

# THE COMMON LANDS OF CORNWALL

## A BIOLOGICAL SURVEY

### 1. Introduction

This report presents the results of a biological survey of registered common lands in the former county of Cornwall. It is one of a set of county reports that have been compiled over a twelve-year period by the Rural Surveys Research Unit (University of Wales, Aberystwyth), and forms part of a wider study and inventory of commons in England and Wales (Aitchison, 1998, Aitchison *et al*, 2000).

The central objective of the national survey of commons has been to draw together an array of biological data from a variety of sources, including Phase 1 mapping of vegetation and habitat types. Such data are potentially of value not only to those with a specialist concern for the identification and conservation of biodiversity, but also to those with a broader interest in the use and effective management of commons - policy makers, stakeholders and other parties. While the databases produced as a result of the national survey focus on biological attributes (flora, fauna and habitats), they also include reference to the location and extent of commons, the nature of rights of common (if any) and details concerning ownership. Also recorded is the association of commons with various protected area networks (e.g. national parks, SSSIs). Where available, and mainly through field observations, information has been gathered on the use and management of individual commons, including reference to particular problems that appear to exist (e.g. over- or under-grazing, encroachment). These various facets of the survey, and the precise nature of the data that have been collated, are considered in detail.

While the national survey of commons is relatively broad in scope, its main aim, as noted above, is to determine the biological characteristics of common land and to assess the value of these highly distinctive areas in terms of their contribution to the conservation of biodiversity. Before considering the situation as it applies in the county of Cornwall, however, it is appropriate to provide a general introduction,

focussing briefly on the common land debate, as it has evolved over the years, but with a particular emphasis on the conservation interest in such areas and on broader policy issues.

## **2. Background : Reports, Legislation and Policies**

In presenting evidence to the Royal Commission on Common Land in 1956, the Nature Conservancy (as it then was) stressed that in many regions of England and Wales commons were “wildlife sanctuaries”, “reservoirs for species”, and “disproportionately rich in examples of plant and animal communities which have largely been eliminated from surrounding localities”. The Royal Commission itself noted that, protected by statutes from many of the pressures that had so markedly impacted upon the countryside at large, commons were often “islands of semi-natural vegetation” and “refuges” for rare and interesting wildlife.

Given the significance of common land as a national resource, the Scott Report of 1942, in considering the "well-being of rural communities and the preservation of rural amenities", called for steps to be taken "to record details of common lands, to safeguard any rights of public rights of access or use, and otherwise to ascertain the position of commoners" (Cmnd 6378, 1942, p59). It was not until 1955, however, with the setting up of a Royal Commission on Common Land, that these matters were pursued further. Following a detailed and broadly-based investigation, the Royal Commission reported in 1958 and made a host of recommendations concerning the protection and management of "these last uncommitted reserves of land". The then Government did not respond to the Commission's main recommendations, but local authorities were subsequently charged with compiling and maintaining registers of land, ownership and rights of common (Commons Registration Act, 1965). The 1965 Act applies to those tracts of land subject to rights of common, together with wastes of manors not subject to rights of common. The process of common land registration was completed in 1972, but numerous disputes concerning ownership and rights of common had to be resolved by Commons Commissioners (Gadsden, 1988; Aitchison and Gadsden, 1992).

The problems associated with the registration process thwarted efforts to promote further legislation, but the common land question continued to be a focus of attention. In 1976 an inter-departmental working party (*Common Land : Preparations for Comprehensive Legislation*, DOE, 1976) reaffirmed the main conclusions of the Royal Commission, while the Common Land Forum (established in 1983) put forward detailed proposals concerning public access and the establishment of management associations/schemes for areas of common (Common Land. Report of the Common Land Forum, Countryside Commission, CCP215, 1986). Despite widespread agreement and a series of positive pronouncements, the recommendations of the Common Land Forum were not acted upon. Thus, in the White paper *Rural England : A Nation Committed to a Living Countryside*, (DOE and MAFF, 1995) it was stated that, while :

*“We remain committed to maintaining the status of common land, to protecting the rights of commoners and to encouraging proper management.....*

*We do not now believe that comprehensive legislation, along the lines of that proposed in 1986 by the Common land Forum, is feasible or practical”.*

At the time of writing, and of particular relevance to common lands, a draft Bill has been published (The Countryside and Rights of Way Bill) which, if enacted as drafted, would grant access to specified categories of open land. One of these categories is registered common land; the others include mountain moor, heath and down. It should be added that the draft Bill makes no reference to a 'universal' right of access, nor is the phrase a 'right to roam' adopted. Two other publications of importance to the future governance and management of commons are a “*Good Practice Guide on Managing The Use of Common Land*”, (DETR, 1998) and "*Greater Protection and Better Management of Common Land in England and Wales*" (DETR, 2000).

On the ecological front, a number of studies have sought to quantify the conservation significance of common land in England and Wales. These include the reports prepared for the Royal Society for Nature Conservation by Palmer (A

*Future for Wildlife on Commons*, Parts 1 and 2, 1989) and by Bruce (*Wildlife Importance of Common Land*, 1989). A preliminary overview of results generated by the Rural Surveys Research Unit (University of Wales, Aberystwyth) for 18 regions in England and Wales - *Common Land and Conservation : A Synthesis* (Aitchison and Medcalf, 1994) - also shed light on the diversity of flora and fauna that are to be found on commons and wastes. Subsequently, Aitchison also summarised the findings of the biological survey of commons for the whole of Wales (Countryside Council for Wales, 1997). This latter study is highlighted in a recent report by RSPB Cymru entitled '*Living Commons*' (RSPB Cymru, 2000).

As has already been noted, this present county report is one of a set of reports compiled by the Rural Surveys Research Unit (University of Wales, Aberystwyth) over an twelve-year period. The first collection of reports was commissioned and funded by the Nature Conservancy Council, and thereafter by English Nature. To complete the picture a study of commons in the remaining counties of England was commissioned in 1995 by the Department of the Environment (now the Department of the Environment, Transport and the Regions - DETR). This report has been prepared as part of this latter phase of the national survey of common lands.

### **3. The Database of Registered Commons**

Before describing the attributes of commons in Cornwall it is necessary to note that the data presented here are derived from three main sources. Firstly, the registers of common land that are maintained by local authorities; secondly, information gained from site-based evaluations of individual commons; and thirdly, from the biological records of local/regional agencies and organisations (e.g. English Nature offices, county wildlife trusts). The information collated from these various sources has been entered into a Microsoft Access database to facilitate the analysis and retrieval of common land records. Some of this information is quantitative in nature (e.g. areas of habitats), and some is textual and qualitative (e.g. descriptions of vegetation and associated habitats). In addition to the computer files that constitute the database, record sheets have been produced that detail the essential characteristics of all commons included in the biological survey (i.e. mainly commons over 1 hectare in

size). These sheets constitute a hard copy record and are included in Appendix 3 for the county of Cornwall. In addition to the types of data described above the data sheets also include maps of Phase 1 habitat types for those commons that were included in the survey.

Given that the Phase 1 information forms such a key part of the data record it is appropriate at this point to describe briefly the approach adopted within the survey. This involved :

(i) identifying all common land over 1 hectare in size and preparing broad-based vegetation maps using the standard 'Phase 1' coding of the Nature Conservancy Council (as it then was), and where possible, National Vegetation Classification communities. Phase 1 surveys secure a relatively rapid record of semi-natural vegetation and wildlife habitats at a scale of 1:10000.

(ii) preparing descriptions of the biological interest of each common land unit, principally from a botanical viewpoint, but also recording information on fauna where feasible. These descriptions include references to particular species of flora and fauna identified within the surveys. From these lists of species have been compiled for each of the county reports. Quantitative and textual information summarise the essential biological attributes of individual commons.

(iii) from on-site observations, making summary evaluations of management practices on each common, together with recommendations (where sufficient information is available) concerning the resolution of any problems relating to the conservation interest.

Although the national survey of commons is based on a Phase 1 mapping of habitat types it is evident that the various categories identified can be aggregated into other higher order groupings to suit particular needs. Thus, it is possible for instance to aggregate the categories with a view to defining broad and priority habitat types as defined in the UK Biodiversity Action Plan and associated reports (1994, 1998). This said, it should be emphasised that the matching of Phase 1 categories to these new biodiversity categories cannot always be effected neatly, for in certain cases more

detailed information concerning particular species or site conditions is required. Despite this, and since the biodiversity value of commons is an important issue, an effort is made in this report and in the summary report to comment on such matters, and to generate estimates of the habitat types and areas concerned.

Although the biological survey of commons in England and Wales has examined all CL units over 1 hectare in size, it is to be appreciated that this threshold is somewhat arbitrary in nature and was selected to limit extensive field work demands. To identify those commons over 1 hectare reference was initially made to the area statistics detailed in the land sections of the registers. However, since these statistics were known to be frequently crude estimates, maps held in the common land registration offices were also consulted to check if the areas recorded were sufficiently reliable. It is for this reason that certain commons with registered areas over one hectare were not covered in the survey, and why others under one hectare were actually included. Some commons over 1 hectare in size were also excluded because the areas concerned were highly fragmented, with component parts being less than this threshold. A small number of commons under 1 hectare were also included because they abutted other larger areas of common land.

Finally, in regards to the database of common lands it can be noted that OS grid references define centroid locations for individual commons. Although not used in this report (apart from the production of the location map), these co-ordinates has enabled the integration of the survey information into a full Geographical Information System (GIS). In this case the GIS adopted is ArcInfo and ArcView3. Such a system greatly extends the utility of the Access database, and allows sophisticated spatial searches, queries and mapping to be undertaken. The GIS facility was extensively deployed in the preparation of the full England report (Aitchison *et al*, 2000).

Having described the aims and objectives of the biological survey of common land in England, it is appropriate to consider the essential characteristics of common lands in the county of Cornwall.

#### **4. The Common Lands of Cornwall**

Although an effort was made by the Royal Commission on Common Land to ascertain the location and extent of commons in the mid 1950's, it was not until 1967, following the Commons Registration Act 1965, that a formal inventory of commons and greens was initiated in England and Wales. Despite weaknesses in the legislation and deficiencies in the procedures adopted during the registration process itself, the 'terriers' prepared by the various registration authorities now serve as a definitive record. The 1965 Act defines common land as '*land subject to rights of common (as defined in this Act) whether those rights are exercisable at all times or only during limited periods*', and '*waste land of a manor not subject to rights of common*' (Section 22). A list of the commons recorded in the registers for Cornwall is included in Appendix 1.

##### **(i) Sizes of Commons**

At the time they were consulted the commons registers for the former county of Cornwall contained 290 separately identified commons (CL Units). It is to be appreciated that the registers themselves can be subject to modification in each of their three sections – lands, rights and ownership. It is for this reason that certain of the data presented here, notably concerning rights and ownership, need to be treated with a degree of circumspection. This does not apply to the data collated in regard to habitat types however. For the counties considered in this phase of the survey, these were derived through field evaluations undertaken between 1996 and 1999.

While the land section of the registers generally include figures specifying the areas of these commons, they cannot be regarded as accurate measures. More detailed mapping and calibrations made during the biological evaluation of the commons (e.g. the measurement of habitat areas) have indicated that errors can be of a significant order. In this section of the report reference is made to the 'register' areas rather than re-calculated areas. Of necessity the latter are however used in the statistical summary of habitat types below.

Figure 1 shows that commons are to be found throughout the county but with notable concentrations occurring around Bodmin Moor, to the north of St Austell, the coastal area to the north of Penzance, and around Lizard Point

The total registered area of common land is 9661 hectares. Just over 40% of the commons are under 1 hectare in size, while 28% are between 5 and 50 hectares. There are 10 registered commons with areas of 200 hectares and more. These are CL162 (211 hectares), CL165 (221 hectares), CL115 (234 hectares), CL148 (352 hectares), CL110 (433 hectares), CL186 (445 hectares), CL137 (500 hectares), CL108 (529 hectares), CL194 (599 hectares) and CL124 (1012 hectares). Most of these large commons are to be found on Bodmin Moor, with the most extensive area being St Breward Common on its northern edge. On the ground the area of individual tracts of land can be larger than emerges from the registers because of the contiguity of commons. This is particularly true of the situation in Cornwall where 134 commons – nearly half of all commons - are contiguous with others.

## **(ii) Rights of Common**

In Halsbury's Law of England a right of common is defined as a "*right, which one or more persons may have, to take or use some portion of that which another man's soil naturally produces*" (4th Edition, vol 6, p177). It follows from this that owners of commons cannot exercise "rights of common" on their own land. That said, they can still possess rights to use their commons for various purposes (e.g. sporting rights, grazing rights, rights to take minerals). Without entering into detail, it can be noted in regard to rights of common that a number of different types of rights can be distinguished. The six main categories are : rights of pasture (sheep, cattle, horses and ponies), estovers, turbary, piscary, pannage and common in the soil.

Because of deficiencies and complexities in the way rights of common were registered it is not possible to state precisely how many separate holdings/parts of holdings have rights attached to them. A major complication in this regard is that the registers contain large numbers of entries that are either cross-referenced (i.e. a particular right may relate to more than one registered unit of common land) or multiply registered (i.e. the same right is separately, but incorrectly, recorded for



more than one common). A further difficulty is that the rights sections of the registers are continually being updated. That said, no doubt many changes that have occurred on the ground have not been recorded.

At the time they were consulted the number of final and provisional rights entries for commons in the county of Cornwall was just over 1600. Given the issues detailed above it is evident that this figure should be regarded as indicative rather than definitive. In this regard it should be noted that 73 commons had rights entries that were cross-referenced to other commons.

Nearly 68% (169) of the commons in Cornwall have rights associated with them. While the number of entries for the majority of these (66%) range between 1 and 5, there are 25 commons where entries exceed 20. The maximum number is 111. As Table 1 indicates the most significant of these are rights to graze cattle (30% of all commons surveyed), horses and ponies (19%), sheep (17%). Rights of turbary, piscary, pannage and common in the soil apply on a relatively small, but noteworthy number of commons in the county. To complete the picture, it can be noted that other types of rights that are not 'of common' were recorded on 39 commons.

