyte significance: NOTABLE

General botanical character: Heavily affected by modern intensive agriculture, the NA has little semi-natural habitat left. Ancient woodland, floodplain grassland and relict pasturelands are now the main strongholds. The Area is the most northerly station in GB for *Crassula tillaea* and one of only three extant localities in GB for *Ephemerum cohaerens*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Allium schoenoprasum</i>	O	<i>I_{NA} Meconopsis cambrica</i>	O
<i>Arabis glabra</i>	OV	<i>Minuartia hybrida</i>	OV
<i>Callitriche truncata</i>	A	<i>Myriophyllum verticillatum</i>	A
<i>Crassula tillaea</i>	OV	<i>I_{NA} Nymphoides peltata</i>	A
<i>I_{NA} Cyperus longus</i>	MG	<i>Persicaria laxiflora</i>	OV
<i>I_{NA} Daphne mezereum</i>	W	<i>Potamogeton coloratus</i>	A
<i>Dianthus armeria</i>	U	<i>I_{NA} Ribes alpinum</i>	W
<i>Dianthus deltoides</i>	U/OV	<i>Scandix pecten-veneris</i>	OV
<i>I_{NA} Equisetum variegatum</i>	O	<i>Stratiotes aloides</i>	A
<i>Festuca longifolia</i>	U	<i>I_{NA} Tilia platyphyllos</i>	W
<i>Galeopsis angustifolia</i>	CG	<i>Ulmus plotii</i> E	W
<i>I_{NA} Galium parisiense</i>	O		
<i>I_{NA} Helleborus foetidus</i>	W		
<i>Hordelymus europaeus</i>	W		
<i>I_{NA} Lepidium latifolium</i>	O		
<i>Limosella aquatica</i>	OV		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Amblystegium humile</i>	MG/W/O	<i>Octodiceras fontanum</i>	A
<i>Campylium calcareum</i>	O	<i>Phascum floerkeanum</i>	OV
<i>Dicranella crispa</i>	OV	<i>Riccia cavernosa</i>	OV
<i>Didymodon nicholsonii</i>	O	<i>Schistidium alpicola</i> var. <i>alpicola</i>	O
<i>Ephemerum cohaerens</i>	OV	<i>Seligeria calcarea</i>	O
<i>Ephemerum recurvifolium</i>	OV	<i>Sphagnum angustifolium</i>	W/M/S
<i>Eurhynchium schleicheri</i>	W		

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)	Flowering plants	Habitat (NVC)
<i>Dianthus deltoides</i>	U	<i>Myriophyllum verticillatum</i>	A
		<i>Silene gallica</i>	OV

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	6			1	1	3	5					7	5	
Bryophytes	3	1		1			1	1				5	5	
Charophytes														
Total	9	1		2	1	3	6	1				12	10	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants			3	24	1			50
Bryophytes			1	12				13
Charophytes								
Total			4	46	1			50

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 =⁸

Data Deficient = ^{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE: 34. NORTH LINCOLNSHIRE COVERSANDS & CLAY VALES	Vascular plant significance: NOTABLE Bryophyte significance: SOME
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General botanical character: This area is heavily cultivated for intensive arable farming, but scattered areas of heathland (often suffering from scrub invasion), limestone grassland and ancient lime woods remain. *Dianthus armeria*, *Maianthemum bifolium* and *Orobancha purpurea* are the most important species recorded from this NA.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aconitum napellus</i>	W	<i>Orchis ustulata</i>	CG
<i>Apera interrupta</i>	OV	<i>Orobancha purpurea</i>	CG/U
<i>Apera spica-venti</i>	OV	<i>Pilularia globulifera</i>	A/OV
<i>Carex ericetorum</i>	CG	<i>Potamogeton coloratus</i>	A
<i>Dianthus armeria</i>	U/OV	<i>Potamogeton trichoides</i>	A
<i>Epipactis leptochila</i> var. <i>dunensis</i>	CG	<i>Pulsatilla vulgaris</i>	CG
<i>I_{NA} Erodium moschatum</i>	O	<i>Scandix pecten-veneris</i>	OV
<i>Gentiana pneumonanthe</i>	H/M	<i>Sium latifolium</i>	S/M
<i>Hordelymus europaeus</i>	W	<i>Stratiotes aloides</i>	A
<i>Hypochaeris glabra</i>	U	<i>I_{NA} Tilia platyphyllos</i>	W
<i>Linum perenne</i> ssp. <i>anglicum</i>	CG	<i>Ulmus plotii</i> E	W
<i>Maianthemum bifolium</i>	W	<i>I_{NA} Verbascum virgatum</i>	O
<i>Myriophyllum verticillatum</i>	A	<i>Vulpia ciliata</i> subsp. <i>ambigua</i>	U
<i>I_{NA} Nymphoides peltata</i>	A		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Bryum intermedium</i>	CG	<i>Fossombronia foveolata</i>	OV
<i>Campylium elodes</i>	CG	<i>Racomitrium canescens</i>	U
<i>Campylium polygamum</i>	CG	<i>Ricciocarpos natans</i>	A
<i>Dicranum spurium</i>	U/H		
<i>Drepanocladus lycopodioides</i>	CG		
<i>Drepanocladus sendtneri</i>	CG		

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Flowering plants	Habitat (NVC)
<i>Pulsatilla vulgaris</i>	CG	<i>Stratiotes aloides</i>	A

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	5	2	1		6	4	6	1				5	2	
Bryophytes			1		5	2	1					1		
Charophytes														
Total	5	2	2		11	6	7	1				6	2	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants			3	24				27
Bryophytes				9				9
Charophytes								
Total			3	33				36

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 =⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE: 35. LINCOLNSHIRE WOLDS	Vascular plant significance: NOTABLE Bryophyte significance: NOTABLE
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General botanical character: Heavily affected by agriculture, this NA contains limited semi-natural habitat, most of which is now confined to river valleys and to the chalk uplands.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aconitum napellus</i>	W	<i>Silene gallica</i>	OV
<i>I_{NA} Helleborus foetidus</i>	W	<i>I_{NA} Tilia platyphyllos</i>	O
<i>Myriophyllum verticillatum</i>	A		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Pottia bryoides</i>	OV	<i>Seligeria calcarea</i>	O

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Flowering plants	Habitat (NVC)
<i>Centaurea cyanus</i>	OV	<i>Scandix pecten-veneris</i>	OV
<i>Pulsatilla vulgaris</i>	CG		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	2						1					1	1	5
Bryophytes												1	1	2
Charophytes														
Total	2						1					2	2	7

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants				7				7
Bryophytes				2				2
Charophytes								
Total				9				9

<p>KEY:</p> <p><i>INTERNATIONAL DESIGNATION</i></p> <p>Schedule 8 = ⁸</p> <p>Data Deficient = _{DD}</p> <p>English endemic = EE</p> <p>NA Introduction = _{NA}I</p>	<p><i>Red List</i></p> <p><i>Lower risk</i></p> <p>GB endemic = E</p> <p>GB Introduction = I</p>
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BOTANICAL PROFILE:**36. LINCOLNSHIRE COAST & MARSHES**Vascular plant significance: **NOTABLE**Bryophyte significance: **SOME**

General botanical character: Sand dunes, shingle and salt marsh are of great importance supporting many notable plants. The area is very good for the sand dune *Bryum* spp. *Hippophae rhamnoides* is native here. *Equisetum ramoissimum* is a GB introduction, as too is *Iris spuria*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Alopecurus bulbosus</i>	MG	<i>Orobanche purpurea</i>	SD/O
<i>Althaea officinalis</i>	SM/MG	<i>Parapholis incurva</i>	SD
<i>Apera interrupta</i>	OV	<i>Poa bulbosa</i>	SD
<i>Bupleurum tenuissimum</i>	MG/SD	<i>Puccinellia rupestris</i>	SM/O
<i>Carex divisa</i>	MG	<i>Ruppia cirrhosa</i>	A
<i>Festuca arenaria</i>	SD	<i>Salicornia pusilla</i>	SM
<i>Frankenia laevis</i>	SM	<i>Sarcocornia perennis</i>	SM/SD
I _{NA} <i>Fritillaria meleagris</i>	MG	<i>Scandix pecten-veneris</i>	OV
I _{NA} <i>Helleborus foetidus</i>	W	<i>Sium latifolium</i>	S/M
<i>Hippophae rhamnoides</i>	SD	<i>Spartina maritima</i>	SM
<i>Hordeum marinum</i>	SM/O	<i>Suaeda vera</i>	SM/SD
<i>Lathyrus palustris</i>	MG		
<i>Limonium bellidifolium</i>	SM		
<i>Marrubium vulgare</i>	MC		
<i>Minuartia hybrida</i>	OV		
<i>Myriophyllum verticillatum</i>	A		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Aloina ambigua</i>	SD	<i>Campylium polygamum</i>	SD
<i>Amblystegium humile</i>	MG/W/O	<i>Ditrichum pusillum</i>	OV
<i>Anthoceros agrestis</i>	OV	<i>Drepanocladus sendtneri</i>	SD
<i>Bryum intermedium</i>	SD	<i>Pottia bryoides</i>	SD
<i>Bryum knowltonii</i>	SD	<i>Pterygoneuron ovatum</i>	O
<i>Bryum mamillatum</i>	SD	<i>Seligeria calcarea</i>	O
<i>Bryum maratii</i>	SD		
<i>Bryum warneum</i>	SD		

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Corynephoros canescens</i> <i>Inula cithmoides</i> <i>Mertensi maritima</i> <i>Stratiotes aloides</i> <i>Trifolium squamosum</i> <i>Zostera noltii</i>	SD SM SD A MG/O O	<i>Bryum torquescens</i>	SD

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	1	1		6			1	1	8	9		2	3	
Bryophytes	1			1					9			2	3	
Charophytes														
Total	2	1		7			1	1	17	9		4	6	

SUMMARY OF INTEREST								
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants			1	26				27
Bryophytes			4	10				14
Charophytes								
Total			5	36				41

KEY:	INTERNATIONAL DESIGNATION	Red List
	Schedule 8 = ⁸	Lower risk
	Data Deficient = _{DD}	GB endemic = E
	English endemic = EE	GB Introduction = I
	NA Introduction = _{NA}	

BOTANICAL PROFILE:
37. THE FENS

Vascular plant significance: CONSIDERABLE
Bryophyte significance: SOME
Charophyte significance: HIGH

General botanical character: Topogenous fen is the main habitat here, although coastal habitats also provide botanical interest. Characteristic species in this NA are *Carex appropinquata*, *Selinum carvifolia*, *Thelypteris palustris* and *Viola persicifolia*. The red list charophytes *Tolypella intricata*, *T. Prolifera* and *Nitella tenuissima* are also found here.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aconitum napellus</i>	W	<i>Myriophyllum verticillatum</i>	A
<i>Althaea officinalis</i>	MG	<i>Nymphoides peltata</i>	A
<i>Alisma gramineum</i>⁸	A	<i>Oenanthe silaifolia</i>	MG
<i>Apera interrupta</i>	OV	<i>Parapholis incurva</i>	SD/OV
<i>Apera spica-venti</i>	OV	<i>Persicaria laxiflora</i>	OV
<i>Atriplex longipes</i>	SM	<i>Peucedanum palustre</i>	M
<i>Bupleurum tenuissimum</i>	MG/SM	<i>Poa bulbosa</i>	SD/U
<i>Carex appropinquata</i>	M	<i>I_{NA} Polypogon monspeliensis</i>	OV/O
<i>Carex divisa</i>	MG	<i>Potamogeton coloratus</i>	A
<i>Crassula tillaea</i>	SD	<i>Potamogeton compressus</i>	A
<i>Cuscuta europaea</i>	MG/O	<i>Potamogeton trichoides</i>	A
<i>I_{NA} Cyperus longus</i>	MG	<i>I_{NA} Primula elatior</i>	W
<i>Dactylorhiza traunsteineri</i>	M	<i>Puccinellia fasciculata</i>	O/SM
<i>I Equisetum ramosissimum</i>⁸	O	<i>Puccinellia rupestris</i>	O/SM
<i>Euphorbia platyphyllos</i>	OV	<i>Ruppia cirrhosa</i>	A
<i>Frankenia laevis</i>	SM	<i>Sarcocornia perennis</i>	SM/SD
<i>Fumaria densiflora</i>	OV	<i>Selinum carvifolia</i>⁸	M/MG
<i>Fumaria parviflora</i>	OV	<i>Senecio paludosus</i>⁸	O/M
<i>Galeopsis angustifolia</i>	OV	<i>Sium latifolium</i>	S/M
<i>Gentiana pneumonanthe</i>	M	<i>I_{NA} Sonchus palustris</i>	S/M
<i>I_{NA} Helleborus foetidus</i>	W	<i>Spartina maritima</i>	SM
<i>Hippophae rhamnoides</i>	SD	<i>Stratiotes aloides</i>	A
<i>Hordeum marinum</i>	O	<i>Suaeda vera</i>	SM
<i>Hypochaeris glabra</i>	U/OV	<i>Teucrium scordium</i>⁸	O
<i>Lathyrus palustris</i>	MG/M	<i>Thelypteris palustris</i>	M
<i>Lepidium latifolium</i>	MG/O	<i>I_{NA} Tilia platyphyllos</i>	W
<i>Luzula pallidula</i>	M	<i>Torilis arvensis</i>	OV
<i>I_{NA} Marrubium vulgare</i>	O	<i>Trifolium ochroleucon</i>	MG/O
<i>I_{NA} Meconopsis cambrica</i>	O	<i>Ulmus plotii</i> E	W
<i>Medicago minima</i>	OV	<i>Verbascum pulverulentum</i>	SD
<i>I_{NA} Medicago polymorpha</i>	OV	<i>Vicia parviflora</i>	OV
<i>Medicago sativa</i> ssp. <i>falcata</i>	OV/O	<i>Viola persicifolia</i>⁸	M
		<i>Vulpia ciliata</i> ssp. <i>ambigua</i>	OV/O

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Brachythecium mildeanum</i>	MG	<i>Ephemerum recurvifolium</i>	OV
<i>Brachythecium salebrosum</i>	W	<i>Phascum cuspidatum v. piliferum</i>	OV
<i>Bryum creberrimum</i>	O	<i>Plagiothecium ruthei</i>	W
<i>Bryum intermedium</i>	O	<i>Pottia bryoides</i>	MG/O
<i>Bryum pseudotriquetrum v. bimum</i>	M/O	<i>Pterygoneurum ovatum</i>	O
<i>Campylium elodes</i>	S/MG	<i>Ricciocarpos natans</i>	A
<i>Campylium polygamum</i>	S/MG	<i>Tortula vahliana</i>	OV
<i>Dicranum polysetum</i>	M/W	<i>Trichostomopsis umbrosa</i>	O
<i>Didymodon acutus</i>	OV		

Charophytes	Habitat (NVC)	Charophytes	Habitat (NVC)
<i>Nitella tenuissima</i>	A	<i>Tolypella prolifera</i>	A
<i>Tolypella intricata</i>	A		

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)	Flowering plants	Habitat (NVC)
<i>Frankenia laevis</i>	SM	<i>Lepidium latifolium</i>	MG/O
<i>Fumaria densiflora</i>	OV	<i>Peucedanum palustre</i>	M
<i>Gentiana pneumonanthe</i>	M	<i>Potamogeton compressus</i>	A
<i>Lathyrus palustris</i>	MG/M		

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	5	12		10		1	8	2	6	8		16	14	
Bryophytes	3	2		4			1	2				4	6	
Charophytes							3							
Total	8	14		14		1	12	4	6	8		20	20	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		6	7	48	1			55
Bryophytes				17				17
Charophytes			3					3
Total		6	10	65	1			75

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE: 38. LINCOLNSHIRE & RUTLAND LIMESTONE	Vascular plant significance: SIGNIFICANT Bryophyte significance: SOME Charophyte significance: HIGH
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General botanical character: Calcareous grassland provides much of the area's botanical rarities, including *Gentianella anglica*. Other important habitats are limestone grass heath and calcareous streams and flushes. This is the only station for *Armeria maritima ssp. elongata* in GB.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aceras anthropophorum</i>	CG	I _{NA} <i>Nymphoides peltata</i>	A
<i>Armeria maritima ssp. elongata</i>	U	<i>Orchis ustulata</i>	CG
<i>Cardamine bulbifera</i>	W	<i>Potamogeton trichoides</i>	A
<i>Carex ericetorum</i>	CG	<i>Potentilla neumanniana</i>	CG
<i>Cerastium pumilum</i>	CG	<i>Pulsatilla vulgaris</i>	CG
<i>Cuscuta europaea</i>	MG/O	<i>Scandix pecten - veneris</i>	OV
I _{NA} <i>Cyperus longus</i>	MG	<i>Sium latifolium</i>	S
<i>Euphrasia pseudokernerii</i>	CG	<i>Thelypteris palustris</i>	M
GENTIANELLA ANGLICA ⁸	CG	<i>Thesium humifusum</i>	CG
<i>Herniaria glabra</i>	U	I _{NA} <i>Tilia platyphyllos</i>	W
<i>Hordelymus europaeus</i>	W	<i>Torilis arvensis</i>	OV
I _{NA} <i>Impatiens noli-tangere</i>	W	<i>Trifolium ochroleucon</i>	CG
<i>Linum perenne</i>	CG	<i>Ulmus plotii</i> E	W
I _{NA} <i>Marrubium vulgare</i>	O	<i>Vulpia unilateralis</i>	CG/OV
<i>Minuartia hybrida</i>	CG		
<i>Myriophyllum verticillatum</i>	A		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Aloina rigida</i>	OV	<i>Platygyrium repens</i>	W
<i>Bryum dunense</i>	O	<i>Riccia cavernosa</i>	OV
<i>Bryum intermedium</i>	O	<i>Seligeria calcarea</i>	O
<i>Didymodon acutus</i>	OV	<i>Thuidium abietinum ssp.abietinum</i>	CG
<i>Leptobarbula bercia</i>	O		
<i>Phascum floerkeanum</i>	OV		

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Flowering plants	Habitat (NVC)
<i>Orchis ustulata</i>	CG	<i>Thesium humifusum</i>	CG
<i>Pulsatilla vulgaris</i>	CG		

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	5	1		2	13	2	3					3	2	
Bryophytes	1				1							4	4	
Charophytes														
Total	6	1		2	14	2	3					7	6	

SUMMARY OF INTEREST

	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants	1	1	1	30	1			31
Bryophytes				11				11
Charophytes								
Total	1	1	1	41	1			42

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = _{NA}I

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE: 39. CHARNWOOD	Vascular plant significance: SOME Bryophyte significance: NOTABLE
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General botanical character: The acid rock exposures are important in a lowland England context, with past records for several members of the Grimmiaceae including *Racomitrium aciculare*, *R. aquaticum*, *R. heterostichum*, *Grimmia trichophylla*, *G. decipiens*, *G. affinis*, *Hedwigia ciliata s.l.* and *Breutelia chrysocoma* were also recorded here, all plants very restricted throughout much of central southern England.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Callitriche truncata</i>	A	<i>Luronium natans</i>	A
<i>Campanula patula</i>	W	<i>Ulmus plotii</i> E	W
<i>Juncus filiformis</i>	OV		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Campylium polygamum</i>	M	<i>Riccia cavernosa</i>	OV
<i>Dicranum polysetum</i>	M/W	<i>Ricciocarpos natans</i>	A
<i>Grimmia decipiens</i>	O		
<i>Plagiothecium ruthei</i>	W		

EXTINCT AND/OR DECLINING SPECIES			
Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Grimmia affinis</i>	O	<i>Schistostega pennata</i>	O
<i>Grimmia decipiens</i>	O		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	2						2					1		
Bryophytes	2	2					1					1	1	
Charophytes														
Total	4	2					3					1	1	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species
Vascular plants				5	1			5
Bryophytes				6				6
Charophytes								
Total				11	1			11

KEY:***INTERNATIONAL DESIGNATION***Schedule 8 = ⁸Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}***Red List****Lower risk*

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE: 40. NEEDWOOD & SOUTH DERBYSHIRE DALES	Vascular plant significance: SOME Bryophyte significance: SOME
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General botanical character: A NA in which urbanisation and agriculture have taken their toll on the flora. Woodland and scattered damp pasture are the most significant of the remaining habitats.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aconitum napellus</i>	W	<i>I_{NA} Lysimachia thyrsoiflora</i>	MG
<i>I_{NA} Apera spica-venti</i>	OV	<i>I_{NA} Meconopsis cambrica</i>	O
<i>Cardamine bulbifera</i>	W	<i>I_{NA} Nymphoides peltata</i>	A
<i>I_{NA} Cyperus longus</i>	MG	<i>Polemonium caeruleum</i>	W
<i>Draba muralis</i>	OV	<i>Potamogeton compressus</i>	A
<i>Gymnocarpium robertianum</i>	OV	<i>Silene gallica</i>	OV
<i>I_{NA} Helleborus foetidus</i>	W	<i>Thelypteris palustris</i>	M
<i>I_{NA} Lepidium latifolium</i>	O	<i>Tilia platyphyllos</i>	W
<i>Limosella aquatica</i>	OV	<i>Ulmus plotii</i> E	W

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Flowering plants	Habitat (NVC)
<i>Draba muralis</i>	OV	<i>Silene gallica</i>	OV
<i>Limosella aquatica</i>	OV	<i>Thelypteris palustris</i>	

KEY HABITATS															
	W	M	H	M	C	U	A	S	S	S	M	M	O	O	Total
				G	G				D	M	C	V			
Vascular plants	6			2			2						5	2	
Bryophytes															
Charophytes															
Total	6			2			2						5	2	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species
Vascular plants				18	1			18
Bryophytes								
Charophytes								
Total				18	1			18

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
41. OSWESTRY UPLANDS

Vascular plant significance: SIGNIFICANT
Bryophyte significance: SOME

General botanical character: An intricate landscape of small fields and woods set amongst rolling hills on the Welsh border. The area contains some larger woodland blocks and is crossed by a number of rivers and streams. *Luronium natans* is found here.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aconitum napellus</i>	W	<i>I_{NA} Ribes alpinum</i>	W
<i>I_{NA} Apera spica-venti</i>	OV	<i>Sedum forsterianum</i>	CG
<i>I_{NA} Brassica oleracea var. oleracea</i>	U	<i>Senecio cambrensis</i> E	OV
<i>Galeopsis angustifolia</i>	OV	<i>Sorbus anglica</i>	W
<i>Gymnocarpium robertianum</i>	OV	<i>Sorbus rupicola</i>	CG/U
<i>Helleborus foetidus</i>	CG/W	<i>I_{NA} Tilia platyphyllos</i>	W
<i>Hornungia petraea</i>	CG		
LURONIUM NATANS ⁸	A		
<i>Potentilla neumanniana</i>	CG		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Funaria muhlenbergii</i>	CG	<i>Orthotrichum sprucei</i>	O
<i>Nardia geoscyphus</i>	H	<i>Seligeria doniana</i>	O

EXTINCT AND/OR DECLINING SPECIES

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KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	5				5	2	1					4		
Bryophytes			1		1								2	
Charophytes														
Total	5		1		6	2	1					4	2	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants	1	1		15	1			15
Bryophytes				4				4
Charophytes								
Total	1	1		19	1			19

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
42. SHROPSHIRE HILLS

Vascular plant significance: SOME
Bryophyte significance: SIGNIFICANT

General botanical character: A Natural Area with a broad range of upland and lowland grassland and woodland habitats. Several species here are at or close to the edge of their range, with transitions from lowland to upland being in evidence here. Protected species include Pennyroyal and *Drepanocladus vernicosus*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aconitum napellus</i> _{DD}	W	<i>Lepidium latifolium</i>	OV
<i>Agrostemma githago</i>	OV	<i>Linum perenne</i>	CG
<i>Arabis glabra</i>	CG/OV	<i>Marrubium vulgare</i>	OV
<i>Bromopsis benekenii</i> _{DD}	W	<i>Meconopsis cambrica</i>	CG/O
<i>Campanula patula</i>	W	<i>Mentha pulegium</i> ⁸	M
<i>Cardamine bulbifera</i>	W	<i>Orobanche rapum-genistae</i>	H/W
<i>Cardamine impatiens</i>	W/CG/ MG	<i>Pyrola rotundifolia</i> ssp. <i>rotundifolia</i> _{DD}	M/W
<i>Carex digitata</i>	W/U	<i>Ribes alpinum</i>	W
<i>Dianthus deltoides</i>	CG/U	<i>Sedum forsterianum</i>	CG
<i>Epipactis leptochila</i> var. <i>leptochila</i> _{DD}	W	<i>Senecio cambrensis</i> E _{DD}	OV
<i>Epipactis phyllanthes</i> _{DD}	W	<i>Tilia platyphyllos</i>	W
<i>Euphrasia rostkoviana</i> ssp. <i>rostkoviana</i> _{DD}	MG	<i>Verbascum virgatum</i>	O
<i>Galeopsis angustifolia</i>	CG/O		
<i>Galium pumilum</i>	W		
<i>Gentiana pneumonanthe</i>	M		
<i>Helleborus foetidus</i>	CG		
<i>Hordelymus europaeus</i>	W		
<i>Impatiens noli-tangere</i>	W		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Bryum weigelii</i>	M	<i>Henediella stanfordensis</i>	OV
<i>Buxbaumia aphylla</i>	OV	<i>Myrinia pulvinata</i>	O
<i>Cephaloziella elachista</i>	M	<i>Philonotis arnellii</i>	OV
<i>Discelium nudum</i>	OV	<i>Plagiothecium laetum</i>	W
<i>DREPANOCLADUS VERNICOSUS</i> ⁸ _{DD}	M	<i>Pohlia lescuriana</i>	OV
<i>Grimmia laevigata</i>	O	<i>Schistostega pennata</i>	O
<i>Grimmia montana</i>	O		

EXTINCT AND/OR DECLINING SPECIES

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KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	15		1	2	8	2						5	3	
Bryophytes	1	3										5		
Charophytes														
Total	16	3	1	2	8	2						10	3	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		1	2	33				35
Bryophytes	1	1		12			1	13
Charophytes								
Total	1	1		45			1	48

<p>KEY:</p> <p><i>INTERNATIONAL DESIGNATION</i></p> <p>Schedule 8 = ⁸</p> <p>Data Deficient = _{DD}</p> <p>English endemic = EE</p> <p>NA Introduction = I_{NA}</p>	<p><i>Red List</i></p> <p>Lower risk</p> <p>GB endemic = E</p> <p>GB Introduction = I</p>
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BOTANICAL PROFILE:
43. MIDLANDS PLATEAU

Vascular plant significance: SIGNIFICANT
Bryophyte significance: SOME

General botanical character Although heavily influenced by urbanisation, this area has retained considerable conservation interest and a range of habitats - broadleaved woodland, fragmented grasslands and a number of wetlands. The NA also contains the most southerly known extant population of *Pyrola media* in England and *Luronium natans* is found here.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Adiantum capillus-veneris</i>	OV	LURONIUM NATANS⁸	A
<i>I_{NA} Allium schoenoprasum</i>	U/O	<i>I_{NA} Maianthemum bifolium</i>	W
<i>I_{NA} Althaea officinalis</i>	O	<i>I_{NA} Meconopsis cambrica</i>	O
<i>I_{NA} Apera interrupta</i>	OV	<i>I_{NA} Medicago minima</i>	U
<i>I_{NA} Apera spica-venti</i>	OV	<i>I_{NA} Medicago polymorpha</i>	U
<i>Arabis glabra</i>	U/O	<i>I_{NA} Medicago sativa subsp. falcata</i>	U
<i>Campanula patula</i>	W	<i>Mentha pulegium⁸</i>	OV
<i>Cardamine impatiens</i>	W/MG	<i>Minuartia hybrida</i>	U
<i>Carex elongata</i>	W/O	<i>Myosotis stolonifera</i>	M
<i>Carex montana</i>	U	<i>I_{NA} Nymphoides peltata</i>	A
<i>Cephalanthera longifolia</i>	W	<i>Oenanthe silaifolia</i>	MG
<i>Cicuta virosa</i>	M/S	<i>Orobanche alba</i>	CG
<i>I_{NA} Corynephorus canescens</i>	U	<i>Orobanche rapum-genistae</i>	H/W
<i>I_{NA} Cyperus longus</i>	MG	<i>Potamogeton compressus</i>	A
<i>Dianthus armeria</i>	U	<i>Pyrola media</i>	H/W
<i>Dianthus deltoides</i>	U/OV	<i>I_{NA} Ribes alpinum</i>	W
<i>Elatine hexandra</i>	A	<i>Scandix pecten-veneris</i>	OV
<i>Epipactis phyllanthes</i>	W	<i>Silene conica</i>	U/OV
<i>Euphorbia platyphyllos</i>	OV	<i>I_{NA} Stratiotes aloides</i>	A
<i>Fritillaria meleagris</i>	MG	<i>Thelypteris palustris</i>	M
<i>Galeopsis angustifolia</i>	OV	<i>Tilia platyphyllos</i>	W
<i>I_{NA} Gymnocarpium robertianum</i>	OV	<i>Torilis arvensis</i>	OV
<i>Helleborus foetidus</i>	W	<i>I_{NA} Verbascum lychnitis</i>	O
<i>Hordelymus europaeus</i>	W	<i>I_{NA} Verbascum virgatum</i>	O
<i>Hypochaeris glabra</i>	U	<i>I_{NA} Vicia lutea</i>	O
<i>I_{NA} Impatiens noli-tangere</i>	W	<i>Vicia parviflora</i>	OV
<i>I_{NA} Lepidium latifolium</i>	O		
<i>Limosella aquatica</i>	OV		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Brachythecium salebrosum</i>	W	<i>Plagiothecium laetum</i>	W
<i>Hennediella stanfordensis</i>	OV	<i>Pylaisia polyantha</i>	W
<i>Orthotrichum sprucei</i>	O		

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)	Flowering plants	Habitat (NVC)
<i>Dianthus armeria</i> <i>Mentha pulegium</i>	U OV	<i>Torilis arvensis</i>	OV

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	13	3	2	4	1	12	5	1				13	9	
Bryophytes	3											1	1	
Charophytes														
Total	16	3	2	4	1	12	5	1				14	10	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants	1	2	4	50				54
Bryophytes				5				5
Charophytes								
Total	1	2	4	55				59

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = ^{DD}

English endemic = ^{EE}

NA Introduction = ^{I_{NA}}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
44. MIDLAND CLAY PASTURES

Vascular plant significance: SOME
Brvophyte significance: SOME

General botanical character: Primarily an arable and pastoral landscape, this NA holds only fragments of semi-natural habitat such as unimproved grassland, woodland and heath, with reservoirs contributing some aquatic interest.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aceras anthropophorum</i>	CG	<i>Limosella aquatica</i>	OV
I _{NA} <i>Aconitum napellus</i>	W	<i>Minuartia hybrida</i>	CG
I _{NA} <i>Adiantum capillus-veneris</i>	OV	I _{NA} <i>Nymphoides peltata</i>	A
I _{NA} <i>Allium schoenoprasum</i>	U	I _{NA} <i>Ornithogalum pyrenaicum</i>	W
I _{NA} <i>Apera spica-venti</i>	OV	I _{NA} <i>Ribes alpinum</i>	W
I _{NA} <i>Cyperus longus</i>	MG	<i>Scandix pecten-veneris</i>	OV
I _{NA} <i>Draba muralis</i>	OV	I _{NA} <i>Stratiotes aloides</i>	A
I _{NA} <i>Erodium moschatum</i>	O	I _{NA} <i>Tilia platyphyllos</i>	W
<i>Euphorbia platyphyllos</i>	OV	<i>Torilis arvensis</i>	OV
<i>Fritillaria meleagris</i>	MG	<i>Ulmus plotii</i> E	W
<i>Galeopsis angustifolia</i>	OV	I _{NA} <i>Vicia lutea</i>	O
I _{NA} <i>Helleborus foetidus</i>	W	<i>Vicia parviflora</i>	OV
I _{NA} <i>Impatiens noli-tangere</i>	W		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Didymodon nicholsonii</i>	O	<i>Rhynchostegiella curviseta</i>	W
<i>Octodiceras fontanum</i>	A	<i>Riccia cavernosa</i>	OV
<i>Pottia bryoides</i>	OV	<i>Sphaerocarpos michelii</i>	OV

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)	Flowering plants	Habitat (NVC)
<i>Aceras anthropophorum</i>	CG	<i>Scandix pecten-veneris</i>	OV
<i>Fritillaria meleagris</i>	MG	<i>Ulmus plotii</i> E	W

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	7			2	2	1	2					9	2	
Bryophytes	1						1					3	1	
Charophytes														
Total	8			2	2	1	3					12	3	

SUMMARY OF INTEREST

	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants				25				25
Bryophytes				6				6
Charophytes								
Total				31				31

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = ^{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
45. ROCKINGHAM FOREST

Vascular plant significance: NOTABLE
Bryophyte significance: SOME

General botanical character: A high occurrence of woodland in this area contributes surprisingly little to the lists below. Most of the rarer species come from the fragments of unimproved neutral and limestone grasslands preserved between the wooded areas. These include *Hypochaeris maculata*, *Orchis morio* and *Trifolium ochroleucon*

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aceras anthropophorum</i>	CG	<i>Melampyrum cristatum</i>	W
I _{NA} <i>Apera interrupta</i>	OV	<i>Oenanthe silaifolia</i>	MG
<i>Carex ericetorum</i>	CG	<i>Potamogeton coloratus</i>	A
<i>Cuscuta europaea</i>	MG/O	<i>Pulsatilla vulgaris</i>	CG
<i>Euphorbia platyphyllos</i>	OV	I _{NA} <i>Sonchus palustris</i>	S
I _{NA} <i>Helleborus foetidus</i>	W	I _{NA} <i>Stratiotes aloides</i>	A
<i>Hypochaeris maculata</i>	CG	<i>Ulmus plotii</i> E	W
I _{NA} <i>Lepidium latifolium</i>	O		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Brachythecium salebrosum</i>	W	<i>Seligeria donniana</i>	O

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)	Flowering plants	Habitat (NVC)
<i>Euphorbia platyphyllos</i>	W	<i>Melampyrum cristatum</i>	O

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	3			2	3		2	1				2	2	
Bryophytes	1												1	
Charophytes														
Total	4			2	3		2	1				2	3	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants			1	14				15
Bryophytes				2				2
Charophytes								
Total			1	16				17

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
46. BRECKLAND

Vascular plant significance: SIGNIFICANT
Brvonyhte significance: NOTABLE

General botanical character: Breckland is internationally important for its heathlands, its acid/calcareous grassland mosaics and for its fluctuating meres. Breckland's flora is particularly notable for a declining group of 'steppe' species which survive on disturbed ground and open areas on grass heaths and in arable field margins. The English endemic *Scleranthus perennis* ssp. *prostratus* is recorded here. *Artemisia campestris*, *Veronica praecox*, *Herniaria glabra* and *Crassula tillaea* are among the species which characterise this area.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aconitum napellus</i>	W	<i>Myriophyllum verticillatum</i>	A
<i>Ajuga chamaepitys</i> ⁸	OV	<i>Nymphoides peltata</i>	A
<i>Alyssum alyssoides</i> ⁸	OV	<i>Ophrys sphegodes</i>	CG
<i>Apera interrupta</i>	OV	<i>Orchis militaris</i> ⁸	CG/W
<i>Apera spica-venti</i>	OV	<i>Orobanche purpurea</i>	CG/U
<i>Arabis glabra</i>	U	<i>Orobanche rapum-genistae</i>	H/W
<i>Artemisia campestris</i> ⁸	U	<i>Petrorhagia prolifera</i>	U/W
<i>Calamagrotis stricta</i>	MG	<i>Peucedanum palustre</i>	M/S
<i>Carex appropinquata</i>	M	<i>Phleum phleoides</i>	U/W
<i>Carex ericetorum</i>	CG	<i>Potamogeton coloratus</i>	A
<i>Cicuta virosa</i>	M/S	<i>Potamogeton trichoides</i>	A
<i>Clinopodium calamintha</i>	U	<i>Primula elatior</i>	W
<i>Corynephorus canescens</i>	U	<i>Scleranthus perennis</i> ssp.	U/H
<i>Crassula tillaea</i>	U	<i>prostratus</i> ⁸ EE	
<i>Dactylorhiza traunsteineri</i>	MG	<i>Silene conica</i>	U/OV
<i>I_{NA} Daphne mezereum</i>	W	<i>Silene otites</i>	U
<i>Dianthus deltoides</i>	U	<i>Stratiotes aloides</i>	A
<i>Epipactis phyllanthes</i>	W	<i>Thelypteris palustris</i>	M
<i>Fallopia dumetorum</i>	W	<i>Thesium humifusum</i>	CG
<i>Festuca longifolia</i>	U	<i>Thymus serpyllum</i>	U/W
<i>Fumaria parviflora</i>	CG	<i>I_{NA} Tilia platyphyllos</i>	W
<i>Galium parisiense</i>	OV/O	<i>Torilis arvensis</i>	OV
<i>I_{NA} Goodyera repens</i>	W	<i>Trifolium glomeratum</i>	U
<i>I_{NA} Gymnocarpium robertianum</i>	OV	<i>Trifolium ochroleucon</i>	MG/CG
<i>Herniaria glabra</i>	U/W	<i>Trifolium suffocatum</i>	U
<i>Himantoglossum hircinum</i> ⁸	CG/W	<i>Verbascum pulverulentum</i>	O
<i>Hypochaeris glabra</i>	U	<i>I_{NA} Verbascum virgatum</i>	O
<i>Hypochaeris maculata</i>	CG	<i>Veronica praecox</i>	OV
<i>I_{NA} Lepidium latifolium</i>	O	<i>Veronica spicata</i> ssp. <i>spicata</i> ⁸	CG
<i>Linum perenne</i>	CG	<i>Veronica triphyllos</i> ⁸	OV
<i>I_{NA} Marrubium vulgare</i>	O	<i>Veronica verna</i>	OV
<i>Medicago minima</i>	U	<i>Vulpia ciliata</i> ssp. <i>ambigua</i>	U
<i>I_{NA} Medicago polymorpha</i>	U	<i>Vulpia unilateralis</i>	CG/OV
<i>Medicago sativa</i> ssp. <i>falcata</i>	U		
<i>Minuartia hybrida</i>	CG		
<i>Muscari neglectum</i>	U/W		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Brachythecium mildeanum</i>	MG	<i>Racomitrium elongatum</i>	U
<i>Brachythecium salebrosum</i>	W	<i>Rhytidium rugosum</i>	CG
<i>Dicranum polysetum</i>	H/W	<i>Riccia beyrichiana</i>	OV
<i>Eurhynchium pulchellum</i>	CG	<i>Riccia cavernosa</i>	OV
<i>Physcomitrium eurystomum</i>	OV	<i>Thuidium abietinum ssp. abietinum</i>	CG
<i>Plagiothecium laetum</i>	W	<i>Trichostomopsis umbrosa</i>	O
<i>Pleurochaete squarrosa</i>	CG		
<i>Pottia bryoides</i>	OV		
<i>Racomitrium canescens s.s.</i>	U		

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Flowering plants	Habitat (NVC)
<i>Alisma gramineum</i> ⁸	A	<i>Stratiotes aloides</i>	A
<i>Ophrys sphegodes</i>	CG	<i>Thesium humifusum</i>	CG
Bryophytes	Habitat (NVC)		
<i>Eurhynchium pulchellum</i>	CG		
<i>Orthotrichum pumilum</i>	W		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	15	4	2	3	13	23	5	2				12	5	
Bryophytes	3		1	1	4	2						4	1	
Charophytes														
Total	18	4	3	4	17	25	5	2				16	6	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		8	15	52				68
Bryophytes			2	13				15
Charophytes								
Total		8	17	65				83

KEY:***INTERNATIONAL DESIGNATION***Schedule 8 =⁸Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}***Red List****Lower risk*

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
47. NORTH NORFOLK

Vascular plant significance: SIGNIFICANT
Bryonhyte significance: NOTABLE

General botanical character: This area supports internationally important heathland and mire communities, although much of its botanical significance is derived from unimproved grassland species. The coastal habitats also make a significant contribution. The moss *Bryum knowltonii* and Crested Buckler Fern, *Dryopteris cristata*, are among the Red List species occurring here.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aceras anthropophorum</i>	CG	^{I_{NA}} <i>Marrubium vulgare</i>	MC
^{I_{NA}} <i>Aconitum napellus</i>	W	<i>Medicago minima</i>	U
<i>Apera interrupta</i>	OV	<i>Medicago sativa ssp. falcata</i>	U
<i>Apera spica-venti</i>	OV	<i>Minuartia hybrida</i>	U
<i>Arabis glabra</i>	U	<i>Myriophyllum verticillatum</i>	A
<i>Atriplex longipes</i>	SM	<i>Nymphoides peltata</i>	A
<i>Carex appropinquata</i>	M	<i>Orobanche purpurea</i>	U
<i>Carex divisa</i>	MG	<i>Parapholis incurva</i>	MC/SD
<i>Clinopodium calamintha</i>	U	<i>Peucedanum palustre</i>	M
<i>Corynephorus canescens</i>	SD	<i>Phleum phleoides</i>	U
<i>Crassula tillaea</i>	U	<i>Poa bulbosa</i>	SD/U
<i>Dactylorhiza traunsteineri</i>	MG	<i>Polypogon monspeliensis</i>	SM/OV
<i>Deschampsia setacea</i>	M/OV	<i>Potamogeton coloratus</i>	A
<i>Dryopteris cristata</i>	M	<i>Puccinellia fasciculata</i>	O/SM
<i>Epipactis phyllanthes</i>	W	<i>Ruppia cirrhosa</i>	A
<i>Euphrasia pseudokernerii</i>	M	<i>Salicornia pusilla</i>	SM
<i>Frankenia laevis</i>	SM	<i>Sarcocornia perennis</i>	SM/SD
<i>Fumaria parviflora</i>	OV	<i>Silene conica</i>	SD
<i>Galium parisiense</i>	OV/O	<i>Silene gallica</i>	SD/O
<i>Gentiana pneumonanthe</i>	M	<i>Silene otites</i>	U
<i>Gnaphalium luteoalbum</i> ⁸	SD	<i>Sium latifolium</i>	S
^{I_{NA}} <i>Goodyera repens</i>	W	<i>Stratiotes aloides</i>	A
<i>Hammarbya paludosa</i>	M	<i>Suaeda vera</i>	SM/SD
<i>Hippophae rhamnoides</i>	SD	<i>Thelypteris palustris</i>	M
<i>Hordeum marinum</i>	SM/OV	^{I_{NA}} <i>Tilia platyphyllos</i>	W
<i>Hypochaeris glabra</i>	U	<i>Trifolium glomeratum</i>	U
<i>Juncus acutus</i>	SD/SM	<i>Verbascum pulverulentum</i>	SD
<i>Lathyrus palustris</i>	M	<i>Vulpia ciliata ssp. ambigua</i>	SD
<i>Lepidium latifolium</i>	SM/O		
<i>Limonium bellidifolium</i>	SM		
<i>Lycopodiella inundata</i>	M		
^{I_{NA}} <i>Maianthemum bifolium</i>	W		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Bryum knowltonii</i> <i>Campylium elodes</i> <i>Cryptothallus mirabilis</i> <i>Dicranum polysetum</i> <i>Drepanocladus lycopodioides</i>	U SD O H/W SD	<i>Fossombronia foveolata</i> <i>Sphaerocarpos michelii</i> <i>Thuidium abietinum</i> ssp. <i>abietinum</i>	OV OV CG

Charophytes	Habitat (NVC)	Charophytes	Habitat (NVC)
<i>Nitella gracilis</i>	A		

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Lathyrus japonicus</i> <i>Mertensia maritima</i> <i>Stratiotes aloides</i> PETALOPHYLLUM RALFSII ⁸	SD SD A SD	<i>Bryum mamillatum</i> <i>Bryum torquescens</i> <i>Campylium polygamum</i> <i>Drepanocladus sendtneri</i> <i>Orthotrichum pumilum</i> <i>Ulota coarctata</i>	SD SD SD SD O O

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	5	10		2	1	12	5	1	12	11	1	7	4	
Bryophytes	1		1			1			2			2	1	
Charophytes														
Total	6	10	1	2	1	13	5	1	14	11	1	9	5	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		1	5	55				60
Bryophytes			1	7				8
Charophytes			1					1
Total		1	7	62				69

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 =⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = _{NA}I

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
48. THE BROADS

Vascular plant significance: CONSIDERABLE
Bryophyte significance: SIGNIFICANT
Charophyte significance: HIGH

General botanical character: This area of wetland includes open water, reedbeds, carr woodland, grazing marsh and fens. Internationally notable species include *Liparis loseleii*, *Luronium natans* and *Drepanocladus vernicosus*. *Chara baltica* is a red list stonewort considered characteristic of the Area, as is *Niptolopsis obtusa*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Alopecurus bulbosus</i>	O	<i>Poa bulbosa</i>	U
<i>Althaea officinalis</i>	MG	<i>Polypogon monspeliensis</i>	OV/O
<i>Apera spica-venti</i>	OV	<i>Potamogeton acutifolius</i>	A
<i>Arabis glabra</i>	U/O	<i>Potamogeton coloratus</i>	A
<i>Buplerum tenuissimum</i>	O/OV	<i>Potamogeton compressus</i>	A
	/SM	<i>Potamogeton trichoides</i>	A
<i>Cardamine impatiens</i>	W/MG	<i>Puccinella fasciculata</i>	SM
<i>Carex appropinquata</i>	M	<i>Puccinella rupestris</i>	OV/O
<i>Carex divisa</i>	MG	<i>Pyrola rotundifolia ssp.</i>	M/W
<i>Cicuta virosa</i>	M/S	<i>rotundifolia</i>	
<i>Corynephorus canescens</i>	SD	<i>Ruppia cirrhosa</i>	A
<i>Dactylorhiza traunsteineri</i>	MG	<i>Scandix pecten-veneris</i>	OV
<i>Dryopteris cristata</i>	M	<i>I_{NA} Sedum forsterianum</i>	O
<i>Festuca arenaria</i>	SD	<i>Sium latifolium</i>	S
<i>Fumaria vaillantii</i>	OV	<i>Sonchus palustris</i>	S/M
<i>I_{NA} Helleborus foetidus</i>	W	<i>Stratiotes aloides</i>	A
<i>Hordeum marinum</i>	OV	<i>Thelypteris palustris</i>	M
<i>Lactuca saligna</i> ⁸	SM	<i>Trifolium suffocatum</i>	SD
<i>Lathyrus palustris</i>	MG/M	<i>Verbascum pulverulentum</i>	SD
<i>Lepidium latifolium</i>	MG/O	<i>Vulpia fasciculata</i>	SD
LIPARIS LOESELII ⁸	M	<i>Zostera angustifolia</i>	A
LURONIUM NATANS ⁸	A	<i>Zostera marina</i>	A
<i>Myriophyllum verticillatum</i>	A	<i>Zostera noltii</i>	A
<i>Najas marina</i> ⁸	A		
<i>I_{NA} Nymphoides peltata</i>	A		
<i>Persicaria laxiflora</i>	OV		
<i>Peucedanum palustre</i>	M		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Brachythecium mildeanum</i>	M/MG	DREpanocladus vernicosus ⁸	M
<i>Campylium elodes</i>	SD	<i>Ricciocarpos natans</i>	A
<i>Cinclidium stygium</i>	M		

Charophytes	Habitat (NVC)	Charophytes	Habitat (NVC)
<i>Chara aspera</i> var. <i>curta</i> <i>Chara baltica</i> <i>Chara connivens</i>	A A A	<i>Chara intermedia</i> <i>Chara pedunculata</i> <i>Nitellopsis obtusa</i>	A A A

EXTINCT AND/OR DECLINING SPECIES			
Bryophytes	Habitat (NVC)	Charophytes	Habitat (NVC)
<i>Campylium polygamum</i> <i>Splachnum ampullaceum</i>	SD M	<i>Tolypella glomerata</i>	A
Vascular plants <i>Eriophorum gracile</i> <i>Lythrum hissepifolia</i> <i>Mentha pulegium</i> <i>Parapholis incurva</i>	M O U/H O		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	3	8		6		2	13	3	5	3		8	7	
Bryophytes		2		1			1		1			6	5	
Charophytes							6							
Total	3	10		7		2	20	3	6	3		14	12	

SUMMARY OF INTEREST									
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species	
Vascular plants	2	4	5	42				48	
Bryophytes	1	1	1	4				5	
Charophytes			3	2				5	
Total	3	5	9	48				58	

KEY:

INTERNATIONAL DESIGNATION
Schedule 8 = 8
Data Deficient = DD
English endemic = EE
NA Introduction = I_{NA}

Red List
Lower risk
GB endemic = E
GB Introduction = I

BOTANICAL PROFILE:
49. SUFFOLK COAST AND HEATHS

Vascular plant significance: SIGNIFICANT
Bryophyte significance: SOME

General botanical character: The coastal elements of this NA provide much of its botanical significance, with saltmarsh and cliff habitats featuring prominently. The presence of the protected species *Chenopodium vulvaria* and *Mentha pulegium* are evidence of this maritime influence.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aconitum napellus</i>	W	<i>Mentha pulegium</i> ⁸	OV
<i>I_{NA} Adiantum capillus-veneris</i>	O	<i>Minuartia hybrida</i>	SD/OV
<i>I_{NA} Allium schoenoprasum</i>	MC	<i>Myriophyllum verticillatum</i>	A
<i>Althaea officinalis</i>	MG/O	<i>I_{NA} Nymphoides peltata</i>	A
<i>Alyssum alyssoides</i> ⁸	OV	<i>Parapholis incurva</i>	MC/SD
<i>Apera interrupta</i>	OV	<i>Persicaria laxiflora</i>	OV
<i>Apera spica-venti</i>	OV	<i>Peucedanum officinale</i>	SM
<i>Arabis glabra</i>	U/O	<i>Pilularia globulifera</i>	OV/A
<i>Bupleurum tenuissimum</i>	MG/SM	<i>Poa bulbosa</i>	SD
<i>Carex divisa</i>	MG	<i>Potamogeton trichoides</i>	A
<i>Carex elongata</i>	W/O	<i>Puccinella faciculata</i>	SM/OV
<i>Chenopodium vulvaria</i> ⁸	SD	<i>Puccinella rupestris</i>	SM/OV
<i>Clinopodium calamintha</i>	U	<i>Ruppia cirrhosa</i>	A
<i>Corynephorus canescens</i>	SD	<i>Sarcocornia perennis</i>	SM
<i>Crassula tillaea</i>	U	<i>Scandix pecten-veneris</i>	OV
<i>I_{NA} Cyperus longus</i>	MG	<i>Silene conica</i>	SD
<i>Dactylorhiza traunsteineri</i>	MG	<i>Silene gallica</i>	OV/SD
<i>Festuca arenaria</i>	SD	<i>Sonchus palustris</i>	S/M
<i>Filago lutescens</i> ⁸	OV/O	<i>Spartina maritima</i>	SM
<i>Frankenia laevis</i>	SM	<i>Stratiotes aloides</i>	A
<i>Fumaria vaillantii</i>	OV	<i>Suaeda vera</i>	SM/SD
<i>Galium parisiense</i>	OV	<i>I_{NA} Tilia platyphyllos</i>	W
<i>Hippophae rhamnoides</i>	SD	<i>Trifolium glomeratum</i>	OV/U
<i>Hordeum marinum</i>	SM/OV	<i>Trifolium ochroleucon</i>	MG/O
<i>Hypochaeris glabra</i>	U	<i>Trifolium squamosum</i>	MG/SM
<i>Inula crithmoides</i>	MC/SM	<i>Trifolium suffocatum</i>	U
<i>Lathyrus japonicus</i>	SD	<i>Verbascum pulverulentum</i>	SD
<i>Lepidium latifolium</i>	SM/O	<i>I_{NA} Verbascum virgatum</i>	O
<i>Limonium humile</i>	SM	<i>I_{NA} Vicia bithynica</i>	MC
<i>I_{NA} Marrubium vulgare</i>	MC	<i>Vicia lutea</i>	MC/SD
<i>I_{NA} Meconopsis cambrica</i>	O	<i>Vulpia cilita ssp. ambigua</i>	SD
<i>Medicago minima</i>	SD	<i>Vulpia fasciculata</i>	SD
<i>Medicago polymorpha</i>	SD/MC	<i>Zostera angustifolia</i>	A
<i>Medicago sativa ssp. falcata</i>	SD/MC	<i>Zostera noltii</i>	A

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Campylium polygamum</i> <i>Pohlia lescuriana</i> <i>Sphaerocarpos michelii</i>	SD OV OV	<i>Sphaerocarpos texanus</i> <i>Sphagnum flexuosum</i>	OV W/MG

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Agrostemma githago</i> <i>Arabis glabra</i> <i>Stratiotes aloides</i> <i>Zostera marina</i>	OV U/O A A	<i>Bryum tenuisetum</i> <i>Pottia crinita</i> <i>Tortula cuneifolia</i>	U O O

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	3	1		7		6	8	1	18	13	8	16	9	
Bryophytes	1			1					1			3		
Charophytes														
Total	4	1		8		6	8	1	19	13	8	19	9	

SUMMARY OF INTEREST									
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species	
Vascular plants		4	5	63				68	
Bryophytes			1	4				5	
Charophytes									
Total		4	6	67				73	

KEY:	INTERNATIONAL DESIGNATION Schedule 8 = 8 Data Deficient = _{DD} English endemic = EE NA Introduction = I _{NA}	Red List Lower risk GB endemic = E GB Introduction = I
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BOTANICAL PROFILE:
50. EAST ANGLIAN PLAIN

Vascular plant significance: OUTSTANDING
Brvophyte significance: SOME

General botanical character: Widespread chalky clay soils underlie habitats fragmented by arable land. Hay meadows, valley fens and ancient coppices are among the features of interest. *Bupleurum fulcatum*, *Lophozia rutheiana*, *Selinum carvifolia*, *Lythrum hyssopifolia* and *Ortotrichum obtusifolium* are among the legally protected species represented here.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat
<i>Aceras anthropophorum</i>	CG	<i>Lepidium latifolium</i>	OV
<i>I_{NA} Aconitum napellus</i>	W	<i>I_{NA} Leucojum aestivum</i>	W
<i>I_{NA} Adiantum capillus-veneris</i>	OV	<i>Linum perenne</i>	CG
<i>Adonis annua</i>	OV	<i>Lythrum hyssopifolia</i>⁸	OV
<i>Allium schoenoprasum</i>	CG/U	<i>I_{NA} Marrubium vulgare</i>	O
<i>Alopecurus bulbosus</i>	MG	<i>I_{NA} Meconopsis cambrica</i>	O
<i>Apera interrupta</i>	OV	<i>Medicago minima</i>	OV
<i>Apera spice venti</i>	OV	<i>Medicago polymorpha</i>	OV
<i>Arabis glabra</i>	U	<i>Medicago sativa ssp. falcata</i>	U
<i>Bupleurum falcatum</i>⁸	OV/O	<i>Melampyrum arvense</i>⁸	OV
<i>Carex appropinquata</i>	M	<i>Melampyrum cristatum</i>	W
<i>Chamaemelum nobile</i>	MG/U	<i>Minuartia hybrida</i>	CG
<i>Cicuta virosa</i>	M/S	<i>Myriophyllum verticillatum</i>	A
<i>Clinopodium calamintha</i>	U	<i>I_{NA} Nymphoides peltata</i>	A
<i>Crassula tillaea</i>	U	<i>I_{NA} Orobanche hederaceae</i>	O
<i>Cuscuta europaea</i>	MG/O	<i>Orobanche rapum-genistae</i>	H/W
<i>I_{NA} Cyperus longus</i>	MG	<i>Persicaria laxiflora</i>	OV
<i>Dactylorhiza incarnata ssp. ochroleuca</i>	MG	<i>Peucedanum palustre</i>	M/S
<i>Dactylorhiza traunsteineri</i>	MG	<i>Poa bulbosa</i>	OV
<i>Daphne mezereum</i>	W	<i>Potamogeton coloratus</i>	A
<i>Dianthus armeria</i>	U/OV	<i>Potamogeton trichoides</i>	A
<i>Dryopteris cristata</i>	M	<i>Primula elatior</i>	W
<i>Epipactis phyllanthes</i>	W	<i>Puccinellia fasciculata</i>	
<i>Euphorbia platyphyllos</i>	OV	<i>Pulmonaria obscura</i>	OV
<i>Filago pyramidata</i>⁸	OV/O	<i>Scandix pecten-veneris</i>	OV
<i>Fritillaria meleagris</i>	MG	<i>Selinum carvifolia</i>⁸	M
<i>Fumaria densiflora</i>	OV	<i>Seseli libanotis</i>	CG/W
<i>Fumaria parviflora</i>	OV	<i>Sium latifolium</i>	S
<i>Fumaria vaillantii</i>	OV	<i>Stratiotes aloides</i>	A
<i>Galium spurium</i>	OV	<i>Thelypteris palustris</i>	M
<i>Galium tricornerutum</i>	OV	<i>I_{NA} Titia platyphyllos</i>	W
<i>Gentianella germanica</i>	CG	<i>Torilis arvensis</i>	OV
<i>I_{NA} Gymnocarpium robertianum</i>	OV	<i>Trifolium glomeratum</i>	U
<i>I_{NA} Helleborus foetidus</i>	W	<i>Trifolium ochroleucon</i>	MG/CG
<i>Himantoglossum hircinum</i>⁸	CG/W	<i>Trifolium suffocatum</i>	U
<i>Hordelymus europaeus</i>	W	<i>Verbascum pulverulentum</i>	O
<i>Hordeum marinum</i>	OV/O	<i>I_{NA} Verbascum virgatum</i>	O
<i>Hypochaeris glabra</i>	U	<i>Vicia parviflora</i>	OV/CG
<i>I_{NA} Iberis amara</i>	CG	<i>Vulpia ciliata ssp. ambigua</i>	U
<i>Lathyrus aphaca</i>	CG/O	<i>Vulpia unilateralis</i>	CG/OV

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Aloina aloides</i> var. <i>ambigua</i>	CG	<i>Moerckia hibernica</i>	M
<i>Amblystegium humile</i>	MG/W	<i>Octodicerias fontanum</i>	A
<i>Brachythecium mildeanum</i>	MG/M	<i>Orthotrichum obtusifolium</i> ⁸	O
<i>Brachythecium salebrosum</i>	W	<i>Phascum floerkeanum</i>	OV
<i>Bryum dunense</i>	O	<i>Plagiothecium laetum</i>	W
<i>Bryum pseudotriquetrum</i> var. <i>bimum</i>	M/MG	<i>Platygyrium repens</i>	W
<i>Bryum tenuisetum</i>	H/U	<i>Pottia bryoides</i>	OV
<i>Campylium calcareum</i>	O	<i>Rhynchostegiella tenella</i> var. <i>litorea</i>	O
<i>Campylium elodes</i>	CG	<i>Ricciocarpos natans</i>	A
<i>Campylium polygamum</i>	CG	<i>Seligeria calcarea</i>	O
<i>Cinclidium stygium</i>	M	<i>Sphaerocarpos michelli</i>	OV
<i>Didymodon nicholsonii</i>	O	<i>Sphaerocarpos texanus</i>	OV
<i>Hennediella macrophylla</i>	OV	<i>Tomentypnum nitens</i>	M
<i>Herzogiella seligeri</i>	W	<i>Tortula virescens</i>	O
<i>Leptodontium gemmascens</i>	U/O	<i>Trichostomopsis umbrosa</i>	O
<i>Lophozia rutheana</i> ⁸	M		

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Centaurea cyanus</i>	OV	<i>Orthotrichum obtusifolium</i> ⁸	O
<i>Dianthus armeria</i>	U/OV		
<i>Gentianella germanica</i>	CG		

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	12	6	1	8	12	11	5	3				26	10	
Bryophytes	5	6	1	3	3	2	2					5	9	
Charophytes														
Total	17	12	1	11	15	13	7	3				31	19	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species
Vascular plants		6	14	66				80
Bryophytes		2	4	27				31
Charophytes								
Total		8	18	93				111

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
51. EAST ANGLIAN CHALK

Vascular plant significance: CONSIDERABLE
Bryophyte significance: NOTABLE

General botanical character: The underlying chalk has a strong influence on the flora of this area so that chalk grasslands and springs, along with ancient woodland and various wetland habitats contain many of the scarce plants listed below. *Himantoglossum hircinum* and *Veronica spicata* ssp. *spicata* are characteristic species of this area.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aconitum napellus</i>	W	<i>I_{NA} Meconopsis cambrica</i>	O
<i>Adonis annua</i>	OV	<i>Medicago minima</i>	U
<i>Ajuga chamaepitys</i> ⁸	OV	<i>Medicago sativa</i> subsp. <i>falcata</i>	U
<i>Apera interrupta</i>	OV	<i>Melampyrum cristatum</i>	W
<i>Apera spica-venti</i>	OV	<i>Minuartia hybrida</i>	CG
<i>I_{NA} Arum italicum</i> subsp. <i>neglectum</i>	W	<i>Muscari neglectum</i>	U/W
<i>Bunium bulbocastanum</i>	CG/OV	<i>Myriophyllum verticillatum</i>	A
<i>Carex ericetorum</i>	CG	<i>Nymphoides peltata</i>	A
<i>Chenopodium vulvaria</i> ⁸	OV	<i>Orchis ustulata</i>	CG
<i>Clinopodium calamintha</i>	U/O	<i>Phleum phleoides</i>	U/CG
<i>Cyperus longus</i>	MG	<i>I_{NA} Polygonatum odoratum</i>	W
<i>Dactylorhiza incarnata</i> ssp. <i>ochroleuca</i>	M	<i>I_{NA} Polypogon monspeliensis</i>	O
<i>Dactylorhiza traunsteineri</i>	MG/M	<i>Potamogeton coloratus</i>	A
<i>Dianthus deltoides</i>	U	<i>Potentilla neumanniana</i>	CG
<i>Epipactis phyllanthes</i>	W	<i>Primula elatior</i>	W
<i>I_{NA} Erodium moschatum</i>	O	<i>Pulsatilla vulgaris</i>	CG
<i>Euphrasia pseudokernerii</i>	CG	<i>Scandix pecten-veneris</i>	OV
<i>Filago lutescens</i> ⁸	OV	<i>Selinum carvifolia</i> ⁸	M
<i>Filago pyramidata</i> ⁸	OV	<i>Seseli libanotis</i>	CG/W
<i>Fumaria densiflora</i>	OV	<i>Silene conica</i>	U
<i>Fumaria vaillantii</i>	OV	<i>Silene gallica</i>	OV
<i>Galeopsis angustifolia</i>	OV	<i>Silene otites</i>	U/CG
<i>Galium parisiense</i>	OV/O	<i>Tephrosia integrifolia</i> subsp. <i>integrifolia</i>	CG
<i>Galium spurium</i>	OV	<i>Thesium humifusum</i>	CG
<i>Galium tricornerutum</i>	OV	<i>Torilis arvensis</i>	OV
<i>I_{NA} Helleborus foetidus</i>	W	<i>Trifolium ochroleucon</i>	MG/CG
<i>Himantoglossum hircinum</i> ⁸	CG/W	<i>Verbascum pulverulentum</i>	O
<i>Hypochaeris maculata</i>	CG	<i>I_{NA} Verbascum virgatum</i>	O
<i>Iberis amara</i>	CG/OV	<i>I_{NA} Veronica spicata</i> ssp. <i>hybrida</i> ⁸	CG
<i>Lathyrus aphaca</i>	CG	<i>Veronica spicata</i> ssp. <i>spicata</i> ⁸	CG
<i>I_{NA} Lepidium latifolium</i>	O	<i>I_{NA} Vicia bithynica</i>	O
<i>Linum perenne</i>	CG	<i>Vicia parviflora</i>	OV/O
<i>Lythrum hyssopifolia</i> ⁸	OV	<i>Vulpia ciliata</i> ssp. <i>ambigua</i>	CG/U
<i>I_{NA} Marrubium vulgare</i>	O		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Aloina aloides</i> var. <i>ambigua</i>	CG	<i>Pottia caespitosa</i>	CG
<i>Aloina brevirostris</i>	CG	<i>Pterygoneurum ovatum</i>	CG/O
<i>Amblystegium humile</i>	MG/O	<i>Rhynchostegiella tenella</i> var. <i>litorea</i>	W
<i>Brachythecium mildeanum</i>	MG	<i>Riccia cavernosa</i>	OV
<i>Brachythecium salebrosum</i>	W	<i>Riccia subbifurca</i>	OV
<i>Bryum dunense</i>	O	<i>Scorpiurium circinatum</i>	O
<i>Bryum pseudotriquetrum</i> var. <i>bimum</i>	M	<i>Seligeria calcarea</i>	O
<i>Bryum torquescens</i>	CG	<i>Thuidium abietinum</i> ssp. <i>abietinum</i>	CG
<i>Campylium calcareum</i>	CG	<i>Tortella inclinata</i>	CG
<i>Didymodon acutus</i>	CG	<i>Tortella inflexa</i>	O
<i>Didymodon nicholsonii</i>	O	<i>Tortula vahliana</i>	O
<i>Ephemerum recurvifolium</i>	OV/W	<i>Tortula virescens</i>	O
<i>Henediella stanfordensis</i>	OV	<i>Trichostomopsis umbrosa</i>	O
<i>Herzogiella seligeri</i>	W	<i>Weissia longifolia</i> var. <i>longifolia</i>	CG
<i>Lophozia personii</i>	OV	<i>Weissia sterilis</i>	CG
<i>Phascum floerkeanum</i>	OV		
<i>Plagiothecium ruthei</i>	W		
<i>Platygyrium repens</i>	W		
<i>Pottia bryoides</i>	OV		

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Dianthus deltoides</i>	CG	<i>Pterygoneurum lamellatum</i>	CG/O
<i>Nymphoides peltata</i>	A		
<i>Silene conica</i>	U		
<i>Silene gallica</i>	OV		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	10	3		3	21	8	3					19	11	
Bryophytes	6			2	11							7	10	
Charophytes														
Total	16	3		5	32	8	3					26	21	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		9	14	53				67
Bryophytes				34				34
Charophytes								
Total		9	14	87				101

KEY:	<i>INTERNATIONAL DESIGNATION</i>	<i>Red List</i>
	Schedule 8 = ⁸	<i>Lower risk</i>
	Data Deficient = ^{DD}	GB endemic = E
	English endemic = EE	GB Introduction = I
	NA Introduction = I _{NA}	

BOTANICAL PROFILE:
52. WEST ANGLIAN PLAIN

Vascular plant significance: SIGNIFICANT
Bryophyte significance: NOTABLE
Charophyte significance: NOTABLE