Table 1

Rights of Common	Number of Commons	% Commons
Sheep	50	17.2
Cattle	87	30.0
Horses/Ponies	56	19.3
Pasture (Unspecified)	1	0.3
Other Livestock	19	6.6
Estovers	24	8.3
Turbary	14	4.8
Common in the Soil	11	3.8
Piscary	10	3.4
Pannage	9	3.1
Other Rights	39	13.4
<b>Commons with Rights</b>	<b>169</b>	

*N.B. Individual commons can have more than one type of right. Figures refer to surveyed commons only.*

### **(iii) Ownership**

Commons and wastes, like ordinary freehold land, have owners. They do not necessarily form part of the public domain. In the common land registers the ownership sections for many commons were, at the outset, empty. This was either because ownership was not known at the time or simply because the details were not recorded (the 1965 Act did not make this mandatory). The situation in terms of ownership can be quite complex with commons frequently having more than one owner, and owners of different types (eg private individuals, trusts, companies etc). When the registers were last consulted 80 commons (27%) in the Cornwall registers had no information recorded concerning ownership. Where it proved impossible to trace owners, Commons Commissioners were required by Section 9 of the 1965 Act to place the commons concerned under the protection of their local authorities. In Cornwall 34 (12%) commons had been made subject to Section 9 at the time the registers were examined.

The largest number of commons (95) were wholly under private ownership (other than traditional estates). Some commons also had private owners for parts of the land concerned (47). Only 13 commons were owned by parish and other councils. Nine commons were recorded as being in the hands of the National Trust, while just two commons were owned by traditional estates (Duchy of Cornwall). A further nine commons were held by a variety of organisations, including trusts.

These statistics should be regarded as illustrative of the diversity of ownership forms that prevail in regard to common land; in no way should they be considered definitive of the current situation in the county. Ownership details for commons can quickly become outdated, as properties change hands. Furthermore, titles to ownership may not be specified within the common land registers themselves; in some cases reference is simply made to records held at the Land Registry.

## **5. Biological Characteristics of Common Land**

### (a) Habitat Types

For purposes of the survey habitats were categorised according to the NCC Phase 1 classification (Nature Conservancy Council, 1990). It is to be appreciated that this is a broad structural classification rather than one based upon vegetation communities. Phase 1 habitats are recorded on the site cards for each of the commons and on associated maps. To add further detail, an effort was made to apply the National Vegetation Classification (Rodwell, 1992) wherever possible. This extra information is included mainly in the description of vegetation communities.

In preparing the habitat maps and site descriptions for the individual commons, the project brief required that extensive consultation of existing information sources should be made and that any field survey be targeted at filling any 'gaps' in available habitat information. The various information sources are fully described in the relevant sections of the individual site reports (Appendix 3).

Table 2 provides a statistical summary of the habitats recorded during the course of the survey. The sites included in the survey represented 59% of all commons and 96% of the total area of common land in the county. In all, 47 different habitat types were recorded.

Table 2

NCC Phase 1 Habitats	Area (Hectares)	Number of Commons	% Area
<b>Woodland and Scrub</b>			
A111 Woodland : Broadleaved (Semi-natural)	133.7	28	1.4
A112 Woodland : Broadleaved (Plantation)	0.1	1	0.0
A122 Woodland : Coniferous (Plantation)	0.8	2	0.0
A132 Woodland : Mixed (Plantation)	0.3	1	0.0
A21 Scrub : Dense/Continuous	590.4	123	6.4
A22 Scrub : Scattered	62.1	10	0.7
A3 Parkland : Broad-leaved and/or Coniferous	10.2	5	0.1

**Grassland**

B11 Acid Grassland (Unimproved)	2971.6	46	32.1
B12 Acid Grassland (Semi-Improved)	148.2	23	1.6
B21 Neutral Grassland (Unimproved)	4.2	5	0.1
B22 Neutral Grassland (Semi-Improved)	1.8	4	0.0
B4 Improved Grassland	353.4	19	3.8
B5 Marsh/Marshy Grassland	297.1	40	3.2
B6 Poor semi-improved grassland	103.8	14	1.1

**Tall Herb and Fern**

C11 Bracken Continuous	739.0	76	8.0
C12 Bracken Scattered	38.8	7	0.4
C31 Tall Ruderal	8.6	20	0.1

**Heathland**

D11 Dry Dwarf Shrub Heath (Acid)	831.8	41	9.0
D2 Wet Dwarf Shrub Heath	1945.1	51	21.0
D5 Dry Heath/Acid Grassland Mosaic	13.1	2	0.1
D6 Wet Heath/Acid Grassland Mosaic	370.2	11	4.0

**Bog, Flush and Fen**

E21 Acid/Neutral Flush	2.8	5	0.0
E31 Fen : Valley Mire	197.6	16	2.1
F1 Swamp	1.0	2	0.0
F21 Marginal vegetation	0.2	1	0.0
F22 Inundation vegetation	1.7	1	0.0

**Open Water**

G1 Standing Water	11.5	7	0.1
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**Coastland**

H11 Intertidal : Mud/Sand	5.8	4	0.1
H13 Intertidal Boulders and rock	31.6	5	0.3
H26 Saltmarsh : Dense continuous	10.4	2	0.1
H4 Boulders/rocks above high tide mark	26.6	6	4.4
H68 Open Dune	57.0	5	0.6
H81 Maritime Hard Cliff	31.8	4	0.3
H83 Crevice/Ledge vegetation	0.4	2	0.0
H84 Coastal Grassland	85.7	8	0.9
H85 Coastal Heathland	9.8	1	0.1

**Rock Exposure and Waste**

I111 Natural : Inland Cliff (Acid/Neutral)	0.0	1	0.0
I141 Rock exposure (Acid/Neutral)	32.6	5	0.4
I21 Artificial : Quarry	45.4	3	0.5
I22 Artificial : Spoil	1.3	3	0.0

I24 Artificial : Refuse-tip	0.0	1	0.0
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### **Anthropogenic Habitats**

J11 Arable	3.2	3	0.0
J12 Amenity Grassland	0.5	1	0.0
J14 Introduced Shrub	3.7	2	0.0
J3 Built-up Areas	1.8	11	0.0
J4 Bare Ground	26.3	40	0.3
J5 Other Habitat	42.2	28	0.5

### **Woodland and Scrub**

Woodland accounts for only 1.4% of the land area of the commons surveyed in Cornwall. Scrub claims just over 7% , much of this being either *Ulex* spp. or *Salix* spp. Examples of *Salix* spp. invaded commons include CL367 (Lower Menadue Meadows), CL521, CL455 (Poligy Moor), CL420 (Criggon Moor) CL252 (Corgee Moor), CL633 (Bokiddick Moor), CL237, 141 (Goss Moor, Tregoss Moor). Some of the smaller commons are former wet grasslands or heaths which would benefit from management to diversify habitat. Goss Moor and Tregoss Moor support much scrub as part of an emerging managed diversity (formerly a gravel pit now a National Nature Reserve).

Woodlands on Cornish Commons are few in number. Pendarves Wood (CL336) is partly managed by the Cornwall Wildlife Trust and has re-introduced coppice with mature woodland of *Acer pseudoplatanus*, *Fraxinus excelsior*, *Quercus robur*. Other riverside/hillside wooded commons include CL738 (by River Cober) CL333, CL174. *Quercus robur* and *Q. petraea* are found on the same common at some sites.

Ancient or at least mature, old woodland is found at a Woodland Trust managed site at Landy Wood where there is old coppice and *Q. petraea*, *Q. robur*, *Acer pseudoplatanus*. Coastal woodland is represented at CL637 (Cliffs at Trenarren)

### **Grassland**

Acidic grasslands (unimproved or semi-improved) are the most dominant habitats and cover 3119 hectares – a third of the surveyed area of common land. There are very

few neutral grassland areas, but 353 hectares (3.8%) of improved grasslands, 297 hectares (3.2%) of marshy grassland and 103 hectares (1%) of 'poor semi-improved' grasslands. A heath/grassland matrix accounts for a further 383 hectares.

Most of the large acidic grasslands are on the uplands of Bodmin Moor. These include St Breward Commons and Rough Tor (CL198, CL124), High Moor (CL194), West Moor (CL110), Shallow Water Common (CL187), Davidstow Moor (CL186), Brockabarrow Common (CL165), Newton Downs (CL143), and Trehudreath Downs (CL142).

Improved grasslands include Land at Laneast Downs (CL328), Craddock Moor (CL281), Cardinham Downs (CL138), Tawna Downs (CL127), Caraquidden Downs (CL712), and Racecourse Downs (CL139).

A few commons are coastal grasslands such as Cubert Common (CL117), The Greenaway (CL532), Lower Predannack Cliff (CL478) owned by the National Trust, and Pothcothan Common (CL553), owned by the local authority. This latter common has a great variety of grass and grassland species.

Tolborough Downs at Belventor (CL685), and Madderley Moor (CL347) are good examples of the few commons with marshy grasslands .

### **Tall Herb and Fern**

Bracken covers 777 hectares of the commons of Cornwall - 8.4 % of the total common land area. It is present on most sites, but in quantities sufficient to be mapped on 83 commons.

### **Heathland**

In Cornwall heaths (wet or dry) cover 2777 hectares - 30% of the total area of common land. In areal extent this habitat ranks second to acidic grasslands. A further 383 hectares support a heath/grassland matrix.

The majority of the heaths are wet heaths, occasionally as pure stands but more often in matrix with dry heath and/or acidic grassland. The condition of the heathlands varies widely according to local grazing regimes. Many heaths are bracken and/or gorse invaded.

The larger wet heaths include Watch Croft/Nine Maidens (CL707), Woon Gumpus Common (CL271), Tredinnick Downs (CL251), Roswic Croft (CL219), Retire Common (CL218), Rosenannon Downs (CL192), Manor Common (CL183), Sprey Moor (CL166), Redhill Downs (CL158), Craddock Moor (CL149), Twelvemens Moor (CL148), Menacrin Downs (CL145), and Cardinham Moor (CL137).

Of particular note are the Higher and Lower Predannack Downs (CL472) which demonstrate differing categories of heath - Short Heath, Tall Heath, Mixed Heath and Rock Heath. The area is under active management in co-operation with the airfield that is central to the site. *Erica vagans*, the Cornish Heath native mostly to the Lizard Peninsula, is of particular note, both here and at Kynance Downs (CL210) where there is also found *Erica x williamsii*, a sterile hybrid of *E. vagans* and *E. tetralix*, native only to this area but found often in cultivation.

### **Valley mires and flushes**

Twenty-one commons include either or both of these habitats, with a total area of 200.5 hectares - just over 2% of the total common land area of Cornwall.

The Bodmin Moor Commons include several valley mires e.g. Menacrin Downs (CL145), East Moor (CL108), Trehudreath Downs (CL142), St Breward and Rough Tor Downs (CL124), West Moor (CL110), Davidstow Moor (CL186). The latter common includes Rough Tor marsh which is M21a *Narthecium ossifragum-Sphagnum papillosum* valley mire *S. auriculatum-Rhyncospora alba* sub-community. Hardhead Downs (CL164) includes Dewey Marsh which includes many pools of open standing water with abundant *Sphagnum* spp. and the typical species of valley mires that are listed in the relevant individual records (see Appendix 3).

Flushes are found on several commons and occasionally on coastal sites, such as Morvah Cliff (CL702).

### **Open Water**

Seven commons include open water - Goss Moor CL115 and CL237 (pools resulting from gravel extraction), Cardinham Moor and Fore Downs (CL137) and Craddock Moor CL149 (ponds arising from old quarries), Retire Common CL218 (a mesotrophic pond, apparently of natural origin), Trewint Marsh CL232 (ponds along the northern edge of scrub-invaded common), Woon Gumpus Commons CL271 (natural ponds used and poached by cattle).

### **Coastland**

Several Cornish Commons include coastline and most of these are designated as part of Heritage Coast, SSSI and/or are owned by the National Trust. The most spectacular example is CL334, a 5 mile long strip of clifftop, cliffs and shore habitat. Gwithian Towans (CL109) is mostly sand dune grasslands and foreshore. Gunwalloe Church, Cove Beach (CL177 and CL235) is intertidal sand and dunes.

Kynance Downs (CL210), a famously beautiful area, is common land and an SSSI with serpentine rock underlying vegetation that includes *Erica vagans* or Cornish Heath.

A similarly impressive setting is found at Zennor Cliffs (CL703) which includes clifftop grasslands, much bracken, cliffs and foreshore. Both sections of this common are owned by the National Trust.

One of the few coastal commons on the southern coast of Cornwall is 'The Jacka' (CL213) - a bracken and scrub invaded coastal grassland. Coastal woodland is found at CL637 - the Cliffs at Trenarren.



## **Rock Exposure and Waste**

Some Cornish Commons include small areas of bare rock exposure, usually on the Bodmin Moor commons. Rough Tor (CL124) is perhaps the most noted such site with rare bryophytes and lichens. Twelvemens Moor (CL148) has considerable exposed rock with sheltered crevices that support differing species from the grazed moorland.

There are occasional outcrops of rock (acidic inland cliff) on lower altitude sites such as Feadon Wood (CL333).

Quarry waste/spoil is evident on commons such as Tredinnick Downs (CL251) and Tresayes/Hensbarrow Downs (CL492).

## **Anthropogenic Habitats**

Small areas of amenity grasslands were identified on three commons. Other anthropogenic habitats include the sites affected by quarrying (see above).

### **(b) Notable Plant Species**

The commons of Cornwall contain a number of Nationally Scarce plants (NS). These are defined as species recorded from between 16 - 100 ten km squares of the Ordnance Survey Grid (Stewart *et al.* 1994). These include :

CL109 : *Vulpia fasciculata*, *Verbascum virgatum*, *Equisetum variegatum*, *Orobanche hederæ*, *Trifolium occidentale*, *Valeriana eriocarpa* (RDB), *Scrophularia scorodonia*.

CL115, CL237, CL141 : *Sibthorpia europaea*, *Cicendia filiformis*, *Pilularia globulifera*.

CL124: Considerable bryophyte interest.

CL194: Considerable bryophyte interest e.g. *Jamesoniella undulifera* (Liverwort), *Antitrichectarescurtipendula*, *Pohlia bulbifera*, *Fontinalis squamosa* var. *curnowii*.

CL210: *Isoetes histrix*, *Juncus mutabilis*, *Geranium sanguineum*, *Cladium mariscus*. Also many rare lichens. See National Trust surveys.

CL281: Nationally rare: *Lycopodium undulatum*, *Euphrasia vigursii*, *Hypericum undulatum*, *Cicenda filiformis*, *Viola lactea*, *Rhyncospora alba*, *Illecebrum verticillatum*, *Dactylorhiza incarnata* ssp. *pulchella*. Also many notable bryophytes and lichens. See English Nature surveys.

CL333: *Euphorbia hyberna* (RDB) and considerable bryophyte interest.

Full details can be derived from the record sheets for individual commons (see Appendix 3).

### **(c) Fauna**

While the main purpose of the Biological Survey of Common Land was to record the habitats and vegetation present, some consideration was also given to fauna. Although faunal survey work is much more time-consuming, and often cannot be undertaken without numerous visits to a site, an attempt was made to compile information on fauna through an examination of existing information sources and by noting the more obvious and easily-recognised elements of the fauna whilst undertaking the other fieldwork. It is recognised that in many ways this is unsatisfactory and it is also the case that much information exists in the records of English Nature and specialist recorders which could not be examined given resource constraints. The following lists highlight some commons of interest. More details are provided in the individual site records.

### **Vertebrates**

CL194 and Bodmin Moor Commons: Hen Harrier, Merlin, Peregrine, Red Kite, Short-eared Owl. Golden Plovers overwinter in internationally important numbers.

CLs 237, 115, 241 : Brook Lamphrey, Otters, Daubenton's Bat.

### **Invertebrates**

CL109 Mollusca: *Lymnaea glabra* (RDB).

CL124 Insecta: *Nomada robertjeotiana*, *Andrena tarsata*.

CL210: Coleoptera: *Cathormiocerus britannicus*, *Miarus micros*.

Lepidoptera: *Plebejus argus*, *Pterophorus fuscolimbatus*.

Formicidae: *Leptothorax tuberum*.

and many other notable species - see National Trust surveys.

CL703: Considerable invertebrate records see site record and National Trust records.

#### **(d) UK Biodiversity Action Plan**

In June 1992, the UK Government signed the Convention on Biological Diversity at Rio de Janeiro, which included the commitment to prepare national plans and programmes for the conservation of biodiversity. The UK Biodiversity Action Plan was published in 1994 (HMSO, 1994), this being followed by the initial steps toward the action planning process, with the publication of *Biodiversity: The UK Steering Group Report* (DETR, 1995).

This report highlighted a range of habitats with two categories being defined – **Broad Habitats** and **Priority Habitats** for action plan preparation. The report also included a "short" and a "middle" list of species, together totalling some 416 species, for which action plans had either already been prepared, or would be in the course of the UK BAP process. These lists have subsequently been combined, again with some revision and refinement, to produce a single list of **Priority Species** for action plan preparation.

#### **Broad Habitats**

The matching of Phase 1 habitat types described above to the broad habitat categories is detailed in Appendix 4. It is from this matching process that the area statistics included in Table 3 have been derived. This tabulation shows that two broad habitat types dominate in Cornwall, and account 69% of all common land in the county. These are acid grassland (38%) and dwarf shrub heath (31%). Only four other types account for 5% or more of the area. In order of significance these are bracken (8%), broadleaved woodland (8%), fen, marsh and swamp (5%) and improved grassland.

Table 3

Broad Habitat Types	Area (Hectares)	% Common Land
1. Broadleaved, mixed and yew woodland	728.1	8.0
2. Coniferous woodland	0.8	0.0
3. Boundary and linear features		
4. Arable and horticultural	3.2	0.0
5. Improved grassland	457.7	5.0
6. Neutral grassland	6.0	0.1
7. Calcareous grassland		
8. Acid grassland	3428.6	37.5
9. Bracken	739.0	8.1
10. Dwarf shrub heath	2863.3	31.3
11. Fen, marsh and swamp	498.6	5.4
12. Bog		
13. Standing water and canals	12.4	0.1
14. Rivers and streams	0.9	0.0
15. Montane habitats		
16. Inland rock	79.3	0.9
17. Built up areas and gardens	60.1	0.7
18. Supralittoral rock	144.4	1.6
19. Supralittoral sediment	83.6	0.9
20. Littoral rock	31.6	0.3
21. Littoral sediment	16.2	0.2
<b>Broad Habitats</b>	<b>9153.7</b>	<b>100.0</b>

### **Priority Habitats**

Unfortunately, the Phase 1 habitat types do not translate easily or convincingly into ‘priority’ habitats. In some cases the matching is clear, in most others very crude assumptions would have to be made if estimates of the areas associated with the various priority habitat types are to be derived. Given the complexities and uncertainties involved it is appropriate here to draw attention (albeit very tentatively) to the habitats concerned in Cornwall, where it is possible to do so. This translation cannot always be effected cleanly or fully because of the detail that underpins certain of the categories concerned.

**(a) Woodlands**

Six categories of woodlands have been classed as priority habitats. These are upland oakwood, lowland beech and yew woodlands, upland mixed ash woodlands, wet woodlands, native pine woods and lowland wood pasture and parkland. These categories refer to special types of situations and cannot be differentiated at the Phase 1 level of mapping. All that can be stated is that commons with A111 habitats may fall into one or more of these priority habitats. In Cornwall this habitat was recorded on 28 commons, covering 134 hectares.

**(b) Ancient and/or species-rich hedgerows**

This habitat type could apply to a number of Phase 1 categories (J211, J212, J221, J222, J231 and J232). These would embrace both the ‘ancient’ and ‘species-rich’ dimensions of the habitat category. However, it is unlikely that those hedgerows that are species-poor (J212, J222 and J232) would be worthy of inclusion in the category. In Cornwall there were no commons where this priority habitat was recorded.

**(c) Cereal Field Margins**

Field margins were not examined in the survey, but it is worth noting that arable (J11) was recorded on just three commons, with an associated area of 3 hectares.

**(d) Lowland Hay Meadow**

Again it is not possible to differentiate this habitat type with accuracy. However, since it is dominantly associated with unimproved neutral grasslands reference can be made to Phase 1 category B21. The category refers specifically to lowland locations however. Taking the 250 metre contour (800 feet) as a threshold to distinguish lowland and upland locations, and referring specifically to the median elevation of the commons concerned, it can be noted that in Cornwall this habitat covers 2.7 hectares on 4 commons.

**(e) Upland Hay Meadow**

This category is difficult to comment upon since it specifically refers to NVC MG3 communities, mainly to be found in northern and western Britain. It can be noted however that in Cornwall just one upland common (as defined above) has a B21 habitat. The area concerned is 1.5 hectares.

**(f) Lowland Dry Acidic Heath**

Phase 1 categories B11 and B12 are applicable to this priority habitat in lowland locations. In Cornwall the survey identified 43 commons with this habitat, covering 385 hectares.

**(g) Purple Moor Grass and Rush Pastures**

This priority habitat refers specifically to certain species-rich *Molinia/Juncus* swards in lowland sites. It is not possible to identify commons that fall into this category with accuracy, but it can be noted that in Cornwall the survey identified 29 lowland commons with B5 habitats (77 hectares). However, it is not possible from the survey data to differentiate commons or areas with species-rich swards.

**(h) Lowland Calcareous Grassland**

This priority habitat is broadly defined by two Phase 1 categories - B31 and B32. These habitats were not recorded on any lowland commons in Cornwall.

**(i) Upland Calcareous Grassland**

The Phase 1 categories associated with this priority habitat do not occur in upland situations in this county.

**(j) Lowland Heathland**

Lowland heathlands are defined by a number of Phase 1 types – D11, D12, D2, D5 and D6. These habitats occur on 65 lowland commons and cover a significant area - 1928 hectares.

**(k) Coastal/floodplain grazing marsh**

Identifying commons that have priority habitats of this type is difficult and could include areas with various Phase 1 types – B21, B22, B4, B5, B6 and H26. Much depends upon the geographical location of the commons and their management. The areas concerned should include “periodically inundated pasture, or meadow with ditches which maintain the water levels, containing standing brackish or fresh water.” For information it can be noted here that there are 60 lowland commons with one or more of the Phase 1 habitats specified. Identifying how many of these have the defining attributes of this priority habitat would require further field research.

**(l) Fens**

This habitat category is described as “minerotrophic peatlands”. These could include the following Phase 1 types in lowland situations – E31, E32, E33, E21, and E22. In Cornwall one or more of these habitats occur(s) on 11 lowland commons, with an aggregate area of 80 hectares.

**(m) Reedbeds**

While this priority habitat would be mapped as F1 under the Phase 1 system it actually applies only to those areas where *Phragmites australis* is dominant. In Cornwall the F1 habitat occurs on 2 commons and covers 1.02 hectares.

**(n) Raised Bog**

This priority habitat matches the Phase 1 category E162. This habitat type was not recorded on any of the surveyed commons.

**(o) Mesotrophic standing waters**

This priority habitat could apply to commons with Phase 1 types G12 and G15, but such a determination would require more detailed research. This habitat type was not recorded on any of the surveyed commons.

**(p) Eutrophic standing waters**

This priority habitat might include commons with G11 and/or G15 Phase 1 categories. These habitats were not recorded on any of the commons surveyed.

**(q) Aquifer-fed naturally fluctuating water bodies**

The two Phase 1 habitat types (G13, G14) that might include areas in this priority habitat category were not recorded on any of the commons surveyed.

**(r) Chalk rivers**

The Phase 1 type G25 relating to marl-based running water could define this particular priority habitat. However it was not identified on any of the commons surveyed.

**(s) Upland Heathland**

The various Phase 1 types that comprise this priority habitat category (see lowland heathland above) are to be found on 15 commons in Cornwall and cover an area of 1232 hectares.

**(t) Blanket Bog**

Three Phase 1 habitat types identify the blanket bog category (E161, E17 and E18). In Cornwall these habitat types were not recorded on any commons.

**(u) Limestone Pavements**

Limestone pavements constitute a discrete Phase 1 category (I13). They do not figure on any of the commons in the county.

**(v) Maritime Cliff and Slope**

Five Phase 1 habitats could be included in this priority habitat category (H81, H82, H83, H84 and H85). One or more of these feature on 12 commons, with a total habitat area of 128 hectares.

**(w) Miscellaneous coastal habitats**



The list of priority habitats contains a number of highly specific coastal categories. These include (a) vegetated shingle structures (H3); (b) saltmarsh (H23, H24, H26); (c) sand dunes (H5, H64, H65, H66, H67, H68); (d) saline lagoons (G16); and (e) deep mud and mudflats (H11). In the county the number of commons and associated areas for these habitats (where applicable) were as follows : (b) 2 (10 hectares); (c) 5 (57 hectares).

### Recorded Species and Priority Species

A full list of species referred to in this report and the appendix of site records is presented in Appendix 2. Those which are "Priority Species" of the UK Biodiversity Action Plan (UK Biodiversity Group, 1998) - if any - are highlighted in **bold type**. Note that the occurrence of a species on this list does not necessarily imply the existence of a confirmed biological record. Further research would be required to clarify the situation concerning priority species.

## 6. Use and Management

During site visits observations were made concerning the use and management of commons. Summary details are provided in Table 4.

Table 4  
Use and Management of Commons

Use and Management Activity*	Number of Commons	CL Numbers
Grazing :		
Sheep	57	573,383,328,101,373,374,375,127,136,138,251,182,185,107,159,150,129,192,252,237,117,178,108,110,113,124,130,131,133,134,135,137,142,143,144,145,148,149,151,158,162,164,165,181,183,184,186,187,194,195,187,198,231,281,292,715,744.
Cattle	70	347,153,188,746,397,101,127,138,139,251,182,185,107,296,248,199,420,628,626,492,192,252,237,141,121,108,110,111,113,124,128,131,134,135,137,142,143,144,145,146,148,149,158,164,165,172,173,181,183,184,186,187,194,195,198,207,222,223,231,232,271,281,377,478,526,702,711,712,720,744.

Horses	22	580,383,117,178,110,113,124,137,142,143,144,146,162,165,181,183,186,187,194,195,232,478.
Mowing (amenity)	2	150, 262.
Other management :		
Trees felled	1	333.
Scrub control	8	115, 445, 472, 369, 237, 138, 316,141.
Coppicing active.	2	336, 385.
Tree planting (conservation)	1	628.
Burning	12	111, 252, 442, 445, 315, 130, 192, 218, 707, 219, 472, 526.

\* As noted at time of survey

### Management Issues and Recommendations

Given that site visits were mainly concerned with Phase 1 mapping or the checking of habitat information derived from other sources, recommendations concerning management are inevitably cursory in nature. However, a number of suggestions concerning particular commons are detailed within the site record cards (Appendix 3). Table 5 summarises the range of issues that are highlighted.

Table 5  
Suggested management activities

Management Activity	Number of Commons	CL Numbers
Manage scrub	13	482, 655,685, 703, 485, 606,492, 573, 237, 306, 746,377, 757.
Limit damage to dune system	3	191, 228,217.
Unblock public footpath	1	250.
Relax grazing pressure	12	107, 117, 124, 131, 142, 162, 195,164,165,143, 149,178.
Survey/protect valley mire system.	1	194.
Control bracken.	18	222, 252,717, 720, 107, 703,707, 526, 492,185,111, 128,171, 174, 133, 151, 751,757.
Control <i>Fallopia japonica</i>	1	472.

During the site visits, a number of encroachments (using the term in its widest sense) were noted on a small number of commons (Table 8). Tipping of various types (e.g. garden refuse, rubble and general domestic rubbish) was the most widely-recorded encroachment.

Table 6

Type of Enroachment	Number of Commons	CLNumbers
Drives across common	1	232.
Dumping	4	580, 383,207,150.
Erection of building.	1	232.

## 7. Commons and Protected Areas

A significant proportion of the common land within the county lies within formally designated protected areas. Table 7 records the number of commons and the area of common land lying within such designations, both national and local. Further details are recorded in the site records for individual commons (Appendix 3).