General botanical character: This area is mainly of note for its wet clay woodlands, floodplain and other riparian habitats and its neutral grasslands. The red list stoneworts *Chara canescens* and *Tolypella intricata* are both recorded from this NA.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aconitum napellus</i>	W	<i>I_{NA} Marrubium vulgare</i>	O
<i>I_{NA} Adiantum capillus-veneris</i>	O	<i>I_{NA} Medicago minima</i>	U
<i>Apera interrupta</i>	OV	<i>I_{NA} Medicago polymorpha</i>	U
<i>Apera spica-venti</i>	OV	<i>Melampyrum arvense</i>⁸	OV
<i>I_{NA} Cardamine bulbifera</i>	W	<i>Melampyrum cristatum</i>	W
<i>Cerastium pumilum</i>	CG	<i>Minuartia hybrida</i>	CG
<i>Clinopodium calamintha</i>	U/O	<i>Myriophyllum verticillatum</i>	A
<i>Cuscuta europaea</i>	MG/O	<i>Nymphoides peltata</i>	A
<i>I_{NA} Cyperus longus</i>	MG	<i>Oenanthe silaifolia</i>	MG
<i>Dactylorhiza traunsteineri</i>	MG/M	<i>Ornithogalum pyrenaicum</i>	W
<i>I_{NA} Daphne mezereum</i>	W	<i>I_{NA} Orobanche hederæ</i>	O
<i>I_{NA} Draba muralis</i>	O	<i>Persicaria laxiflora</i>	OV
<i>Epipactis phyllanthes</i>	W	<i>I_{NA} Peucedanum palustre</i>	S/M
<i>I_{NA} Erodium moschatum</i>	O	<i>I_{NA} Polypogon monspeliensis</i>	O
<i>Euphorbia platyphyllos</i>	OV	<i>Potamogeton coloratus</i>	A
<i>Fritillaria meleagris</i>	MG	<i>Potamogeton compressus</i>	A
<i>Fumaria densiflora</i>	OV	<i>Primula elatior</i>	W
<i>Fumaria parviflora</i>	OV	<i>Scandix pecten-veneris</i>	OV
<i>Fumaria vaillantii</i>	OV	<i>Sium latifolium</i>	S/M
<i>Galeopsis angustifolia</i>	OV	<i>I_{NA} Sonchus palustris</i>	S/M
<i>Galium parisiense</i>	O	<i>I_{NA} Stratiotes aloides</i>	A
<i>Galium tricornerutum</i>	OV	<i>I_{NA} Tilia platyphyllos</i>	W
<i>Gentianella germanica</i>	CG/O	<i>Torilis arvensis</i>	OV
<i>I_{NA} Helleborus foetidus</i>	W	<i>Trifolium ochroleucon</i>	CG/MG
<i>I_{NA} Hippophae rhamnoides</i>	O	<i>Ulmus plotii</i> E	W
<i>Hordelymus europæus</i>	W	<i>I_{NA} Verbascum pulverulentum</i>	O
<i>I_{NA} Impatiens noli-tangere</i>	W	<i>I_{NA} Verbascum virgatum</i>	O
<i>Lathyrus aphaca</i>	MG	<i>I_{NA} Vicia bithynica</i>	O
<i>I_{NA} Lepidium latifolium</i>	O	<i>I_{NA} Vicia lutea</i>	O
<i>I_{NA} Leucojum aestivum</i>	O	<i>Vicia parviflora</i>	OV/O
<i>Limosella aquatica</i>	OV	<i>I_{NA} Vulpia ciliata ssp. ambigua</i>	CG/
<i>I_{NA} Linum perenne</i>	CG		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Aloina aloides</i> var. <i>ambigua</i>	CG	<i>Platygyrium repens</i>	W
<i>Aloina brevirostris</i>	CG	<i>Pohlia lescuriana</i>	OV/O
<i>Amblystegium humile</i>	MG/O	<i>Pottia bryoides</i>	OV
<i>Brachythecium mildeanum</i>	MG	<i>Pterygoneurum ovatum</i>	CG/O
<i>Brachythecium salebrosum</i>	W	<i>Rhynchostegiella curviseta</i>	O
<i>Bryum dunense</i>	O	<i>Riccia cavernosa</i>	OV
<i>Bryum intermedium</i>	O	<i>Ricciocarpos natans</i>	A
<i>Bryum pseudotriquetrum</i> var. <i>bimum</i>	M	<i>Seligeria calcarea</i>	O
<i>Bryum torquescens</i>	CG	<i>Sphaerocarpos michelii</i>	OV
<i>Campylium calcareum</i>	O	<i>Tortula vahliana</i>	O
<i>Didymodon acutus</i>	O	<i>Tortula virescens</i>	O
<i>Didymodon nicholsonii</i>	O	<i>Trichostomopsis umbrosa</i>	O
<i>Ephemerum recurvifolium</i>	OV/W	<i>Weissia rostellata</i>	OV/O
<i>Lophozia perssonii</i>	OV	<i>Weissia squarrosa</i>	OV/O
<i>Phascum floerkeanum</i>	OV	<i>Weissia sterilis</i>	CG
<i>Plagiothecium laetum</i>	W		
<i>Plagiothecium ruthei</i>	W		

Charophytes	Habitat (NVC)	Charophytes	Habitat (NVC)
<i>Chara canescens</i> ⁸	A	<i>Tolypella intricata</i>	A

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Apera spica-venti</i>	OV	<i>Pterygoneurum lamellatum</i>	OV/O
<i>Clinopodium calamintha</i>	U/O		
<i>Dactylorhiza traunsteineri</i>	MG/M		
<i>Galium tricornutum</i>	OV		
<i>Sium latifolium</i>	S/M		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	12	4		7	6	4	5	3				14	18	
Bryophytes	5			2	5		1					9	15	
Charophytes							2							
Total	17	4		9	11	4	8	3				23	33	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		1	2	61	1			63
Bryophytes			1	31				32
Charophytes		1	2					2
Total		2	5	92				97

KEY:***INTERNATIONAL DESIGNATION***Schedule 8 =⁸Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}***Red List****Lower risk*

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE: 53. BEDFORDSHIRE GREENSAND RIDGE	Vascular plant significance: SIGNIFICANT Bryophyte significance: SOME
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General botanical character: Acid grassland and remnants of lowland heath provide botanical interest on the Greensand area, while poorer drainage on areas of clay support acidic mire communities, wet woodlands and marshy grassland. *Petrorhagia prolifera* is found here.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Bunium bulbocastanum</i>	CG/MG	<i>I_{NA} Medicago polymorpha</i>	U
<i>Cuscuta europaea</i>	MG/O	<i>I_{NA} Minuartia hybrida</i>	O
<i>I_{NA} Draba muralis</i>	O	<i>I_{NA} Nymphoides peltata</i>	A
<i>Epipactis phyllanthes</i>	W	<i>Orobanche rapum-genistae</i>	H/W
<i>I_{NA} Erodium moschatum</i>	O	<i>Petrorhagia prolifera</i>	U
<i>Euphorbia platyphyllos</i>	OV	<i>Persicaria laxiflora</i>	OV
<i>Filago pyramidata</i>⁸	OV	<i>Primula elatior</i>	W
<i>I_{NA} Fritillaria meleagris</i>	MG	<i>Thelypteris palustris</i>	M
<i>I_{NA} Helleborus foetidus</i>	W	<i>I_{NA} Tilia platyphyllos</i>	W
<i>Limosella aquatica</i>	OV	<i>Trifolium ochroleucon</i>	MG/CG
<i>I_{NA} Medicago minima</i>	U		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Brachydontium trichodes</i>	O	<i>Leucobryum juniperoideum</i>	W/H
<i>Cryptothallus mirabilis</i>	M	<i>Pohlia lescuriana</i>	OV/O
<i>Dicranum flagellare</i>	W	<i>Weissia rostellata</i>	OV/O
<i>Dicranum polysetum</i>	W/H		
<i>Didymodon nicholsonii</i>	O		

EXTINCT AND/OR DECLINING SPECIES			

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	6	1	1	4	2	3	1					4	3	
Bryophytes	3	1	2									2	4	
Charophytes														
Total	9	2	3	4	2	3	1					6	7	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species
Vascular plants		1	2	20				22
Bryophytes				8				8
Charophytes								
Total		1	2	28				30

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = ^{DD}

English endemic = EE

NA Introduction = ^I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
54. YARDLEY-WHITTLEWOOD RIDGE

Vascular plant significance: NOTABLE
Bryophyte significance: SOME

General botanical character: Predominantly agricultural in character, the landscape has retained a good proportion of woodland which increases botanical significance of this NA. Occasional neutral grasslands are also of high quality. The area is one of only two localities in GB for *Cerastium brachypetalum*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aconitum napellus</i>	W	<i>Melampyrum cristatum</i>	W
<i>Cerastium brachypetalum</i>	O	<i>I_{NA} Sonchus palustris</i>	M
<i>I_{NA} Cyperus longus</i>	MG	<i>Ulmus plotii</i> E	W
<i>Euphorbia platyphyllos</i>	OV	<i>Vicia parviflora</i>	OV
<i>I_{NA} Helleborus foetidus</i>	W		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Brachythecium mildeanum</i>	MG/M	<i>Trichostomopsis umbrosa</i>	O
<i>Platygyrium repens</i>	W		

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)		
<i>Ulmus plotii</i> E	W		

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	4	1		1								2	1	
Bryophytes	1	1		1									1	
Charophytes														
Total	5	2		2								2	2	

SUMMARY OF INTEREST

	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants			1	8				11
Bryophytes				3				3
Charophytes								
Total			1	11				12

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = _{NA}I

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
55. COTSWOLDS

Vascular plant significance: OUTSTANDING
Bryophyte significance: SIGNIFICANT

General botanical character: This is the only station in GB for *Stachys alpina* and one of only two extant stations in GB for *Rhynchosygium rotundifolium*. Outstanding for calcicolous grassland and woodland on limestone with large number of protected and rare plants. There is uncertainty as to whether *Muscari neglectum* is native to this NA.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aconitum napellus</i>	W	<i>Minuartia hybrida</i>	CG
I _{NA} <i>Adiantum capillus-veneris</i>	O	<i>Muscari neglectum</i>	MG/W
<i>Adonis annua</i>	OV	<i>Myriophyllum verticillatum</i>	A
I _{NA} <i>Apera spica-venti</i>	W	<i>Nymphoides peltata</i>	A
<i>Bromopsis benekenii</i>	W	<i>Oenanthe silaifolia</i>	MG
<i>Buxus sempervirens</i>	W	<i>Ophrys sphegodes</i> ⁸	CG
<i>Campanula patula</i>	W	<i>Orchis ustulata</i>	CG
I _{NA} <i>Cardamine bulbifera</i>	W	<i>Ornithogalum pyrenaicum</i>	W
<i>Cardamine impatiens</i>	W/O	<i>Orobanche hederæ</i>	W/O
<i>Carex digitata</i>	W/O	<i>Persicaria laxiflora</i>	OV
<i>Carex filiformis</i>	CG/W	I _{NA} <i>Poa bulbosa</i>	OV
<i>Carex muricata ssp. muricata</i>	CG	<i>Polygonatum odoratum</i>	W
<i>Cephalanthera rubra</i> ⁸	W	<i>Potamogeton nodosus</i>	A
<i>Cerastium pumilum</i>	CG	<i>Potamogeton trichoides</i>	A
<i>Cuscuta europæa</i>	MG/O	<i>Pulsatilla vulgaris</i>	CG
<i>Cynoglossum germanicum</i> ⁸	W	<i>Salvia pratensis</i> ⁸	CG
I _{NA} <i>Cyperus longus</i>	MG	<i>Scandix pecten-veneris</i>	OV
<i>Daphne mezereum</i>	W	I _{NA} <i>Sedum forsterianum</i>	O
<i>Draba muralis</i>	CG/O	<i>Stachys alpina</i> ⁸	CG
<i>Epipactis leptochila var. leptochila</i>	W	<i>Stachys germanica</i> ⁸	CG
<i>Epipactis phyllanthes</i>	W	I _{NA} <i>Stratiotes aloides</i>	A
<i>Eryngium campestre</i> ⁸	MG/CG	<i>Tephrosia integrifolia ssp. integrifolia</i>	CG
<i>Euphorbia platyphyllos</i>	OV	<i>Teucrium botrys</i> ⁸	OV
<i>Euphorbia serrulata</i>	W	<i>Thesium humifusum</i>	CG
<i>Fritillaria meleagris</i>	MG	<i>Thlaspi perfoliatum</i> ⁸	OV
<i>Galeopsis angustifolia</i>	OV	I _{NA} <i>Tilia platyphyllos</i>	W
<i>Galium pumilum</i>	CG	<i>Ulmus plotii</i> E	W
GENTIANELLA ANGLICA ⁸	CG	<i>Valleriana eriocarpa</i>	OV/O
<i>Gymnocarpium robertianum</i>	OV	<i>Valeriana ramosa</i>	OV
<i>Helleborus foetidus</i>	W/O	I _{NA} <i>Verbascum lychnitis</i>	O
<i>Herminium monorchis</i>	CG	I _{NA} <i>Verbascum virgatum</i>	O
<i>Himantoglossum hircinum</i> ⁸	CG/W	<i>Vicia bithynica</i>	W/O
I _{NA} <i>Hippophae rhamnoides</i>	O	<i>Vicia parviflora</i>	OV/O
<i>Hordelymus europæus</i>	W	<i>Vulpia unilateralis</i>	OV
<i>Iberis amara</i>	CG/OV		
I _{NA} <i>Marrubium vulgare</i>	O		
I _{NA} <i>Meconopsis cambrica</i>	O		
I _{NA} <i>Medicago sativa ssp. falcata</i>	CG		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Aloina rigida</i>	CG	<i>Pleurochaete squarrosa</i>	CG
<i>Amblystegium confervoides</i>	O	<i>Pottia bryoides</i>	OV
<i>Bryum pallescens</i>	O	<i>Rhynchostegium rotundifolium</i>⁸	O
<i>Campylium calcareum</i>	O	<i>Seligeria calcarea</i>	O
<i>Didymodon nicholsonii</i>	OV	<i>Seligeria donniana</i>	O
<i>Eurhynchium schleicheri</i>	O	<i>Seligeria pusilla</i>	O
<i>Eurhynchium striatulum</i>	O	<i>Tortella inflexa</i>	O
<i>Leptobarbula bercia</i>	O	<i>Tortula virescens</i>	O
<i>Octodiceras fontanum</i>	A	<i>Weissia longifolia</i> var. <i>longifolia</i>	CG
<i>Platygyrium repens</i>	W	<i>Weissia sterilis</i>	CG

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Flowering plants	Habitat (NVC)
<i>Fritillaria meleagris</i>	MG	<i>Scandix pecten-veneris</i>	OV
<i>Iberis amara</i>	CG/OV	<i>Ulmus plotii</i> E	W
<i>Pulsatilla vulgaris</i>	CG		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	25			6	20		5					14	16	
Bryophytes	1				4		1					2	12	
Charophytes														
Total	26			6	24		6					16	28	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species
Vascular plants	1	11	16	56	1			72
Bryophytes		1	1	19				20
Charophytes								
Total	1	12	17	75				92

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 =⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
56. SEVERN & AVON VALES

Vascular plant significance: CONSIDERABLE
Bryophyte significance: SOME

General botanical character: Woodland, neutral grassland and riparian habitats are of importance here. *Alisma gramineum*, *Arabis scabra* and *Ranunculus ophioglossum* are known in only one other NA (37, 62 & 62 respectively), *Euphorbia serrulata* is restricted to this and neighbouring NAs.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aceras anthropophorum</i>	CG	<i>Lythrum hyssopifolia</i> ⁸	OV
<i>Aconitum napellus</i>	W	I _{NA} <i>Marrubium vulgare</i>	MC
<i>Adiantum capillus-veneris</i>	MC	I _{NA} <i>Meconopsis cambrica</i>	O
<i>Alisma gramineum</i> ⁸	A	I _{NA} <i>Medicago minima</i>	OV
<i>Allium schoenoprasum</i>	CG/U	<i>Medicago polymorpha</i>	OV
<i>Alopecurus bulbosus</i>	MG	<i>Myosotis stolonifera</i>	M
<i>Althaea officinalis</i>	MG	<i>Myriophyllum verticillatum</i>	A
<i>Arabis scabra</i>	CG	<i>Nymphoides peltata</i>	A
<i>Atriplex longipes</i>	SM	<i>Oenanthe silaifolia</i>	MG
<i>Bromopsis benekenii</i>	W	<i>Orobanche hederæ</i>	MC/W
<i>Bupleurum tenuissimum</i>	MG/SM	<i>Persicaria laxiflora</i>	OV
<i>Campanula patula</i>	W	<i>Polygonatum odoratum</i>	W
<i>Cardamine impatiens</i>	W/MG	<i>Polypogon monspeliensis</i>	MG
<i>Carex vulpina</i>	W/O	<i>Potamogeton coloratus</i>	A
<i>Cuscuta europaea</i>	MG/O	<i>Potamogeton trichoides</i>	A
<i>Cynoglossum germanicum</i> ⁸	W	<i>Potentilla neumanniana</i>	CG
<i>Cyperus fuscus</i> ⁸	OV	<i>Puccinellia fasciculata</i>	O/SM
<i>Cyperus longus</i>	MG	<i>Puccinellia rupestris</i>	O/SM
<i>Dianthus armeria</i>	U/OV	<i>Pulsatilla vulgaris</i>	CG
<i>Dianthus deltoides</i>	CG	<i>Ranunculus ophioglossifolius</i> ⁸	OV
<i>Elatine hydropiper</i>	A	<i>Rosa agrestis</i>	W
<i>Epipactis phyllanthes</i>	W	<i>Salvia pratensis</i> ⁸	CG
<i>Erodium moschatum</i>	MC/CG	<i>Scandix pecten-veneris</i>	OV
<i>Euphorbia platyphyllos</i>	OV	<i>Silene gallica</i>	OV
<i>Euphorbia serrulata</i>	W	I <i>Sorbus domestica</i>	W
<i>Fritillaria meleagris</i>	MG	I _{NA} <i>Stratiotes aloides</i>	A
<i>Fumaria densiflora</i>	OV	<i>Tilia platyphyllos</i>	W
<i>Fumaria vaillantii</i>	OV	<i>Torilis arvensis</i>	OV
<i>Galeopsis angustifolia</i>	OV	I _{NA} <i>Trifolium glomeratum</i>	MC
GENTIANELLA ANGLICA ⁸ E	CG	<i>Trifolium squamosum</i>	MG
<i>Geranium purpureum</i> ssp. purpureum	MC	<i>Ulmus plotii</i> E	W
<i>Helleborus foetidus</i>	W	I _{NA} <i>Verbascum pulverulentum</i>	O
I _{NA} <i>Hippophae rhamnoides</i>	SD	I _{NA} <i>Verbascum virgatum</i>	O
<i>Hordeum marinum</i>	O	<i>Vicia bithynica</i>	MC/O
<i>Lathyrus aphaca</i>	MC/CG	I _{NA} <i>Vicia lutea</i>	MC/O
<i>Lepidium latifolium</i>	MG/SM	<i>Vicia parviflora</i>	OV
<i>Limosella aquatica</i>	A	<i>Vulpia unilateralis</i>	OV
I _{NA} <i>Linaria supina</i>	MC		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Bryum dunense</i> <i>Ephemerum serratum</i> var. <i>serratum</i>	O OV	<i>Hennediella stanfordensis</i>	OV

Charophytes	Habitat (NVC)	Charophytes	Habitat (NVC)
<i>Tolypella intricata</i>	A	<i>Tolypella prolifera</i>	A

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Flowering plants	Habitat (NVC)
<i>Dianthus armeria</i> <i>Fritillaria meleagris</i>	U/O MG	<i>Fumaria densiflora</i> <i>Pulsatilla vulgaris</i>	OV CG

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	15	1		11	10	2	8		1	5	10	16	10	
Bryophytes												2		
Charophytes							2							
Total	15	1		11	10	2	10		1	5	10	18	10	

SUMMARY OF INTEREST								
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species
Vascular plants	1	7	13	62				75
Bryophytes				3				3
Charophytes			2					2
Total	1	7	15	65				80

KEY:	<i>INTERNATIONAL DESIGNATION</i>	<i>Red List</i>
	Schedule 8 = ^s	Lower risk
	Data Deficient = _{DD}	GB endemic = E
	English endemic = EE	GB Introduction = I
	NA Introduction = _{NA}	

BOTANICAL PROFILE:**57. MALVERN HILLS & TEME VALLEY****Vascular plant significance: NOTABLE****Bryophyte significance: SOME**

General botanical character: The tops of the Malverns support acid grassland with small areas of heathland and these gradually merge into the bracken and scrub dominated slopes, where woodlands also occur. Woodland is dominant on the lower range of hills running parallel to the Malverns. Intensive agriculture is prominent in the land between these hills and on the Teme floodplain. The rare clubmoss, *Diphasiastrum issleri* is found in the granitic area of the NA.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aconitum napellus</i>	W	^{I_{NA}} <i>Marrubium vulgare</i>	O
<i>Campanula patula</i>	W	^{I_{NA}} <i>Meconopsis cambrica</i>	O
<i>Cardamine impatiens</i>	W/O	^{I_{NA}} <i>Nymphoides peltata</i>	A
^{I_{NA}} <i>Cyperus longus</i>	MG	<i>Oenanthe silaifolia</i>	MG
<i>Diphasiastrum issleri</i>	U	<i>Orobanche rapum-genistae</i>	W/H
^{I_{NA}} <i>Fritillaria meleagris</i>	MG	<i>Potentilla neumanniana</i>	CG
<i>Helleborus foetidus</i>	W	<i>Tilia platyphyllos</i>	W
<i>Hordelymus europaeus</i>	W	<i>Vicia bithynica</i>	W
<i>Hypochaeris glabra</i>	U		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Brachythecium salebrosum</i>	W	<i>Campylium calcareum</i>	O
<i>Bryum dunense</i>	O	<i>Hennediella stanfordensis</i>	OV

EXTINCT AND/OR DECLINING SPECIES

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KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	8		1	3	1	2	1						3	
Bryophytes	1											1	2	
Charophytes														
Total	9		1	3	1	2	1					1	5	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species
Vascular plants			1	16				17
Bryophytes				4				4
Charophytes								
Total				20				21

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = ^{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE: 58. CLUN AND NORTH WEST HEREFORDSHIRE HILLS

Vascular plant significance: SOME
Bryophyte significance: SOME

General botanical character: The ancient woodland of this area contains much of the botanical resource. Agriculture and commercial forestry have affected much of the area, but small areas of heathland, hay meadow and unimproved rough grassland remain. The Teme, Clun and Lugg are three of the clean, fast-flowing rivers the area is noted for.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aconitum napellus</i>	W	<i>I_{NA} Nymphoides peltata</i>	A
<i>Campanula patula</i>	W	<i>Orobanche rapum-genistae</i>	H/W
<i>Cardamine impatiens</i>	W/MG	<i>Sedum forsterianum</i>	CG
<i>Dianthus deltoides</i>	CG/U	<i>Tilia platyphyllos</i>	W
<i>I_{NA} Impatiens noli-tangere</i>	W		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Orthotrichum sprucei</i>	O	<i>Plagiothecium laetum</i>	W

EXTINCT AND/OR DECLINING SPECIES

Vascular Plants	Habitat (NVC)		
<i>Campanula patula</i>	W		

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	6		1	1	2	1	1							
Bryophytes	1												1	
Charophytes														
Total	7		1	1	2	1	1						1	

SUMMARY OF INTEREST

	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants				9				9
Bryophytes				2				2
Charophytes								
Total				11				11

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = ^{DD}

English endemic = ^{EE}

NA Introduction = ^{I_{NA}}

Red List

Lower risk

GB endemic = ^E

GB Introduction = ^I

BOTANICAL PROFILE: 59. CENTRAL HEREFORDSHIRE	Vascular plant significance: NOTABLE Bryophyte significance: SOME
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General botanical character: This area is primarily agricultural in character and semi-natural habitats are generally fragmented. Woodlands on both the raised plateaux and in the foothills are important here, along with the high quality rivers. *Mentha pulegium* is the most notable species recorded here.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aconitum napellus</i>	W	<i>Oenanthe silaifolia</i>	MG
I _{NA} <i>Adiantum capillus-veneris</i>	O	<i>Orobanche rapum-genistae</i>	H/W
<i>Campanula patula</i>	W	<i>Potamogeton compressus</i>	A
<i>Cardamine impatiens</i>	W	<i>Potamogeton trichoides</i>	A
<i>Fritillaria meleagris</i>	MG	<i>Scandix pecten-veneris</i>	OV
<i>Hordelymus europaeus</i>	W	<i>Silene gallica</i>	OV
I _{NA} <i>Meconopsis cambrica</i>	O	<i>Tilia platyphyllos</i>	W
<i>Mentha pulegium</i> ⁸	OV	<i>Ulmus plotii</i> E	W
I _{NA} <i>Nymphoides peltata</i>	A		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Henediella stanfordensis</i>	OV		

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Flowering plants	Habitat (NVC)
<i>Hordelymus europaeus</i>	W	<i>Scandix pecten-veneris</i>	OV
<i>Orobanche rapum-genistae</i>	H/W	<i>Silene gallica</i>	OV

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	7		1	2			3					3	2	
Bryophytes													1	
Charophytes														
Total	7		1	2			3					3	3	

SUMMARY OF INTEREST								
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		1	1	16				17
Bryophytes				1				1
Charophytes								
Total		1	1	17				18

KEY:	
<i>INTERNATIONAL DESIGNATION</i>	<i>Red List</i>
Schedule 8 = ⁸	<i>Lower risk</i>
Data Deficient = _{DD}	GB endemic = E
English endemic = EE	GB Introduction = I
NA Introduction = I _{NA}	

BOTANICAL PROFILE: 60. BLACK MOUNTAINS AND GOLDEN VALLEY

Vascular plant significance: **SOME**
 Bryophyte significance: **SOME**

General botanical character: An upland area with extensive acid moorland and occasional neutral grassland where base rich rocks appear at the surface.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Campanula patula</i> <i>Euphrasia rostkoviana ssp. rostkoviana</i> <i>Gymnocarpium robertianum</i>	W MG OV	<i>Pilularia globulifera</i> <i>Tilia platyphyllos</i>	OV/A W

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)

EXTINCT AND/OR DECLINING SPECIES

--	--	--	--

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	2			1			1					2		
Bryophytes														
Charophytes														
Total	2			1			1					2		

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species
Vascular plants				5				5
Bryophytes								
Charophytes								
Total				5				5

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 =⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = _{NA}I

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
61. DEAN PLATEAU & WYE VALLEY

Vascular plant significance: SIGNIFICANT
Bryophyte significance: SIGNIFICANT

General botanical character Woodland, parkland, riparian areas, acidic grassland, mires and heaths are supply the main interest of this NA. *Euphorbia serrulata* only occurs in this NA and those adjacent to it.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aconitum napellus</i>	W	<i>Euphorbia serrulata</i>	W
I _{NA} <i>Adiantum capillus-veneris</i>	O	<i>Gymnocarpium robertianum</i>	OV
<i>Allium schoenoprasum</i>	U	<i>Helleborus foetidus</i>	W/O
<i>Alopecurus bulbosus</i>	MG	<i>Hordelymus europaeus</i>	W
<i>Arabis glabra</i>	U	<i>Hornungia petraea</i>	CG/O
<i>Asplenium trichomanes</i>	O	<i>Hypericum montanum</i>	W
<i>ssp. pachyrachis</i> DD		<i>Marrubium vulgare</i>	O
<i>Campanula patula</i>	W	<i>Minuartia hybrida</i>	CG
<i>Cardamine impatiens</i>	W/O	<i>Narcissus pseudonarcissus</i>	W/O
<i>Carex digitata</i>	W/O	<i>Orobanche rapum-genistae</i>	H/W
<i>Carex humilis</i>	CG	<i>Sedum forsterianum</i>	O
<i>Carex montana</i>	U/W	<i>Sorbus anglica</i>	W/O
<i>Cephalanthera longifolia</i>	W	<i>Sorbus eminens</i> EE	W/O
<i>Clinopodium calamintha</i>	U/O	<i>Sorbus minima</i>	W/O
<i>Epipogium aphyllum</i>	W	<i>Sorbus porrigentiformis</i> E	W/O
<i>Epipactis leptochila</i>	W	<i>Sorbus rupicola</i>	O
<i>Epipactis phyllanthes</i>	W	I _{NA} <i>Stratiotes aloides</i>	A
		<i>Tilia platyphyllos</i>	W
		<i>Torilis arvensis</i>	OV
		I _{NA} <i>Verbascum virgatum</i>	O
		<i>Viola lactea</i>	H

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Anomodon longifolius</i>	O	<i>Leucobryum juniperoideum</i>	H/W
<i>Brachydontium trichoides</i>	O	<i>Orthotrichum sprucei</i>	O
<i>Campylium calcareum</i>	O	<i>Plagiothecium laetum</i>	W
<i>Dicranum spurium</i>	H	<i>Platygyrium repens</i>	W
<i>Didymodon nicholsonii</i>	O	<i>Schistostega pennata</i>	O
<i>Discelium nudum</i>	OV	<i>Sphagnum flexuosum</i>	W/M
<i>Eurhynchium schleicheri</i>	W/O	<i>Tortula subulata</i> var. <i>subinermis</i>	O
<i>Henediella stanfordensis</i>	OV		

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Flowering plants	Habitat (NVC)
<i>Arabis glabra</i> <i>Daphne mezereum</i>	CG W	<i>Minuartia hybrida</i> <i>Orobanche rapum-genistae</i>	CG H/W

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	20		2	1	2	4	1					2	16	
Bryophytes	5	1	2									2	8	
Charophytes														
Total	25	1	3	1	2	4	1					4	24	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants			4	34	1	1	1	38
Bryophytes			1	14				15
Charophytes								
Total			5	48	1	1	1	53

KEY:	<i>INTERNATIONAL DESIGNATION</i>	<i>Red List</i>
	Schedule 8 = ⁸	<i>Lower risk</i>
	Data Deficient = _{DD}	GB endemic = E
	English endemic = EE	GB Introduction = I
	NA Introduction = I _{NA}	

BOTANICAL PROFILE:
62. BRISTOL, AVON VALLEYS & RIDGES

Vascular plant significance: OUTSTANDING
Bryophyte significance: NOTABLE
Charophyte significance: SOME

General botanical character: Much of the semi-natural habitat of this area is underlain by limestone and the area's calcareous grassland and limestone gorge contain many of the rare species recorded in this Natural Area. It is the only station in GB for *Allium sphaerocephalon*, *Sorbus bristoliensis* and *Sorbus wilmottiana*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aconitum napellus</i>	W	<i>Lithospermum purpureocaeruleum</i>	W
I _{NA} <i>Adiantum capillus-veneris</i>	O	I _{NA} <i>Meconopsis cambrica</i>	O
<i>Allium schoenoprasum</i>	U	I _{NA} <i>Medicago sativa</i> ssp. <i>falcata</i>	CG
<i>Allium sphaerocephalon</i>⁸	CG	<i>Minuartia hybrida</i>	CG
<i>Alopecurus bulbosus</i>	MG	<i>Myriophyllum verticillatum</i>	A
<i>Anisantha madritensis</i>	U/CG	I _{NA} <i>Nymphoides peltata</i>	A
I _{NA} <i>Apera spica-venti</i>	OV	<i>Orchis purpurea</i>	W
<i>Arabis scabra</i>	CG/O	<i>Ornithogalum pyrenaicum</i>	W
<i>Asplenium obovatum</i>	O	<i>Orobanche hederæ</i>	W/O
<i>Atriplex longipes</i>	SM	<i>Orobanche rapum-genistæ</i>	W/H
<i>Cardamine impatiens</i>	W/O	<i>Polygonatum odoratum</i>	W
<i>Carex digitata</i>	W/O	<i>Polygogon monspeliensis</i>	MG
<i>Carex humilis</i>	CG	<i>Potamogeton coloratus</i>	A
<i>Cerastium pumilum</i>	CG	<i>Potamogeton nodosus</i>	A
<i>Cuscuta europæa</i>	MG/O	<i>Potamogeton trichoides</i>	A
I _{NA} <i>Cyperus longus</i>	MG	<i>Potentilla neumanniana</i>	CG
I _{NA} <i>Daphne mezereum</i>	W	<i>Puccinellia fasciculata</i>	O/SM
<i>Dianthus deltoides</i>	U	<i>Puccinellia rupestris</i>	O/SM
<i>Draba muralis</i>	CG/O	<i>Ranunculus ophioglossifolius</i>⁸	OV
<i>Epipactis leptochila</i>	W	<i>Salvia pratensis</i>⁸	CG
<i>Epipactis phyllanthes</i>	W	<i>Scilla autumnalis</i>	CG
<i>Erodium moschatum</i>	CG	<i>Sedum forsterianum</i>	O
<i>Euphorbia platyphyllos</i>	OV	<i>Silene gallica</i>	OV
<i>Fritillaria meleagris</i>	MG	<i>Sorbus anglica</i>	W/O
<i>Fumaria densiflora</i>	OV	<i>Sorbus bristoliensis</i> EE	W
<i>Galeopsis angustifolia</i>	OV	<i>Sorbus eminens</i> EE	W/O
<i>Gastroidium ventricosum</i>	CG/U	<i>Sorbus porrigentiformis</i> E	W/O
<i>Geranium purpureum</i> ssp. <i>purpureum</i>	O	<i>Sorbus wilmottiana</i> EE	W
<i>Gymnocarpium robertianum</i>	O	<i>Tilia platyphyllos</i>	W
<i>Helianthemum apenninum</i>	CG	<i>Torilis arvensis</i>	OV
<i>Helleborus foetidus</i>	W	<i>Trinia glauca</i>	CG
<i>Hornungia petraea</i>	CG/O	I _{NA} <i>Verbascum virgatum</i>	O
I _{NA} <i>Iberis amara</i>	OV	<i>Veronica spicata</i> ssp. <i>hybrida</i> ⁸	CG
<i>Lathyrus aphaca</i>	CG	<i>Vicia bithynica</i>	O
I _{NA} <i>Lepidium latifolium</i>	O		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Amblystegium confervoides</i>	O	<i>Grimmia orbicularis</i>	O
<i>Bryum donianum</i>	O	<i>Pottia bryoides</i>	OV
<i>Bryum marratii</i>	O	<i>Riccia cavernosa</i>	OV
<i>Campylium polygamum</i>	O	<i>Scorpiurium circinatum</i>	O
<i>Cheilothela chloropus</i>	OV	<i>Weissia longifolia</i> ssp. <i>longifolia</i>	CG
<i>Cololejeunea rossettiana</i>	O		
<i>Distichium inclinatum</i>	CG		
<i>Eurhynchium striatulum</i>	O		
<i>Funaria muhlenbergii</i>	CG		

Charophytes	Habitat (NVC)	Charophytes	Habitat (NVC)
<i>Tolypella intricata</i>	A		

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)	Flowering plants	Habitat (NVC)
<i>Fritillaria meleagris</i>	MG		

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	19		1	5	18	4	5			3		7	21	
Bryophytes					3							3	8	
Charophytes							1							
Total	19		1	5	21	4	6			3		10	29	

SUMMARY OF INTEREST

	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		4	7	62	1	3		69
Bryophytes			1	13				14
Charophytes			1					1
Total		4	9	75				84

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 =⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = _{NA}I