Table 7

### Protected Areas and Common Land

Protected Areas	Number of Commons	Area (ha) Within Designation	% Common Land
SSSI	24	3496.69	37.80
National Nature Reserve	3	401.52	4.34
Proposed Special Area of Conservation (pSAC)	1	73.20	0.80
Area of Outstanding Natural Beauty	47	5667.74	61.24
Wildlife Trust	3	34.01	0.40
Nature Conservation Review site.	3	78.54	0.90
Heritage Coast	3	92.75	1.00
Environmentally Sensitive Area	24	517.93	5.60
National Trust	11	1233.66	13.33

*\* Particular commons may be associated with more than one designation. For further details concerning individual commons – see Appendix 3.*

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## Appendix 1

### CORNWALL : List of Registered Commons

Key

1	CL Number
2	Commons Surveyed
3	Name/Location of Common
4	Register Area (hectares)
5	Calculated Area (hectares)
6	Easting
7	Northing
8	OS Map 100 Sq Km
9	OS Map 10 Sq Km

1	2	3	4	5	6	7	8	9
101	*	Laneast Downs	103.24	103.24	223300	85200	201	SX28
102		Carnon Mine	0.43	0.00	180300	38800	204	SW83
103		Chycoose Common	0.50	0.00	180800	38700	204	SW83
105		Restronguet Point	0.06	0.00	181700	37100	204	SW83
106		Penpol Pond	0.23	0.00	181300	39100	204	SW83
107	*	Caradon Hill	174.09	162.13	227000	71000	201	SX27
108	*	East Moor	529.55	529.55	222500	78000	201	SX27
109	*	Gwithian Common Towan	43.32	43.32	157800	41000	203	SW54
110	*	West Moor	433.20	433.20	219000	80500	201	SX18
111	*	Mulfra Hill	85.00	85.00	145000	35000	203	SW43
113	*	Church Hay Down	4.38	4.38	210400	77000	200	SX17
114		The Coombes (reg size 346 sq.ft)	0.01	0.00	220600	51300	201	SX25
115	*	Goss Moor	234.01	234.01	195000	59500	200	SW95
117	*	Cubert Common	54.66	54.66	178000	59700	200	SW75
119		The Green, Pendeen	0.09	0.00	138400	34500	203	SW33
120		Trevail Moor	0.29	0.00	178400	58300	200	SW75
121	*	Yellow Wort	6.88	6.88	170600	36500	203	SW73
123		Trelavour Square	0.02	0.00	195200	57900	200	SW95
124	*	St Breward Common/Rough Tor Downs	1012.20	945.53	213000	78000	200	SX17
125		Nameless triangle of land	0.02	0.00	187600	35300	204	SW83
126		No Man's Land	0.26	0.00	185900	32600	204	SW83
127	*	Tawna Downs	97.17	97.17	213500	66500	200	SX16
128	*	Treslea Downs	80.97	82.17	214000	68500	200	SX16
129	*	St Cleer Downs	38.46	38.46	225000	67600	201	SX26
130	*	Draynes Common	79.35	77.92	221300	71000	201	SX27
131	*	Cheesewring Common	182.19	51.68	226000	71500	201	SX27
133	*	Goonzion Downs	76.92	64.82	217500	67500	201	SX16
134	*	Penkeste Moor and Letter Moor	62.35	62.35	217500	70300	201	SX17
135	*	Warleggan Down	34.41	34.41	215700	70000	201	SX17
136	*	Bunnys Hill	27.00	21.90	212000	67900	200	SX16
137	*	Cardinham Moor and Fore Downs	500.00	499.40	213500	71500	200	SX17
138	*	Cardinham Downs	172.06	172.06	210000	70000	200	SX17
139	*	Racecourse Downs	60.73	60.73	209600	70100	200	SX07
140	*	Racecourse Downs	8.10	8.10	210400	70600	200	SX17
141	*	Tregoss Moors	111.34	111.31	197500	60500	200	SW96
142	*	Trehudreth Downs	87.04	87.00	212500	73000	200	SX17
143	*	Newton Downs	14.57	14.57	212700	73700	200	SX17
144	*	Greenbarrow Downs	49.60	49.60	213400	72700	200	SX17



145	*	Menacrin Downs	72.87	65.80	214000	74300	200	SX17
146	*	Mulfra Hill Common	6.07	6.07	145500	35300	203	SW43
148	*	Twelvemens Moor	352.23	352.23	225000	75000	201	SX27
149	*	Craddock Moor	188.26	182.19	225000	72000	201	SX27
150	*	Tremarcoombe Common	13.36	13.36	225400	69000	201	SX26
151	*	Small Downs	8.09	7.83	224600	69300	201	SX26
152		St. Cleer Downs	2.02	0.00	225400	67300	201	SX26
153	*	Idless Common	4.05	4.05	182100	47000	204	SW84
154		Quarry Mill Hill	0.06	0.00	205600	86600	200	SX08
155		Treknow Mound	0.02	0.00	205500	87100	200	SX08
156		Trebarwith Village Wastree	0.12	0.00	205500	86000	200	SX08
158	*	Redhill Downs	97.16	157.68	216500	72000	201	SX17
159	*	Fore Down	161.94	158.34	227000	70000	201	SX27
161	*	Chyenhall Moor	12.55	8.95	144800	28000	203	SW42
162	*	East Moor or The Ridge	210.53	6.26	224000	78000	201	SX27
163	*	Canna Downs	5.26	5.02	203200	59200	200	SX05
164	*	Hardhead Downs and Carburrow Tor	129.55	116.68	215000	71500	200	SX17
165	*	Brockabarrow Common	221.00	221.00	216000	75000	201	SX17
166	*	Sprey Moor	103.64	103.64	217000	75000	201	SX17
167		Tor Plain	10.63	0.00	224700	69600	201	SX26
168		Fore Down	0.20	0.00	226400	70100	201	SX27
169		Tremar Coombe	0.50	0.00	225700	68200	201	SX26
170		Rose Valley Moor	1.62	0.00	139600	34700	203	SW33
171	*	Hale Downs	1.01	1.01	140300	34700	203	SW43
172	*	Tor Noon	7.69	5.93	140000	34400	203	SW43
173	*	Higher Downs	13.76	13.83	140000	33800	203	SW43
174	*	Golant Downs	10.97	9.93	212000	54000	200	SX15
177	*	Gunwalloe Church Cove Beach	2.27	2.10	166200	20400	203	SW62
178	*	Cubert Common	2.83	2.80	177800	59300	200	SW75
179		The Mill Pond	0.40	0.00	204000	64200	200	SX06
180		Rosecare Green	0.79	0.00	216700	95800	190	SX19
181	*	St. Breward Common	14.57	14.57	213200	76600	200	SX17
182	*	St. Brewards Common	1.62	1.62	211800	76900	200	SX17
183	*	Manor Common	145.75	145.75	213000	75000	200	SX17
184	*	Kerrow Downs	97.17	97.10	211400	75300	200	SX17
185	*	Pendrift Downs	82.99	66.14	210000	74500	200	SX17
186	*	Davidstow Moor	445.34	445.34	215000	85500	200	SX18
187	*	Shallow Water Common	178.14	178.14	215000	76000	200	SX17
188	*	The Green	6.88	6.40	158800	41300	203	SW54
189	*	Kenneggy Downs or Greenbury Downs	7.29	5.22	156600	29400	203	SW52
190		Germoe Green	0.04	0.00	158500	29400	203	SW52
191	*	Treguth Common	8.50	8.50	176700	59200	200	SW75
192	*	Rosenannon Downs	188.26	188.26	195500	67500	200	SW96
193	*	West Moor	3.24	3.24	220300	81400	201	SX28
194	*	High Moor	599.19	599.19	217500	81500	201	SX18
195	*	St. Breward Common/Rough Tor Downs	34.82	31.90	209400	77600	200	SX07
197		St. Breward/Hamatethy/Rough Tor (pt)	2.20	0.00	212800	78700	200	SX17
198	*	St. Breward Common/Rough Tor Downs	29.55	29.55	214600	182600	200	SS18
199	*	Clodgy Moor	6.07	6.07	144800	27000	203	SW42
202	*	Eastern Green	1.38	1.28	158500	27600	203	SW52
203		Rinsey Green	0.17	0.00	159400	27300	203	SW52
204		Trew Well	0.20	0.00	161700	29700	203	SW62
205		Caradon Hill	0.10	0.00	227800	71600	201	SX27
207	*	Boswens Moor	6.48	5.64	140800	33400	203	SW43
208	*	Boswens Common	8.91	8.36	141200	33000	203	SW43
210	*	Kynance Downs	16.30	16.50	169000	13100	203	SW61
212	*	Nameless piece of land, Ladock	4.74	4.74	191400	54000	200	SW95
213	*	The Jacka	4.60	4.60	193600	39200	204	SW93
214		Nameless piece	0.10	0.00	193800	39300	204	SW93

215		No Man's Land	0.10	0.00	191600	39600	204	SW93
217	*	The Wastrels	3.70	3.70	185900	74600	200	SW87
218	*	Retire Common	63.16	64.16	200000	63000	200	SX06
219	*	Roswic Croft and Higher Green	15.20	21.40	174200	20600	204	SW72
220		The Lizard Green	0.56	0.00	170400	12600	203	SW71
221		Cummings Memorial Recreation Ground	0.43	0.00	170500	12500	203	SW71
222	*	Boswodnack Common	9.17	9.17	145000	36600	203	SW43
223	*	Tregeseal and Bosvargas Common	33.70	26.01	139000	31400	203	SW33
224		Rosenannon Downs or Common	2.46	0.00	194700	67500	200	SW96
225		Hendra Hill, Lesceave Cliff, Breage	0.65	0.00	158600	27700	203	SW52
227		Hellescott Green	0.37	0.00	228200	88600	190	SX28
228	*	Poldhu Cove	3.25	2.46	166400	19800	203	SW61
230	*	Trewint Village Green	1.00	1.00	222100	80500	201	SX28
231	*	Trewint Tor	31.20	28.70	221000	80200	201	SX28
232	*	Trewint Marsh	7.60	7.37	221600	80200	201	SX28
235	*	Gunwalloe Church Cove	1.08	1.22	166200	20500	203	SW62
237	*	Goss Moor	56.20	56.20	195500	60500	200	SW96
239		Carnkie Common	0.10	0.00	171800	34200	203	SW73
242		Higher Tremar Coombe	0.75	0.00	225200	69400	201	SX26
243		The Village Square	0.10	0.00	170400	12500	203	SW71
247		Little Downs	0.20	0.00	212800	67600	200	SX16
248	*	Clodgy Moor	8.89	8.89	145000	26900	203	SW42
249		Congdon Shap Green	0.66	0.00	228200	78200	201	SX27
250	*	Criggon Moor	5.73	3.80	201900	61000	200	SX06
251	*	Tredinnick Downs Common	61.94	59.21	193000	68200	200	SW96
252	*	Tregonetha Downs	54.06	53.79	196000	63000	200	SW96
253		The Bank, Cadgwith Cove	0.10	0.00	172200	14400	204	SW71
255		Land at Godolphin	0.10	0.00	160800	31500	203	SW63
258		Polyphant Green	0.10	0.00	226200	82000	201	SX28
261		Land at Trequite	0.10	0.00	202900	76900	200	SX07
262	*	Nameless plot	1.43	0.76	199800	75400	200	SW97
263		Land called Tregellist	0.50	0.00	200900	77500	200	SX07
264		Nameless land, Trelill	0.10	0.00	204500	78100	200	SX07
270		River Area, Ponjeravah	0.10	0.00	173700	29100	204	SW72
271	*	Woon Gumpus Commons	1.00	45.74	139500	33500	203	SW33
272	*	Corgee Moor	6.03	12.90	205500	60300	200	SX06
273		Nameless parcel of land, Millbrook	0.50	0.00	143600	52600	201	SW45
277		The Bowjey	0.40	0.00	146500	28300	203	SW42
278		Tredavoe Green	0.17	0.00	145400	28700	203	SW42
279		Pednavounder Pit	0.34	0.00	145700	25800	203	SW42
281	*	Craddock Moor	11.80	11.80	226300	69600	201	SX26
291		St. Clear Downs	0.29	0.00	224900	67900	201	SX26
292	*	Bossiney Lands	6.86	9.52	207000	89300	200	SX08
296	*	Parcels of land south and east of	13.43	11.68	151400	39000	203	SW53
297		Land south of Porthkidney Sands	0.60	0.00	153100	38700	203	SW53
301		Nameless piece of land at Lerryn	0.10	0.00	213900	56900	200	SX15
302		Nameless piece of land at Lerryn	0.20	0.00	214100	57100	200	SX15
304		Nameless piece of land at Lerryn	0.80	0.00	214000	57100	200	SX15
305		Nameless piece of land at Lerryn	0.20	0.00	213900	57000	200	SX15
306	*	Main Dale	1.50	2.80	178900	20300	204	SX72
308		Gorran Haven Beach	0.10	0.00	201400	41600	204	SX04
309		Land in Gorran Churchtown	0.10	0.00	199800	42300	204	SW94
310		Nameless land in Gorran Churchtown	0.10	0.00	199900	42200	204	SW94
315		Boswednack Commons	0.86	0.00	144600	37000	203	SW43
316	*	TreSean Common	2.29	2.29	178400	59000	200	SW75
318		Land in Talskiddy	0.10	0.00	191100	65200	200	SW96
323		Tavern Slip, Tavern Beach	0.10	0.00	184400	32900	204	SW83
324		Land near Chapel Grounds, St. Mawes	0.10	0.00	184700	33100	204	SW83
325		The Shrubbery	0.10	0.00	184600	33100	204	SW83

326		Western Car Park/Landing Ground	0.10	0.00	157600	28300	203	SW52
327		The Green, Treburrick	0.10	0.00	186200	70700	200	SW87
328	*	Land at Laneast Downs	15.30	22.98	224400	84600	201	SX28
330		Trevurvas Common	0.45	0.00	158600	28300	203	SW52
331		Carn Marth	0.50	0.00	171500	40700	203	SW74
333	*	Feadon Wood/Nance Wood/Portreath Moor	32.40	32.40	166500	45300	203	SW64
334	*	Land/islands in Camborne/Redruth	73.20	73.60	162000	43100	203	SW64
336	*	Pendarves Woods	50.30	50.30	165500	37500	203	SW63
340	*	Tatams Beach, Gerrans	1.50	1.08	187800	35300	204	SW83
347	*	Madderley Moor	7.59	7.59	210600	59000	200	SX15
349	*	Pill Moor or Shirehall Moor	9.38	9.38	210700	58500	200	SX15
353		Cardinham Downs	0.50	0.00	211700	68800	200	SX16
367	*	Lower Menadue Meadows	7.60	5.87	203900	59000	200	SX05
369	*	Inches Down and Retire Common	1.76	2.30	200700	64000	200	SX06
370		Tresayes Downs	0.10	0.00	199500	58600	200	SW95
372		Porthallow Cove, St. Keverne	0.65	0.00	179700	23200	204	SW72
373	*	Tremeer Down	36.50	32.81	221500	85800	201	SX28
374	*	Higher Napps	7.79	7.79	221500	85400	201	SX28
375	*	Lower Napps	11.50	11.50	221400	85100	201	SX28
376	*	Gold Gothan Common	13.20	14.85	175300	18000	204	SW71
377	*	Main Dale	20.70	19.86	178500	20000	204	SW72
378		Porthallow Beach	0.44	0.00	179800	23200	204	SW72
383	*	Higher Larrick Common	1.46	1.46	230700	78600	201	SX37
385	*	Red Down and Turbary	7.10	4.20	227300	86100	201	SX28
387		The Bridge, Badharlick	0.26	0.00	226800	86400	201	SX28
388		Common Land in West Carne	0.33	0.00	220200	82100	201	SX28
389		The Green, Bowithick	0.50	0.00	218200	82900	201	SX18
390		Trewint Downs	0.50	0.00	221600	80200	201	SX28
391		Tresmeak Mill	0.30	0.00	221100	82300	201	SX28
393		The Lane, Lewannick	0.30	0.00	226400	82000	201	SX28
394		Land in parish of Lewannick	0.19	0.00	226600	82300	201	SX28
395		Treween Green	0.10	0.00	222000	82100	201	SX28
396		The Well	0.10	0.00	223400	81000	201	SX28
397	*	The Marsh, Lewannick	1.16	0.89	227600	78400	201	SX27
403		The Quarry, Tresmeer	0.10	0.00	223300	87800	190	SX28
408		Sparnon Moor	0.45	0.00	199600	53200	200	SW95
410		Blaunders Well	0.10	0.00	227400	80700	201	SX28
420	*	Criggon Moor	20.50	19.45	207500	61400	200	SX06
421	*	Lowertown Moor	10.40	10.40	205000	61400	200	SX06
422		Polyphant Green	0.10	0.00	226300	82200	201	SX28
423		Treswell Green	0.10	0.00	228100	78300	201	SX27
431		South Carne Common Land	0.40	0.00	220400	81200	201	SX28
432		West Moor	1.20	0.00	218200	79600	201	SX17
440		TreSean Common	0.10	0.00	178300	59100	200	SW75
442	*	Part of the Goonhilly Downs	1.73	13.20	174300	21000	204	SW72
443	*	Crousa Downs	7.26	7.20	177000	19700	204	SW71
444		North Corner Cliff	0.10	0.00	178200	18500	204	SW71
445	*	Treleaver Common	15.20	15.20	176500	18000	204	SW71
446		Towan Common	0.10	0.00	187600	74100	200	SW87
448	*	Laneast Downs	1.60	1.60	224600	84400	201	SX28
455	*	Poligy Moor	4.30	6.70	170800	35400	203	SW73
458		Emblance Downs	0.50	0.00	213200	76600	200	SX17
461	*	Craddock Moor (part)	3.90	4.40	224000	70700	201	SX27
463		Tremarcoombe Common	0.27	0.00	225400	69200	201	SX26
466	*	Greenbury Down	1.22	0.80	156900	29800	203	SW52
468		Roughtor Moors	0.50	0.00	215300	82500	201	SX18
472	*	Higher and Lower Predannack Downs	172.63	172.63	168500	16600	203	SW61
477	*	Predannack Downs (part)	14.60	14.60	167500	16200	203	SW61

478	*	Lower Predannack Cliff	11.13	12.90	166500	16000	203	SW61
480		Tregarne	0.18	0.00	178400	23100	204	SW72
482	*	Quintral Downs	6.13	5.98	185200	60000	200	SW86
485	*	Trefullock Moor	12.50	12.50	190000	56300	200	SW95
488	*	Predannack Wollas	2.96	3.06	169100	16100	203	SW61
490		Plot in Harewood Lane, Calstock	0.50	0.00	143900	69200	201	SW46
491		Western Car Park or Landing Ground	0.10	0.00	157600	28300	203	SW52
492	*	Tresayes/Hensbarrow Downs	96.60	84.64	199500	58500	200	SW95
493	*	Trewellard Common or Carne Hill	9.78	10.29	138200	33600	203	SW33
502	*	Crackington Haven Beach	12.40	7.86	214300	97000	190	SX19
504		Lane Common	0.80	0.00	145000	28800	203	SW42
507	*	Brockabarrow Common (part)	2.80	2.80	215200	74600	201	SX17
508		O.S. Field No. 1694, St. Breward	0.80	0.00	211600	75700	200	SX17
521	*	Tregolls Common	2.67	2.80	173200	36100	204	SW73
523	*	Sperris Croft	18.90	17.40	147500	38500	203	SW43
524	*	Part of Drove Road	3.20	4.47	147100	37900	203	SW43
525	*	Logan Stone/Trethead Common East	34.30	33.35	147000	38500	203	SW43
526	*	Treen Common/Bosporthenis Common	24.60	24.60	144500	36500	203	SW43
528	*	Landy Wood	6.56	6.56	218000	98700	190	SX19
532	*	The Greenaway	8.88	8.88	193000	78600	200	SW97
538		Cadgwith Beach	0.10	0.00	172300	14500	204	SW71
539		Little Cove and The Bank	0.10	0.00	172100	14500	204	SW71
542	*	The Mill	1.50	1.83	177300	58000	200	SW75
553	*	Common at Porthcothan	6.20	6.20	185500	72400	200	SW87
554	*	The Great Common	11.60	9.72	193000	76000	200	SW97
556		Part of St. Jidgey Downs	0.27	0.00	193900	68500	200	SW96
570	*	Land between Porthtowan & Mevagissey	10.90	16.97	170000	47000	203	SW74
573	*	Common and Waste, Wheal Butson	1.01	1.01	173400	49000	204	SW74
580	*	Mine Waste	2.50	4.19	173600	42500	204	SW74
582	*	Common and Waste, Carharrack	0.68	8.00	172200	40700	204	SW74
586		Common at Coombe Hill	0.10	0.00	176600	41300	204	SW74
604	*	Common at Treamble	1.70	1.70	178400	56300	200	SW75
605		Common at Hendra Green	0.50	0.00	179100	55600	200	SW75
606	*	Commons at Rejerrah	1.09	1.02	179800	55800	200	SW75
626	*	Treskillings Downs	13.70	12.25	203400	57800	200	SX05
628	*	Crift Downs	10.03	10.62	206800	59800	200	SX05
633	*	Bokiddick Downs	9.20	9.20	205000	61700	200	SX06
637	*	Cliffs at Trenarren	15.80	19.70	203400	49000	204	SX04
640		Trethullen Road	0.10	0.00	197800	51800	200	SW95
641		The Green Bank	0.10	0.00	154800	37600	203	SW53
646		Gillan Foreshore	0.10	0.00	178700	25200	204	SW72
650		Land in Grade Ruan	0.10	0.00	172000	15200	204	SW71
652		Melingey Moor	0.50	0.00	177100	58300	200	SW75
654		The Square, Egloskerry	0.20	0.00	227300	86600	201	SX28
655	*	Trewinnick Common	2.40	4.11	190500	68300	200	SW96
665		Bossiney Common	0.40	0.00	206500	89100	200	SX08
669		The Beach, Crackington Haven	0.50	0.00	214300	96900	190	SX19
674		Ventonleague Green	0.50	0.00	157400	38200	203	SW53
685	*	Tolborough Downs, Bolventor	58.50	54.91	217000	78000	201	SX17
686		Poligy Moor	0.10	0.00	170900	35300	203	SW73
687		Baker's Park	0.10	0.00	206600	80500	200	SX08
689		Land around Village Pump, Pengelly	0.10	0.00	207300	83600	200	SX08
690		Hendra Hill	1.30	0.00	158800	27600	203	SW52
702	*	Morvah Cliff	13.10	14.20	140000	36000	203	SW43
703	*	Zennor Cliffs	4.03	24.61	143200	38300	203	SW43
707	*	Watch Croft/Nine Maidens/Ding Dong etc	129.90	129.90	143300	35000	203	SW43
711	*	Lady Downs/Conquer Downs (pt)	39.40	40.40	147700	36500	203	SW43
712	*	Carnaquidden Downs	48.50	59.30	147000	36500	203	SW43
713	*	Tonkins Downs	10.90	10.90	148500	35200	203	SW43

715		Part of Escalls Cliff	0.93	0.00	136100	27100	203	SW32
717	*	New Mill Commons	18.00	18.00	146000	34600	203	SW43
720	*	Grumbla Common and part of Caer Bran	24.30	14.93	141000	29400	203	SW42
732		Helstone Green	0.10	0.00	208900	81400	200	SX08
733		Tregoodwell Square	0.10	0.00	211400	83600	200	SX18
735	*	Smiths Moor	21.10	23.40	220500	76000	201	SX27
736	*	Land adjoining Helston Moor	3.16	2.89	165600	28500	203	SW62
740		Viscar Common	0.50	0.00	171300	34300	203	SW73
744	*	Dewey Marsh	2.10	2.02	215400	72500	201	SX17
745	*	Rosudgeon Common	8.90	7.83	155700	29300	203	SW52
746	*	Calvadmack Common	38.50	38.50	169000	35500	203	SW63
747		Tremar Coombe	0.10	0.00	225200	69400	201	SX26
748	*	Eastcott Common and Chillys	3.90	1.55	225400	115800	190	SX21
750		Land adjoining Rosemullion Farm	0.50	0.00	204900	57400	200	SX05
751	*	Tremader Common	1.70	1.93	146900	38700	203	SW43
757	*	Morvah Hill	5.03	5.03	141700	35500	203	SW43
758	*	Tregaminion Moor	3.40	3.89	139800	35200	203	SW33

## APPENDIX 2

### CORNWALL

#### LIST OF SPECIES MENTIONED IN REPORT AND SITE DESCRIPTIONS

Vascular Plants, Ferns, Horsetails, Bryophytes, Lichens etc.

Note : The occurrence of a species in this list does not necessarily indicate the existence of a confirmed biological record). Nomenclature for higher plants follows that of Stace, C.A. 1991. Priority Species of the UK Biodiversity Action Plan (UK Biodiversity Group, 1998) are given in **bold**

<i>Acanthus</i> sp.	Bear's-breeches
<i>Acer campestre</i>	Field maple
<i>A. pseudoplatanus</i>	Sycamore
<i>Achillea millefolium</i>	Yarrow
<i>A. ptarmica</i>	Sneezewort
<i>Acrocladium sarmentosum</i>	A moss
<i>Aesculus hippocastanum</i>	Horse chestnut
<i>Agrimonia eupatoria</i>	Agrimony
<i>Agropyron junceforme</i>	A sand couch
<i>Agrostis canina</i>	Velvet bent
<i>A. capillaris</i>	Common bent
<i>A. curtisii</i>	Bristle bent
<i>A. setacea</i>	see <i>A. curtisii</i>
<i>A. stolonifera</i>	Creeping bent
<i>A. tenuis</i>	see <i>A. capillaris</i>
<i>Allium babingtonii</i>	see <i>A. ampeloprasum</i>
<i>Allium ampeloprasum</i>	Wild Leek
<i>A. schoenoprasum</i>	Chives
<i>Alnus glutinosa</i>	Alder
<i>Alonia ambigua</i>	
<i>Alyssum saxatile</i>	Golden alison
<i>Ammophila arenaria</i>	Marram grass
<i>Anacamptis pyramidalis</i>	Pyramidal orchid
<i>Anagallis tenella</i>	Bog pimpernel
<i>Anchusa arvensis</i>	Bugloss
<i>Anemone nemorosa</i>	Wood anemone
<i>Angelica sylvestris</i>	Angelica
<i>Anisantheaetessterilis</i>	Barren brome
<i>Anthoxanthum odoratum</i>	Sweet vernal grass
<i>Anthriscus caucalis</i>	Bur parsley
<i>A. sylvestris</i>	Cow parsley
<i>Anthyllis vulneraria</i>	Kidney vetch
<i>Antitrichia curtipendula</i>	A moss
<i>Apium nodiflorum</i>	Fool's watercress

*Arctium* sp.  
*Armeria maritima*  
*Arrhenatherum elatius*  
*Artimisia absinthum*  
*Artemisia vulgaris*  
*Arundinaria jaursarensis*  
*Arum maculatum*  
***Asparagus officinalis***  
*Asplenium adiantum-nigrum*  
*Asplenium trichomanes*  
*Aster novi-belgii*  
*Aster tripolium*  
*Athyrium filix-femina*  
*Atriplex prostrata*  
*Barbilophozia barbata*  
*B. floerkii*  
*Beta vulgaris*  
*Betula pendula*  
*B. pubescens*  
*Bidens tripartita*  
*Blackstonia perfoliata*  
*Blechnum spicant*  
*Bolboschoenus maritimus*  
*Brachypodium sylvaticum*  
*Bromus sterilis*  
*Buddleja davidii*  
*Cakile maritima*  
*Callitriche obtusangula*  
*Calluna vulgaris*  
*Calystegia sepium*  
*C.soldanella*  
*Carex arenaria*  
*C. binervis*  
*C. demissa*  
*C. echinata*  
*C. flacca*  
*C. hirta*  
*C. nigra*  
*C. otrubae*  
*C. panicea*  
*C. pendula*  
*C. pilulifera*  
*C. pulicaris*  
*C. remota*  
*C. riparia*  
*C. rostrata*  
*C. sylvatica*  
*C. viridula* subsp. *oedocarpa*  
*Carlina vulgaris*