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
63. THAMES & AVON VALES

Vascular plant significance: OUTSTANDING
Bryophyte significance: SOME

General botanical character A landscape of intensively farmed, low lying land and flood plain with *Populus nigra* a feature in some areas. *Viola persicifolia* may be present but taxonomic uncertainty. Arable plants are notable, additional to those below are *Silene noctiflora*, *Myosurus minimus* and *Torilis arvensis*. High proportion of protected species.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Apera interrupta</i>	OV	<i>Minuartia hybrida</i>	CG
<i>Apera spica-venti</i>	OV	<i>Myriophyllum verticillatum</i>	A
APIUM REPENS ⁸	MG	<i>Nymphoides peltata</i>	A
<i>Arabis glabra</i>	U	<i>Oenanthe silaifolia</i>	MG
<i>Carex filiformis</i>	MG	<i>Ornithogalum pyrenaicum</i>	W
<i>Carex vulpina</i>	O/S	<i>Orobanche hederarum</i>	W/O
<i>Clinopodium calamintha</i>	U/OV	<i>Persicaria laxiflora</i>	OV
<i>Cuscuta europaea</i>	MG/O	<i>Potamogeton coloratus</i>	A
<i>Cynoglossum germanicum</i> ⁸	W	<i>Potamogeton nodosus</i>	A
<i>Dianthus armeria</i>	U	<i>Potamogeton trichoides</i>	A
<i>Epipactis phyllanthes</i>	W	Salvia pratensis ⁸	CG/MG
<i>Euphorbia platyphyllos</i>	OV	<i>Scandix pecten-veneris</i>	OV
<i>Fallopia dumetorum</i>	W	<i>Silene conica</i>	OV
<i>Fritillaria meleagris</i>	MG	<i>Silene gallica</i>	OV
<i>Fumaria densiflora</i>	OV	<i>Sium latifolium</i>	S/M
<i>Fumaria vaillantii</i>	OV	Thlaspi perfoliatum ⁸	OV
<i>Galeopsis angustifolia</i>	OV	<i>Torilis arvensis</i>	OV
I _{NA} <i>Lepidium latifolium</i>	O	<i>Ulmus plotii</i> E	W
<i>Leucojum aestivum</i>	W	I _{NA} <i>Verbascum lychnitis</i>	O
<i>Limosella aquatica</i>	OV	I _{NA} <i>Verbascum virgatum</i>	O
Lythrum hyssopifolia ⁸	OV	<i>Veronica praecox</i>	OV
		<i>Vicia parviflora</i>	OV

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Leptodontium gemmascens</i>	O	<i>Pylaisia polyantha</i>	W
<i>Octodiceras fontanum</i>	A	<i>Scorpiurium circinatum</i>	O
<i>Pleurochaete squarrosa</i>	CG	<i>Trichostomopsis umbrosa</i>	O

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)	Flowering plants	Habitat (NVC)
<i>Melampyrum arvense</i>	OV	GENTIANELLA ANGLICA ⁸ E	CG
<i>Daphne mezereum</i>	W	<i>Orchis ustulata</i>	CG
<i>Galium tricorneratum</i>	OV		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	7	1		5	2	3	5	1				17	6	
Bryophytes	1				1		1							3
Charophytes														
Total	8	1		5	3	3	6	1				17	9	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants	1	5	10	35				45
Bryophytes			1	5				6
Charophytes								
Total	1	5	11	40				51

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 =⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
64. MIDVALE RIDGE

Vascular plant significance: SIGNIFICANT
Bryophyte significance: SOME

General botanical character: Well drained soils characterise this area, weathered from Corallian limestone, sandy in places and leached. Arable plants are important here, with *Scandix pecten-veneris*, *Petroselinum segetum*, *Apera interrupta*, *Ranunculus arvensis* and *Chrysanthemum segetum*. There are also a number of calcicolous fens and flushes, supporting locally notable plants such as *Parnassia palustris* and *Eriophorum latifolium*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Althaea hirsuta</i> ⁸	W/OV	^{I_{NA}} <i>Lepidium latifolium</i>	O
<i>Apera interrupta</i>	OV	<i>Limosella aquatica</i>	OV
<i>Apera spica-venti</i>	OV	<i>Minuartia hybrida</i>	CG
<i>Dactylorhiza traunsteineri</i>	MG	<i>Potamogeton coloratus</i>	A
<i>Dianthus armeria</i>	MG	<i>Salvia pratensis</i> ⁸	CG/W
<i>Dianthus deltoides</i>	U	<i>Scandix pecten-veneris</i>	OV
<i>Epipactis phyllanthes</i>	W	<i>Silene conica</i>	OV
<i>Equisetum variegatum</i>	M	<i>Vulpia unilateralis</i>	CG/OV
<i>Euphorbia platyphyllos</i>	OV		
<i>Fallopia dumetorum</i>	W		
<i>Filago pyramidata</i> ⁸	OV		
<i>Fumaria densiflora</i>	OV		
<i>Galeopsis angustifolia</i>	OV		
<i>Galium tricornerutum</i>	OV		
<i>Himantoglossum hircinum</i> ⁸	MG/W		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Amblystegium humile</i>	MG/W	<i>Pohlia lescuriana</i>	OV
<i>Grimmia orbicularis</i>	O	<i>Tortula virescens</i>	O
<i>Platygyrium repens</i>	W		

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Adonis annua</i>	OV	<i>Hypochaeris glabra</i>	U
<i>Filago lutescens</i>	OV	<i>Lophozia rutheana</i>	M

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	5	1		3	3	1	1					1 1	1	
Bryophytes	2			1								1	2	
Charophytes														
Total	7	1		4	3	1	1					1 2	3	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		4	6	15				21
Bryophytes				5				5
Charophytes								
Total		4	6	20				26

KEY:

<i>INTERNATIONAL DESIGNATION</i>	<i>Red List</i>
Schedule 8 = ⁸	<i>Lower risk</i>
Data Deficient = _{DD}	GB endemic = E
English endemic = EE	GB Introduction = I
NA Introduction = I _{NA}	

BOTANICAL PROFILE:
65. CHILTERNs

Vascular plant significance: OUTSTANDING
Bryophyte significant: SIGNIFICANT

General botanical character The vegetation of this Natural Area is strongly influenced by the chalk escarpment and calcareous soils. Many nationally important plants are associated with extensive beech woodland and unimproved calcicolous grassland. *Orchis militaris* var *tenuifrons* is known only from this NA and is endemic to England. Areas of bare chalk provide an important habitat for annual vascular plants and bryophytes. Despite widespread scrub development, some of the calcicolous grassland is amongst the best for bryophytes in southern England. Box scrub supports one of only two known localities in Britain for the liverwort *Metzgeria fruticulosa* growing as an epiphyll, here associated with the lichen *Fellhanera bouteillei*. Clay-with-flint cap and glacial drift underlie the Chilterns Commons which support *Damasonium alisma* and formerly *Pulicaria vulgaris* and *Mentha pulegium*, both now extinct. Relict examples of the Scapanietum asperae community also survive in the Chilterns, a bryophyte community found in north facing calcicolous grassland but which has markedly declined in southern England. Typical members of this community include *Scapania aspera*, *Frullania tamarisci*, *Porella arboris-vitae* and *Tortella tortuosa*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aceras anthropophorum</i>	CG	<i>Gymnocarpium robertianum</i>	OV
<i>Adonis annua</i>	OV	^{I_{NA}} <i>Helleborus foetidus</i>	W
<i>Ajuga chamaepitys</i> ⁸	OV	<i>Herminium monorchis</i>	CG
<i>Althaea hirsuta</i> ⁸	OV	<i>Hordelymus europaeus</i>	W
^{I_{NA}} <i>Apera interrupta</i>	OV	<i>Hypochaeris maculata</i>	CG
<i>Apera spica-venti</i>	OV	<i>Iberis amara</i>	OV
<i>Bromopsis benekenii</i>	W	<i>Lathyrus aphaca</i>	O
<i>Bunium bulbocastanum</i>	CG	^{I_{NA}} <i>Lepidium latifolium</i>	O
<i>Buxus sempervirens</i>	CG/W	<i>Leucojum aestivum</i>	W
<i>Cardamine bulbifera</i>	W	<i>Limosella aquatica</i>	OV
<i>Cardamine impatiens</i>	W	^{I_{NA}} <i>Marrubium vulgare</i>	O
<i>Carex filiformis</i>	MG	^{I_{NA}} <i>Medicago minima</i>	O
<i>Cephalanthera longifolia</i>	W	^{I_{NA}} <i>Medicago polymorpha</i>	O
<i>Cephalanthera rubra</i> ⁸	W	^{I_{NA}} <i>Medicago sativa ssp. falcata</i>	O
<i>Clinopodium calamintha</i>	U/OV	<i>Minuartia hybrida</i>	CG
<i>Cynoglossum germanicum</i> ⁸	W	<i>Nymphoides peltata</i>	A
<i>Cyperus fuscus</i> ⁸	MG	<i>Orchis militaris var tenuifrons</i> ⁸ EE	W/CG
^{I_{NA}} <i>Cyperus longus</i>	MG	<i>Orchis simia</i> ⁸	W/CG
<i>Damasonium alisma</i> ⁸	OV/A	<i>Orchis ustulata</i>	CG
<i>Daphne mezereum</i>	W	<i>Orobanche rapum-genistae</i>	W/H
<i>Dianthus armeria</i>	U	<i>Potamogeton nodosus</i>	A
<i>Dianthus deltoides</i>	U/CG	<i>Primula elatior</i>	W
^{I_{NA}} <i>Draba muralis</i>	CG/O	<i>Pulsatilla vulgaris</i>	CG
<i>Epipactis leptochila</i>	W	<i>Salvia pratensis</i> ⁸	CG/MG
<i>Epipactis phyllanthes</i>	W	<i>Scandix pecten-veneris</i>	OV
<i>Epipogium aphyllum</i> ⁸	W	<i>Seseli libanotis</i>	CG/MG
^{I_{NA}} <i>Erodium moschatum</i>	O	^{I_{NA}} <i>Stratiotes aloides</i>	A
<i>Euphrasia pseudokernerii</i>	CG	<i>Tephrosieris integrifolia ssp. integrifolia</i>	CG
<i>Filago pyramidata</i> ⁸	OV	<i>Thesium humifusum</i>	CG
<i>Fritillaria meleagris</i>	MG	<i>Tilia platyphyllos</i>	W
<i>Fumaria densiflora</i>	OV	<i>Torilis arvensis</i>	OV
<i>Fumaria vaillantii</i>	OV	<i>Valerianella ramosa</i>	OV
<i>Galeopsis angustifolia</i>	OV	<i>Vicia parviflora</i>	OV
<i>Galium pumilum</i>	CG		
<i>Galium tricornutum</i>	OV		
GENTIANELLA ANGLICA ⁸ E	CG		
<i>Gentianella ciliata</i> ⁸	CG		
<i>Gentianella germanica</i>	CG/O		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Aloina brevirostris</i>	OV	<i>Pterygoneurum ovatum</i>	CG
<i>Aloina rigida</i>	OV	<i>Riccia cavernosa</i>	OV
<i>Brachythecium mildeanum</i>	MG	<i>Riccia subbifurca</i>	OV
<i>Bryum intermedium</i>	O	<i>Seligeria calcarea</i>	O
<i>Campylium calcareum</i>	O	<i>Sphaerocarpus texanus</i>	OV
<i>Cololejeunea minutissima</i>	O	<i>Sphagnum flexuosum</i>	W/M
<i>Cryptothallus mirabilis</i>	O	<i>Thuidium abietinum ssp.</i>	CG
<i>Didymodon acutus</i>	OV	<i>hystricosum</i>	
<i>Ephemerum serratum var. serratum</i>	OV	<i>Tortella inflexa</i>	O
<i>Leucobryum juniperoideum</i>	H/W	<i>Tortula virescens</i>	O
<i>Phascum floerkeanum</i>	OV	<i>Trichostomopsis umbrosa</i>	O
<i>Pohlia lescuriana</i>	OV	<i>Weissia longifolia var. longifolia</i>	CG
<i>Pottia caespitosa</i>	CG		

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Flowering plants	Habitat (NVC)
<i>Dianthus armeria</i>	U	<i>Mentha pulegium</i> ⁸	OV
<i>Gymnocarpium robertianum</i>	OV	<i>Pulicaria vulgaris</i> ⁸	OV

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	19		1	6	21	3	4					19	9	
Bryophytes	2	1	1	1	4							9	8	
Charophytes														
Total	21	1	2	7	25	3	4					28	17	

SUMMARY OF INTEREST								
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species
Vascular plants	1	13	18	53	1	1		71
Bryophytes			1	23				24
Charophytes								
Total		13	19	76	1	1		95

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
66. LONDON BASIN

Vascular plant significance: CONSIDERABLE
Bryophyte significance: SIGNIFICANT

General botanical character: This area is dominated by Greater London, but contains a high quantity of scattered semi-natural pockets, including mature wetland, ancient parkland and woodland, lowland heath and riverine habitats. Amongst the list of legally protected species are *Carex filiformis*, *Eriophorum gracile*, *Cynoglossum germanicum* and *Zygodon fo*

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aconitum napellus</i>		<i>Limonium humile</i>	
<i>I_{NA} Adiantum capillus-veneris</i>	W	<i>Limosella aquatica</i>	SM
<i>Ajuga chamaepitys</i>⁸	O	<i>Ludwigia palustris</i>	OV
<i>I_{NA} Apera interrupta</i>	OV	<i>Lycopodiella inundata</i>	A
<i>Apera spica-venti</i>	OV	<i>I_{NA} Meconopsis cambrica</i>	M/H
<i>Arabis glabra</i>	OV	<i>Medicago polymorpha</i>	O
<i>Bromopsis benekenii</i>	U	<i>Medicago sativa ssp. falcata</i>	OV
<i>Bupleurum tenuissimum</i>	W	<i>Melampyrum cristatum</i>	U/OV
<i>Buxus sempervirens</i>	MG/O	<i>Mentha pulegium</i>⁸	W
<i>Callitriche truncata</i>	CG/W	<i>I_{NA} Mibora minima</i>	OV
<i>Cardamine bulbifera</i>	A	<i>Myriophyllum verticillatum</i>	U
<i>Carex divisa</i>	W	<i>Nymphoides peltata</i>	A
<i>Carex elongata</i>	MG	<i>Oenanthe silaifolia</i>	A
<i>Carex filiformis</i>	W/O	<i>Ornithogalum pyrenaicum</i>	MG
<i>Carex montana</i>	MG	<i>Orobanche hederæ</i>	W
<i>Chamaemelum nobile</i>	U/MG	<i>Orobanche rapum-genistæ</i>	W/O
<i>Chenopodium chenopodioides</i>	MG	<i>Persicaria laxiflora</i>	H/W
<i>Clinopodium calamintha</i>	MG/O	<i>Peucedanum officinale</i>	OV
<i>Crassula tillæa</i>	U/OV	<i>Physospermum cornubiense</i>	O
<i>Cuscuta europæa</i>	OV	<i>Phyteuma orbiculare</i>	W
<i>Cynoglossum germanicum</i>⁸	MG/O	<i>Pilularia globulifera</i>	CG
<i>Cyperus fuscus</i>⁸	W	<i>Poa bulbosa</i>	OV/A
<i>I_{NA} Cyperus longus</i>	MG	<i>Potamogeton acutifolius</i>	U
<i>Damasonium alisma</i>⁸	MG	<i>Potamogeton nodosus</i>	A
<i>Deschampsia setacea</i>	OV/A	<i>Potamogeton trichoides</i>	A
<i>Dianthus armeria</i>	H/M	<i>Puccinellia fasciculata</i>	A
<i>Dianthus deltoides</i>	U	<i>Puccinellia rupestris</i>	SM/O
<i>Dryopteris cristata</i>	U	<i>Pulicaria vulgaris</i>⁸	SM/O
<i>Elatine hexandra</i>	M	<i>Pyrola rotundifolia ssp. rotundifolia</i>	OV
<i>Epipactis leptochila var. leptochila</i>	A		W
<i>Epipactis phyllanthes</i>	W	<i>Ranunculus tripartitus</i>	
<i>Eriophorum gracile</i>⁸	W	<i>Rhinanthus angustifolius</i>	OV
<i>Euphorbia platyphyllos</i>	M	<i>Ruppia cirrhosa</i>	OV/U
<i>Euphrasia pseudokernerii</i>	OV	<i>Salicornia pusilla</i>	A
<i>Fallopia dumetorum</i>	CG	<i>Sarcocornia perennis</i>	SM
<i>Filago lutescens</i>⁸	W	<i>Scandix pecten-veneris</i>	SM/SD
<i>Filago pyramidata</i>⁸	OV	<i>Scilla autumnalis</i>	OV
<i>Fritillaria meleagris</i>	OV	<i>I_{NA} Sedum forsterianum</i>	U
<i>Fumaria densiflora</i>	MG	<i>Silene gallica</i>	O
<i>Fumaria parviflora</i>	OV	<i>Sium latifolium</i>	OV
<i>Fumaria vaillantii</i>	OV	<i>Spartina maritima</i>	S/M
<i>Galeopsis angustifolia</i>	OV	<i>I_{NA} Stratiotes aloides</i>	SM
<i>Galium parisiense</i>	OV	<i>Suaeda vera</i>	A
<i>Gentiana pneumonanthe</i>	O	<i>Thelypteris palustris</i>	SM/SD
<i>Gentianella germanica</i>	M	<i>Tilia platyphyllos</i>	M
<i>Helleborus foetidus</i>	CG/O	<i>Torilis arvensis</i>	W
<i>Herminium monorchis</i>	W	<i>Trifolium glomeratum</i>	OV
<i>I_{NA} Hippophae rhamnoides</i>	CG	<i>Trifolium ochroleucon</i>	U
<i>Hordelymus europæus</i>	O	<i>Trifolium squamosum</i>	MG/CG
<i>Hordeum marinum</i>	W	<i>Verbascum lychnitis</i>	MG/O

<i>Inula crithmoides</i>	MC	<i>Verbascum virgatum</i>	O
<i>Lathyrus aphaca</i>	MG/O	<i>Vicia lutea</i>	O
<i>Leersia oryzoides</i>	MG	<i>Viola lactea</i>	H
<i>Lepidium latifolium</i>	O	<i>Vulpia ciliata ssp.ambigua</i>	OV
<i>Leucojum aestivum</i>	W	<i>Vulpia fasciculata</i>	SD

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Amblystegium humile</i>	MG/W	<i>Leptodontium gemmascens</i>	O
<i>Anthoceros agrestis</i>	OV	<i>Leucobryum juniperoideum</i>	H/W
<i>Anthoceros punctatus</i>	OV	<i>Lophozia capitata</i>	O
<i>Atrichum tenellum</i>	OV	<i>Lophozia personii</i>	OV
<i>Brachythecium mildeanum</i>	MG	<i>Moerckia hibernica</i>	M
<i>Bryum dunense</i>	O	<i>Nardia geoscyphus</i>	H
<i>Bryum pallescens</i>	O	<i>Pallavicinia lyellii</i>	W
<i>Bryum tenuisetum</i>	OV	<i>Phaeoceros laevis ssp. carolinianus</i>	OV
<i>Campylium polygamum</i>	MG/M	<i>Philonotis caespitosa</i>	M/OV
<i>Campylopus pyriformis var. azoricus</i>	M/O	<i>Plagiothecium ruthei</i>	W
<i>Cladopodiella francisci</i>	M	<i>Platygyrium repens</i>	W
<i>Dicranum polysetum</i>	H/W	<i>Pottia bryoides</i>	OV
<i>Dicranum spurium</i>	H/M	<i>Rhynchostegiella tenella var. litorea</i>	O
<i>Didymodon nicholsonii</i>	OV	<i>Ricciocarpos natans</i>	A
<i>Ephemerum serratum var. serratum</i>	OV	<i>Seligeria calcarea</i>	O
<i>Eurhynchium schleicheri</i>	W	<i>Sphaerocarpus texanus</i>	OV
<i>Fissidens limbatus</i>	A	<i>Sphagnum flexuosum</i>	MG/W
<i>Fossombronia foveolata</i>	OV	<i>Trichostomopsis umbrosa</i>	O
<i>Henediella macrophylla</i>	OV	<i>Zygodon forsteri</i> ⁸	O
<i>Herzogiella seligeri</i>	W		
<i>Hypnum imponens</i>	H/M		

Charophytes	Habitat (NVC)	Charophytes	Habitat (NVC)
<i>Nitella gracilis</i>	A		

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Flowering plants	Habitat (NVC)
<i>Silene gallica</i>	OV		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	20	7	5	15	6	12	11	1	3	6	1	27	22	
Bryophytes	9	7	5	4			2					13	9	
Charophytes							1							
Total	29	13	10	19	6	12	13	1	3	6	1	40	31	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		9	18	95				113
Bryophytes		1	5	35				40
Charophytes			1					1
Total		10	24	130				154

KEY:	<i>INTERNATIONAL DESIGNATION</i>	<i>Red List</i>
	Schedule 8 = ⁸	<i>Lower risk</i>
	Data Deficient = _{DD}	GB endemic = E
	English endemic = EE	GB Introduction = I
	NA Introduction = I _{NA}	

BOTANICAL PROFILE:
67. GREATER THAMES ESTUARY

Vascular plant significance: SIGNIFICANT
Bryophyte significance: NOTABLE

General botanical character: The maritime habitats represented here include saltmarsh, sand dune, shingle and sandy beaches and soft cliffs. Inland, grazing marsh and some associated dry grassland both hold significant botanical interest. *Tordylium maximum* and *Atriplex pendunculata* have both been recorded from the estuary.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Alopecurus bulbosus</i>	MG	<i>Parapholis incurva</i>	SD/O
<i>Apera spica-venti</i>	OV	<i>Peucedanum officinale</i>	O
<i>Atriplex pedunculata</i> ⁸	SM	<i>Poa bulbosa</i>	U
<i>Bupleurum tenuissimum</i>	MG/O	<i>Polypogon monspeliensis</i>	SM/O
<i>Carex divisa</i>	MG	<i>Puccinellia fasciculata</i>	SM/O
<i>Chenopodium chenopodiodes</i>	MG/O	<i>Puccinellia rupestris</i>	SM/O
<i>Clinopodium calamintha</i>	U/OV	<i>Pyrola rotundifolia ssp. rotundifolia</i>	SD/W
<i>Cyperus longus</i>	MG	<i>Ruppia cirrhosa</i>	A
<i>Dianthus armeria</i>	U	<i>Salicornia pusilla</i>	SM
<i>Epipactis phyllanthes</i>	W	<i>Sarcocornia perennis</i>	SM
<i>Frankenia laevis</i>	SM	<i>Scandix pecten-veneris</i>	OV
<i>Hippophae rhamnoides</i>	SD	<i>Sonchus palustris</i>	S
<i>Hordeum marinum</i>	OV/O	<i>Spartina maritima</i>	SM
<i>Inula crithmoides</i>	SM	<i>Suaeda vera</i>	SM
<i>Lactuca saligna</i> ⁸	O	<i>I_{NA} Tilia platyphyllos</i>	W
<i>Lathyrus aphaca</i>	MG/O	<i>Tordylium maximum</i>	MG/W
<i>Lathyrus japonicus</i>	SD	<i>Trifolium glomeratum</i>	U
<i>Lepidium latifolium</i>	SD	<i>Trifolium squamosum</i>	MG/O
<i>Limonium binervosum ssp. saxonicum</i>	SM	<i>Vicia bithynica</i>	MC
<i>Limonium humile</i>	SM	<i>Vicia parviflora</i>	OV
<i>Lotus angustissimus</i>	U	<i>Vulpia fasciculata</i>	SD
<i>I_{NA} Marrubium vulgare</i>	MC	<i>Zostera marina</i>	O
<i>Medicago minima</i>	U	<i>Zostera noltii</i>	O
<i>Medicago sativa ssp. falcata</i>	U		
<i>I_{NA} Nymphoides peltata</i>	A		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Bryum donianum</i>	O	<i>Phascum cuspidatum var. piliferum</i>	OV
<i>Bryum knowltonii</i>	SD		
<i>Henediella macrophylla</i>	OV		

EXTINCT AND/OR DECLINING SPECIES

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KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	4			8		7	2	1	6	12	2	5	13	
Bryophytes									1			2	1	
Charophytes														
Total	4			8		7	2	1	7	12	2	7	14	

SUMMARY OF INTEREST

	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		2	4	45				47
Bryophytes			1	3				4
Charophytes								
Total		2	5	48				51

KEY:**INTERNATIONAL DESIGNATION**Schedule 8 = ⁸Data Deficient = ^{DD}

English endemic = EE

NA Introduction = I_{NA}**Red List**

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
68. NORTH KENT PLAIN

Vascular plant significance: SIGNIFICANT
Bryophyte significance: SOME

General botanical character: Ancient oak and ash woods are floristically rich in this area, as are a number of habitats at the coast - coastal grasslands, hard chalk cliffs, soft eroding cliffs, sand dunes, saltmarshes and grazing marshes. Species of note include *Lactuca saligna*, *Orchis simia* and *Eryngium campestre*. There is some uncertainty about the presence of *Cerastium brachypetalum* in this NA.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aceras anthropophorum</i>	CG/W	<i>Lactuca saligna</i> ⁸	O
<i>Adonis annua</i>	OV	<i>Lepidium latifolium</i>	O
<i>Alopecurus bulbosus</i>	MG	<i>Lotus angustissimus</i>	MC
<i>Althaea officinalis</i>	O	<i>Medicago minima</i>	MC
I _{NA} <i>Anisantha madritensis</i>	MC	<i>Myriophyllum verticillatum</i>	A
<i>Apera spica-venti</i>	OV	I _{NA} <i>Nymphoides peltata</i>	A
<i>Brassica oleracea</i>	MC	<i>Ophrys sphegodes</i> ⁸	CG
<i>Carex divisa</i>	MG	<i>Orchis simia</i> ⁸	CG/W
<i>Centaurea calcitrapa</i>	MG	<i>Parapholis incurva</i>	SD/O
<i>Cerastium brachypetalum</i>	O	<i>Peucedanum officinale</i>	O
<i>Cerastium pumilum</i>	CG	<i>Polypogon monspeliensis</i>	MG
<i>Dianthus armeria</i>	U	<i>Potamogeton acutifolius</i>	A
<i>Epipactis leptochila</i>	W	<i>Potamogeton coloratus</i>	A
I _{NA} <i>Erodium moschatum</i>	O	<i>Potamogeton trichoides</i>	A
<i>Eryngium campestre</i> ⁸	MG/U	<i>Salvia pratensis</i> ⁸	CG/MG
<i>Fumaria densiflora</i>	OV	I _{NA} <i>Tilia platyphyllos</i>	W
<i>Helleborus foetidus</i>	W	<i>Verbascum lychnitis</i>	O
<i>Himantoglossum hircinum</i> ⁸	MG/W	<i>Vulpia unilateralis</i>	OV
<i>Inula crithmoides</i>	MC		
<i>Juncus acutus</i>	SD		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Atrichum angustatum</i>	OV	<i>Sphaerocarpos michelii</i>	OV

EXTINCT AND/OR DECLINING SPECIES

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KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	6			7	5	2	5		2		5	4	8	
Bryophytes												2		
Charophytes														
Total	6			7	5	2	5		2		5	6	8	

SUMMARY OF INTEREST

	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		5	9	29				38
Bryophytes			1	1				2
Charophytes								
Total		5	10	30				40

KEY:***INTERNATIONAL DESIGNATION***Schedule 8 = ⁸Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}***Red List****Lower risk*

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
69. NORTH DOWNS

Vascular plant significance: OUTSTANDING
Bryophyte significance: NOTABLE

General botanical character: The chalk grasslands here are notable for their orchids, including *Ophrys fuciflora*, and for other calcareous species such as *Salvia pratensis* and *Gentianella anglica*. Yew and Box (this is one of the few localities where *Buxus sempervirens* is native) are often important constituents of the area's woodland, much of which is found on the ridges of the Downs, sometimes adjacent to a chalky scrub. The area also has areas of acid heath where flinty clays have overlain the chalk.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aceras anthropophorum</i>	CG/W	<i>Herminium monorchis</i>	CG
<i>Adonis annua</i>	OV	<i>Himantoglossum hircinum</i> ⁸	MG/W
<i>Ajuga chamaeptys</i> ⁸	OV	<i>Hippophae rhamnoides</i>	SD
<i>Althaea hirsuta</i> ⁸	OV	<i>Hordelymus europaeus</i>	W
I _{NA} <i>Apera interrupta</i>	OV	<i>Hypochaeris glabra</i>	U
<i>Apera spica-venti</i>	OV	<i>Iberis amara</i>	CG/OV
<i>Brassica oleracea</i> var. <i>oleracea</i>	MC	<i>Inula crithmoides</i>	MC
<i>Bromopsis benekenii</i>	W	I _{NA} <i>Lavatera cretica</i>	O
<i>Buxus sempervirens</i>	CG/W	<i>Lathyrus aphaca</i>	MG/O
<i>Cardamine bulbifera</i>	W	<i>Lathyrus japonicus</i>	SD
<i>Cardamine impatiens</i>	W/O	<i>Linum perenne</i>	CG
<i>Carex divisa</i>	MG	I _{NA} <i>Lonicera xylosteum</i>	CG
<i>Carex ericetorum</i>	CG	<i>Lotus angustissimus</i>	MC
<i>Cephalanthera longifolia</i>	W	I _{NA} <i>Meconopsis cambrica</i>	MC
<i>Cerastium brachypetalum</i>	O	<i>Minuartia hybrida</i>	CG
<i>Cerastium pumilum</i>	CG	I _{NA} <i>Nymphoides peltata</i>	A
<i>Chamaemelum nobile</i>	MG	<i>Ophrys fuciflora</i> ⁸	CG
<i>Cuscuta europaea</i>	MG/O	<i>Ophrys sphegodes</i> ⁸	CG
<i>Cynoglossum germanicum</i> ⁸	W	<i>Orchis purpurea</i>	W
I _{NA} <i>Cyperus longus</i>	MG	<i>Orchis ustulata</i>	CG
<i>Damasonium alisma</i> ⁸	OV/A	<i>Orobanche artemisiae-</i>	CG
<i>Daphne mezereum</i>	W	<i>campestris</i> ⁸	
<i>Dianthus armeria</i>	U	<i>Orobanche caryophyllacea</i> ⁸	MG
I _{NA} <i>Draba muralis</i>	O	<i>Orobanche purpurea</i>	W/O
<i>Epipactis leptochila</i> var. <i>leptochila</i>	W	<i>Phyteuma orbiculare</i>	CG
<i>Epipactis phyllanthes</i>	W	<i>Pilularia globulifera</i>	OV/A
<i>Eryngium campestre</i> ⁸	MG/U	<i>Polygala amarella</i>	CG
<i>Euphorbia platyphyllos</i>	OV	<i>Potamogeton trichoides</i>	A
<i>Euphrasia pseudokernerii</i>	CG	<i>Rhinanthus angustifolius</i>	OV/CG
<i>Fallopia dumetorum</i>	W	<i>Salvia pratensis</i> ⁸	CG/MG
<i>Filago lutescens</i> ⁸	OV	<i>Scandix pecten-veneris</i>	OV
<i>Filago pyramidata</i> ⁸	OV	I _{NA} <i>Sedum forsterianum</i>	O
<i>Frankenia laevis</i>	SM	<i>Silene nutans</i>	CG/OV
I _{NA} <i>Fritillaria meleagris</i>	MG	<i>Teucrium botrys</i> ⁸	OV
<i>Fumaria densiflora</i>	OV	<i>Thesium humifusum</i>	CG
<i>Fumaria parviflora</i>	OV	I _{NA} <i>Tilia platyphyllos</i>	W
<i>Fumaria vaillantii</i>	OV	<i>Torilis arvensis</i>	OV
<i>Galeopsis angustifolia</i>	OV	<i>Trifolium glomeratum</i>	U/O
<i>Galium parisiense</i>	OV	<i>Trifolium ochroleucon</i>	CG
<i>Galium pumilum</i>	CG	<i>Verbascum lychnitis</i>	O
GENTIANELLA ANGLICA ⁸	CG	I _{NA} <i>Verbascum virgatum</i>	O
<i>Helleborus foetidus</i>	W	<i>Vulpia unilateralis</i>	OV/O

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Aloina aloides</i> var. <i>ambigua</i>	O	<i>Lophozia perssonii</i>	OV
<i>Aloina brevirostris</i>	CG	<i>Phascum floerkeanum</i>	OV
<i>Anthoceros agrestis</i>	OV	<i>Pleurochaete squarrosa</i>	CG
<i>Atrichum angustatum</i>	W	<i>Pottia bryoides</i>	OV
<i>Atrichum tenellum</i>	OV/O	<i>Rhynchostegiella tenella</i> var. <i>litorea</i>	O
<i>Brachythecium mildeanum</i>	MG	<i>Seligeria calcarea</i>	O
<i>Campylium calcareum</i>	O	<i>Thuidium abietinum</i> ssp. <i>abietinum</i>	CG
<i>Campylium polygamum</i>	MC/CG	<i>Thuidium abietinum</i> ssp. <i>hystricosum</i>	CG
<i>Campylopus subulatus</i>	O	<i>Tortella inclinata</i>	CG
<i>Didymodon acutus</i>	OV	<i>Tortella inflexa</i>	O
<i>Didymodon nicholsonii</i>	O	<i>Weissia condensa</i>	CG/O
<i>Diplophyllum obtusifolium</i>	O	<i>Weissia controversa</i> var. <i>crispa</i>	CG
<i>Ephemerum recurvifolium</i>	OV	<i>Weissia longifolia</i> var. <i>longifolia</i>	CG
<i>Eurhynchium schleicheri</i>	W	<i>Weissia sterilis</i>	CG
<i>Eurhynchium striatulum</i>	O		
<i>Henediella macrophylla</i>	OV		
<i>Herzogiella seligeri</i>	W		
<i>Leptodon smithii</i>	O		

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)	Flowering plants	Habitat (NVC)
<i>Hypochaeris glabra</i>	U		
<i>Trifolium ochroleucon</i>	CG		

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	17			9	23	4	3		2	1	4	22	12	
Bryophytes	3			1	10						1	8	12	
Charophytes														
Total	20			10	33	4	3		2	1	5	30	24	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species
Vascular plants	1	15	21	62				83
Bryophytes			1	31				32
Charophytes								
Total	1	15	22	93				115

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
70. WEALDEN GREENSAND

Vascular plant significance: SIGNIFICANT
Bryophyte significance: NOTABLE

General botanical character: Large areas of both wet and dry lowland heath remain in this NA which also contains valuable wetlands and ancient broadleaved woodland and parkland. This NA once held the only known GB locality for *Lophozia herzogiana*, an introduction, but this has sadly been lost.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aconitum napellus</i>	W	<i>Leersia oryzoides</i>	MG/O
<i>Ajuga chamaepitys</i> ⁸	OV	<i>Lepidium latifolium</i>	O
<i>Apera spica-venti</i>	OV	<i>Lonicera xylosteum</i>	CG
<i>Arabis glabra</i>	U	<i>Lotus angustissimus</i>	MC
<i>Arum italicum ssp. neglectum</i>	W	<i>Lotus subbiflorus</i>	MC
<i>Buxus sempervirens</i>	CG/W	<i>Lycopodiella inundata</i>	M
<i>Callitriche truncata</i>	A	<i>I_{NA} Meconopsis cambrica</i>	O
<i>Campanula patula</i>	W	<i>I_{NA} Medicago minima</i>	U
<i>Cardamine bulbifera</i>	W	<i>I_{NA} Medicago polymorpha</i>	O
<i>Cardamine impatiens</i>	W/O	<i>Myriophyllum verticillatum</i>	A
<i>Carex depauperata</i> ⁸	W	<i>I_{NA} Nymphoides peltata</i>	A
<i>Carex divisa</i>	MG	<i>Oenanthe silaifolia</i>	MG
<i>Carex vulpina</i>	W/O	<i>Ophrys fuciflora</i> ⁸	CG
<i>Cephalanthera longifolia</i>	W	<i>Orchis ustulata</i>	CG
<i>Chamaemelum nobile</i>	MG	<i>I_{NA} Orobanche alba</i>	O
<i>Cicuta virosa</i>	S/M	<i>Persicaria laxiflora</i>	OV
<i>Crassula tillaea</i>	U	<i>Phyteuma orbiculare</i>	CG
<i>Cuscuta europaea</i>	MG/O	<i>Poa bulbosa</i>	U
<i>I_{NA} Cyperus longus</i>	MG	<i>I_{NA} Polycarpon tetraphyllum</i>	OV
<i>Daphne mezereum</i>	W	<i>Potamogeton acutifolius</i>	A
<i>Deschampsia setacea</i>	M	<i>Potamogeton trichoides</i>	A
<i>Dianthus deltoides</i>	U	<i>I_{NA} Pulmonaria longifolia</i>	A
<i>I_{NA} Draba muralis</i>	OV/O	<i>Rhynchospora fusca</i>	M
<i>Elatine hexandra</i>	A	<i>Salvia pratensis</i> ⁸	MG/CG
<i>Epipactis phyllanthes</i>	W	<i>Scandix pecten-veneris</i>	OV
<i>Euphorbia platyphyllos</i>	OV	<i>I_{NA} Sedum forsterianum</i>	O
<i>Fallopia dumetorum</i>	W	<i>Sium latifolium</i>	S/M
<i>Filago lutescens</i> ⁸	OV	<i>Sonchus palustris</i>	S
<i>Fritillaria meleagris</i>	MG	<i>I_{NA} Stratiotes aloides</i>	A
<i>Fumaria densiflora</i>	OV	<i>Thelypteris palustris</i>	M
<i>Fumaria vaillantii</i>	OV	<i>Thesium humifusum</i>	CG
<i>Galeopsis angustifolia</i>	OV	<i>Filia platyphyllos</i>	W
<i>Galium pumilum</i>	CG	<i>Torilis arvensis</i>	OV
<i>Helleborus foetidus</i>	W	<i>Verbascum lychnitis</i>	O
<i>Herminium monorchis</i>	CG	<i>I_{NA} Vicia lutea</i>	O
<i>Hordelymus europaeus</i>	W	<i>Vulpia ciliata ssp. ambigua</i>	CG/U
<i>Hypochaeris glabra</i>	U	<i>Vulpia unilateralis</i>	OV/O
<i>I_{NA} Iberis amara</i>	O		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Anthoceros agrestis</i>	OV	<i>Phaeoceros laevis ssp. carolinianus</i>	OV
<i>Atrichum angustatum</i>	OV	<i>Plagiothecium ruthei</i>	W
<i>Brachydontium trichodes</i>	O	<i>Pohlia filum</i>	O
<i>Bryum donianum</i>	O	<i>Pohlia lescuriana</i>	O
<i>Campylopus pyriformis var. azoricus</i>	M	<i>Pottia bryoides</i>	OV
<i>Campylostelium saxicola</i>	O	<i>Racomitrium elongatum</i>	U/H
<i>Cephaloziella spinigera</i>	M	<i>Rhynchostegiella curviseta</i>	O
<i>Cladopodiella francisci</i>	M	<i>Riccardia incurvata</i>	M
<i>Cryptothallus mirabilis</i>	M/O	<i>Riccia cavernosa</i>	OV
<i>Dicranum flagellare</i>	W	<i>Riccia subbifurca</i>	OV
<i>Dicranum polysetum</i>	H/W	<i>Schistostega pennata</i>	O
<i>Dicranum spurium</i>	M	<i>Seligeria donniana</i>	O
<i>Didymodon nicholsonii</i>	O	<i>Sphaerocarpos texanus</i>	OV
<i>Diplophyllum obtusifolium</i>	O	<i>Sphagnum flexuosum</i>	MG/W
<i>Eurhynchium schleicheri</i>	W	<i>Targionia hypophylla</i>	O
<i>Grimmia orbicularis</i>	O	<i>Thuidium abietinum ssp. abietinum</i>	CG
<i>Herzogiella seligeri</i>	W	<i>Thuidium abietinum ssp. hystricosum</i>	CG
<i>Hypnum imponens</i>	M	<i>Tortella inflexa</i>	O
<i>Kurzia sylvatica</i>	M		
<i>Leptodon smithii</i>	O		
<i>Leucobryum juniperoideum</i>	H/W		
<i>Lophozia capitata</i>	O		
<i>Nardia geoscyphus</i>	H		

Charophytes	Habitat (NVC)	Charophytes	Habitat (NVC)
<i>Tolypella prolifera</i>	A		

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Carex depauperata</i> ⁸	W		
<i>Fritillaria meleagris</i>	MG		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	15	5		8	10	7	8	3			2	13	14	
Bryophytes	7	8	3	1	2	1						7	16	
Charophytes							1							
Total	22	13	3	9	12	8	9	3			2	20	30	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		5	10	65				75
Bryophytes			3	38				41
Charophytes			1					1
Total		5	14	103				117

KEY:	<i>INTERNATIONAL DESIGNATION</i>	<i>Red List</i>
	Schedule 8 = ^s	Lower risk
	Data Deficient = _{DD}	GB endemic = E
	English endemic = EE	GB Introduction = I
	NA Introduction = I _{NA}	

BOTANICAL PROFILE:
71. ROMNEY MARSHES

Vascular plant significance: SIGNIFICANT
Bryophyte significance: SOME

General botanical character: The important habitats here are maritime eg saltmarsh, sand dune and shingle areas. *Petrophagia nanteuilii*, listed below, may not be present here. *Antitrichia curtispindula*, typically an epiphyte, has disappeared over most of southern England but occurs on shingle at Dungeness.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Althaea officinalis</i>	MG/O	<i>I_{NA} Nymphoides peltata</i>	A
<i>I_{NA} Anisantha madritensis</i>	OV	<i>Ophrys sphegodes</i> ⁸	SD
<i>Bupleurum tenuissimum</i>	MG/SM	<i>Orobanche rapum-genistae</i>	U
<i>Carex divisa</i>	MG	<i>Parapholis incurva</i>	MC/SD
<i>Chenopodium chenopodioides</i>	MG/O	<i>Poa bulbosa</i>	SD
<i>Crepis foetida</i> ⁸	SD	<i>Polypogon monspeliensis</i>	MG/O
<i>Dianthus deltoides</i>	U	<i>Potamogeton acutifolius</i>	A
<i>Euphorbia platyphyllos</i>	OV	<i>Potamogeton trichoides</i>	A
<i>Festuca arenaria</i>	SD	<i>Puccinellia fasciculata</i>	SM/O
<i>Frankenia laevis</i>	SM	<i>Puccinellia rupestris</i>	SM/O
<i>Galeopsis angustifolia</i>	OV	<i>Salicornia pusilla</i>	SM
<i>Himantoglossum hircinum</i> ⁸	SD/W	<i>Scandix pecten-veneris</i>	OV
<i>Hippophae rhamnoides</i>	SD	<i>Silene nutans</i>	SD
<i>Hordeum marinum</i>	SM/O	<i>Sium latifolium</i>	S/M
<i>Hypochaeris glabra</i>	U	<i>I_{NA} Stratiotes aloides</i>	A
<i>Lactuca saligna</i> ⁸	O	<i>Trifolium glomeratum</i>	MC/SD
<i>Lathyrus japonicus</i>	SD	<i>Trifolium suffocatum</i>	SD
<i>Marrubium vulgare</i>	MC	<i>Verbascum lychnitis</i>	O
<i>Medicago minima</i>	SD	<i>Vicia lutea</i>	SD
<i>Medicago polymorpha</i>	SD	<i>Vulpia fasciculata</i>	SD
<i>I_{NA} Medicago sativa ssp. falcata</i>	SD	<i>Vulpia ciliata ssp. ambigua</i>	OV
<i>Myriophyllum verticillatum</i>	A	<i>Wolffia arrhiza</i>	A

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Phascum cuspidatum var. piliferum</i>	OV		

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)		
<i>Vulpia fasciculata</i>	SD		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	2	1		5		3	6	1	16	6	3	5	8	
Bryophytes												1		
Charophytes														
Total	2	1		5		3	6	1	16	6	3	6	8	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		4	4	40				44
Bryophytes				1				1
Charophytes								
Total		4	4	41				45

KEY:	INTERNATIONAL DESIGNATION	Red List
	Schedule 8 = ⁸	Lower risk
	Data Deficient = ^{DD}	GB endemic = E
	English endemic = EE	GB Introduction = I
	NA Introduction = ^I _{NA}	

BOTANICAL PROFILE:
72. HIGH WEALD

Vascular plant significance: SIGNIFICANT
Bryophyte significance: CONSIDERABLE

General botanical character With its ghyll woodlands and discrete sandrock exposures this NA is particularly important for the many species, particularly bryophytes (especially liverworts), that are essentially western plants in Britain, many being Atlantic species. This NA represents an outlier for this group of plants, which whilst not nationally notable, are very rare in south eastern England. The number of species is large but includes *Saccogyna viticulosa*, *Scapania gracilis*, *Scapania umbrosa*, *Harpanthus scutatus*, *Bazzania trilobata*, *Metzgeria conjugata*, *Tetrodontium brownianum*, *Barbilophozia attenuata*, *Barbilophozia floerkii*, *Dicranum scottianum* and *Nardia compressa*. Fairlight Glen is a classic locality for *Dumortiera hirsuta*, *Fissidens rivularis* and *Tortula freibergii*. Amongst vascular plants with essentially a western distribution in Britain are *Sibthorpia europaea*, *Hymenophyllum tunbridgense*, *Oreopteris limbosperma*, *Dryopteris aemula* and *Wahlenbergia hederacea*. The NA is also one of the few localities in Britain for *Phyteuma spicatum*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aceras anthropophorum</i>	W	<i>Lycopodiella inundata</i>	M
I _{NA} <i>Adiantum capillus-veneris</i>	O	<i>Melittis melissophyllum</i>	W
<i>Apera spica-venti</i>	OV	<i>Mentha pulegium</i>⁸	OV
<i>Cardamine bulbifera</i>	W	<i>Myriophyllum verticillatum</i>	A
<i>Carex elongata</i>	W/O	I _{NA} <i>Nymphoides peltata</i>	A
<i>Carex montana</i>	W	<i>Oenanthe silaifolia</i>	MG
<i>Carex vulpina</i>	W/O	<i>Orobanche rapum-genistae</i>	H/W
<i>Chamaemelum nobile</i>	MG	<i>Parapholis incurva</i>	O
<i>Cicendia filiformis</i>	U/H	<i>Peucedanum palustre</i>	M
<i>Clinopodium calamintha</i>	U/OV	<i>Phyteuma spicatum</i>⁸	W
I _{NA} <i>Cyperus longus</i>	MG	<i>Potamogeton acutifolius</i>	A
<i>Elatine hexandra</i>	A	<i>Scandix pecten-veneris</i>	OV
<i>Euphorbia platyphyllos</i>	OV	<i>Sibthorpia europaea</i>	O
<i>Fumaria densiflora</i>	OV	<i>Thelypteris palustris</i>	M
<i>Galeopsis angustifolia</i>	OV	<i>Tilia platyphyllos</i>	W
<i>Genista pilosa</i>	H	<i>Trifolium glomeratum</i>	U
<i>Gentiana pneumonanthe</i>	M	<i>Verbascum lychnitis</i>	O
I _{NA} <i>Illecebrum verticillatum</i>	OV	<i>Viola lactea</i>	H
I _{NA} <i>Impatiens noli-tangere</i>	W		
<i>Lobelia urens</i>	H		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Anthoceros agrestis</i>	OV	<i>Orthodontium gracile</i>	O
<i>Atrichum angustatum</i>	OV	<i>Pallavicinia lyellii</i>	W
<i>Atrichum tenellum</i>	OV	<i>Plagiothecium ruthei</i>	W
<i>Brachythecium salebrosum</i>	W	<i>Riccardia incurvata</i>	M
<i>Calypogeia integristipula</i>	O	<i>Riccia canaliculata</i>	A
<i>Cololejeunea minutissima</i>	O	<i>Riccia cavernosa</i>	OV
<i>Cryptothallus mirabilis</i>	M/O	<i>Riccia huebeneriana</i>	OV
<i>Dumortiera hirsuta</i>	W/O	<i>Ricciocarpos natans</i>	A
<i>Fissidens exiguus</i>	A	<i>Scapania curta</i>	O
<i>Fissidens rivularis</i>	A	<i>Tortula freibergii</i>	O
<i>Kurzia sylvatica</i>	H/W	<i>Trichostomopsis umbrosa</i>	O
<i>Lophozia longiflora</i>	W		

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Genista pilosa</i>	H	<i>Jamesoniella autumnalis</i>	W
<i>Viola lactea</i>	H		

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	10	4	5	3		3	4					8	6	
Bryophytes	6	2	1				4					5	8	
Charophytes														
Total	16	6	6	3		3	8					13	14	

SUMMARY OF INTEREST								
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		2	5	33				38
Bryophytes			5	18				23
Charophytes								
Total		2	10	51				61

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ^s

Data Deficient = _{DD}

English endemic = EE

NA Introduction = _{NA}I

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
73. LOW WEALD

Vascular plant significance: SIGNIFICANT
Bryophyte significance: NOTABLE

General botanical character: A gently undulating landscape, with a predominantly agricultural land use, with occasional stream valleys, ridges and plateaux. These are bisected by rivers including the Wey, Mole, Arun, Adur, Ouse, Eden, Medway, Teive and Beult. Some meadows remain relatively unimproved for agriculture and support orchids. On Pevensey Levels a pattern of summer grazing and winter flooding was maintained for centuries supporting wildlife associated with wet fields and ditches such as *Ranunculus tripartitus* and *Stratoides aloides*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aceras anthropophorum</i>	CG/MG	<i>Medicago polymorpha</i>	O
<i>Apera spica-venti</i>	OV	<i>Mentha pulegium</i> ⁸	OV
<i>Bromopsis benekenii</i>	W	<i>Myriophyllum verticillatum</i>	A
<i>Cardamine bulbifera</i>	W	I _{NA} <i>Nymphoides peltata</i>	A
<i>Cardamine impatiens</i>	W/O	<i>Oenanthe silaifolia</i>	MG
<i>Carex divisa</i>	MG	<i>Orchis ustulata</i>	CG
<i>Carex elongata</i>	W/O	<i>Orobanche rapum-genistae</i>	H/W
<i>Carex montana</i>	U	<i>Phyteuma orbiculare</i>	CG
<i>Carex vulpina</i>	W/O	<i>Pilularia globulifera</i>	OV/A
<i>Chamaemelum nobile</i>	MG	<i>Potamogeton acutifolius</i>	A
<i>Cuscuta europaea</i>	MG/O	<i>Potamogeton trichoides</i>	A
I _{NA} <i>Cyperus longus</i>	MG	<i>Ranunculus tripartitus</i>	O
<i>Daphne mezereum</i>	W	<i>Ruppia cirrhosa</i>	A
<i>Elatine hexandra</i>	A	<i>Scandix pecten-veneris</i>	OV
<i>Euphorbia platyphyllos</i>	OV	<i>Sibthorpia europaea</i>	O
<i>Galeopsis angustifolia</i>	OV	<i>Sium latifolium</i>	S/M
<i>Genista pilosa</i>	H	I _{NA} <i>Stratiotes aloides</i>	A
<i>Gentiana pneumonanthe</i>	M	<i>Thesium humifusum</i>	CG
<i>Helleborus foetidus</i>	W	<i>Tilia platyphyllos</i>	W
<i>Herminium monorchis</i>	CG	<i>Trifolium squamosum</i>	MG/O
<i>Lathyrus aphaca</i>	CG/O	<i>Vicia lutea</i>	H
<i>Leersia oryzoides</i>	MG/O		
I _{NA} <i>Meconopsis cambrica</i>	O		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Anthoceros agrestis</i>	OV	<i>Ephemerum serratum</i> var.	OV
<i>Brachythecium mildeanum</i>	MG	<i>serratum</i>	
<i>Brachythecium salebrosum</i>	W	<i>Fossombronia caespitifformis</i>	OV/O
<i>Bryum creberrimum</i>	O	<i>Fossombronia foveolata</i>	OV/O
<i>Bryum dunense</i>	O	<i>Herzogiella seligeri</i>	W
<i>Bryum pseudotriquetrum</i> var.	M	<i>Lophozia capitata</i>	O
<i>bimum</i>		<i>Platygyrium repens</i>	W
<i>Cephaloziella turneri</i>	O	<i>Pterygoneurum ovatum</i>	OV/CG
<i>Dicranum flagellare</i>	W	<i>Ricciocarpos natans</i>	A
<i>Didymodon nicholsonii</i>	O	<i>Scorpiurium circinatum</i>	O
<i>Ditrichum pusillum</i>	OV	<i>Weissia squarrosa</i>	CG/O

EXTINCT AND/OR DECLINING SPECIES

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KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	9	2	3	8	6	1	8	1				6	11	
Bryophytes	4	1		1	2		1					6	9	
Charophytes														
Total	13	3	3	9	8	1	9	1				12	20	

SUMMARY OF INTEREST

	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		1	5	39				44
Bryophytes			2	18				20
Charophytes								
Total		1	7	57				64

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 =⁸

Data Deficient = ^{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
74. SOUTH DOWNS

Vascular plant significance: OUTSTANDING
Bryophyte significance: SIGNIFICANT

General botanical character This NA is characterised by a chalk ridge that supports many notable plants, and the coastal habitats around Beachy Head. The only known extant locality in Britain for *Bupleurum baldense* occurs on sand dunes here. The chalk downland is especially noted for the lower plant interest. A restricted bryophyte community, *Scapanietum asperae*, occurs on a number of north facing sites, and is characterised by *Scapania aspera*, *Frullania tamarisci*, *Porella arboris-vitae* and *Tortella tortuosa*. *Racomitrium lanuginosum* and *Antitrichia curtipendula* occur in turf at a few sites also. *Ruscus aculeatus*, a plant listed under the EC Habitats & Species Directive, is not uncommon in this NA.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aceras anthropophorum</i>	CG/MG	<i>Lycopodiella inundata</i>	M/O
<i>Adonis annua</i>	OV	<i>Marrubium vulgare</i>	O
<i>Alopecurus bulbosus</i>	MG	<i>Matthiola incana</i>	MC
<i>Althaea hirsuta</i> ⁸	OV	<i>Medicago polymorpha</i>	SD
<i>Althaea officinalis</i>	MG/O	<i>Minuartia hybrida</i>	CG
<i>Arum italicum</i> ssp. <i>neglectum</i>	W	<i>Oenanthe silaifolia</i>	MG
<i>Bupleurum baldense</i> ⁸	SD	<i>Ophrys sphegodes</i>	CG
<i>Bupleurum tenuissimum</i>	MG/SM	<i>Orchis purpurea</i>	W
<i>Buxus sempervirens</i>	CG/W	<i>Orchis ustulata</i>	CG
<i>Carex divisa</i>	MG	<i>Orobanche artemisiae</i>	CG
<i>Carex ericetorum</i>	CG	<i>campestris</i> ⁸	
<i>Centaurea calcitrapa</i>	CG	<i>Orobanche hederæ</i>	W/O
<i>Cephalanthera longifolia</i>	W	<i>Parapholis incurva</i>	SD
<i>Chamaemelum nobile</i>	MG	<i>Phyteuma orbiculare</i>	CG
I _{NA} <i>Draba muralis</i>	O	<i>Phyteuma spicatum</i> ⁸	W
<i>Epipactis phyllanthes</i>	W	<i>Poa bulbosa</i>	U
<i>Euphorbia platyphyllos</i>	OV	<i>Polygonum maritimum</i> ⁸	SD
<i>Euphrasia pseudokernerii</i>	CG	<i>Potamogeton acutifolius</i> ⁸	A
<i>Frankenia laevis</i>	SM	<i>Potamogeton trichoides</i>	A
<i>Fumaria densiflora</i>	OV	<i>Puccinellia rupestris</i>	OV
<i>Fumaria vaillantii</i>	OV	<i>Pulsatilla vulgaris</i>	CG
<i>Galeopsis angustifolia</i>	OV	<i>Salicornia pusilla</i>	SM
GENTIANELLA ANGLICA ⁸	CG	<i>Salvia pratensis</i> ⁸	CG/MG
<i>Gymnocarpium robertianum</i>	OV	<i>Scandix pecten-veneris</i>	OV
<i>Helleborus foetidus</i>	W	<i>Seseli libanotis</i>	CG
<i>Herminium monorchis</i>	CG	<i>Silene nutans</i>	OV
<i>Himantoglossum hircinum</i> ⁸	MG/W	<i>Sium latifolium</i>	S/M
I _{NA} <i>Hippophae rhamnoides</i>	SD	<i>Tephrosia integrifolia</i> ssp. <i>integrifolia</i>	CG
<i>Hordelymus europaeus</i>	W		
<i>Hordeum marinum</i>	SM/O	<i>Teucrium chamaedrys</i>	CG
<i>Lathyrus aphaca</i>	CG/O	<i>Thesium humifusum</i>	CG
<i>Lathyrus japonicus</i>	SD	<i>Tilia platyphyllos</i>	W
<i>Lepidium latifolium</i>	O	<i>Torilis arvensis</i>	OV
I _{NA} <i>Leucojum aestivum</i>	W	<i>Trifolium squamosum</i>	MG/O
<i>Lonicera xylosteum</i>	CG	<i>Verbascum lychnitis</i>	O
<i>Ludwigia palustris</i>	OV	<i>Vicia lutea</i>	H/U
		<i>Wolffia arrhiza</i>	A

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Acaulon triquetrum</i> ⁸	MC	<i>Rhynchostegiella curviseta</i>	O
<i>Bryum dunense</i>	O	<i>Rhynchostegiella tenella</i> var.	O
<i>Bryum torquescens</i>	CG	<i>litorea</i>	
<i>Cololejeunea minutissima</i>	O	<i>Rhynchostegium rotundifolium</i> ⁸	O
<i>Eurhynchium schleicheri</i>	W	<i>Riccia cavernosa</i>	OV
<i>Grimmia laevigata</i>	O	<i>Riccia subbifurca</i>	OV
<i>Hennediella macrophylla</i>	OV	<i>Thuidium abietinum</i> ssp.	CG
<i>Leptodon smithii</i>	O	<i>abietinum</i>	
<i>Phascum floerkeanum</i>	OV	<i>Tortella inflexa</i>	O
<i>Pleurochaete squarrosa</i>	CG	<i>Tortula virescens</i>	O
<i>Pottia bryoides</i>	OV	<i>Ulota coarctata</i>	O
<i>Pottia caespitosa</i>	CG/OV	<i>Weissia condensa</i>	CG/O

Charophytes	Habitat (NVC)	Charophytes	Habitat (NVC)
<i>Tolypella prolifera</i>	A		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	12	2	1	10	20	2	3	1	6	4	1	12	9	
Bryophytes	1				4						1	6	10	
Charophytes							1							
Total	13	2	1	10	24	2	4	1	6	4	2	18	19	

SUMMARY OF INTEREST								
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species
Vascular plants	1	9	12	59				71
Bryophytes		2	2	20				22
Charophytes			1					1
Total	1	11	15	79				94

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 =⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:**75. SOUTH COAST PLAIN & HAMPSHIRE
LOWLANDS****Vascular plant significance: CONSIDERABLE****Bryophyte significance: NOTABLE****Charophyte significance: SOME**

General botanical character The botanical interest of this NA is influenced by its proximity to the English Channel with such features as estuaries, lagoons, shingle, salt marsh and grazing marsh. *Geranium purpureum* ssp. *forsteri* occurs in only one other NA (77) and the red-list moss *Ephemerum stellatum* is a global rarity, perhaps known from just 10 sites in the world.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Alopecurus bulbosus</i>	MG	<i>Minuartia hybrida</i>	CG
<i>Althaea hirsuta</i> ⁸	OV	<i>Myriophyllum verticillatum</i>	A
<i>Althaea officinalis</i>	MG/O	<i>I_{NA} Nymphoides peltata</i>	A
<i>I_{NA} Anisantha madritensis</i>	OV	<i>Ornithogalum pyrenaicum</i>	W
<i>Brassica oleracea</i> var. <i>oleracea</i>	MC	<i>Orobanche rapum-genistae</i>	W
<i>I_{NA} Cardamine bulbifera</i>	W	<i>Parapholis incurva</i>	MC/O
<i>Carex divisa</i>	MG	<i>Persicaria laxiflora</i>	OV
<i>Carex punctata</i>	MC/SM	<i>Petrorhagia nanteuilii</i> ⁸	SD
<i>Centaurea calcitrapa</i>	CG	<i>Phyteuma orbiculare</i>	CG
<i>Chamaemelum nobile</i>	MG	<i>Poa bulbosa</i>	U
<i>Cyperus longus</i>	MG	<i>Polypogon monspeliensis</i>	MG/O
<i>Dianthus deltoides</i>	U/CG	<i>Potamogeton coloratus</i>	A
<i>Epipactis phyllanthes</i>	W	<i>Potamogeton trichoides</i>	A
<i>Erodium moschatum</i>	MC	<i>Puccinellia fasciculata</i>	MG/O
<i>Euphorbia platyphyllos</i>	OV	<i>Puccinella rupestris</i>	MG/O
<i>Euphrasia pseudokernereri</i>	CG	<i>Ruppia cirrhosa</i>	A
<i>Filago pyramidata</i> ⁸	OV	<i>Salicornia pusilla</i>	SM
<i>Frankenia laevis</i>	SM	<i>Sarcocornia perennis</i>	SM
<i>Galeopsis angustifolia</i>	OV	<i>Silene conica</i>	OV
<i>GENTIANELLA ANGLICA</i> ⁸ E	CG	<i>Silene nutans</i>	OV
<i>Geranium purpureum</i> ssp. <i>forsteri</i>	SD	<i>Spartina maritima</i>	SM
<i>Geranium purpureum</i>	SD	<i>I_{NA} Stratiotes aloides</i>	A
<i>Hordeum marinum</i>	MG/O	<i>Suaeda vera</i>	SM
<i>Hypochaeris glabra</i>	U	<i>Thelypteris palustris</i>	M/O
<i>Illecebrum verticillatum</i>	O	<i>Thesium humifusum</i>	CG
<i>Inula crithmoides</i>	SM/MC	<i>Torilis arvensis</i>	OV
<i>Juncus acutus</i>	SD/SM	<i>Trifolium squamosum</i>	MG/O
<i>Lathyrus japonicus</i>	SD	<i>Trifolium suffocatum</i>	MC/O
<i>Lepidium latifolium</i>	MG/O	<i>I_{NA} Verbascum virgatum</i>	O
<i>Leucojum aestivum</i>	W	<i>Vicia lutea</i>	MC/SD
<i>Limonium humile</i>	SM	<i>Viola lactea</i>	U/H
<i>Lotus angustissimus</i>	MC	<i>Vulpia ciliata</i> ssp. <i>ambigua</i>	OV
<i>Lythrum hyssopifolia</i> ⁸	OV	<i>Vulpia fasciculata</i>	SD
<i>Medicago polymorpha</i>	MC	<i>Zostera angustifolia</i>	O
<i>Melittis melissophyllum</i>	W	<i>Zostera marina</i>	O
		<i>Zostera noltii</i>	O

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Atrichum tenellum</i>	OV	<i>Plagiothecium ruthei</i>	W
<i>Bryum dunense</i>	O	<i>Pottia crinita</i>	MC
<i>Bryum pallescens</i>	O	<i>Rhynchostegiella curviseta</i>	O
<i>Ephemerum stellatum</i>	MC	<i>Riccia subbifurca</i>	OV
<i>Grimmia decipiens</i>	O	<i>Scorpiurium circinatum</i>	O
<i>Grimmia laevigata</i>	O	<i>Trichostomopsis umbrosa</i>	O
<i>Grimmia orbicularis</i>	O		

Charophytes	Habitat (NVC)	Charophytes	Habitat (NVC)
<i>Lamprothamnium papulosum</i> ⁸	O		

EXTINCT AND/OR DECLINING SPECIES			

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	6	1	1	11	7	4	6		7	9	9	11	15	
Bryophytes	1										2	2	8	
Charophytes													1	
Total	7	1	1	11	7	4	6		7	9	11	13	24	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants	1	5	7	64	1			71
Bryophytes			1	12				13
Charophytes				1				1
Total	1	5	8	77	1			85

KEY:	
<i>INTERNATIONAL DESIGNATION</i>	<i>Red List</i>
Schedule 8 = ⁸	<i>Lower risk</i>
Data Deficient = _{DD}	GB endemic = E
English endemic = EE	GB Introduction = I
NA Introduction = I _{NA}	

BOTANICAL PROFILE:
76. ISLE OF WIGHT

Vascular plant significance: CONSIDERABLE
Bryophyte significance: CONSIDERABLE

General botanical character This NA receives a strong maritime influence and has many notable plants associated with coastal habitats. Chalk grasslands are also a very important feature, supporting strong populations of *Gentianella anglica*. Also *Clinopodium menthifolium* has its only British locality in this NA. The bryophyte flora is also of high interest, with a Mediterranean element, including *Southbya nigrella*, known from only one other NA (82). The moss *Philonotis marchica* is locally frequent, here at its only British station.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aconitum napellus</i>	W	<i>Melampyrum arvense</i> ⁸	OV
<i>Althaea officinalis</i>	MG/O	<i>I_{NA} Nymphoides peltata</i>	A
<i>Brassica oleracea</i> var. <i>oleracea</i>	MC	<i>Oenanthe silaifolia</i>	MG
<i>Bupleurum tenuissimum</i>	MG/SM	<i>Ophrys sphegodes</i> ⁸	CG
<i>Carex divisa</i>	MG	<i>Orchis ustulata</i>	CG
<i>Cerastium pumilum</i>	CG	<i>Orobanche artemisiae-</i> <i>campestris</i> ⁸	CG
<i>Chamaemelum nobile</i>	MG	<i>Orobanche hederac</i>	W/O
<i>Clinopodium menthifolium</i> ⁸	W	<i>Orobanche purpurea</i>	W
<i>Euphorbia platyphyllos</i>	OV	<i>Orobanche rapum-genistae</i>	H/W
<i>Euphorbia portlandica</i>	MC/SD	<i>Puccinellia fasciculata</i>	MG/O
<i>Fallopia dumetorum</i>	W	<i>Pulmonaria longifolia</i>	W
<i>Frankenia laevis</i>	O	<i>Sarcocornia perennis</i>	SM
<i>Fumaria reuteri</i> ⁸	CG	<i>Scilla autumnalis</i>	MC
GENTIANELLA ANGLICA ⁸ E	O	<i>Silene nutans</i>	OV
<i>I_{NA} Hippophae rhamnoides</i>	MC/SM	<i>Spartina maritima</i>	SM
<i>Inula crithmoides</i>	SM	<i>Thelypteris palustris</i>	M/H
<i>Limonium humile</i>	SM	<i>Thesium humifusum</i>	CG
<i>Linum perenne</i>	CG	<i>Trifolium suffocatum</i>	MC/O
<i>Marrubium vulgare</i>	MC		
<i>Matthiola incana</i>	MC		
<i>Medicago polymorpha</i>	MC		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Acaulon triquetrum</i> ⁸	MC	<i>Pleurochaete squarrosa</i>	CG/MC
<i>Amblystegium compactum</i>	O	<i>Pohlia lescuriana</i>	OV/O
<i>Anthoceros agrestis</i>	OV	<i>Pottia bryoides</i>	OV
<i>Bryum canariense</i>	O	<i>Pottia commutata</i>	MC
<i>Bryum creberrimum</i>	SD/O	<i>Pottia crinita</i>	MC
<i>Bryum donianum</i>	O	<i>Pottia starkeana</i> ssp. <i>starkeana</i>	MC
<i>Bryum intermedium</i>	O	<i>Pterygoneuron ovatum</i>	CG/MC
<i>Bryum torquescens</i>	SD	<i>Rhynchostegiella curviseta</i>	O
<i>Campylium calcareum</i>	O	<i>Riccia subbifurca</i>	OV
<i>Cephaloziella baumgartneri</i>	CG	<i>Seligeria calcarea</i>	O
<i>Cephaloziella turneri</i>	O	<i>Tortella inflexa</i>	O
<i>Cololejeunea minutissima</i>	O	<i>Trichostomopsis umbrosa</i>	O
<i>Cololejeunea rosettiana</i>	O	<i>Weissia condensa</i>	CG/O
<i>Ephemerum recurvifolium</i>	OV	<i>Weissia controversa</i> var. <i>crispata</i>	CG/MC
<i>Ephemerum sessile</i>	OV	<i>Weissia microstoma</i> var. <i>brachycarpa</i>	OV/O
<i>Eurhynchium schleicheri</i>	W	<i>Weissia squarrosa</i>	OV
<i>Eurhynchium striatulum</i>	O	<i>Weissia sterilis</i>	CG/MC
<i>Herzogiella seligeri</i>	W	<i>Scorpiurium circinatum</i>	O
<i>Jungermannia caespitosa</i>	O	<i>Southbya nigrella</i> ⁸	MC
<i>Leptodontium gemmascens</i>	O		
<i>Pallavicinia lyellii</i>	O		
<i>Phascum floekeanum</i>	OV		
<i>Philonotis marchica</i>	O		