Burdock  
 Thrift  
 False oat grass  
 Wormwood  
 Mugwort  
 Bamboo  
 Lords and ladies/cuckoo pint  
**Wild Asparagus**  
 Black spleenwort  
 Maidenhair spleenwort  
 Confused Michaelmas-Daisy  
 Sea aster  
 Lady fern  
 Spear-leaved Orache  
 A liverwort  
 A liverwort  
 Sea beet  
 Silver birch  
 Downy birch  
 Tripartite bur marigold  
 Yellow wort  
 Hard fern  
 Sea club-rush  
 Wood false brome  
 see *Anisanthectaressterilis*  
 Buddleja  
 Sea rocket  
 Blunt-fruited Water-starwort  
 Heather/ling  
 Hedge bindweed  
 Sea bindweed  
 Sand sedge  
 Green-ribbed sedge  
 see *C. viridula* subsp. *oedocarpa*  
 Star sedge  
 Glaucous sedge  
 Hairy sedge  
 Common sedge  
 False fox sedge  
 Carnation sedge  
 Pendulous sedge  
 Pill sedge  
 Flea sedge  
 Remote sedge  
 Greater pond sedge  
 Bottle sedge  
 Wood sedge  
 Yellow sedge  
 Carline thistle

<i>Castanea sativa</i>	Sweet chestnut
<i>Catapodium marinum</i>	Sea fern grass
<i>Centaurea nigra</i>	Black knapweed
<i>Centaureum erythraea</i>	Centaury
<i>Centhranthus ruber</i>	Red valerian
<i>Cerastium fontanum</i>	Common Mouse-ear
<i>Cerastium holostioides</i>	See <i>C. fontanum</i>
<i>C. semidecandrum</i>	Little Mouse-ear
<i>Ceterach officinarum</i>	Rusty-back Fern
<i>Chamerion angustifolium</i>	Rose-bay willow-herb
<i>Chondrus crispus</i>	
<i>Chrysosplenium oppositifolium</i>	Opposite-leaved golden saxifrage
<i>Cicendia filiformis</i>	Yellow centaury
<i>Circaea lutetiana</i>	Enchanter's nightshade
<i>Cirsium arvense</i>	Creeping thistle
<i>C. palustre</i>	Marsh thistle
<i>Cladium mariscus</i>	Great sedge
<i>Cladonia mediterranea</i>	A lichen
<i>Cladopodella francisci</i>	A liverwort
<i>Clematis vitalba</i>	Old man's beard
<i>Climacium dendroides</i>	
<i>Codium</i> sp.	
<i>Conium maculatum</i>	Hemlock
<i>Convolvulus arvensis</i>	Field bindweed
<i>Corylus avellana</i>	Hazel
<i>Crataegus monogyna</i>	Hawthorn
<i>Crithmum maritimum</i>	Rock samphire
<i>Crocsmia</i> sp.	A montbretia
<i>Cuscuta epithimum</i>	Dodder
<i>Cynoglossum officinale</i>	Adders tongue fern
<i>Cynosurus cristatus</i>	Crested dog's tail
<i>Cyperus longus</i>	Galingale
<i>Cytisus scoparius</i>	Broom
<i>Dactylis glomerata</i>	Cocksfoot
<i>Dactylorhiza fuchsii</i>	Common spotted orchid
<i>D. incarnata</i>	Early marsh orchid
<i>D. maculata</i> subsp. <i>ericetorum</i>	Heath spotted orchid
<i>Danthonia decumbens</i>	Heath grass
<i>Daucus carota</i>	Wild carrot
<i>Deschampsia caespitosa</i>	Tufted hair grass
<i>D. flexuosa</i>	Wavy hair grass
<i>D. setacea</i>	Bog Hair-grass
<i>Dicranum</i> sp.	A moss
<i>Digitalis purpurea</i>	Foxglove
<i>Dipsacus fullonum</i>	Teasel
<i>Douinia ovata</i>	A liverwort
<i>Drosera intermedia</i>	Long-leaved sundew
<i>D. rotundifolia</i>	Round-leaved sundew
<i>Dryopteris dilatata</i>	Broad buckler fern



<i>D. felix-femina</i>	Lady Fern
<i>D. filix-mas</i>	Male fern
<i>Echium vulgare</i>	Viper's bugloss
<i>Eleocharis palustris</i>	Common spike rush
<i>Elymus farctus</i>	see <i>Elytrigia juncea</i>
<i>E. pungens</i>	Sand Couch
<i>E. repens</i>	see <i>Elytrigia repens</i> subsp. <i>repens</i>
<i>Elytrigia juncea</i>	Sand couch
<i>E. repens</i> subsp. <i>repens</i>	Common couch
<i>Enteromorpha</i> sp.	A green seaweed
<i>Epilobium hirsutum</i>	Great willow herb
<i>Equisetum fluviatile</i>	Water horsetail
<i>E. palustre</i>	Marsh horsetail
<i>E. variagatum</i>	Variagated horsetail
<i>Erica ciliaris</i>	Dorset Heath
<i>E. cinerea</i>	Bell heather
<i>E. tetralix</i>	Cross-leaved heath
<i>E. vagans</i>	Cornish heath
<i>E. x williamsii</i>	A hybrid heath.
<i>Erigeron</i> sp.	Fleabane
<i>Eriophorum angustifolium</i>	Common cotton grass
<i>E. vaginatum</i>	Hare's tail cotton grass
<i>Erodium</i> sp.	Stork's bill
<i>Eryngium maritimum</i>	Sea holly
<i>Eupatorium cannabinum</i>	Hemp agrimony
<i>Euphorbia hyberna</i>	Irish spurge
<i>E. paralias</i>	Sea spurge
<i>E. portlandica</i>	Portland spurge
<i>Euphrasia nemorosa</i>	An eyebright
<i>E. vigursii</i>	Cornish eyebright
<i>Fagus sylvatica</i>	Beech
<i>Fallopia japonica</i>	Japanese knotweed
<i>Festuca ovina</i>	Sheep's fescue
<i>F. rubra</i>	Red fescue
<i>Filipendula ulmaria</i>	Meadowsweet
<i>F. vulgaris</i>	Dropwort
<i>Fontinalis squamosa</i> var. <i>curnowii</i>	
<i>Fragaria vesca</i>	Wild strawberry
<i>Fraxinus excelsior</i>	Ash
<i>Fuchsia</i> sp.	Fuchsia
<i>Fucus ceranoides</i>	
<i>Fumaria purpurea</i>	Purple Ramping-fumitory
<i>Galium aparine</i>	Cleavers
<i>G. saxatile</i>	Heath bedstraw
<i>G. verum</i>	Lady's bedstraw
<i>Genista anglica</i>	Petty whin
<i>G. pilosa</i>	Hairy greenweed
<i>Geranium purpureum</i>	Little-Robin
<i>G. robertianum</i>	Herb robert

<i>G. sanguineum</i>	Bloody cranebill
<i>Geum urbanum</i>	Wood avens/herb bennet
<i>Glechoma hederacea</i>	Ground ivy
<i>Glyceria fluitans</i>	Floating sweet grass
<i>Gnaphalium uliginosum</i>	Marsh cudweed
<i>Grimmia patens</i>	A moss
<i>Gunnera maculata</i>	Brazilian Giant-rhubarb
<i>Hammarbya paludosa</i>	Bog orchid
<i>Hedera helix</i>	Ivy
<i>Heracleum sphondylium</i>	Hogweed
<i>Herniaria ciliolata</i>	Fringed rupturewort
<i>Heterodermia leucomelos</i>	
<i>H. obsurata</i>	
<i>Hieracium pilosella</i>	see <i>Pilosella officinarum</i>
<i>H. sabaudum</i>	A hawkweed
<i>Hippophae rhamnoides</i>	Sea buckthorn
<i>Holcus lanatus</i>	Yorkshire fog
<i>H. mollis</i>	Creeping soft grass
<i>Honkenya peploides</i>	Sea sandwort
<i>Hookeria lucens</i>	A moss
<i>Humulus lupulus</i>	Hop
<i>Hyacinthoides non-scripta</i>	Bluebell
<i>Hydrocotyle vulgaris</i>	Marsh pennywort
<i>Hymenophyllum tunbridgense</i>	Tunbridge filmy-fern
<i>Hymenophyllum wilsonii</i>	Wilson's filmy fern
<i>Hyoscyamus niger</i>	Henbane
<i>Hypericum elodes</i>	Marsh St.John's wort
<i>H. hirsutum</i>	Hairy St.John's wort
<i>H. tetrapterum</i>	Square-stalked St.John's wort
<i>H. undulatum</i>	Wavy-leaved St.John's wort
<i>Hypnum</i> sp.	A moss
<i>Hypochaeris maculata</i>	Spotted cat's ear
<i>H. radicata</i>	Common cat's ear
<i>Ilex aquifolium</i>	Holly
<i>Illecebrum verticillatum</i>	Coral necklace
<i>Impatiens glandulifera</i>	Indian balsam
<i>Iris pseudacorus</i>	Yellow flag
<i>Isoetes histrix</i>	Land quillwort
<i>Jasione montana</i>	Sheep's bit
<i>Juncus acutiflorus</i>	Sharp-flowered rush
<i>J. articulatus</i>	Jointed rush
<i>J. bufonius</i>	Toad rush
<i>J. bulbosus</i>	Bulbous rush
<i>J. conglomeratus</i>	Compact rush
<i>J. effusus</i>	Soft rush
<i>J. inflexus</i>	Hard rush
<i>J. mutabilis</i>	Pigmy rush
<i>J. squarrosus</i>	Heath rush
<i>Kickxia elatine</i>	Sharp-leaved Fluellen

<i>K. spuria</i>	Round-leaved Fluellen
<i>Kniphofia</i> sp.	Red-hot-poker
<i>Koeleria cristata</i>	see <i>K. macrantha</i>
<i>K. macrantha</i>	Crested hair grass
<i>Lactuca serriola</i>	Prickly lettuce
<i>Lamium amplexicaule</i>	Henbit Dead-nettle
<i>Legousia hybrida</i>	Venus's-looking-glass
<i>Lemna</i> sp.	Duckweed
<i>Leontodon autumnalis</i>	Autumn hawkbit
<i>L. hispidus</i>	Rough hawkbit
<i>Leucanthemum vulgare</i>	Ox-eye daisy
<i>L. x superbum</i>	Shasta Daisy
<i>Ligustrum vulgare</i>	Wild privet
<i>Limonium binervosum</i>	Rock sea lavender
<i>Linaria vulgaris</i>	Common toadflax
<i>Lithospermum officinale</i>	Gromwell
<i>Lolium perenne</i>	Perennial rye grass
<i>Lonicera periclymenum</i>	Honeysuckle
<i>Lotus corniculatus</i>	Bird's foot trefoil
<i>L. pedunculatus</i>	Greater bird's foot trefoil
<i>L. uliginosus</i>	see <i>L. pedunculatus</i>
<i>Luzula pilosa</i>	Hairy woodrush
<i>L. sylvatica</i>	Greater woodrush
<i>Lychnis flos-cuculi</i>	Ragged robin
<b><i>Lycopodiella inundata</i></b>	<b>Marsh Clubmoss</b>
<i>Lycopodium selago</i>	Fir clubmoss
<i>Lycopus europaeus</i>	Gypsywort
<i>Lysimachia nemorum</i>	Yellow pimpernel
<i>L. punctata</i>	Dotted Loosetrife
<i>Lythrum salicaria</i>	Purple loosestrife
<i>Malus</i> sp.	Crab apple
<i>Melilotus officinalis</i>	Ribbed melilot
<i>Mentha aquatica</i>	Water mint
<i>M. longifolia</i>	A mint
<i>Menyanthes trifoliata</i>	Bogbean
<i>Mercurialis perennis</i>	Dog's mercury
<i>Minuartia verna</i>	Spring sandwort
<i>Misopates orontium</i>	Lesser snapdragon
<i>Mnium hornum</i>	A moss
<i>Molinia caerulea</i>	Purple moor grass
<i>Myosotis scorpioides</i>	Water forget-me-not
<i>Myrica gale</i>	Bog myrtle
<i>Myriophyllum spicatum</i>	Spiked water milfoil
<i>Nardus stricta</i>	Mat grass
<i>Narthecium ossifragum</i>	Bog asphodel
<i>Odontites verna</i>	see <i>O. vernus</i>
<i>Odontites vernus</i>	Red bartsia
<i>Oenanthe crocata</i>	Hemlock water dropwort
<i>Ononis repens</i>	Restharrow

<i>Ophioglossum vulgatum</i>	Adder's tongue fern
<i>Orchis mascula</i>	Early purple orchid
<i>O. morio</i>	Green-winged orchid
<i>Origanum vulgare</i>	Marjoram
<i>Orobanche alba</i>	Red broomrape
<i>Orobanche hederaceae</i>	Ivy broomrape
<i>Osmunda regalis</i>	Royal fern
<i>Oxalis acetosella</i>	Wood sorrel
<i>Papaver argemone</i>	Prickly Poppy
<i>P. hybridum</i>	Rough Poppy
<i>Parapholis strigosa</i>	Hard-grass
<i>Parentucellia viscosa</i>	Yellow bartsia
<i>Pedicularis sylvatica</i>	Wood lousewort
<i>Phalaris arundinacea</i>	Reed canary grass
<i>Phragmites australis</i>	Common reed
<i>Phyllitis scolopendrium</i>	Hart's tongue fern
<i>Picris echioides</i>	Bristly ox-tongue
<i>Pilosella officinarum</i>	Mouse-ear hawkweed
<i>Pilularia globulifera</i>	Pillwort
<i>Pinguicula lusitanica</i>	Pale butterwort
<i>Pinus sylvestris</i>	Scots pine
<i>Plantago coronopus</i>	Buck's horn plantain
<i>P. lanceolata</i>	Ribwort plantain
<i>P. major</i>	Great plantain
<i>P. maritima</i>	Sea plantain
<i>Platanthera bifolia</i>	Lesser butterfly orchid
<i>Poa nemoralis</i>	Wood meadow grass
<i>Pohlia bulbifera</i>	
<i>P. rothii</i>	
<i>Polygala serpyllifolia</i>	Heath milkwort
<i>P. vulgaris</i>	Milkwort
<i>Persicaria hydropiper</i>	Water-pepper
<i>P. maculosa</i>	Redshank
<i>Polygonum hydropiper</i>	see <i>Persicaria hydropiper</i>
<i>P. persicaria</i>	see <i>Persicaria maculosa</i>
<i>Polypodium vulgare</i>	Common polypody
<i>Polystichum setiferum</i>	Soft shield fern
<i>Polytrichum alpinum</i>	
<i>P. commune</i>	A moss
<i>P. juniperinum</i>	A moss
<i>Potamogeton natans</i>	Broad-leaved pondweed
<i>P. polygonifolius</i>	Bog pondweed
<i>Potentilla anserina</i>	Silverweed
<i>P. erecta</i>	Tormentil
<i>P. palustris</i>	Marsh cinquefoil
<i>P. reptans</i>	Creeping cinquefoil
<i>P. sterilis</i>	Barren strawberry
<i>Primula veris</i>	Cowslip
<i>P. vulgaris</i>	Primrose