Charophytes	Habitat (NVC)	Charophytes	Habitat (NVC)
<i>Lamprothamnium papulosum</i> ⁸	O		

EXTINCT AND/OR DECLINING SPECIES			

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	7	1	2	6	7		1		1	6	8	3	6	
Bryophytes	2				6				2		8	9	21	
Charophytes													1	
Total	9	1	2	6	13		1		3	6	16	12	28	

SUMMARY OF INTEREST

	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants	1	6	6	33	1			39
Bryophytes		2	7	35				42
Charophytes				1				1
Total	1	8	13	69	1			82

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = _{NA}I

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
77. NEW FOREST

Vascular plant significance: OUTSTANDING
Bryophyte significance: CONSIDERABLE
Charophyte significance: HIGH

General botanical character This is one of the most important NAs in England for both vascular and non-vascular plants, due largely to the extensive cover of semi-natural habitat, particularly wood pasture, heath and mire, ephemeral ponds and coastal features. *Galium constrictum*, *Ludwigia palustris* and *Crassula tillaea* are better represented here than any other NA. Lawns are a distinctive feature and support much *Chamaemeleum nobile*. *Gladiolus illyricus* occurs in its only British locality. The NA is one of the few spots for *Hyocomium amoricum* in southern England, and is notable for the range overlap of *Pinguicula vulgaris* and *P lusitanica*. Atlantic bryophytes are well represented including *Plagiochila spinulosa*, *Scapania gracilis* and *Saccogyna viticulosa*. Seasonal ponds and a long history of pony grazing have created conditions ideal for early successional species such as *Cyperus fuscus*, *Illecebrum verticillatum*, *Mentha pulegium*, *Limosella aquatica* and strong colonies of *Pulicaria vulgaris* (87% of British population). Woodlands and wood pasture are important for bryophytes with such epiphytes as *Harpalejeunea ovata*, *Frullania fragilifolia*, *Cololejeunea minutissima*, and one of the few localities in Britain for *Zygodon forsteri*. Typically more northern and western ferns also occur including *Oreopteris limbosperma*, *Dryopteris aemula* and *Phegopteris connectilis*. The small population of *Gentianella anglica* is an introduction here and not a priority species in this NA.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Alopecurus bulbosus</i>	MG	<i>Lysimachia thyrsoflora</i>	M
<i>Althaea officinalis</i>	MG/O	<i>Marrubium vulgare</i>	O
<i>Bupleurum tenuissimum</i>	MG/SM	<i>Meconopsis cambrica</i>	O
<i>Carex divisa</i>	MG	<i>Medicago polymorpha</i>	SD
<i>Carex montana</i>	H/W	<i>Melittis melissophyllum</i>	W
<i>Carex punctata</i>	MC	<i>Mentha pulegium</i> ⁸	OV
<i>Chamaemelum nobile</i>	MG	<i>Nymphoides peltata</i>	A
<i>Cicendia filiformis</i>	H/U	<i>Ophioglossum azoricum</i>	MC/SD
<i>Crassula tillaea</i>	OV	<i>Orobanche rapum-genistae</i>	H/W
<i>Cyperus fuscus</i> ⁸	OV	<i>Parapholis incurva</i>	MC/O
<i>Dactylorhiza traunsteineri</i>	MG	<i>Persicaria laxiflora</i>	OV
<i>Deschampsia setacea</i>	M	<i>Pilularia globulifera</i>	OV/A
<i>Elatine hexandra</i>	A	<i>Pinus sylvestris</i>	W
<i>Eleocharis parvula</i>	O	<i>Poa bulbosa</i>	U
<i>Epipactis phyllanthes</i>	W	<i>Polygonatum odoratum</i>	W
<i>Eriophorum gracile</i> ⁸	M	<i>Polygonum maritimum</i> ⁸	SD
<i>Fallopia dumetorum</i>	W	<i>Polypogon monspeliensis</i>	MG/O
<i>Fumaria densiflora</i>	OV	<i>Puccinellia fasciculata</i>	MG/O
<i>Galeopsis angustifolia</i>	OV	<i>Puccinellia rupestris</i>	MG/O
<i>Galium constrictum</i>	OV	<i>Pulicaria vulgaris</i> ⁸	OV
<i>Gastridium ventricosum</i>	U	<i>Pulmonaria longifolia</i>	W
<i>Gentiana pneumonanthe</i>	M	<i>Rhynchospora fusca</i>	M
GENTIANELLA ANGLICA ⁸ E	O	<i>Ruppia cirrhosa</i>	A
<i>Geranium purpureum ssp. fosteri</i>	SD	<i>Salicornia pusilla</i>	SM
<i>Geranium purpureum</i>	SD	<i>Sarcocornia perennis</i>	SM
<i>Gladiolus illyricus</i> ⁸	W	<i>Scandix pecten-veneris</i>	OV
<i>Hammarbya paludosa</i>	M	<i>Silene gallica</i>	OV
<i>I_{NA} Hippophae rhamnoides</i>	O	<i>Silene nutans</i>	OV
<i>Hypochaeris glabra</i>	U/H	<i>Sonchus palustris</i>	S/M
<i>Illecebrum verticillatum</i>	O	<i>Thelypteris palustris</i>	M
<i>I_{NA} Impatiens noli-tangere</i>	W	<i>Tilia platyphyllos</i>	W
<i>Inula crithmoides</i>	MC/SM	<i>Trifolium glomeratum</i>	U
<i>Leersia orzoides</i>	O	<i>Trifolium suffocatum</i>	OV/U
<i>Leucojum aestivum</i>	W	<i>I_{NA} Verbascum virgatum</i>	O
<i>Limonium humile</i>	SM	<i>Vicia lutea</i>	MC/SD
<i>Limosella aquatica</i>	OV	<i>Viola lactea</i>	H
<i>Lobelia urens</i>	H	<i>Vulpia ciliata subsp. ambigua</i>	OV
<i>Lotus angustissimus</i>	MC	<i>Vulpia fasciculata</i>	SD
<i>Lotus subbiflorus</i>	MC	<i>Zostera marina</i>	O
<i>Ludwigia palustris</i>	A		
<i>Lycopodiella inundata</i>	M/H		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Anthoceros punctatus</i>	OV	<i>Eurhynchium striatulum</i>	O
<i>Brachythecium mildeanum</i>	MG	<i>Fossombronina foveolata</i>	OV
<i>Bryum creberrimum</i>	SD/O	<i>Herzogiella seligeri</i>	W
<i>Bryum donianum</i>	O	<i>Hypnum imponens</i>	M
<i>Bryum intermedium</i>	O	<i>Leptodon smithii</i>	O
<i>Bryum pseudotriquetrum</i> var. <i>bimum</i>	M	<i>Nardia geoscyphus</i>	H
<i>Calypogeia integristipula</i>	O	<i>Orthotrichum sprucei</i>	O
<i>Campylium elodes</i>	SD	<i>Porella pinnata</i>	A
<i>Cephalozia macrostachya</i> var. <i>macrostachya</i>	M	<i>Rhynchostegiella curviseta</i>	O
<i>Cephaloziella elachista</i>	M	<i>Riccardia incurvata</i>	M
<i>Cladopodiella francisci</i>	M	<i>Riccia cavernosa</i>	OV
<i>Cololejeunea minutissima</i>	O	<i>Riccia subbifurca</i>	OV
<i>Dicranum spurium</i>	M	<i>Scorpiurium circinatum</i>	O
<i>Didymodon nicholsonii</i>	O	<i>Sphagnum subsecundum</i>	M
<i>Drepanocladus sendtneri</i>	SD	<i>Tortula subulata</i> var. <i>subinermis</i>	O
<i>DREPANOCLADUS VERNICOSUS</i> ^{DD}	M	<i>Weissia microstoma</i> var. <i>brachycarpa</i>	OV/O
<i>Eurhynchium schleicheri</i>	W	<i>Zygodon forsteri</i> ⁸	O

Charophytes	Habitat (NVC)	Charophytes	Habitat (NVC)
<i>Lamprothamnium papulosum</i> ⁸	O	<i>Nitella gracilis</i>	A

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Leersia oryzoides</i>	O	<i>Haplomitrium hookeri</i>	O
		<i>Lophozia capitata</i>	H

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	12	9	7	9		6	5	1	7	5	7	14	14	
Bryophytes	2	9	1	1			1		3			5	14	
Charophytes							1						1	
Total	14	18	8	10		6	7	1	10	5	7	19	29	

SUMMARY OF INTEREST								
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants	1	7	10	70	1			80
Bryophytes		1	1	32			1	34
Charophytes		1	1	1				2
Total	1	9	12	103	1		1	116

KEY:	<i>INTERNATIONAL DESIGNATION</i>	<i>Red List</i>
	Schedule 8 = ⁸	<i>Lower risk</i>
	Data Deficient = _{DD}	GB endemic = E
	English endemic = EE	GB Introduction = I
	NA Introduction = I _{NA}	

BOTANICAL PROFILE:
78. HAMPSHIRE DOWNS

Vascular plant significance: SIGNIFICANT
Bryophyte significance: NOTABLE

General botanical character: Chalk grasslands, chalk streams, ancient woodlands and arable headlands are all important in this NA. Arable weed communities are strongly represented here through species such as *Ajuga chamaepitys*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aceras anthropophorum</i>	CG/W	<i>Helleborus foetidus</i>	W
<i>Adonis annua</i>	OV	<i>Herminium monorchis</i>	CG
<i>Ajuga chamaepitys</i> ⁸	OV	<i>Himantoglossum hircinum</i> ⁸	MG/W
<i>Apera spica-venti</i>	OV	<i>Lathyrus aphaca</i>	O
<i>Arum italicum ssp. neglectum</i>	W	<i>Minuartia hybrida</i>	CG
<i>Cephalanthera longifolia</i>	W	<i>Orchis ustulata</i>	CG
<i>Cerastium pumilium</i>	CG	<i>Orobanche hederac</i>	W/O
<i>Dactylorhiza traunsteineri</i>	MG	<i>Orobanche purpurea</i>	W
<i>Daphne mezereum</i>	W	<i>Phyteuma orbiculare</i>	CG
<i>Epipactis phyllanthes</i>	W	<i>Potentilla neumanniana</i>	CG
<i>Euphorbia platyphyllos</i>	OV	<i>Scandix pecten-veneris</i>	OV
<i>Euphrasia pseudokernerii</i>	CG	<i>Tephrosia integrifolia ssp. integrifolia</i>	CG
<i>Filago pyramidata</i> ⁸	OV	<i>Teucrium botrys</i> ⁸	OV
<i>Fumaria densiflora</i>	OV	<i>Thelypteris palustris</i>	M
<i>Fumaria parviflora</i>	OV	<i>Thesium humifusum</i>	CG
<i>Fumaria vaillantii</i>	OV	<i>Torilis arvensis</i>	OV
<i>Galeopsis angustifolia</i>	OV	<i>Valerianella rimosa</i>	OV
<i>Galium parisiense</i>	O	<i>Vulpia unilateralis</i>	OV
<i>Galium pumilum</i>	CG		
<i>Gentianella germanica</i>	CG		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Amblystegium humile</i>	W/MG	<i>Rhynchostegiella curviseta</i>	O
<i>Brachythecium salebrosum</i>	W	<i>Rhynchostegiella tenella var. litorea</i>	O
<i>Campylium calcareum</i>	O	<i>Riccia subbifurca</i>	OV
<i>Didymodon nicholsonii</i>	O	<i>Ricciocarpos natans</i>	A
<i>Ephemerum recurvifolium</i>	OV	<i>Seligeria calcarea</i>	O
<i>Eurhynchium schleicheri</i>	W	<i>Thuidium abietinum ssp. abietinum</i>	CG
<i>Herzogiella seligeri</i>	W	<i>Thuidium abietinum ssp. hystricosum</i>	CG
<i>Leptobarbula berica</i>	O	<i>Tortella inflexa</i>	O
<i>Leptodon smithii</i>	O	<i>Trichostomopsis umbrosa</i>	O
<i>Phascum floerkeanum</i>	OV	<i>Weissia sterilis</i>	CG
<i>Platygyrium repens</i>	W		
<i>Pottia bryoides</i>	OV		
<i>Pottia caespitosa</i>	CG		

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)		
<i>Daphne mezereum</i>	W		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	9	1		2	12							14	3	
Bryophytes	5			1	14		1					4	9	
Charophytes														
Total	14	1		3	16		1					18	12	

SUMMARY OF INTEREST								
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species
Vascular plants		4	7	31				38
Bryophytes				23				23
Charophytes								
Total		4	7	53				61

KEY:	INTERNATIONAL DESIGNATION	Red List
	Schedule 8 = ⁸	Lower risk
	Data Deficient = _{DD}	GB endemic = E
	English endemic = EE	GB Introduction = I
	NA Introduction = I _{NA}	

BOTANICAL PROFILE:
79. BERKSHIRE AND MARLBOROUGH
DOWNNS

Vascular plant significance: SIGNIFICANT
Bryophyte significance: SIGNIFICANT

General botanical character Chalk downland is the main botanical interest of this NA, with some ancient woodland. *Gentianella anglica* is locally frequent. Another important feature of the NA are sarsen stones. These are concentrated around the Marlborough area, and represent some of the few acidic rock exposures in south eastern England. They are regionally important for bryophytes (and nationally important for lichens). Amongst the notable bryophytes are *Grimmia decipiens*, *G laevigata*, *G trichophylla*, *Orthotrichum rupestre*, *Pterogonium gracile*, *Hedwigia stellata*, *Hedwigia ciliata* and *Frullania tamarisci*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aconitum napellus</i>	W	<i>Lathyrus aphaca</i>	MG/CG
I _{NA} <i>Adiantum capillus-veneris</i>	O	<i>Leucojum aestivum</i>	W
I _{NA} <i>Allium schoenoprasum</i>	O	I _{NA} <i>Medicago sativa ssp. falcata</i>	CG
<i>Carex humilis</i>	CG	<i>Minuartia hybrida</i>	CG
<i>Centurea cyanus</i>	OV	<i>Myriophyllum verticillatum</i>	A
<i>Cerastium pumilum</i>	CG	<i>Orchis ustulata</i>	CG
<i>Cirsium tuberosum</i>	CG	<i>Ornithogalum pyrenaicum</i>	W
<i>Daphne mezereum</i>	W	<i>Phyteuma orbiculare</i>	CG
<i>Epipactis phyllanthes</i>	W	<i>Potamogeton trichoides</i>	A
<i>Euphorbia platyphyllos</i>	OV	<i>Pulsatilla vulgaris</i>	CG
<i>Euphrasia pseudokernerii</i>	CG	<i>Ranunculus arvensis</i>	OV
<i>Fumaria densiflora</i>	OV	<i>Scandix pecten-veneris</i>	OV
<i>Fumaria parviflora</i>	OV	<i>Sium latifolium</i>	S
<i>Fumaria vaillantii</i>	OV	<i>Tephrosieris integrifolia ssp. integrifolia</i>	CG
GENTIANELLA ANGLICA ⁸	CG	<i>Thesium humifusum</i>	CG
<i>Gentianella germanica</i>	CG	<i>Torilis arvensis</i>	OV
<i>Herminium monorchis</i>	CG	I _{NA} <i>Vicia lutea</i>	O
<i>Himantoglossum hircinum</i> ⁸	MG/W	<i>Vicia parviflora</i>	CG/O
<i>Iberis amara</i>	CG/OV		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Didymodon acutus</i>	OV	<i>Phascum floerkeanum</i>	OV
<i>Didymodom glaucus</i> ⁸	O	<i>Plagiothecium laetum</i>	W
<i>Ephemerum recurvifolium</i>	OV	<i>Platygyrium repens</i>	W
<i>Eurhynchium schleicheri</i>	W	<i>Pottia bryoides</i>	OV
<i>Grimmia decipiens</i>	O	<i>Pottia caespitosa</i>	CG
<i>Grimmia laevigata</i>	O	<i>Pterygoneuron ovatum</i>	CG/O
<i>Hedwigia ciliata s.s.</i> ^{DD}	O	<i>Pylaisia polyantha</i>	W
<i>Herzogiella seligeri</i>	O	<i>Weissia sterilis</i>	CG
<i>Leptodontium gemmascens</i>	O		

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Aconitum napellus</i> <i>Iberis amara</i> <i>Sium latifolium</i>	W CG/OV S	<i>Leptodon smithii</i> <i>Seligeria calcarea</i> <i>Thuidium abietinum ssp. abietinum</i>	O O CG

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	6			2	17		2	1				9	4	
Bryophytes	3				3							4	7	
Charophytes														
Total	9			2	20		2	1				13	11	

SUMMARY OF INTEREST								
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants	1	2	1	36				37
Bryophytes		1	2	14			1	17
Charophytes								
Total	1	3	3	50			1	54

KEY:	INTERNATIONAL DESIGNATION	Red List
	Schedule 8 = ⁸	Lower risk
	Data Deficient = ^{DD}	GB endemic = E
	English endemic = EE	GB Introduction = I
	NA Introduction = ^I _{NA}	

BOTANICAL PROFILE:
80. SOUTH WESSEX DOWNS

Vascular plant significance: SIGNIFICANT
Bryophyte significance: NOTABLE

General botanical character This NA contains the largest contiguous area of chalk grassland in England and north-western Europe. Many notable plants are associated with the calcicolous grassland, including *Gentianella anglica*. and *Carex humilis* is highly characteristic of the area. The light calcareous soils support several arable plants and those characteristic of open ground.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aceras anthropophorum</i>	CG/W	<i>Leucojum aestivum</i>	W
<i>Aconitum napellus</i>	W	<i>Lythrum hyssopifolia</i> ⁸	OV
I _{NA} <i>Adiantum capillus-veneris</i>	O	I _{NA} <i>Meconopsis cambrica</i>	O
<i>Adonis annua</i>	OV	<i>Melittis melissophyllum</i>	W
I _{NA} <i>Apera spica-venti</i>	OV	<i>Minuartia hybrida</i>	CG
<i>Carex humilis</i>	CG	I _{NA} <i>Nymphoides peltata</i>	A
<i>Carex montana</i>	U	<i>Oenanthe silaifolia</i>	MG
<i>Cerastium pumilum</i>	CG	<i>Ophrys sphegodes</i> ⁸	CG
<i>Cirsium tuberosum</i>	CG/MG	<i>Orchis ustulata</i>	CG
<i>Crassula tillaea</i>	U	<i>Ornithogalum pyrenaicum</i>	W
<i>Cyperus fuscus</i> ⁸	OV	<i>Orobanche hederæ</i>	W/O
I _{NA} <i>Cyperus longus</i>	MG	<i>Phyteuma orbiculare</i>	CG
<i>Dianthus deltoides</i>	U	<i>Potamogeton nodosus</i>	A
<i>Epipactis leptochila</i> var. <i>leptochila</i>	W	<i>Pulmonaria longifolia</i>	W
<i>Epipactis phyllanthes</i>	W	<i>Pulsatilla vulgaris</i>	CG
<i>Euphorbia platyphyllos</i>	OV	<i>Rhynchospora fusca</i>	M
<i>Euphrasia pseudokernerii</i>	CG	<i>Rosa agrestis</i>	W
I _{NA} <i>Fritillaria meleagris</i>	MG	<i>Salvia pratensis</i> ⁸	CG/MG
<i>Fumaria densiflora</i>	OV	I _{NA} <i>Sedum forsterianum</i>	O
<i>Fumaria parviflora</i>	OV	<i>Silene gallica</i>	OV
<i>Fumaria purpurea</i>	OV	<i>Tephrosieris integrifolia</i> ssp.	CG
<i>Galeopsis angustifolia</i>	OV	<i>integrifolia</i>	
<i>Galium pumilum</i>	CG	<i>Thelypteris palustris</i>	M
<i>Gentiana pneumonanthe</i>	M	<i>Thesium humifusum</i>	CG
GENTIANELLA ANGLICA ⁸ E	CG	<i>Torilis arvensis</i>	OV
<i>Geranium purpureum</i>	O	<i>Trifolium suffocatum</i>	O
<i>Helleborus foetidus</i>	W	I _{NA} <i>Verbascum lychnitis</i>	O
<i>Herminium monorchis</i>	CG	I _{NA} <i>Verbascum virgatum</i>	O
I _{NA} <i>Hippophae rhamnoides</i>	O	I _{NA} <i>Vicia lutea</i>	O
<i>Iberis amara</i>	CG/OV		
<i>Lathyrus aphaca</i>	CG/MG		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Aloina brevirostris</i>	CG/OV	<i>Rhynchostegiella curviseta</i>	W/O
<i>Aloina rigida</i>	CG/OV	<i>Riccia cavernosa</i>	OV
<i>Bryum torquescens</i>	CG/O	<i>Scorpiurium circinatum</i>	O
<i>Didymodon acutus</i>	OV	<i>Seligeria calcarea</i>	O
<i>Eurhynchium schleicheri</i>	W	<i>Thuidium abietinum ssp. abietinum</i>	CG
<i>Herzogiella seligeri</i>	W	<i>Thuidium abietinum ssp. hystricosum</i>	CG
<i>Leptodon smithii</i>	O	<i>Tortula virescens</i>	O
<i>Octodiceras fontanum</i>	A	<i>Trichostomopsis umbrosa</i>	O
<i>Phascum floerkeanum</i>	OV	<i>Weissia microstoma var. brachycarpa</i>	OV
<i>Platygyrium repens</i>	W	<i>Weissia sterilis</i>	CG
<i>Pleurochaete squarrosa</i>	CG		
<i>Pottia bryoides</i>	OV		
<i>Pottia caespitosa</i>	CG		

EXTINCT AND/OR DECLINING SPECIES			

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	11	2		6	18	3	2					12	10	
Bryophytes	4				8		1					7	7	
Charophytes														
Total	15	2		6	26	3	3					19	17	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants	1	5	5	54				59
Bryophytes				23				23
Charophytes								
Total	1	5	5	77				82

KEY:***INTERNATIONAL DESIGNATION***Schedule 8 =⁸Data Deficient = ^{DD}

English endemic = EE

NA Introduction = I_{NA}***Red List****Lower risk*

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
81. DORSET HEATHS

Vascular plant significance: OUTSTANDING
Bryophyte significance: SOME

General botanical character Heathland and mire are the principal vegetation types in the NA, with *Erica ciliaris* and *Sphagnum pulchrum* being particularly characteristic. This is also the only locality in England for *Scorzonera humilis*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Alopecurus bulbosus</i>	MG	<i>Lycopodiella inundata</i>	M
<i>Althaea officinalis</i>	MG/O	<i>I_{NA} Meconopsis cambrica</i>	O
<i>I_{NA} Anisantha madritensis</i>	OV	<i>Medicago polymorpha</i>	MC
<i>Carex elongata</i>	W/O	<i>Melittis melissophyllum</i>	W
<i>Carex punctata</i>	MC	<i>Mentha pulegium</i>⁸	OV
<i>Chamaemelum nobile</i>	MG	<i>I_{NA} Mibora minima</i>	SD
<i>Cicendia filiformis</i>	H	<i>I_{NA} Nymphoides peltata</i>	A
<i>Crassula tillaea</i>	H/U	<i>Ophioglossum azoricum</i>	MC
<i>Cynodon dactylon</i>	U	<i>Orobanche hederæ</i>	W/O
<i>Cyperus longus</i>	MG	<i>Persicaria laxiflora</i>	OV
<i>Dactylorhiza traunsteineri</i>	MG	<i>Pilularia globulifera</i>	OV/A
<i>Daphne mezereum</i>	W	<i>Poa bulbosa</i>	U
<i>Deschampsia setacea</i>	M	<i>Polygonum maritimum</i>⁸	M
<i>Dianthus armeria</i>	U	<i>Polypogon monspeliensis</i>	MG/O
<i>Elatine hexandra</i>	A	<i>Potamogeton acutifolius</i>	A
<i>Eleocharis parvula</i>	O	<i>Potamogeton trichoides</i>	A
<i>Epipactis leptochila</i> var. <i>leptochila</i>	SD	<i>Puccinellia fasciculata</i>	MG/O
<i>Erica ciliaris</i>	H/M	<i>Puccinellia rupestris</i>	MG/O
<i>I_{NA} Erodium moschatum</i>	O	<i>Pulicaria vulgaris</i>⁸	OV
<i>Fallopia dumetorum</i>	W	<i>Pulmonaria longifolia</i>	W
<i>Festuca arenaria</i>	SD	<i>Rhynchospora fusca</i>	M
<i>Gentiana pneumonanthe</i>	M	<i>Ruppia cirrhosa</i>	A
<i>I_{NA} Gnaphalium luteoalbum</i>	SD	<i>Sarcocornia perennis</i>	SM
<i>Hammarbya paludosa</i>	M	<i>Scirpoides holoschoenus</i>	O
<i>Himantoglossum hircinum</i>⁸	MG/W	<i>Scorzonera humilis</i>⁸	MG
<i>Hypochaeris glabra</i>	U	<i>I_{NA} Sedum fosterianum</i>	MC
<i>Illecebrum verticillatum</i>	OV	<i>Silene gallica</i>	OV/SD
<i>Isoetes echinospora</i>	A	<i>Suaeda vera</i>	SM
<i>Lathyrus aphaca</i>	MG	<i>Thelypteris palustris</i>	M
<i>Limosella aquatica</i>	OV	<i>I_{NA} Tilia platyphyllos</i>	W
<i>Lobelia urens</i>	H	<i>Trifolium glomeratum</i>	MC
<i>Lotus subbiflorus</i>	MC	<i>Trifolium suffocatum</i>	MC/O
		<i>Valerianella eriocarpa</i>	OV/O
		<i>I_{NA} Verbascum virgatum</i>	O
		<i>Viola lactea</i>	H
		<i>Vulpia ciliata</i> ssp. <i>ambigua</i>	OV
		<i>Vulpia fasciculata</i>	SD
		<i>Vulpia unilateralis</i>	O
		<i>Zostera marina</i>	M/O

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Brachythecium mildeanum</i>	MG	<i>Cololejeunea minutissima</i>	O
<i>Bryum creberrimum</i>	SD	<i>Leptodon smithii</i>	O
<i>Bryum donianum</i>	O	<i>Pottia crinita</i>	MC
<i>Bryum dunense</i>	MC	<i>Scorpiurium circinatum</i>	O
<i>Bryum torquescens</i>	SD	<i>Sphagnum flexuosum</i>	MG/W
<i>Campylium polygamum</i>	SD	<i>Sphagnum pulchrum</i>	M
<i>Cladopodiella francisci</i>	M		

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Flowering plants	Habitat (NVC)
<i>Hordeum marinum</i>	MG/O	<i>Zostera angustifolia</i>	O
<i>Lathyrus japonicus</i>	SD	<i>Zostera noltii</i>	O
<i>Ophioglossum azoricum</i>	MC		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	8	8	5	7		5	7		6	5	7	10	19	
Bryophytes	1	2		2					3		2		4	
Charophytes														
Total	9	1 0	5	9		5	7		9	5	9	10	23	

SUMMARY OF INTEREST								
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species
Vascular plants		6	12	60				71
Bryophytes				13				13
Charophytes								
Total		6	12	73				84

KEY:	<i>INTERNATIONAL DESIGNATION</i>	<i>Red List</i>
	Schedule 8 = ⁸	<i>Lower risk</i>
	Data Deficient = _{DD}	GB endemic = E
	English endemic = EE	GB Introduction = I
	NA Introduction = _{INA}	

BOTANICAL PROFILE:**82. ISLES OF PORTLAND & PURBECK**Vascular plant significance: **CONSIDERABLE**Bryophyte significance: **SIGNIFICANT**

General botanical character: The Natural Area is of considerable importance for its populations of rare and threatened vascular plants and bryophytes, with the vegetated coastal cliffs and disused quarries being of particular note. There are also populations of rare and scarce arable weeds. The location of the NA allows rare species with a primarily southern distribution to occur, such as *Eurhynchium meridionale* and *Southbya nigrella*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Adiantum capillus-veneris</i>	O	<i>Parapholis incurva</i>	MC/O
<i>Adonis annua</i>	OV	<i>Pilosella peleteriana</i> ssp. <i>peleteriana</i>	SD
<i>Arum italicum</i> ssp. <i>neglectum</i>	W	<i>Scandix pecten-veneris</i>	OV
<i>Brassica oleracea</i> var. <i>oleracea</i>	MC	<i>Sedum forsterianum</i>	MC
<i>Cerastium pumilum</i>	CG	<i>Silene gallica</i>	OV
<i>Chamaemelum nobile</i>	MG	<i>Silene nutans</i>	SD
<i>Equisetum variegatum</i>	SD	<i>Thesium humifusum</i>	CG
<i>Euphorbia platyphyllos</i>	OV	<i>Trifolium squamosum</i>	MC
<i>Euphorbia portlandica</i>	MC	<i>Valerianella eriocarpa</i>	OV/O
<i>Fumaria vaillantii</i>	OV	<i>Vicia parviflora</i>	MC
<i>Galeopsis angustifolia</i>	OV		
<i>Gastroidium ventricosum</i>	MC		
<i>GENTIANELLA ANGLICA</i> ⁸ E	CG		
<i>Inula crithmoides</i>	MC		
<i>Lathyrus aphaca</i>	MG/CG		
<i>Limonium dodartiforme</i>	SM		
<i>Limonium recurvum</i>	SM		
<i>Marrubium vulgare</i>	MC		
{1{NA}} <i>Medicago polymorpha</i>	MC		
<i>Ophrys sphegodes</i> ⁸	CG		
<i>Orobanche hederæ</i>	MC		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Cephaloziella baumgartneri</i>	CG	<i>Seligeria acutifolia</i>	O
<i>Eurhynchium meridionale</i>	O	<i>Southbya nigrella</i> ⁸	CG/O
<i>Funaria pulchella</i>	O	<i>Weissia condensa</i>	CG
<i>Habrodon perpusillus</i>	O		
<i>Leptodon smithii</i>	O		
<i>Pleurochaete squarrosa</i>	CG		
<i>Pottia crinita</i>	MC		
<i>Pottia starkeana</i> ssp. <i>starkeana</i>	MC		
<i>Rhynchostegiella curviseta</i>	O		

EXTINCT AND/OR DECLINING SPECIES

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KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	1			2	5				3	2	11	7	3	
Bryophytes					4						2		6	
Charophytes														
Total	1			2	9				3	2	13	7	9	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants	1	2	6	27	1			34
Bryophytes		1	5	7				12
Charophytes								
Total	1	3	11	33	1			46

KEY:	<i>INTERNATIONAL DESIGNATION</i>	<i>Red List</i>
	Schedule 8 = ⁸	<i>Lower risk</i>
	Data Deficient = ^{DD}	GB endemic = E
	English endemic = EE	GB Introduction = I
	NA Introduction = I _{NA}	

BOTANICAL PROFILE:
83. WESSEX VALES

Vascular plant significance: CONSIDERABLE
Bryophyte significance: NOTABLE

General botanical character: This area is characterised by small woods, linked by species rich hedgerows to a traditional farming pattern which incorporates hay meadows and unimproved pasture. There are also some coastal habitats of botanical note. *Dianthus armeria* and *Lythrum hyssopifolia* are amongst the important species occurring here.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aconitum napellus</i>	W	<i>Lathyrus japonicus</i>	SD
<i>Allium ampeloprasum</i> var. <i>babingtonii</i>	O	^{I_{NA}} <i>Leucojum aestivum</i>	MG
<i>Alopecurus bulbosus</i>	MG	<i>Lythrum hyssopifolia</i> ⁸	OV
<i>Althaea officinalis</i>	MG/O	<i>Medicago polymorpha</i>	MC
^{I_{NA}} <i>Anisantha madritensis</i>	OV	<i>Minuartia hybrida</i>	CG
<i>Bupleurum tenuissimum</i>	SM	^{I_{NA}} <i>Nymphoides peltata</i>	A
<i>Callitriche truncata</i>	A	<i>Orobanche hederæ</i>	W/O
<i>Carex divisa</i>	MG	<i>Orobanche rapum-genistæ</i>	W/H
<i>Centaurium tenuiflorum</i> ⁸	MC	<i>Parapholis incurva</i>	MG/O
<i>Chenopodium vulvaria</i> ⁸	OV	<i>Persicaria laxiflora</i>	OV
^{I_{NA}} <i>Cyperus longus</i>	MG	<i>Polycarpon tetraphyllum</i>	OV
^{I_{NA}} <i>Dianthus armeria</i>	U	<i>Potamogeton nodosus</i>	A
^{I_{NA}} <i>Draba muralis</i>	O	<i>Potamogeton trichoides</i>	A
<i>Erodium moschatum</i>	CG/O	<i>Pyrola rotundifolia</i> ssp. <i>maritima</i>	SD
<i>Euphorbia platyphyllos</i>	OV	<i>Silene gallica</i>	OV
<i>Euphorbia portlandica</i>	MC	^{I_{NA}} <i>Stratiotes aloides</i>	A
<i>Euphrasia pseudokernerii</i>	CG	^{I_{NA}} <i>Tilia platyphyllos</i>	W
^{I_{NA}} <i>Frankenia laevis</i>	SM	<i>Torilis arvensis</i>	OV
^{I_{NA}} <i>Fritillaria meleagris</i>	MG	<i>Trifolium squamosum</i>	MC
<i>Fumaria densiflora</i>	OV	<i>Valerianella eriocarpa</i>	OV/O
<i>Fumaria purpurea</i>	O	<i>Vicia bithynica</i>	MC
^{I_{NA}} <i>GENTIANELLA ANGLICA</i> ⁸ E	CG	<i>Vicia lutea</i>	MC
<i>Geranium purpureum</i>	MC	<i>Vicia parviflora</i>	MC
<i>Helleborus foetidus</i>	W	<i>Vulpia ciliata</i> subsp. <i>ambigua</i>	OV
^{I_{NA}} <i>Hippophae rhamnoides</i>	O	<i>Vulpia fasciculata</i>	SD
<i>Hordeum marinum</i>	MG/O		
<i>Lathyrus aphaca</i>	MG/CG		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Aloina rigida</i>	O	<i>Schistostega pennata</i>	O
<i>Brachythecium appleyardiae</i> EE	O	<i>Scorpiurium circinatum</i>	O
<i>Bryum donianum</i>	O	<i>Sphagnum flexuosum</i>	MG/W
<i>Didymodon acutus</i>	CG	<i>Thuidium abietinum</i> ssp.	CG
<i>Fissidens limbatus</i>	O	<i>hystricosum</i>	
<i>Fissidens rivularis</i>	A	<i>Weissia longifolia</i> ssp. <i>longifolia</i>	CG
<i>Leptobarbula berica</i>	O		
<i>Myrinia pulvinata</i>	O		
<i>Orthotrichum sprucei</i>	O		
<i>Philonotis arnelii</i>	O		
<i>Philonotis caespitosa</i>	O		
<i>Rhyncostegiella curviseta</i>	O		

Charophytes	Habitat (NVC)	Charophytes	Habitat (NVC)
<i>Lamprothamnium papulosum</i> ⁸	O		

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Fritillaria meleagris</i>	MG	<i>Orthotrichum rivulare</i>	O

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	5		1	9	4	1	5		3	2	7	11	10	
Bryophytes	1			1	3		1					2	12	
Charophytes													1	
Total	6		1	10	7	1	6		3	2	7	13	23	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants	1	4	6	45	1			52
Bryophytes				17		1		17
Charophytes		1		1				1
Total	1	5	6	63	1	1		70

KEY:***INTERNATIONAL DESIGNATION***Schedule 8 = ⁸Data Deficient = ^{DD}

English endemic = EE

NA Introduction = I_{NA}***Red List****Lower risk*

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
84. MENDIP HILLS

Vascular plant significance: CONSIDERABLE
Bryophyte significance: SIGNIFICANT

General botanical character These Carboniferous limestone hills support several rare and notable species. It is the only English locality for native populations of *Dianthus gratianopolitanus*. It also supports a number of Mediterranean species, such as *Helianthemum apenninum*, *Koeleria vallesiana* and *Trinia glauca*, that in Britain are confined to the limestones of S W England and S Wales. Steep Holm, an outlier of the Mendips in the Bristol Channel, supports the ancient introduction *Paeonia mascula*. The NA is also important in supporting the calcicolous grassland bryophyte community *Scapanietum asperae*, a community that has declined markedly in other parts of southern England. *Frullania tamarisci*, *Scapania aspera*, *Porella arboris-vitae* and *Tortella tortuosa* are characteristic of this community.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aconitum napellus</i>	W	<i>Lathyrus aphaca</i>	MG/CG
I _{NA} <i>Adiantum capillus-veneris</i>	O	<i>Lithospermum purpureocaeruleum</i>	W
I _{NA} <i>Campanula patula</i>	W	I _{NA} <i>Marrubium vulgare</i>	O
<i>Cardamine impatiens</i>	W/O	<i>Meconopsis cambrica</i>	O
<i>Carex depauperata</i> ⁸	W	<i>Minuartia hybrida</i>	CG
<i>Carex humilis</i>	CG	<i>Minuartia verna</i>	OV
<i>Carex montana</i>	U	<i>Orobanche hederæ</i>	W/O
<i>Cerastium pumilum</i>	CG	<i>Polygonatum odoratum</i>	W
<i>Dactylorhiza traunsteineri</i>	MG	<i>Potentilla neumanniana</i>	CG
<i>Dianthus gratianopolitanus</i> ⁸	CG	I _{NA} <i>Ribes alpinum</i>	W
<i>Draba muralis</i>	CG/O	<i>Sedum forsterianum</i>	O
<i>Epipactis leptochila</i> var. <i>leptochila</i>	W	<i>Sorbus anglica</i>	W
<i>Erodium maritimum</i>	CG	<i>Sorbus porrigentiformis</i> E	W/O
<i>Erodium moschatum</i>	CG	I _{NA} <i>Teucrium chamaedrys</i>	O
<i>Galium pumilum</i>	CG	<i>Thlaspi caerulescens</i>	OV
<i>Geranium purpureum</i>	O	<i>Trinia glauca</i>	CG
<i>Gymnocarpium robertianum</i>	OV	I _{NA} <i>Verbascum lychnitis</i>	O
<i>Helianthemum apenninum</i>	CG	I _{NA} <i>Verbascum virgatum</i>	O
<i>Helleborus foetidus</i>	W	<i>Vicia parviflora</i>	OV
<i>Hornungia petraea</i>	CG	<i>Wolffia arrhiza</i>	A
<i>Koeleria vallesiana</i>	CG		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Aloina ambigua</i>	OV	<i>Grimmia orbicularis</i>	O
<i>Amblystegium confervoides</i>	O	<i>Leptobarbula berica</i>	O
<i>Brachythecium appleyardiae</i> EE	O	<i>Platygyrium repens</i>	W
<i>Bryum canariense</i>	O	<i>Pleurochaete squarrosa</i>	CG/O
<i>Bryum creberrimum</i>	O	<i>Pottia bryoides</i>	OV
<i>Cephaloziella calyculata</i>	CG	<i>Pottia starkeana</i> ssp. <i>starkeana</i>	CG
<i>Cephaloziella stellulifera</i>	OV	<i>Pylaisia polyantha</i>	W
<i>Cheilothela chloropus</i>	CG/O	<i>Scorpiurium circinatum</i>	O
<i>Cololejeunea rosettiana</i>	O	<i>Weissia microstoma</i> var. <i>brachycarpa</i>	CG
<i>Colura calyptrifolia</i>	O		
<i>Didymodon acutus</i>	CG		
<i>Ditrichum plumbicola</i>	OV		
<i>Euryhynchium striatulum</i>	O		
<i>Funaria muhlenbergii</i>	CG		

EXTINCT AND/OR DECLINING SPECIES

Bryophytes	Habitat (NVC)		
<i>Habrodon perpusillus</i>	O		

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	12			2	14	1	1					4	12	
Bryophytes	2				7							4	12	
Charophytes														
Total	14			2	21	1	1					8	24	

SUMMARY OF INTEREST

	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species
Vascular plants		2	4	37	1			41
Bryophytes				23		1		23
Charophytes								
Total		2	4	60		1		64

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 =⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
85. SOMERSET LEVELS & MOORS

Vascular plant significance: SIGNIFICANT
Bryophyte significance: NOTABLE

General botanical character This NA is characterised by extensive areas of mesotrophic grassland, mostly grazing marsh, and associated water courses. Some areas of tall fen persist, and these are the loci for *Peucedanum palustre*, *Sium latifolium* and *Lathyrus palustris*. *Wolffia arrhiza* occurs in some ditches. However, most of the notable plants are associated with the coastal habitats, on free draining sandy soils, maritime grasslands and calcicolous grasslands, of which Brean Down is a celebrated locality, supporting *Helianthemum apenninum*, *Koeleria vallesiana*, *Carex humilis*, *Aster linosyris*, *Weissia condensa* and *Weissia levieri*. Sand Point supports *Cheilothela chloropus*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Althaea officinalis</i>	MG/O	<i>Myriophyllum verticillatum</i>	A
I _{NA} <i>Anisantha madritensis</i>	OV	<i>Persicaria laxiflora</i>	OV
<i>Aster linosyris</i>	MC	<i>Peucedanum palustre</i>	M/S
<i>Callitriche truncata</i>	A	<i>Potamogeton coloratus</i>	A
<i>Carex divisa</i>	MG	<i>Potamogeton trichoides</i>	A
<i>Carex humilis</i>	CG	<i>Sium latifolium</i>	M/S
I _{NA} <i>Cyperus longus</i>	MG	I _{NA} <i>Stratiotes aloides</i>	A
I <i>Equisetum ramosissimum</i> ⁸	O	<i>Thelypteris palustris</i>	M
<i>Helianthemum apenninum</i>	CG	<i>Wolffia arrhiza</i>	A
I _{NA} <i>Herniaria glabra</i>	OV		
<i>Koeleria vallesiana</i>	CG		
<i>Lathyrus palustris</i>	M		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Amblystegium humile</i>	MG/W	<i>Scorpiurium circinatum</i>	O
<i>Bryum donianum</i>	O	<i>Weissia condensa</i>	CG
<i>Cheilothela chloropus</i>	CG/O	<i>Weissia levieri</i>	CG
<i>Funaria pulchella</i>	CG		

EXTINCT AND/OR DECLINING SPECIES

Bryophytes	Habitat (NVC)		
<i>Bryum warneum</i>	SD		
<i>PETALOPHYLLUM RALFSII</i>	SD		

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants		2		3	3		6	2			1	3	1	
Bryophytes	1			1	4								3	
Charophytes														
Total	1	2		4	7		6	2			1	3	4	

SUMMARY OF INTEREST

	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		1	1	20				21
Bryophytes			2	5				7
Charophytes								
Total		1	3	25				28

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
86. MID SOMERSET HILLS

Vascular plant significance: SIGNIFICANT
Bryophyte significance: SOME

General botanical character: The characteristic habitats of this area are calcareous grassland and species rich ancient woodland. *Gentianella anglica*, *Althaea hirsuta* and *Thlaspi perfoliatum* are all recorded here.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aconitum napellus</i>	W	<i>Scandix pecten-veneris</i>	OV
<i>I_{NA} Adiantum capillus-veneris</i>	O	<i>I_{NA} Sedum forsterianum</i>	O
<i>I_{NA} Allium schoenoprasum</i>	O	<i>Sium latifolium</i>	S/M
<i>Althaea hirsuta</i>⁸	OV	<i>I_{NA} Teucrium chamaedrys</i>	O
<i>Bupleurum tenuissimum</i>	MG	<i>Thlaspi perfoliatum</i>⁸	OV
<i>Callitriche truncata</i>	A	<i>Torilis arvensis</i>	OV
<i>Euphorbia platyphyllos</i>	OV	<i>Trifolium squamosum</i>	O
<i>Gastroidium ventricosum</i>	CG	<i>Valerianella eriocarpa</i>	OV
<i>GENTIANELLA ANGLICA</i>⁸ E	CG	<i>Valerianella rimosa</i>	OV
<i>I_{NA} Helleborus foetidus</i>	W	<i>I_{NA} Verbascum virgatum</i>	O
<i>Lathyrus aphaca</i>	MG/CG	<i>Vicia bithynica</i>	W
<i>Lithospermum purpureocaeruleum</i>	W	<i>Vicia parviflora</i>	OV
<i>I_{NA} Meconopsis cambrica</i>	O		
<i>I_{NA} Medicago minima</i>	O		
<i>I_{NA} Medicago polymorpha</i>	O		
<i>Orobanche hederæ</i>	W/O		
<i>Persicaria laxiflora</i>	OV		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Cololejeunea minutissima</i>	O	<i>Pallavicinia lyellii</i>	M/O
<i>Fissidens rivularis</i>	A		

EXTINCT AND/OR DECLINING SPECIES

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KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	5	1		2	3		1	1				9	9	
Bryophytes		1					1						2	
Charophytes														
Total	5	2		2	3		2	1				9	11	

SUMMARY OF INTEREST

	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants	1	3	5	24	1			29
Bryophytes			1	2				3
Charophytes								
Total	1	3	6	26	1			32

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 =⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
87. EXMOOR AND THE QUANTOCKS

Vascular plant significance: OUTSTANDING
Bryophyte significance: OUTSTANDING

General botanical character: Exmoor is an upland area with a broad array of habitats, including degraded wet heath and blanket bog, with extensive acid grassland and bracken slopes. Western Oak woods, parkland, species-rich wet grassland and a series of high coastal cliffs are also botanically important. The cliffs contain the internationally important *Rumex rupestris* and the endemic moss *Habrodon perpusillus*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aconitum napellus</i>	W	<i>Orobanche rapum-genistae</i>	W/H
I _{NA} <i>Allium schoenoprasum</i>	CG/U	<i>Parapholis incurva</i>	SD
<i>Alopecurus bulbosus</i>	MG	<i>Potamogeton coloratus</i>	A
I _{NA} <i>Apera spica-venti</i>	OV	<i>Potamogeton trichoides</i>	A
<i>Asplenium obovatum</i>	MC	<i>Pyrola rotundifolia ssp. maritima</i>	SD
<i>Chamaemelum nobile</i>	MG/M	RUMEX RUPESTRIS ⁸	MC
<i>Cyperus longus</i>	MG	<i>Scandix pecten-veneris</i>	OV
<i>Dianthus armeria</i>	U/OV	<i>Scilla autumnalis</i>	MC
<i>Equisetum variegatum</i>	M	<i>Scirpoides holoschoenus</i>	SD
<i>Erodium moschatum</i>	MC	<i>Sedum forsterianum</i>	CG
<i>Eryngium campestre</i> ⁸	MG	<i>Sibthorpia europaea</i>	O
<i>Euphorbia hyberna</i>	W	<i>Silene gallica</i>	OV
<i>Euphorbia portlandica</i>	SD/MC	<i>Sorbus anglica</i>	W
I _{NA} <i>Frankenia laevis</i>	SM	<i>Sorbus devoniensis</i>	W
I _{NA} <i>Fritillaria meleagris</i>	MG	<i>Sorbus porrigentiformis</i> E	W
GENTIANELLA ANGLICA ⁸ E	MC	<i>Sorbus rupicola</i>	CG/U
<i>Gymnocarpium robertianum</i>	OV	<i>Sorbus subcuneata</i> EE	W
I _{NA} <i>Helleborus foetidus</i>	CG/W	<i>Sorbus vexans</i> EE	W
<i>Juncus acutus</i>	SD	I _{NA} <i>Stratiotes aloides</i>	A
<i>Lotus angustissimus</i>	MC	<i>Teucrium scordium</i> ⁸	SD
<i>Lotus subbiflorus</i>	MC	<i>Trifolium glomeratum</i>	MC
<i>Maianthemum bifolium</i>	W	<i>Trifolium squamosum</i>	SM
<i>Marrubium vulgare</i>	MC	<i>Valerianella eriocarpa</i>	OV
<i>Matthiola sinuata</i>	MC	<i>Verbascum lychnitis</i>	OV
<i>Meconopsis cambrica</i>	W	<i>Verbascum virgatum</i>	O
<i>Melittis melissophyllum</i>	W	<i>Vulpia fasciculata</i>	SD
<i>Mentha pulegium</i> ⁸	OV		
<i>Orobanche hederæ</i>	MC		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Anthoceros punctatus</i>	OV	<i>Grimmia laevigata</i>	O
<i>Bryum gemmiparum</i> E	A	<i>Habrodon perpusillus</i> E	O
<i>Bryum warneum</i>	SD	<i>Jungermannia subelliptica</i>	O
<i>Cephaloziella nicholsonii</i> E	OV	<i>Philonotis caespitosa</i>	M/OV
<i>Cephaloziella stellulifera</i>	OV	<i>Pleurochaete squarrosa</i>	SD
<i>Didymodon cordatus</i> ⁸	MC	<i>Porella pinnata</i>	A
<i>Diplophyllum obtusifolium</i>	OV	<i>Rhynchostegiella curviseta</i>	W/O
<i>Dumortiera hirsuta</i>	O	<i>Rhynchostegium alopecuroides</i>	A
<i>Ephemerum serratum</i> var. <i>serratum</i>	OV	<i>Schistostega pennata</i>	O
<i>Ephemerum sessile</i>	OV	<i>Weissia controversa</i> var. <i>densifolia</i>	OV
<i>Fissidens limbatus</i>	O		
<i>Fissidens rivularis</i>	A		

Charophytes	Habitat (NVC)	Charophytes	Habitat (NVC)
<i>Chara baltica</i>	A		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	11	2	1	5	3	3	3		7	2	12	8	2	
Bryophytes	1	1					4		2		1	8	7	
Charophytes							1							
Total	12	3	1	5	3	3	7		9	2	13	16	9	

SUMMARY OF INTEREST									
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species	
Vascular plants	2	5	13	42	1	2		54	
Bryophytes		1	5	17	3			22	
Charophytes			1					1	
Total	2	6	18	59	4	2		77	

KEY:	INTERNATIONAL DESIGNATION	Red List
	Schedule 8 = ⁸	Lower risk
	Data Deficient = DD	GB endemic = E
	English endemic = EE	GB Introduction = I
	NA Introduction = I _{NA}	

BOTANICAL PROFILE:
88. VALE OF TAUNTON & QUANTOCK
FRINGES

Vascular plant significance: SIGNIFICANT
Bryophyte significance: NOTABLE

General botanical character: The highly fertile agricultural land of this broad valley has broken up the semi-natural habitats into fairly small chunks. Fortunately, these have retained good linkages via a strong hedgerow network, which has helped to keep the conservation value high. Calcareous and neutral grasslands dominate the floristic interest of the Natural Area, where the Schedule 8 *Althaea hirsuta* is found.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aconitum napellus</i>	W	<i>I_{NA} Nymphoides peltata</i>	A
<i>Alopecurus bulbosus</i>	MG	<i>Poa bulbosa</i>	U
<i>Althaea hirsuta</i> ⁸	OV	<i>I_{NA} Polypogon monspeliensis</i>	MG/O
<i>Bupleurum tenuissimum</i>	MG/SM	<i>Potamogeton trichoides</i>	A
<i>Callitriche truncata</i>	A	<i>Scandix pecten-veneris</i>	OV
<i>I_{NA} Crassula tillaea</i>	MC	<i>Sibthorpia europaea</i>	O
<i>Erodium moschatum</i>	MC	<i>Silene conica</i>	SD
<i>Euphorbia platyphyllos</i>	OV	<i>Sorbus subcuneata</i> EE	W
<i>I_{NA} Fritillaria meleagris</i>	MG	<i>Torilis arvensis</i>	OV
<i>Fumaria densiflora</i>	OV	<i>Trifolium squamosum</i>	MG/O
<i>Gastroidium ventricosum</i>	MC	<i>Trifolium suffocatum</i>	MC
<i>I_{NA} Helleborus foetidus</i>	W	<i>Vicia bithynica</i>	MC
<i>I_{NA} Hippophae rhamnoides</i>	O	<i>Vicia parviflora</i>	OV
<i>Hordeum marinum</i>	MG/O	<i>Viola lactea</i>	H/U
<i>Hypochaeris glabra</i>	U	<i>Vulpia ciliata ssp. ambigua</i>	OV
<i>I_{NA} Marrubium vulgare</i>	O	<i>Vulpia fasciculata</i>	SD
<i>I_{NA} Medicago polymorpha</i>	O		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Bryum donianum</i>	O	<i>Tortula cuneifolia</i>	OV
<i>Bryum torquescens</i>	SD	<i>Tortula vahliana</i>	O
<i>Euryhynchium schleicheri</i>	O	<i>Scorpiurium circinatum</i>	O
<i>Fissidens monguillonii</i>	A		
<i>Pottia bryoides</i>	OV		

EXTINCT AND/OR DECLINING SPECIES

Bryophytes	Habitat (NVC)		
<i>Bryum salinum</i>	SM/O		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	3		1	6		2	3		2	1	5	7	7	
Bryophytes							1		1			2	4	
Charophytes														
Total	3		1	6		2	4		3	1	5	9	11	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants		1	2	31		1		33
Bryophytes			1	7				8
Charophytes								
Total		1	3	38		1		41

KEY:

<i>INTERNATIONAL DESIGNATION</i>	<i>Red List</i>
Schedule 8 = ⁸	<i>Lower risk</i>
Data Deficient = _{DD}	GB endemic = E
English endemic = EE	GB Introduction = I
NA Introduction = I _{NA}	

BOTANICAL PROFILE:
89. BLACKDOWNS

Vascular plant significance: CONSIDERABLE
Bryophyte significance: SOME

General botanical character: The typical landscape of the Blackdowns is a complex mosaic of such habitats as heathland, hay meadows, acid and calcareous grassland, mires and small woods. The area also has a coastline whose cliffs are botanically noteworthy. *Lobelia urens* and *Rumex rupestris* are both found here.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aconitum napellus</i>	W	<i>Marrubium vulgare</i>	MC
I _{NA} <i>Allium schoenoprasum</i>	MC	<i>Meconopsis cambrica</i>	O
<i>Arum italicum ssp. neglectum</i>	W	I _{NA} <i>Nymphoides peltata</i>	A
<i>Brassica oleracea</i>	MC	<i>Orobanchae hederaceae</i>	MG/O
<i>Callitriche truncata</i>	A	<i>Orobanchae rapum-genistae</i>	U/H
I _{NA} <i>Cyperus longus</i>	MG	<i>Ranunculus tripartitus</i>	OV
I _{NA} <i>Draba muralis</i>	O	RUMEX RUPESTRIS ⁸	MC
<i>Euphorbia portlandica</i>	MC	<i>Sibthorpia europaea</i>	O
<i>Euphrasia pseudokernerii</i>	CG	<i>Silene nutans</i>	OV
GENTIANELLA ANGLICA ⁸ E	CG	I _{NA} <i>Tilia platyphyllos</i>	W
I _{NA} <i>Helleborus foetidus</i>	W	<i>Torilis arvensis</i>	OV
I _{NA} <i>Hippophae rhamnoides</i>	MC	<i>Vicia bithynica</i>	MC
<i>Lathyrus aphaca</i>	MC		
<i>Lithospermum purpureocaeruleum</i>	W		
<i>Lobelia urens</i>	H		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Bryum torquescens</i>	CG	<i>Leptodon smithii</i>	O
<i>Campylium calcareum</i>	O	<i>Pottia commutata</i>	MC
<i>Cololejeunea minutissima</i>	O	<i>Scorpiurium circinatum</i>	MC
<i>Cololejeunea rossettiana</i>	O	<i>Seligeria pusilla</i>	O
<i>Eurhynchium schleicheri</i>	O	<i>Weissia longifolia ssp. longifolia</i>	CG
<i>Kurzia sylvatica</i>	H		

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)		
<i>Silene nutans</i>	OV		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	5		2	2	2	1	2				8	3	4	
Bryophytes			1		2						2		6	
Charophytes														
Total	5		3	2	4	1	2				8	3	10	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants	2	2	3	24	1			27
Bryophytes				11				11
Charophytes								
Total	2	2	3	35	1			38

KEY:	<p><i>INTERNATIONAL DESIGNATION</i></p> <p>Schedule 8 =⁸</p> <p>Data Deficient = _{DD}</p> <p>English endemic = EE</p> <p>NA Introduction = I_{NA}</p>	<p><i>Red List</i></p> <p><i>Lower risk</i></p> <p>GB endemic = E</p> <p>GB Introduction = I</p>
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BOTANICAL PROFILE:
90. DEVON REDLANDS

Vascular plant significance: SIGNIFICANT
Bryophyte significance: SOME

General botanical character: Although heahland is a distinctive feature of this NA it is the coastal habitats that support most of the notable vascular and non-vascular plants. *Sorbus devoniensis* occurs here; it is endemic to the British Isles but not to Great Britain.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aconitum napellus</i>	W	<i>Orobanche rapum-genistae</i>	H/W
I _{NA} <i>Allium schoenoprasum</i>	O	<i>Poa bulbosa</i>	U
<i>Alopecurus bulbifera</i>	MG	<i>Poa infirma</i>	MC
I _{NA} <i>Anisantha madritensis</i>	OV	<i>Polypogon monspeliensis</i>	MG/O
I _{NA} <i>Cardamine bulbifera</i>	W	<i>Potamogeton trichoides</i>	A
<i>Carex divisa</i>	MG	<i>Puccinellia fasciculata</i>	MG/O
I _{NA} <i>Cyperus longus</i>	MG	<i>Puccinellia rupestris</i>	MG/O
<i>Erodium moschatum</i>	MC	<i>Romulea columnae</i> ⁸	SD
<i>Eryngium campestre</i> ⁸	MG	<i>Sarcocornia perennis</i>	SM
<i>Euphorbia portlandica</i>	MC	<i>Scandix pecten-veneris</i>	OV
<i>Festuca arenaria</i>	SD	<i>Sorbus devoniensis</i>	W
<i>Frankenia laevis</i>	SM	<i>Torilis arvensis</i>	OV
I _{NA} <i>Helleborus foetidus</i>	W	<i>Trifolium glomeratum</i>	MC/O
<i>Lathyrus aphaca</i>	MC/MG	<i>Trifolium suffocatum</i>	MC
<i>Lavatera cretica</i>	O	<i>Verbascum lychnitis</i>	O
<i>Lotus angustissimus</i>	MC	<i>Verbascum virgatum</i>	MG/O
<i>Lotus subbiflorus</i>	MC	<i>Vicia bithynica</i>	MC
<i>Lycopodiella inundata</i>	M	<i>Viola lactea</i>	H
<i>Medicago polymorpha</i>	MC/O	<i>Vulpia ciliata ssp. ambigua</i>	OV
<i>Melittis melissophyllum</i>	W	<i>Vulpia fasciculata</i>	SD
I _{NA} <i>Minuartia hybrida</i>	O	<i>Zostera angustifolia</i>	O
I _{NA} <i>Nymphoides peltata</i>	A		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Bryum donianum</i>	O	<i>Pottia commutata</i>	MC
<i>Campylium polygamum</i>	MG	<i>Pottia crinita</i>	MC
<i>Desmatodon convolutus</i>	MC	<i>Pottia starkeana ssp. starkeana</i>	MC
<i>Fissidens limbatus</i>	O	<i>Pottia wilsonii</i>	MC
<i>Leptodon smithii</i>	O	<i>Seligeria calcarea</i>	O
<i>Phascum cuspidatum var. piliferum</i>	OV	<i>Targionia hypophylla</i>	O
<i>Philonotis arnellii</i>	O	<i>Tortula cuneifolia</i>	MC
<i>Pleurochaete squarrosa</i>	MC	<i>Tortula solmsii</i>	O
<i>Porella pinnata</i>	A	<i>Weissia controversa var. densiflora</i>	MC
<i>Pottia bryoides</i>	OV		

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Zostera marina</i> <i>Zostera noltii</i>	O O	<i>Fissidens rivularis</i> <i>Fissidens algarvicus</i> <i>Grimmia montana</i> <i>Orthotrichum sprucei</i>	A O O O

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	5	1	2	9		1	2		3	2	10	4	11	
Bryophytes				1			1				8	2	7	
Charophytes														
Total	5	1	2	10		1	2		3	2	18	6	18	

SUMMARY OF INTEREST									
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No. of Species	
Vascular plants		2	3	40				43	
Bryophytes				19				19	
Charophytes									
Total		2	3	59				62	

<p>KEY:</p> <p><i>INTERNATIONAL DESIGNATION</i></p> <p>Schedule 8 =⁸</p> <p>Data Deficient = _{DD}</p> <p>English endemic = EE</p> <p>NA Introduction = _{NA}</p>	<p><i>Red List</i></p> <p><i>Lower risk</i></p> <p>GB endemic = E</p> <p>GB Introduction = I</p>
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BOTANICAL PROFILE:
91. SOUTH DEVON

Vascular plant significance: OUTSTANDING
Bryophyte significance: SIGNIFICANT

General botanical character An important NA for both vascular and non-vascular plants. The coastal features are particularly rich in notable plants, but there is a broad range of habitats, including limestone grasslands and woodlands and a traditional agricultural landscape of small fields linked by species rich hedges. *Petalophyllum ralfsii* is an important liverwort occurring here.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aconitum napellus</i>	W	I _{NA} <i>Medicago minima</i>	MC
<i>Adiantum capillus-veneris</i>	MC	<i>Medicago polymorpha</i>	MC
<i>Alopecurus bulbosus</i>	MG	<i>Melittis melissophyllum</i>	W
<i>Arum italicum ssp. neglectum</i>	W	<i>Mentha pulegium</i> ⁸	OV
<i>Asplenium obovatum</i>	MC	<i>Minuartia hybrida</i>	CG
<i>Aster linosyris</i>	MC	<i>Minuartia verna</i>	OV
<i>Brassica oleracea ssp. oleracea</i>	MC	I _{NA} <i>Nymphoides peltata</i>	A
<i>Bupleurum baldense</i> ⁸	MC	<i>Ononis reclinata</i> ⁸	MC
I _{NA} <i>Cardamine bulbifera</i>	W	I _{NA} <i>Ornithogalum pyrenaicum</i>	W
<i>Carex montana</i>	MG/U	<i>Orobanche hederæ</i>	MC/W
<i>Centaurium littorale</i>	MC	I _{NA} <i>Orobanche purpurea</i>	MC
<i>Cerastium pumilum</i>	CG	<i>Orobanche rapum-genistæ</i>	H/W
<i>Chamaemelum nobile</i>	MG	<i>Physospermum cornubiense</i>	OV
<i>Clinopodium calamintha</i>	MC	<i>Poa bulbosa</i>	U
<i>Corrigiola litoralis</i> ⁸	SD	<i>Poa infirma</i>	MC
<i>Crassula tillæa</i>	U	<i>Polycarpon tetraphyllum</i>	OV
I _{NA} <i>Cyperus longus</i>	MG	<i>Puccinellia fasciculata</i>	MG/O
<i>Eleocharis parvula</i>	O	<i>Puccinellia rupestris</i>	MG/O
<i>Erodium moschatum</i>	MC	<i>Pyrus cordata</i> ⁸	W
<i>Eryngium campestre</i> ⁸	MG	RUMEX RUPESTRIS ⁸	SD
<i>Euphorbia portlandica</i>	MC	<i>Schoenoplectus triqueter</i>	O
<i>Euphrasia vigursii</i> EE	U	<i>Scilla autumnalis</i>	MC
<i>Festuca longifolia</i>	MC	<i>Scrophularia scorodonia</i>	W
<i>Galium parisiense</i>	O	<i>Sedum forsterianum</i>	MC
<i>Gastidium ventricosum</i>	OV	<i>Sibthorpia europæa</i>	MC
<i>Geranium purpureum</i>	W	<i>Sorbus anglica</i>	W
<i>Helianthemum apenninum</i>	CG	<i>Sorbus porrigentiformis</i> E	W
I _{NA} <i>Helleborus foetidus</i>	W	<i>Sorbus rupicola</i>	MC
<i>Hypericum linariifolium</i>	W	<i>Trifolium glomeratum</i>	MC
<i>Hypericum undulatum</i>	M	<i>Trifolium suffocatum</i>	MC
<i>Inula crithmoides</i>	MC	<i>Trinia glauca</i>	CG
<i>Lathyrus japonicus</i>	SD	<i>Verbascum lychnitis</i>	O
<i>Leucojum aestivum</i>	W	<i>Verbascum virgatum</i>	MC
<i>Linaria supina</i>	SD	<i>Vicia lutea</i>	SD/MC
<i>Lithospermum purpurocaeruleum</i>	W	<i>Viola lactea</i>	H
<i>Lobelia urens</i>	U	<i>Zostera angustifolia</i>	O
<i>Lotus angustissimus</i>	MC	<i>Zostera marina</i>	O
<i>Lotus subbiflorus</i>	MC		
<i>Meconopsis cambrica</i>	O		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Acaulon triquetrum</i>	MC	<i>Grimmia orbicularis</i>	O
<i>Amblystegium confervoides</i>	O	<i>Leptodon smithii</i>	O
<i>Bryum canariense</i>	CG	<i>Leucobryum juniperoideum</i>	W/H
<i>Bryum donianum</i>	O	<i>Octodiceras fontanum</i>	A
<i>Bryum intermedium</i>	O	<i>Orthotrichum sprucei</i>	O
<i>Bryum pallescens</i>	O	PETALOPHYLLUM RALFSII ⁸	SD
<i>Campylopus polytrichoides</i>	MC	<i>Philonotis caespitosa</i>	O
<i>Cephaloziella massalongi</i>	O	<i>Pleurochaete squarrosa</i>	MC
<i>Cephaloziella nicholsonii</i> E	O	<i>Pohlia andalusica</i>	OV/H
<i>Cheilothela chloropus</i>	CG	<i>Pottia commutata</i>	MC
<i>Cololejeunea rosettiana</i>	MC	<i>Pottia crinita</i>	MC
<i>Cryphaea lamyana</i> ⁸	O	<i>Pottia wilsonii</i>	MC
<i>Didymodon acutus</i>	CG	<i>Pottia starkeana</i> ssp. <i>starkeana</i>	CG
<i>Desmatodon convolutus</i>	MC	<i>Scorpiurium circinatum</i>	O
<i>Fissidens exiguus</i>	A	<i>Seligeria calcarea</i>	O
<i>Fissidens monguillonii</i>	A	<i>Tortula canescens</i>	MC
<i>Fissidens polyphyllus</i>	O	<i>Tortula cuneifolia</i>	MC
<i>Fissidens rufulus</i>	A		
<i>Grimmia laevigata</i>	O		
<i>Grimmia montana</i>	O		

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Festuca longifolia</i>	MC	<i>Bryum gemmiparum</i>	O
		<i>Dicranella crispa</i>	O
		<i>Habrodon perpusillus</i>	O
		<i>Weissia condensa</i>	CG
		<i>Weissia perssonii</i>	MC

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	16	1	2	7	4	5	1		5		27	5	9	
Bryophytes	1		2		4		4		1		10	1	16	
Charophytes														
Total	17	1	4	7	8	5	5		6		37	6	25	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants	1	7	16	60	1	1		76
Bryophytes	1	3	5	32	1			37
Charophytes								
Total	2	10	21	92	2	1		113

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 =⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = _{I_{NA}}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
92. DARTMOOR