<i>Prunella vulgaris</i>	Self heal
<i>Prunus spinosa</i>	Blackthorn
<i>Pteridium aquilinum</i>	Bracken
<i>Puccinellia maritima</i>	Common saltmarsh grass
<i>Pulicaria dysenterica</i>	Fleabane
<i>Quercus robur</i>	Pedunculate oak
<i>Q. petraea</i>	Sessile oak
<i>Q. cerris</i>	Turkey oak
<i>Ranunculus acris</i>	Meadow buttercup
<i>R. aquatilis</i>	Water crowfoot
<i>R. flammula</i>	Lesser spearwort
<i>R. omiophyllus</i>	Water crowfoot
<i>R. repens</i>	Creeping buttercup
<i>R. sceleratus</i>	Celery-leaved buttercup
<i>Raphanus maritimus</i>	Sea Radish
<i>Rhabdoweisia crispata</i>	
<i>Rhinanthus minor</i>	Yellow rattle
<i>Rhododendron ponticum</i>	Rhododendron
<i>Rhynchospora alba</i>	White-beaked sedge
<i>Rhytidiadelphus squarrosus</i>	A moss
<i>Riccardia latifrons</i>	A liverwort
<i>Rosa</i> sp.	Rose
<i>Rorippa nasturtium-aquaticum</i>	Watercress
<i>Rubus fruticosus</i> agg.	Bramble
<i>R. vectensis</i>	South-west bramble
<i>Rumex acetosa</i>	Sorrel
<i>R. acetosella</i>	Sheep's sorrel
<i>R. obtusifolius</i>	Broad-leaved dock
<i>R. pulcher</i>	Fiddle dock
<i>Salix atrocinerea</i>	see <i>S. cinerea</i> spp. <i>oleifolia</i>
<i>S. aurita</i>	Eared willow
<i>S. capraea</i>	Sallow
<i>S. cinerea</i>	Grey willow
<i>S. cinerea</i> spp. <i>oleifolia</i>	Subspecies of Grey Willow
<i>S. repens</i>	Creeping willow
<i>S. viminalis</i>	Osier
<i>Salvia verbenacea</i>	Wild Clary
<i>Sambucus nigra</i>	Elder
<i>Sanguisorba minor</i>	Salad burnet
<i>S. officinalis</i>	Great burnet
<i>Saponaria</i> sp.	A soapwort
<b><i>Scandix pectis-veneris</i></b>	<b>Shepherd's Needle</b>
<i>Schoenoplectus lacustris</i>	Common Club-rush
<i>Schoenus nigricans</i>	Black bog rush
<i>Scilla autumnalis</i>	Autumn Squill
<i>S. verna</i>	Spring squill
<i>Scirpus cespitosus</i>	see <i>Trichophorum cespitosum</i>
<i>S. maritimus</i>	see <i>Bolboschoenus maritimus</i>
<i>Scrophularia aquatica</i>	Water figwort

<i>S. nodosa</i>	Common figwort
<i>S. scorodonia</i>	Balm-leaved Figwort
<i>Scutellaria minor</i>	Lesser skullcap
<i>Sedum acre</i>	Biting stonecrop
<i>Senecio jacobaea</i>	Ragwort
<i>S. vulgaris</i>	Groundsel
<i>Serratula tinctoria</i>	Saw wort
<i>Sibthorpia europaea</i>	Cornish moneywort
<i>Silene dioica</i>	Red campion
<b><i>Silene gallica</i></b>	<b>Small-flowered Catchfly</b>
<i>S. maritima</i>	Sea campion
<i>Solanum dulcamara</i>	Bittersweet
<i>Solidago virgaurea</i>	Golden rod
<i>Sorbus aucuparia</i>	Rowan
<i>Sparganium erectum</i>	Branched bur reed
<i>Sphagnum auriculatum</i>	A bogmoss
<i>S. cuspidatum</i>	A bogmoss
<i>S. papillosum</i>	A bogmoss
<i>S. recurvum</i>	A bogmoss
<i>S. tenellum</i>	A bogmoss
<i>Spiranthes spiralis</i>	Autumn ladies tresses
<i>Stachys arvensis</i>	Field Woundwort
<i>S. officinalis</i>	Betony
<i>S. palustris</i>	Marsh woundwort
<i>S. sylvatica</i>	Hedge woundwort
<i>Stellaria holostea</i>	Greater stitchwort
<i>S. pallida</i>	Lesser Chickweed
<i>Succisa pratensis</i>	Devil's bit scabious
<i>Tamarix gallica</i>	Tamarisk
<i>Tamus communis</i>	Black bryony
<i>Taraxacum brachyglossum</i>	A Dandelion
<i>T. officinale</i> agg.	Dandelion
<i>T. simile</i>	A Dandelion
<i>Teucrium scorodonia</i>	Wood sage
<i>Thuidium tamariscinum</i>	A moss
<i>Thymus drucei</i>	Thyme
<i>Thymus polytrichus</i>	Wild thyme
<i>Thymus praecox</i>	see <i>Thymus polytrichus</i>
<i>Tilia</i> sp.	Lime
<i>Tortualla tortuosa</i>	A Moss
<i>Trichophorum cespitosum</i>	Deer grass
<i>Trifolium occidentale</i>	Western clover
<i>T. ornithopodioides</i>	Fenugreek
<i>T. pratense</i>	Red clover
<i>T. repens</i>	White clover
<i>T. scabrum</i>	Rough clover
<i>Triglochin maritima</i>	see <i>T. maritimum</i>
<i>Triglochim maritimum</i>	Sea arrow grass
<i>T. palustris</i>	Marsh arrow grass

<i>Tripleurospermum maritimum</i>	Scentless mayweed
<i>Typchetareslatifolia</i>	Bulrush/cat's-tail
<i>Ulex europaeus</i>	Gorse
<i>U. gallii</i>	Western gorse
<i>Ulmus glabra</i>	Wych elm
<i>Umbilicus rupestris</i>	Wall pennywort
<i>Usnea articulata</i>	A lichen
<i>Urtica dioica</i>	Stinging nettle
<i>Utricularia vulgaris</i>	Common bladderwort
<i>Vaccinium myrtillus</i>	Bilberry
<i>V. oxycoccus</i>	Cranberry
<i>Valeriana dioica</i>	Marsh valerian
<i>V. officinalis</i>	Valerian
<i>Valerianella eriocarpa</i>	Hairy-fruited Cornsalad
<i>V. locusta</i> ssp. <i>dunensis</i>	Ssp. of Common Cornsalad
<i>Verbascum virgatum</i>	Twiggy Mullein
<i>Veronica beccabunga</i>	Brooklime
<i>V. chamaedrys</i>	Germander speedwell
<i>V. montana</i>	Wood Speedwell
<i>Viburnum opulus</i>	Guelder rose
<i>Vicia cracca</i>	Tufted vetch
<i>V. sepium</i>	Bush Vetch
<i>Viola hirta</i>	Hairy violet
<i>V. lactea</i>	Pale heath violet
<i>V. palustris</i>	Marsh violet
<i>V. palustris</i> ssp. <i>juressi</i>	Ssp. of Marsh Violet
<i>V. riviniana</i>	Common dog violet
<i>Vulpia fasciculata</i>	Dune fescue
<i>Wahlenbergia hederacea</i>	Ivy-leaved bellflower

## Birds

<i>Accipiter nisus</i>	Sparrowhawk
<i>Aegithalos caudatus</i>	Long-tailed tit
<b><i>Alauda arvensis</i></b>	<b>Skylark</b>
<i>Alnus clypeata</i>	Shelduck
<i>Anthus pratensis</i>	Meadow pipit
<i>Anthus trivialis</i>	Tree pipit
<i>Asio flammeus</i>	Short-eared owl
<i>Athene noctua</i>	Little owl
<i>Buteo buteo</i>	Buzzard
<i>Calidris alpina</i>	Dunlin
<b><i>Carduelis cannabina</i></b>	<b>Linnet</b>
<i>Carduelis carduelis</i>	Goldfinch
<i>Circus cyaneus</i>	Hen harrier
<i>Circus pygargus</i>	Montagu's harrier
<i>Columba palumbus</i>	Wood pigeon
<i>Corvus corax</i>	Raven

*Corvus corone*  
*Corvus monedula*  
*Delichon urbica*  
*Dendrocopus major*  
*Emberiza citrinella*  
*Erithacus rubecula*  
*Falco columbarius*  
*Falco peregrinus*  
*Falco tinnunculus*  
*Ficedula hypoleuca*  
*Fringilla coelebs*  
*Fulmarus glacialis*  
*Gallinago gallinago*  
*Hirundo rustica*  
*Larus argentatus*  
*Larus canus*  
*Larus fuscus*  
*Larus marinus*  
*Larus ridibundus*  
*Milvus milvus*  
*Motacilla alba*  
*Numenius arquata*  
*Oenanthe oenanthe*  
*Parus caerulea*  
*Passer domesticus*  
*Phalacrocorax aristotelis*  
*Phoenicurus phoenicurus*  
*Phylloscopus collybita*  
*Phylloscopus trochilus*  
*Pica pica*  
*Picus viridis*  
*Pluvialis apricaria*  
***Pyrrhula pyrrhula***  
*Saxicola rubetra*  
*Saxicola torquata*  
*Sturnus vulgaris*  
*Sylvia atricapilla*  
*Troglodytes troglodytes*  
*Turdus merula*  
***Turdus philomelos***  
*Vanellus vanellus*

Carrion crow  
 Jackdaw  
 House martin  
 Great spotted woodpecker  
 Yellowhammer  
 Robin  
 Merlin  
 Peregrine  
 Kestrel  
 Pied flycatcher  
 Chaffinch  
 Fulmar  
 Snipe  
 Swallow  
 Herring gull  
 Common gull  
 Lesser black-backed gull  
 Great black-backed gull  
 Black-headed gull  
 Red kite  
 Pied wagtail  
 Curlew  
 Wheatear  
 Blue tit  
 House sparrow  
 Shag  
 Redstart  
 Chiffchaff  
 Willow warbler  
 Magpie  
 Green woodpecker  
 Golden plover  
**Bullfinch**  
 Whinchat  
 Stonechat  
 Starling  
 Blackcap  
 Wren  
 Blackbird  
**Song Thrush**  
 Lapwing

Other vertebrates:

*Halichoerus grypus*  
***Lutra lutra***  
*Meles meles*  
*Micromys minutus*

Grey seal  
 Otter  
 Badger  
 Harvest mouse



*Mustela erminea*  
*Mustela nivalis*  
*Mustela vison*  
*Oryctolagus cuniculus*  
*Vulpes vulpes*

***Pipistrellus pipistrellus***

*Bufo bufo*  
*Rana temporaria*  
*Triturus helveticus*  
*Triturus vulgaris*

*Lacerta vivipara*  
*Natrix natrix*  
*Vipera berus*

*Anguilla anguilla*  
*Salmo trutta*

Invertebrates: Insects

*Odonata* (Dragonflies)

*Calopteryx virgo*  
*Ceriagrion tenellum*  
*Coenagrion puella*  
*Cordulegaster boltonii*  
*Enallagma cyathigerum*  
*Erythromma najas*  
*Ischnura pumilio*  
*Orthetrum coerulescens*  
*Sympetrum danae*  
*S. scoticum*  
*S. striolatum*

*Lepidoptera* (Butterflies and Moths)

*Aglais urticae*  
*Argynnis aglaja*  
*Argynnis paphia*  
*Aricia agestis*  
***Boloria euphrosyne***  
*Callophrys rubi*  
*Coenonympha taenias*  
*Cupido minimus*  
*Cynthia cardui*

Stoat  
Weasel  
Mink  
Rabbit  
Fox  
Brown long-eared bat  
**Pipistrelle Bat**  
Daubenton's bat

Common toad  
Common frog  
Palmate newt  
Smooth newt

Common lizard  
Grass snake  
Adder

Eel  
Brown trout  
Minnow  
Brook lamprey

Beautiful demoiselle  
Small red damselfly  
Common azure damselfly  
Golden ringed dragonfly  
Common blue damselfly

Scarce blue-tailed damselfly  
Keeled skimmer  
Black darter  
Black sympetrum  
Common darter

Small tortoiseshell  
Dark green fritillary  
Silver-washed fritillary  
Brown argus  
**Pearl-bordered Fritillary**  
Green hairstreak  
Small heath  
Small blue  
Painted lady

<i>Eumenis semele</i>	
<b><i>Eurodryas aurinia</i></b>	<b>Marsh Fritillary</b>
<i>Hipparchia semele</i>	Grayling
<i>Lasiommata megera</i>	Wall brown
<i>Lycaena phlaeas</i>	Small copper
<i>Maniola jurtina</i>	Meadow brown
<i>Melanargia galathea</i>	Marbled white
<i>Nymphalis polychloros</i>	Large tortoiseshell
<i>Pararge aegeria</i>	Speckled wood
<i>Pieris brassicae</i>	Large white
<i>Pieris napi</i>	Green-veined white
<i>Pieris rapae</i>	Small white
<i>Plebejus argus</i>	Silver-studded blue
<i>Polyommatus icarus</i>	Common blue
<i>Pyrhonia tithonius</i>	Gatekeeper
<i>Strymonidia w-album</i>	White-letter hairstreak
<i>Vanessa atalanta</i>	Red admiral