Vascular plant significance: SIGNIFICANT
Bryophyte significance: SIGNIFICANT

General botanical character: Dartmoor is the largest expanse of moorland in southern England and is of particular value for blanket bog, upland heath, upland oak woodland and valley mire. Killarney Fern, *Trichomanes speciosum* is an important species here.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Asplenium obovatum</i>	O	<i>Lotus angustissimus</i>	U
<i>Asplenium septentrionale</i>	OV/O	<i>Lycopodiella inundata</i>	M
<i>Chamaemelum nobile</i>	MG/M	<i>Melittis melissophyllum</i>	W
I _{NA} <i>Cyperus longus</i>	MG	I _{NA} <i>Nymphoides peltata</i>	A
<i>Dianthus armeria</i>	CG	<i>Orobanche rapum-genistae</i>	H/W
I _{NA} <i>Erica ciliaris</i>	H/M	<i>Pilularia globulifera</i>	OV/A
<i>Erodium moschatum</i>	OV	<i>Scandix pecten-veneris</i>	OV
<i>Hammarbya paludosa</i>	M	<i>Sibthorpia europaea</i>	O
<i>Hypericum linariifolium</i>	W	<i>Sorbus devoniensis</i>	W
<i>Isoetes echinospora</i>	A	<i>Spiranthes romanzoffiana</i>	M
		TRICHOMANES SPECIOSUM[®]	O
		<i>Viola lactea</i>	H

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Cephalozia catenulata</i>	W	<i>Grimmia montana</i>	O
<i>Cephalozia macrostachya</i> var. <i>macrostachya</i>	M	<i>Jamesoniella autumnalis</i>	W
<i>Cladopodiella fluitans</i>	M	<i>Jubula hutchinsiae</i>	W
<i>Cryptothallus mirabilis</i>	W/M	<i>Nardia geoscyphus</i>	H/M
<i>Discelium nudum</i>	OV	<i>Pohlia lescuriana</i>	OV
<i>Fissidens monguillonii</i>	A/S	<i>Porella pinnata</i>	A
<i>Fissidens polyphyllus</i>	O	<i>Racomitrium sudeticum</i>	O
<i>Fissidens rivularis</i>	A	<i>Rhynchostegium alopecuroides</i>	A
<i>Fissidens serrulatus</i>	O	<i>Sphagnum austinii</i>	M
<i>Grimmia laevigata</i>	O	<i>Schistostega pennata</i>	O

EXTINCT AND/OR DECLINING SPECIES

Vascular Plants	Habitat (NVC)		
<i>Lobelia urens</i>	H/U		
<i>Scandix pecten-veneris</i>	OV		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	4	5	3	2	1	1	3					4	4	
Bryophytes	4	5	1				4	1				2	6	
Charophytes														
Total	8	10	4	2	1	1	7	1				6	10	

SUMMARY OF INTEREST									
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species	
Vascular plants	1	1	2	20				22	
Bryophytes			1	19				20	
Charophytes									
Total			2	42				42	

<p>KEY:</p> <p><i>INTERNATIONAL DESIGNATION</i></p> <p>Schedule 8 = ⁸</p> <p>Data Deficient = _{DD}</p> <p>English endemic = EE</p> <p>NA Introduction = I_{NA}</p>	<p><i>Red List</i></p> <p>Lower risk</p> <p>GB endemic = E</p> <p>GB Introduction = I</p>
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BOTANICAL PROFILE:
93. THE CULM

Vascular plant significance: SIGNIFICANT
Bryophyte significance: SIGNIFICANT
Charophyte significance: SOME

General botanical character: This is an area of European importance for its rhes pastures and also contains some highly valuable western oak woods, maritime grassland and heathland. The Schedule 8 moss *Cryphaea lamyana* is present here.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Aconitum napellus</i>	W	<i>Matthiola sinuata</i>	MC
<i>Allium ampeloprasum</i> var. <i>babingtonii</i>	MC	I _{NA} <i>Medicago sativa</i> ssp. <i>falcata</i>	O
<i>Asplenium obovatum</i>	MC/O	<i>Melittis melissophyllum</i>	W
<i>Centaureum scilloides</i>	MC	I _{NA} <i>Nymphoides peltata</i>	A
<i>Chamaemelum nobile</i>	MG	<i>Orobanchae hederaceae</i>	W/MC
<i>Cicendia filiformis</i>	U/H	<i>Orobanchae rapum-genistae</i>	H/W
<i>Coincya wrightii</i>	MC	<i>Potamogeton trichoides</i>	A
I _{NA} <i>Cyperus longus</i>	MG	<i>Sedum forsterianum</i>	O
<i>Dianthus armeria</i>	U	<i>Sibthorpia europaea</i>	O
<i>Elatine hexandra</i>	A	<i>Silene gallica</i>	OV
<i>Erodium moschatum</i>	O	<i>Sorbus devoniensis</i>	W
<i>Euphrasia vigursii</i> EE	U/H	<i>Trifolium glomeratum</i>	MC
<i>Geranium purpureum</i>	MC	<i>Trifolium occidentale</i>	MC
<i>Hypericum linariifolium</i>	W	<i>Verbascum virgatum</i>	MC
<i>Hypericum undulatum</i>	M	<i>Viola lactea</i>	H
<i>Juncus acutus</i>	SD/SM		
<i>Lotus angustissimus</i>	MC		
<i>Lotus subbiflorus</i>	MC		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Anthoceros agrestis</i>	OV	<i>Fissidens rufulus</i>	A
<i>Anthoceros punctatus</i>	OV	<i>Fossombronia caespitiformis</i>	OV
<i>Brachythecium mildeanum</i>	MG	<i>Jubula hutchinsiae</i>	W/O
<i>Bryum dunense</i>	MC	<i>Leptodon smithii</i>	O
<i>Campylopus polytrichoides</i>	MC	<i>Octodiceras fontanum</i>	A
<i>Cephaloziella nicholsonii</i> E	OV	<i>Orthotrichum sprucei</i>	O
<i>Cephaloziella stellulifera</i>	OV	<i>Phaeoceros carolinianus</i>	OV
<i>Cephaloziella spinigera</i>	M	<i>Philonotis arnellii</i>	O
<i>Coscinodon cribrosus</i>	O	<i>Philonotis caespitosa</i>	O
<i>Cryphaea lamyana</i> ⁸	O	<i>Porella pinnata</i>	A
<i>Dicranella crispa</i>	O	<i>Pottia crinita</i>	MC
<i>Didymodon nicholsonii</i>	O	<i>Rhynchostegium alopecuroides</i>	A
<i>Diplophyllum obtusifolium</i>	O	<i>Riccia huebeneriana</i>	O
<i>Dumortiera hirsuta</i>	O	<i>Schistostegia pennata</i>	O
<i>Ephemerum serratum</i> var. <i>serratum</i>	OV		
<i>Ephemerum sessile</i>	OV		
<i>Fissidens rivularis</i>	A		

Charophytes	Habitat (NVC)	Charophytes	Habitat (NVC)
<i>Chara connivens</i>	A		

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)		
<i>Erodium moschatum</i> <i>Silene gallica</i>	O OV		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	5		4	2		2	2		1	1	12		5	
Bryophytes	1	1		1			5				3	8	13	
Charophytes							1							
Total	6	1	4	3		2	8		1	1	15	8	18	

SUMMARY OF INTEREST								
	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants			6	27		1		33
Bryophytes		1	3	28	1			31
Charophytes			1					1
Total		1	10	55	1	1		65

<p>KEY:</p> <p>INTERNATIONAL DESIGNATION</p> <p>Schedule 8 = ⁸</p> <p>Data Deficient = _{DD}</p> <p>English endemic = _{EE}</p> <p>NA Introduction = _{NA}</p>	<p>Red List</p> <p>Lower risk</p> <p>GB endemic = E</p> <p>GB Introduction = I</p>
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BOTANICAL PROFILE: 94. BODMIN MOOR	Vascular plant significance: NOTABLE Bryophyte significance: SIGNIFICANT
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General botanical character: This upland NA is characterised by expanses of acid grassland separated by valleys containing bog and mire habitats along with occasional areas of heath and exposed granite outcrops. The moorland fringe consists of acid grassland slopes, often agriculturally improved or invaded by bracken. Most of the area's woodland also occurs on these slopes. Two bryophytes here, *Ditrichum cornubicum* and *Cephaloziella nicholsonii* are endemic either to GB or England.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
I _{NA} <i>Aconitum napellus</i>	W	<i>Hamarbya paludosa</i>	M
<i>Allium ampeloprasum</i> var. <i>babintonii</i>	OV	<i>Illecebrum verticillatum</i>	M/MG
<i>Asplenium obovatum</i>	O	<i>Isoetes echinospora</i>	A
<i>Chamaemelum nobile</i>	MG/M	I _{NA} <i>Meconopsis cambrica</i>	W/O
I _{NA} <i>Dianthus deltoides</i>	H	<i>Melittis melissophyllum</i>	W
<i>Elatine hexandra</i>	A	<i>Physospermum cornubiense</i>	W/OV
<i>Erica ciliaris</i>	H	<i>Ranunculus tripartus</i>	H/A
<i>Euphrasia vigursii</i> EE	H/U	<i>Sedum fosterianum</i>	O
		<i>Sibthorpia europaea</i>	O
		<i>Viola lactea</i>	H

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Aloina aloides</i> var. <i>ambigua</i>	O	<i>Jamesoniella undulifolia</i> ⁸	M
<i>Anthoceros agrestis</i>	OV	<i>Kurzia sylvatica</i>	H/U
<i>Anthoceros punctatus</i>	OV	<i>Leucobryum juniperoideum</i>	W/H
<i>Brachydontium trichoides</i>	O	<i>Philonotis caespitosa</i>	OV
<i>Campylopus subulatus</i>	O	<i>Plagiothecium denticulatum</i> var. <i>obtusifolium</i>	U
<i>Cephalozia catenulata</i>	W	<i>Plagiothecium ruthei</i>	W
<i>Cephalozia pleniceps</i>	M	<i>Pleurochaete squarrosa</i>	O
<i>Cephaloziella integerrima</i>	OV	<i>Pohlia flexuosa</i>	OV
<i>Cephaloziella massalongi</i>	OV	<i>Pohlia andalusica</i>	OV
<i>Cephaloziella nicholsonii</i> E	OV	<i>Pohlia mulydermansii</i>	O
<i>Cephaloziella stellulifera</i>	OV	<i>Porella pinnata</i>	A
<i>Cladopodiella francisci</i>	M	<i>Rhynchostegium alopecuroides</i>	A
<i>Diplophyllum obtusifolium</i>	OV	<i>Riccia subbifurca</i>	OV
<i>Ditrichum cornubicum</i> ⁸ EE	OV	<i>Scapania paludicola</i>	M
<i>Fissidens polyphyllus</i>	O	<i>Schistostega pennata</i>	O
<i>Gymnostomum calcareum</i>	O	<i>Weissia controversa</i> var. <i>densifolia</i>	OV
<i>Gymnostomum viridulum</i>	O		
<i>Jamesoniella autumnalis</i>	W		

EXTINCT AND/OR DECLINING SPECIES

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KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	4	3	5	2		1	3					2	4	
Bryophytes	4	4	2			1	2					13	9	
Charophytes														
Total	8	7	7	2		2	5					15	13	

SUMMARY OF INTEREST

	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants			1	17				18
Bryophytes		2	4	30				34
Charophytes								
Total		2	5	47				52

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = ^{DD}

English endemic = EE

NA Introduction = I_{NA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
95. CORNISH KILLAS AND GRANITES

Vascular plant significance: OUTSTANDING
Bryophyte significance: OUTSTANDING

General botanical character: The strongest influence on the flora of this NA is that of the sea - no part of the area is more than fifteen miles from the sea and its influence is felt throughout the NA. The coast has a number of estuaries with the typical array of habitats. The coast dominates the habitats for the species listed below. Also important are the niches provided by the area's history of mineral workings. Heathland is extensive in the NA and is associated with willow carr and valley mires. The parklands and remaining native woodland is frequently of very high quality and are particularly rich in lower plants. A significant contribution to the area's long list of rarities is made by the mixed farming landscape. The internationally threatened bryophytes *Marsopella profunda* and *Petallophyllum ralfsii* are both found here, as is the similarly endangered *Trichomanes speciosum*.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aconitum napellus</i>	W	<i>Lathyrus aphaca</i>	
<i>Adiantum capillus-veneris</i>	MC	<i>Lavatera cretica</i>	MC
<i>Allium ampeloprasum</i> var. <i>ampeloprasum</i>	MC	<i>Linaria supina</i>	OV
<i>Allium ampeloprasum</i> var. <i>babingtonii</i>	MC	<i>Lobelia urens</i>	O
<i>Allium schoenoprasum</i>	MC	<i>Lotus angustissimus</i>	H
<i>Alopecurus bulbosus</i>	MG	<i>Lotus subbiflorus</i>	MC
<i>Arum italicum</i> ssp. <i>neglectum</i>	W	<i>Lycopodiella inundata</i>	MC
<i>Asparagus officinalis</i> ssp. <i>prostratus</i>	MC	<i>I_{NA} Marrubium vulgare</i>	M
<i>Asplenium obovatum</i>	OV	<i>Meconopsis cambrica</i>	MC
<i>Atriplex longipes</i>	SM	<i>I_{NA} Medicago minima</i>	O
<i>Brassica oleracea</i> var. <i>oleracea</i>	MC	<i>Medicago polymorpha</i>	O
<i>Carex divisa</i>	MG	<i>Melittis melissophyllum</i>	MC
<i>Carex montana</i>	U	<i>Mentha pulegium</i> ⁸	W
<i>Carex punctata</i>	MC	<i>Minuartia hybrida</i>	OV
<i>Chamaemelum nobile</i>	MG	<i>I_{NA} Nymphoides peltata</i>	MC
<i>Chenopodium vulvaria</i>⁸	OV	<i>Orobanche hederæ</i>	A
<i>Cicendia filiformis</i>	H/U	<i>Physospermum cornubiense</i>	MC/W
<i>Crassula tillæa</i>	U	<i>Pilularia globulifera</i>	OV
<i>Cyperus longus</i>	MG	<i>Poa bulbosa</i>	OV/A
<i>Dianthus armeria</i>	U	<i>Poa infirma</i>	U
<i>Elatine hexandra</i>	A	<i>Polycarpon tetraphyllum</i>	MC
<i>Equisetum variegatum</i>	SD	<i>Polygonum maritimum</i>⁸	OV
<i>Erica ciliaris</i>	H	<i>Puccinellia fasciculata</i>	SD
<i>Erica vagans</i>	H	<i>Puccinellia rupestris</i>	MG/O
<i>Erodium moschatum</i>	MC	<i>Pyrus cordata</i>⁸	MG/O
<i>Eryngium campestre</i>⁸	W/O	<i>Ranunculus tripartitus</i>	W
<i>Euphorbia hyberna</i>	OV	RUMEX RUPESTRIS ⁸	H/A
<i>Euphorbia platyphyllos</i>	MC	<i>Scandix pecten-veneris</i>	SD
<i>Euphorbia portlandica</i>	MC	<i>Schoenoplectus triqueter</i>	OV
<i>Euphrasia vigursii</i> EE	H/U	<i>Scilla autumnalis</i>	O
<i>Filago pyramidalis</i>⁸	OV/H	<i>Scrophularia scorodonia</i>	MC
<i>I_{NA} Fritillaria meleagris</i>	MG	<i>Sedum forsterianum</i>	W
<i>Fumaria occidentalis</i> EE	MC	<i>Sibthorpia europæa</i>	MC
<i>Fumaria purpurea</i>	OV	<i>Silene gallica</i>	MC
<i>Fumaria reuteri</i>⁸	OV	<i>Spergularia bocconei</i>	OV
<i>Gastridium ventricosum</i>	CG/OV	<i>I_{NA} Tilia platyphyllos</i>	MC
<i>Genista pilosa</i>	MC/H	TRICHOMANES SPECIOSUM ⁸	W
GENTIANELLA ANGLICA ⁸ E	MC	<i>Trifolium occidentale</i>	O
<i>Geranium purpureum</i>	W	<i>Trifolium suffocatum</i>	MC
<i>Hammarbya paludosa</i>	M	<i>Valerianella eriocarpa</i>	MC
<i>I_{NA} Hippophae rhamnoides</i>	MC	<i>Verbascum virgatum</i>	OV
<i>Hypericum linariifolium</i>	W	<i>Vicia bithynica</i>	O
<i>Hypericum undulatum</i>	M	<i>Vicia lutea</i>	MC
<i>Hypochaeris maculata</i>	MC	<i>Vicia parviflora</i>	MC
<i>Illecebrum verticillatum</i>	OV	<i>Viola lactea</i>	OV
<i>Inula crithmoides</i>	MC	<i>Vulpia fasciculata</i>	M
<i>Juncus acutus</i>	SD/SM	<i>Zostera marina</i>	SD
		<i>Zostera noltii</i>	O

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Aloina ambigua</i>	OV	<i>Fossombronina husnotii</i>	MC
<i>Amblystegium saxatile</i>	W/M	<i>Fossombromia pusilla</i> var.	H
<i>Anthoceros agrestis</i>	OV	<i>maritima</i>	
<i>Anthoceros punctatus</i>	OV	<i>Funaria pulchella</i>	OV
<i>Brachydontium trichodes</i>	O	<i>Grimmia decipiens</i>	O
<i>Brachythecium mildeanum</i>	MG	<i>Grimmia laevigata</i>	O
<i>Bryum donianum</i>	O	<i>Henediella stanfordensis</i>	OV
<i>Bryum pallescens</i>	O	<i>Jamesoniella undulifolia</i> ⁸	M
<i>Bryum pseudotriquetrum</i> var.	M	<i>Jubula hutchinsiae</i>	W/O
<i>bimum</i>		<i>Jungermannia caespiticia</i>	O
<i>Bryum tenuisetum</i>	OV	<i>Jungermannia subelliptica</i>	O
<i>Bryum torquescens</i>	MC	<i>Leptobarbula berica</i>	O
<i>Campylopus polytrichoides</i>	MC	<i>Leptodon smithii</i>	O
<i>Campylopus subulatus</i>	O	MARSUPELLA PROFUNDA ⁸	O
<i>Cephaloziella calyculata</i>	MC/OV	<i>Octodiceras fontanum</i>	A
<i>Cephaloziella integerrima</i>	H/OV	<i>Orthotrichum sprucei</i>	O
<i>Cephaloziella massalongi</i>	OV	PETALOPHYLLUM RALFSII ⁸	SD
<i>Cephaloziella nicholsonii</i> E	OV	<i>Phascum cuspidatum</i> var.	OV
<i>Cephaloziella spinigera</i>	M	<i>piliferum</i>	
<i>Cephaloziella stellulifera</i>	OV	<i>Philonotis arnellii</i>	O
<i>Cephaloziella turneri</i>	O	<i>Philonotis rigida</i>	MC/O
<i>Cladopodiella francisci</i>	M	<i>Plagiothecium ruthei</i>	W
<i>Cololejeunea minutissima</i>	O	<i>Pleurochaete squarrosa</i>	MC
<i>Colura calyptrifolia</i>	O	<i>Pohlia andalusica</i>	OV
<i>Cryphaea lamyana</i> ⁸	O	<i>Pohlia lescuriana</i>	OV
<i>Cryptothallus mirabilis</i>	M/W	<i>Porella obtusata</i>	O
<i>Desmatodon convolutus</i>	MC	<i>Porella pinnata</i>	A
<i>Dicranella crispa</i>	O	<i>Pottia caespitosa</i>	MC
<i>Didymodon acutus</i>	MC	<i>Pottia commutata</i>	MC
<i>Didymodon nicholsonii</i>	O	<i>Pottia crinita</i>	MC
<i>Diplophyllum obtusifolium</i>	O	<i>Pottia wilsonii</i>	MC
<i>Discelium nudum</i>	O	<i>Rhynchostegium alopecurooides</i>	W
<i>Ditrichum cornubicum</i> ⁸	OV	<i>Riccardia incurvata</i>	M
<i>Ditrichum subulatum</i>	O	<i>Riccia beyrichiana</i>	OV
<i>Drepanocladus sendtneri</i>	SD/O	<i>Riccia crozalsii</i>	MC
<i>Dumortiera hirsuta</i>	O	<i>Riccia subbifurca</i>	OV
<i>Ephemerum serratum</i> var. <i>serratum</i>	OV	<i>Scapania curta</i>	O
<i>Ephemerum sessile</i>	OV	<i>Schistostega pennata</i>	O
<i>Fissidens algarvicus</i>	O	<i>Scorpiurium circinatum</i>	O
<i>Fissidens limbatus</i>	O	<i>Southbya tophacea</i>	MC
<i>Fissidens polyphyllus</i>	O	<i>Targionia hypophylla</i>	O
<i>Fissidens rivularis</i>	A	<i>Thuidium abietinum</i> ssp.	SD
<i>Fissidens serrulatus</i>	O	<i>abietinum</i>	
<i>Fossombronina angulosa</i>	MC	<i>Tortula canescens</i>	MC
<i>Fossombronina caespitifformis</i>	OV/W	<i>Tortula cuneifolia</i>	MC
<i>Fossombronina foveolata</i>	OV	<i>Weissia controversa</i> var.	OV
		<i>densifolia</i>	
		<i>Weissia multicapsularis</i>	MC/O
		<i>Weissia perssonii</i>	MC

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)		
<i>Zostera angustifolia</i>	O		

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	10	4	9	7	1	6	4		5	2	32	17	11	
Bryophytes	6	7	2	1			3		3		18	22	36	
Charophytes														
Total	16	11	1 2	8	1	6	7		8	2	50	39	47	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants	3	10	22	74	1	2		96
Bryophytes	2	5	16	74	1			90
Charophytes								
Total	5	15	38	148	2	2		184

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = _{DD}

English endemic = EE

NA Introduction = _{INA}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
96. WEST PENWITH

Vascular plant significance: SIGNIFICANT
Bryophyte significance: CONSIDERABLE

General botanical character: This NA is dominated by open moorland, heavily influenced by its proximity to the sea and by the history of mineral working. Heathland is an important component of the area, but a greater contribution towards botanical significance is made by the coast which is fringed by sandy coves in between granitic headlands and clifflines. Features in the wider countryside, abandoned mines, mixed farmland and hedgebanks, also contain significant numbers of the rare species listed below. A moss thought to be extinct in England, *Cyclodictyon laetevirens*, with over-collecting being implicated, has recently (1996) been rediscovered at its historical locality. *Marsupella profunda*, the internationally important liverwort occurs here in association with china clay workings.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>Adiantum capillus-veneris</i>	MC	<i>Illecebrum verticillatum</i>	OV
<i>Allium ampeloprasum</i> var. <i>babingtonii</i>	MC	<i>Inula crithmoides</i>	MC
<i>Asparagus officinalis</i> ssp. <i>prostratus</i>	MC	<i>Juncus capitatus</i>	OV/H
<i>Asplenium obovatum</i>	MC	<i>Lathyrus aphaca</i>	MC
<i>Brassica oleracea</i> var. <i>oleracea</i>	MC	<i>Linaria supina</i>	O
<i>Chamaemelum nobile</i>	MG	<i>Lotus subbiflorus</i>	MC
<i>Cicendia filiformis</i>	H/U	<i>Medicago polymorpha</i>	MC
I _{NA} <i>Cyperus longus</i>	MG	I _{NA} <i>Nymphoides peltata</i>	A
<i>Echium plantagineum</i>	MC/OV	<i>Orobanche hederæ</i>	MC/W
<i>Elatine hexandra</i>	A	<i>Ranunculus tripartitus</i>	H/OV
<i>Erica ciliaris</i>	H	RUMEX RUPESTRIS ⁸	SD
<i>Erodium moschatum</i>	MC	<i>Scilla autumnalis</i>	MC
<i>Fumaria occidentalis</i> EE	MC	<i>Scrophularia scorodonia</i>	W
<i>Fumaria purpurea</i>	OV	I _{NA} <i>Sedum forsterianum</i>	MC
<i>Hypericum undulatum</i>	M	<i>Sibthorpia europaea</i>	MC
		<i>Trifolium occidentale</i>	MC
		<i>Viola lactea</i>	M/H

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Anthoceros punctatus</i>	OV	<i>Kurzia sylvatica</i>	H
<i>Bryum donianum</i>	O	<i>Lophozia longiflora</i>	O
<i>Bryum dunense</i>	M	MARSUPELLA PROFUNDA ⁸	O
<i>Campylopus polytrichoides</i>	MC	<i>Phascum cuspidatum</i> var.	OV
<i>Cephalozia catenulata</i>	W/O	<i>piliferum</i>	
<i>Cephaloziella massalongi</i>	OV	<i>Philonotis arnellii</i>	O
<i>Cephaloziella nicholsonii</i> E	OV	<i>Philonotis caespitosa</i>	O
<i>Cephaloziella stellulifera</i>	OV	<i>Philonotis rigida</i>	MC/O
<i>Cephaloziella turneri</i>	O	<i>Plagiothecium ruthei</i>	W
<i>Cladopodiella francisci</i>	M	<i>Pottia crinita</i>	MC
<i>Cololejeunea minutissima</i>	O	<i>Rhynchostegium alopecuroides</i>	W
<i>Cyclodictyon laetevirens</i> ⁸	O	<i>Riccia beyrichiana</i>	OV
<i>Desmatodon convolutus</i>	MC	<i>Riccia crozalsii</i>	MC
<i>Diplophyllum obtusifolium</i>	O	<i>Schistostega pennata</i>	O
<i>Ephemerum serratum</i> var. <i>serratum</i>	OV	<i>Scorpiurium circinatum</i>	O
<i>Fissidens polyphyllus</i>	O	<i>Tortula solmsii</i>	O
<i>Fossombronia angulosa</i>	MC	<i>Weissia controversa</i> var.	OV
<i>Fossombronia foveolata</i>	OV	<i>densifolia</i>	
<i>Fossombronia husnotii</i>	MC	<i>Weissia perssonii</i>	MC
<i>Grimmia britannica</i>	O		
<i>Henediella stanfordensis</i>	OV		

EXTINCT AND/OR DECLINING SPECIES

Flowering plants	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Adiantum capillus-veneris</i>	MC	<i>Grimmia decipiens</i>	O
		<i>Grimmia laevigata</i>	O

KEY HABITATS

	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	1	2	5	2		1	2		1		16	5	1	
Bryophytes	3	2	1								8	10	16	
Charophytes														
Total	4	4	6	2		1	2		1		24	15	17	

SUMMARY OF INTEREST

	Inter-national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants	1	1	5	27		1		32
Bryophytes	1	1	4	34	1			38
Charophytes								
Total	2	2	8	62	1	1		70

KEY:

INTERNATIONAL DESIGNATION

Schedule 8 = ⁸

Data Deficient = ^{DD}

English endemic = ^{EE}

NA Introduction = ^{I_{NA}}

Red List

Lower risk

GB endemic = E

GB Introduction = I

BOTANICAL PROFILE:
97. THE LIZARD

Vascular plant significance: OUTSTANDING
Bryophyte significance: CONSIDERABLE
Charophyte significance: NOTABLE

General botanical character The Lizard has long been known as a unique botanical area in Britain. The extensive heathland overlying serpentine and gabbro supports many notable plants, including *Erica ciliaris* and *E vagans*, the latter also found here as a hybrid with *E tetralix* (*E williamsii*). Also present is the *Limonium binervosum* agg., although the distribution of the constituent species is poorly known. However it is the maritime-influenced cliff top grasslands, extending inland, and other coastal features, that make the Lizard one of the most important botanical areas. Amongst the plants of note are *Asparagus officinalis* ssp. *prostratus*, *Fumaria reuteri*, *Juncus pygmaeus*, *Polygonum maritimum* and *Rumex rupestris*. Many of the plants have a southern European, Atlantic or Mediterranean type distribution, and this is especially evident in the bryophyte flora, with such species as *Lejeunea mandonii*, *Cololejeunea minutissima*, *Colura calyptrifolia* and *Fossombronia husnotii*. Others are known no where else in Britain including *Riccia bifurca* and *Cephaloziella dentata*, and *Gongylanthus ericetorum* which is otherwise only known from Isles of Scilly.

Vascular Plants	Habitat (NVC)	Vascular Plants	Habitat (NVC)
<i>I_{NA} Aconitum napellus</i>	W	<i>Juncus pygmaeus</i>	OV/H
<i>Adiantum capillus-veneris</i>	MC	<i>Lathyrus japonicus</i>	SD
<i>Allium ampeloprasum</i> var. <i>babingtonii</i>	MC	<i>Lavatera cretica</i>	O
<i>Allium schoenoprasum</i>	MC	<i>Lotus angustissimus</i>	MC
<i>Arum italicum</i>	W	<i>Lotus subbiflorus</i>	MC
<i>Asparagus officinalis</i> ssp. <i>prostratus</i>	MC	<i>Mentha pulegium</i> ⁸	OV
<i>Asplenium obovatum</i>	MC	<i>Melittis melissophyllum</i>	W
<i>Brassica oleracea</i> var. <i>oleracea</i>	MC	<i>Minuartia verna</i>	OV
<i>Carex montana</i>	H/U	<i>Orobanche alba</i>	MC
<i>Carex punctata</i>	MC	<i>Orobanche hederæ</i>	MC/W
<i>Chamaemelum nobile</i>	MG	<i>Orobanche rapum-genistæ</i>	H/W
<i>Chenopodium vulvaria</i> ⁸	OV	<i>Pilularia globulifera</i>	OV/A
<i>Cicendia filiformis</i>	U/H	<i>Poa infirma</i>	MC
<i>Cyperus longus</i>	MG	<i>Polycarpon tetraphyllum</i>	OV
<i>Deschampsia setacea</i>	M	<i>Polygonum maritimum</i> ⁸	SD
<i>Erica ciliaris</i>	H	<i>Ranunculus tripartitus</i>	OV
<i>Erica vagans</i>	H	RUMEX RUPESTRIS ⁸	SD
<i>Erodium moschatum</i>	MC/O	<i>Scilla autumnalis</i>	MC
<i>Euphorbia portlandica</i>	MC	<i>Sibthorpia europæa</i>	O
<i>Euphrasia vigursii</i> EE	U	<i>Trifolium bocconeï</i>	MC
<i>Fumaria occidentalis</i> EE	MC	<i>Trifolium glomeratum</i>	MC
<i>Fumaria purpurea</i>	OV	<i>Trifolium incarnatum</i> ssp. <i>molinerii</i>	MC
<i>Fumaria reuteri</i> ⁸	OV	<i>Trifolium occidentale</i>	MC
<i>Genista pilosa</i>	H	<i>Trifolium strictum</i>	MC
<i>Herniaria ciliolata</i>	MC	<i>Trifolium suffocatum</i>	MC
<i>Hypericum undulatum</i>	M	<i>Verbascum virgatum</i>	OV
<i>Hypochaeris maculata</i>	MC	<i>I_{NA} Vicia bithynica</i>	MC
<i>Illecebrum verticillatum</i>	OV	<i>Vicia lutea</i>	MC
<i>Inula crithmoides</i>	MC	<i>Viola lactea</i>	H
<i>Isoetes histrix</i>	MC	<i>Zostera marina</i>	O
<i>Juncus capitatus</i>	OV/H		

Bryophytes	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Anthoceros punctatus</i>	OV	<i>Grimmia laevigata</i>	O
<i>Brachythecium mildeanum</i>	MG/O	<i>Henediella stanfordensis</i>	OV
<i>Bryum pallescens</i>	O	<i>Lejeunea mandonii</i>	MC/O
<i>Bryum tenuisetum</i>	O	<i>Phascum cuspidatum</i> var.	OV
<i>Campylium elodes</i>	SD	<i>piliferum</i>	
<i>Campylium polygamum</i>	SD	<i>Philonotis arnellii</i>	O
<i>Cephaloziella calyculata</i>	MC/H	<i>Pleurochaete squarrosa</i>	MC
<i>Cephaloziella dentata</i>	H	<i>Porella obtusata</i>	O
<i>Cephaloziella stellulifera</i>	H	<i>Pottia commutata</i>	MC
<i>Cephaloziella turneri</i>	O	<i>Pottia crinita</i>	MC
<i>Cladopodiella francisci</i>	M	<i>Pottia wilsonii</i>	MC
<i>Cololejeunea minutissima</i>	O	<i>Riccia beyrichiana</i>	H/MC
<i>Colura calyptrifolia</i>	O	<i>Riccia bifurca</i> ⁸	H/MC
<i>Desmatodon convolutus</i>	MC	<i>Riccia crozalsii</i>	MC
<i>Ditrichum subulatum</i>	O	<i>Riccia nigrella</i>	MC
<i>Drepanocladus lycopodioides</i>	SD	<i>Scorpiurium circinatum</i>	O
<i>Drepanocladus sendtneri</i>	SD	<i>Tortula canescens</i>	MC
<i>Dumortiera hirsuta</i>	O	<i>Weissia controversa</i> var. <i>crispata</i>	MC
<i>Ephemerum serratum</i> var. <i>serratum</i>	OV	<i>Weissia controversa</i> var.	O
<i>Ephemerum sessile</i>	OV	<i>densifolia</i>	
<i>Fissidens rivularis</i>	A	<i>Weissia microstoma</i> var.	O
<i>Fossombronia angulosa</i>	MC	<i>brachycarpa</i>	
<i>Fossombronia husnotii</i>	MC	<i>Weissia multicapsularis</i>	MC
<i>Gongylanthus ericetorum</i>	MC	<i>Weissia perssonii</i>	MC

Charophytes	Habitat (NVC)	Charophytes	Habitat (NVC)
<i>Chara fragifera</i>	A		

EXTINCT AND/OR DECLINING SPECIES			
Flowering plants	Habitat (NVC)	Bryophytes	Habitat (NVC)
<i>Corrigiola litoralis</i>	O	<i>Cephaloziella dentata</i>	H
<i>Lavatera cretica</i>	O		
<i>Zostera angustifolia</i>	O		
<i>Zostera noltii</i>	O		

KEY HABITATS														
	W	M	H	M G	C G	U	A	S	S D	S M	M C	O V	O	Total
Vascular plants	5	2	9	2		3	1		3		29	12	4	
Bryophytes		1	5				1		4		18	5	15	
Charophytes							1							
Total	5	3	14	2		3	3		7		47	17	19	

SUMMARY OF INTEREST								
	Inter- national	Sched 8	Red List	Lower risk	GB endemic	English endemic	Data deficient	No.of Species
Vascular plants	1	5	11	50		2		61
Bryophytes		1	6	39				45
Charophytes			1					1
Total	1	6	18	89		2		107

KEY:	<i>INTERNATIONAL DESIGNATION</i>	<i>Red List</i>
	Schedule 8 = ⁸	<i>Lower risk</i>
	Data Deficient = _{DD}	GB endemic = E
	English endemic = EE	GB Introduction = I
	NA Introduction = I _{NA}	