<i>Autographa gamma</i>	
<i>Lasiocampa quercus</i>	Oak eggar
<i>Macrothylacia rubi</i>	Fox moth
<i>Pseudopanthera macularia</i>	
<i>Pterophorus fuscolimbatus</i>	
<i>Saturnia pavonia</i>	Emperor moth
<i>Zygaena</i> sp.	Five-spot burnet

#### *Orthoptera* (Grasshoppers and Crickets)

<i>Chorthippus parallelus</i>	Meadow grasshopper
<i>Leptophyes punctatissima</i>	Speckled bush cricket
<i>Omocestus viridulus</i>	Common green grasshopper
<i>Pholidoptera griseoaptera</i>	Dark bush cricket
<i>Stenobothrus lineatus</i>	Stripe-winged grasshopper
<i>Tetrix subulata</i>	Slender groundhopper

#### *Diptera* (Flies)

<i>Beris clavipea</i>	Soldierfly
<i>Bibio marci</i>	
<i>Cheilosia pagana</i>	
<i>Chrysotoxum elegans</i>	Hoverfly
<i>Dilophus febrilus</i>	
<i>Dolichopus andalusiacus</i>	
<i>Epitriptus cinquulatus</i>	Robberfly
<i>Eristalis tenax</i>	
<i>Euleia heracleii</i>	
<i>Limonia trivittata</i>	Cranefly
<i>Neoascia podagrica</i>	
<i>Oxycera pulchella</i>	Soldierfly

<i>Philonus albiceps</i>	Robberfly
<i>Platycheirus albimanus</i>	
<i>Rhingia campestris</i>	Hoverfly
<i>Syritta pipiens</i>	

*Hymeoptera* (Ants, Bees and Wasps)

<i>Andrena fulvago</i>	Mining bee
<i>A. tarsata</i>	
<i>Bombus monticola</i>	Bumblebee
<i>Formica fusca</i>	
<i>Lasioglossum cupromicans</i>	
<i>Lasius flavus</i>	Yellow ant
<i>Leptothorax tuberum</i>	Ant
<i>Myrmica ruginodis</i>	Ant
<i>Nomada robertjeotiana</i>	

*Coleoptera* (Beetles)

<i>Acupulus dorsalis</i>	Ground beetle
<i>Apion aeneum</i>	
<i>A. ononis</i>	
<i>Cantharis cryptica</i>	Beetle
<i>Cathormiocerus britannicus</i>	Beetle
<i>Cassida murraea</i>	Tortoise beetle
<i>Ceutorhynchus punctiger</i>	Weevil
<i>Cicendela maritima</i>	Beetle
<i>Coccinella 7-punctata</i>	7-spot ladybird
<i>Cryptocephalus aureolus</i>	Leaf beetle
<i>Ctenipus sulphureus</i>	Beetle
<i>Harpalus latus</i>	Beetle
<i>Lochmaea suturalis</i>	Heather beetle
<i>Lampyrus noctiluca</i>	Glow worm beetle
<i>Meloe proscarabaeus</i>	
<i>Meta bletus forveatus</i>	
<i>Miarus micros</i>	Beetle
<i>Oedemera nobilis</i>	Beetle
<i>Olisthopus rotundatus</i>	
<i>Olypus brunnipes</i>	
<i>Otiorrhynchus sulcatus</i>	
<i>Parpalus tardus</i>	
<i>Phaedon tumidulus</i>	Leaf beetle
<i>Pilemostoma fastuosa</i>	
<i>Pterostichus aethiops</i>	Ground beetle
<i>P. madidus</i>	Ground beetle
<i>P. strenuus</i>	Ground beetle
<i>Rhizobius litura</i>	
<i>Saprinus cuspidatus</i>	Beetle
<i>Silphectaresobscura</i>	Carrion beetle

*Strophosomus nebulosus*  
*Subcoccinella 24-punctata*  
*Timarchus tenebricosa* Bloody-nosed beetle  
*Trachys troglodytes*

*Hemiptera* (Bugs)

*Dicranocephalus agilis* Bug  
*Drymera ryei*  
*Himacerus apterus*

*Isopoda* (Woodlice)

*Armadillidium vulgare*  
*Oniscus asellus*  
*Philoscia muscorum*  
*Porcellio scaber*  
*Porcellionides cingendus*

*Myriapoda* (Centipedes and Millipedes)

*Glomeris marginata* Millipede

*Araneae* (Spiders)

*Clubonia genevensis*  
*Euophrys herbigrada*  
*Gnaphosa occidentalis*  
*Lathys stigmatisata*

*Molluscs* (Slugs and Snails)

*Aegopinella nitidula*  
*Arion ater* Slug  
*Cepaea hortensis*  
*Cepea nemoralis* Two toothed door snail  
*Clausilia bidentata*  
*Helicella itala* Heath snail  
*Helix aspresa*  
*Lauria cylindracea* Silky snail  
*Lymnaea glabra* Snail  
*Oxychilus alliarius*  
*Pomatius elegans* Land winkle  
*Ponentina subvirescens*  
*Pupilla muscorum* Moss snail  
*Vallonia excentrica* Eccentric grass snail

## OTHER SPECIES

*Leiobunum variegatus*  
*Forficula auricularia*  
*Lithobius variegatus*  
*Abax parallelepipedus*  
*Trechus obtusus*  
*Geotrupes stercorosus*  
*Byrrhus pilula*

*Opiliones*  
*Dermaptera*  
*Chilopoda*  
*Carabidae*  
*Carabidae*  
*Scarabaedea*  
*Byrrhidae*

shrimps  
crabs  
whelks  
winkles  
sea anemones

## APPENDIX 3

### SITE REPORTS FOR SURVEYED COMMONS NOTES

#### 1. Site Cards : Habitat areas

The layout of the site cards from the survey is largely self-explanatory. However, a note concerning the quoted area for individual sites is needed. The areas of habitats within commons were determined using various methods - Calcomp digitizer, Reiss Polarplanimeter or manual counting of Imm graph paper overlays. It must be emphasised that these area estimates do not in all cases summate to the total area of common land as recorded in the registers. Apart from the errors that inevitably occur in deriving such measurements, it should not be assumed that the area as recorded in the registers is a definitive measurement. The survey has drawn attention to numerous, and sometimes gross, inaccuracies. For the surveyed commons, both the registered areas and the measured habitat areas are included on the site cards and in the list of commons - Appendix 1.

#### 2. Survey maps

The Phase 1 vegetation maps are presented mainly at a scale of either 1:10,000, or for larger sites, 1:25,000. In certain cases it has been necessary to slightly reduce the size of the final copy to fit in the report. For some maps the earlier scale of 1:10,560 applies. The boundaries of the survey sites have been checked against the originals held by the registration authority. They are delineated by a bold line. The actual site boundary follows the inside edge of the line, to avoid obscuring habitat information.

The habitats present are indicated using the appropriate Phase 1 alphanumeric. In addition, the vegetation maps have also been annotated with dominant species codes for ericaceous species. These facilitate the easy identification of areas of dwarf shrub vegetation and its composition. The codes are as follows:

Cv	Calluna vulgaris
Vm	Vaccinium myrtillus
Et	Erica tetralix
En	Empetrum ingrum

The survey maps are not otherwise annotated with dominant species codes. The extra detail would make the maps too complex and difficult to interpret. Instead, the dominant species codes are referenced within the vegetation description.

#### 3. Botanical nomenclature

The nomenclature for higher plants used in the vegetation descriptions follows that of: Stace, C.A. **New Flora of the British Isles**, Cambridge University Press, 1991. The English names for plants are not included in the site reports themselves. However, a full list of species noted during the survey is provided in Appendix 2.

## APPENDIX 4

### CORRESPONDENCE BETWEEN THE UK BIODIVERSITY ACTION PLAN BROAD HABITAT CLASSIFICATION AND THE PHASE 1 HABITAT CLASSIFICATION

Phase 1 Habitats	Broad Habitat Types
A111 Broad-leaved Semi-natural Woodland	1. Broadleaved, mixed and yew woodland
A112 Broad-leaved Plantation	1. Broadleaved, mixed and yew woodland
A121 Coniferous Semi-natural	2. Coniferous woodland
A122 Coniferous Plantation	2. Coniferous woodland
A131 Mixed Semi-natural	1. Broadleaved, mixed and yew woodland
A132 Mixed Plantation	1. Broadleaved, mixed and yew woodland
A21 Dense Scrub	1. Broadleaved, mixed and yew woodland
A22 Scattered Scrub	Unclassified (subject to context)
A3 Parkland scattered trees	Unclassified (subject to context)
A4 Recently-felled	1. Broadleaved, mixed and yew woodland
B11 Acidic Grassland : Unimproved	8. Acid grassland
B12 Acidic Grassland : Semi-improved	8. Acid grassland
B21 Neutral Grassland : Unimproved	6. Neutral grassland
B22 Neutral Grassland : Semi-Improved	6. Neutral grassland
B31 Calcareous Grassland Unimproved	7. Calcareous grassland
B32 Calcareous Grassland Semi-improved	7. Calcareous grassland
B4 Improved Grassland	5. Improved grassland
B5 Marsh/Marshy Grassland	11. Fen, marsh and swamp
B6 Poor Semi-Improved Grassland	5. Improved grassland
C11 Bracken : Continuous	9. Bracken
C12 Bracken : Scattered	Unclassified (subject to context)
C22 Upland Species-rich ledges	16. Inland rock
C31 Other : Tall Ruderal	Unclassified (subject to context)
C32 Other : Non-ruderal	Unclassified (subject to context)
D11 Dry Dwarf Shrub Heath : Acidic	10. Dwarf shrub heath
D12 Dry Dwarf Shrub Heath : Basic	10. Dwarf shrub heath
D2 Wet Dwarf Shrub Heath	10. Dwarf shrub heath
D3 Lichen/Bryophyte Heath	15. Montane habitats
D5 Dry Heath Acidic Mosaic	8. Acid grassland (part)/10 Dwarf Shrub Heath (part)
D6 Wet heath/acidic grassland mosaic	8. Acid grassland(part)/10 Dwarf Shrub Heath (part)
E161 Blanket Bog	12. Bog
E162 Raised Bog	12. Bog
E17 Bog : Wet Modified	12. Bog
E18 Bog : Dry Modified	12. Bog
E21 Flush/Spring : Acid/Neutral	11. Fen, marsh and swamp
E22 Flush/Spring : Basic	11. Fen, marsh and swamp
E23 Flush/Spring Bryophyte Dominant	11. Fen, marsh and swamp
E31 Fen : Valley Mire	11. Fen, marsh and swamp
E32 Fen : Basin Mire	11. Fen, marsh and swamp
E33 Fen-flood plain	11. Fen, marsh and swamp
E4 Bare Peat	Unclassified (subject to context)
F1 Swamp	11. Fen, marsh and swamp
F21 Marginal	13. Standing water and canals (part)/14 Rivers and streams

F22 Inundation	(part) 13. Standing water and canals (part)/14 Rivers and streams
G1 Standing Water	(part) 13. Standing water and canals
G2 Running Water	14. Rivers and streams
H11 Intertidal Mud/Sand	21. Littoral sediment
H12 Intertidal Shingle	21. Littoral sediment
H13 Intertidal Rocks	20. Littoral rock
H23 Saltmarsh /Dunes	21. Littoral sediment
H24 Saltmarsh/Plants	21. Littoral sediment
H26 Saltmarsh/Continuous	21. Littoral sediment
H3 Shingle	19. Supralittoral sediment
H4 Rock/Boulders	18. Supralittoral rock
H5 Strandline Vegetation	19. Supralittoral sediment
H64 Sand Dune/Slack	19. Supralittoral sediment
H65 Sand Dune/grassland	19. Supralittoral sediment
H66 Dune Heath	19. Supralittoral sediment
H67 Dune Scrub	19. Supralittoral sediment
H68 Dune Open	19. Supralittoral sediment
H81 Maritime Cliff Hard	18. Supralittoral rock
H82 Maritime Cliff Soft	18. Supralittoral rock
H83 Crevice/ledge vegetation	18. Supralittoral rock
H84 Coastal/maritime grassland	18. Supralittoral rock
H85 Coastal heathland	10. Dwarf shrub heath
I111 Inland Cliff - Acid/Neutral	16. Inland rock
I112 Inland Cliff - Basic	16. Inland rock
I121 Scree – Acid/Neutral	16. Inland rock
I122 Scree – Basic	16. Inland rock
I13 Limestone pavement	16. Inland rock
I141 Other Exposure - Acidic/Neutral	16. Inland rock
I142 Other Exposure - Basic	16. Inland rock
I21 Artificial - Quarry	16. Inland rock
I22 Artificial - Spoil	16. Inland rock
I23 Artificial - Mine	16. Inland rock
I24 Artificial – refuse tip	17. Built up areas and gardens
J11 Arable	4. Arable and horticultural
J12 Amenity grassland	5. Improved grassland
J13 Cultivated - ephemeral	17. Built up areas and gardens
J14 Introduced Shrub	1. Broadleaved, mixed and yew woodland
J21 Hedges - Intact	3. Boundary and linear features
J22 Hedges - Defunct	3. Boundary and linear features
J23 Hedges – With trees	3. Boundary and linear features
J26 Dry Ditch	3. Boundary and linear features
J31 Industrial estate	17. Built up areas and gardens
J32 Military building	17. Built up areas and gardens
J33 Domestic building	17. Built up areas and gardens
J34 Caravan Site	17. Built up areas and gardens
J35 Seawall	17. Built up areas and gardens
J36 Buildings	17. Built up areas and gardens
J4 Bare Ground	Unclassified (subject to context)
J5 Other Habitats	Unclassified (subject to context)

Source : JNCC



