The Devon Local Sites Manual
Policies and Procedures for the Identification and Designation of Wildlife Sites

Version 1.2 – May 2009

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DBRC

Changes to the Devon Local Site Manual:

Changes agreed by DBRC Steering Group 11/09/08 (v1.1):

Section 1: Introduction

- p5: Section on Local Wildlife Sites amended
- p10: Deleted sites updated

Section 3: Habitat Guidelines

- p13: Section 3.1.2.1 (b) Non-ancient woodland amended

Appendices:

- p44: Appendix 3 Calcifugous grassland amended

Changes agreed by DBRC Steering Group 08/05/09 (v1.2):

Section 1: Introduction

- p4: Section on proposed County Wildlife Sites (pCWS) amended

Section 2: The Selection of County Wildlife Sites

- p8: Section 2.5 – new list of evidence that can be used in the selection of CWS
- p11: Section 2.11– section on notification of landowners updated

Section 3: Habitat Guidelines

- p15: Section 3.1.5 – parkland criteria now complete

Appendices:

- p41-56: Appendices 2 -7 - IHS categories added to all the NVC community appendices
- p47: Appendix 3 - table for indicator species of neutral grasslands added
- p57-65: Appendix 8 - vascular plant list updated, old status (e.g. DN1) reinstated, references added.


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Contents:


DBRC

Introduction

This document forms part of the suite of policy and procedure documents which guides the work of the Devon Biodiversity Record Centre (DBRC).

It updates the 'Fifth Working Draft of the Guidelines for the Selection of County Wildlife Sites in Devon' which was used between April 1995 and October 2007 to guide the selection of County Wildlife Sites in Devon.

The purpose of the document is to provide a robust and consistent set of policies and procedures to guide the selection of 'Local Sites' across Devon, on behalf of the partnership which makes up DBRC, in line with the expectations of Planning Policy Statement 9 on Biodiversity and Geological Conservation (August 2005) and Defra's Local Site Guidance (Local Sites: Guidance on the Identification, Selection and Management, 2006).

Drafting and Adoption of the Manual

The guidance contained within the Manual was compiled by a small group, comprising individuals represented on the DBRC Steering Group and / or the County Wildlife Site Selection Panel. This work was started in 2002, but not brought to a final conclusion until 2007. See Section 2 (Non-Statutory Wildlife Site Selection Procedure) for details of those involved.

Input and advice was sought from a wide range of organisations and individuals with specialist knowledge of Devon's wildlife, including those specifically listed in Section 2.

The Manual was presented to the full DBRC Steering Group for its consideration at its meeting of 18th October 2007 and was approved and adopted at this meeting.

Rather than remaining a static document pending some future review, it has been agreed that the County Wildlife Site Working Group, which operates as a sub-group of the DBRC Steering Group, should continue this process of review in an ongoing manner. As time and opportunities allows, further refinements to the Manual will be considered and adopted by the Steering Group.

Scope of the Manual

Although updating the previous 'Guidelines for the Selection of County Wildlife Sites in Devon, the current Manual provides a more comprehensive approach to policies and procedures relating to Local Site systems in Devon. Its purposes are:

- To define the range of 'Local Site' designations which are applied in a standard manner across Devon through the co-ordination provided by DBRC.

- To set out a detailed set of selection criteria, with related appendices, for the principal 'Local Site' designation: County Wildlife Sites (CWS).

- To set these within the context of a broader network of biodiversity sites (referred to as a Biodiversity Network).

- To explain the procedures which are applied by an independent 'Selection Panel' and operating with the authority of the DBRC Steering Group, as well as the staff of DBRC, in the selection, and de-selection, of such 'Local Sites'.

The policies and procedures relate to the full extent of the Devon's natural environment: terrestrial, aquatic, sub-littoral and marine. However, it should be noted that the contents of their Manual and their application have been much further developed within the terrestrial, than in the marine, environment. The section on the marine environment only deals with coasts and estuaries, not the open sea.

The Manual also covers Biodiversity Networks, which complement the County Wildlife Site system. Biodiversity Networks can be used in urban and rural areas, to provide an effective means of protecting and enhancing biodiversity. They also retain and enhance the amenity value of natural habitats and the wildlife they support. The establishment of Biodiversity Networks is of value in maintaining long term local environmental quality and especially when considering the sustainability of new urban development.

The Manual does not, currently, cover 'Local Sites' in Devon recognised for their geological conservation significance which are referred to as County Geological Sites (CGS), or otherwise known as Regionally Important Geological Sites (RIGS). Instead, the selection of such sites is co-ordinated through the Devon RIGS Group. However, there are clear parallels between these systems and it is hoped, in due course, that their relationship might be properly formalised.

Definitions

A. Current 'Local Site' Designations
County Wildlife Site (CWS)
A County Wildlife Site is a discrete area of land, water, foreshore or seabed which is considered to be of nature conservation significance for its constituent wildlife (or biodiversity) in, at least, a County context.

Proposed County Wildlife Site (pCWS)
A Proposed County Wildlife Site is an area that has been surveyed but is awaiting consideration from the CWS Designation Panel; a site that has been surveyed at an unfavorable time of year and is awaiting a re-survey, or an area that has been identified through a survey carried out by a third party, and the meets the CWS criteria, but the landowner has declined CWS designation.

Unconfirmed Wildlife Site
Sites identified as having possible interest but not fully surveyed. Some of these sites will be areas of significant wildlife interest.

Other Sites of Wildlife Interest (OSWI)
These are sites that have been surveyed but they do not reach CWS standard. They will include the old designation of Local Wildlife Site (LWS).

Biodiversity Network
A Biodiversity Network consists of areas of semi-natural habitat likely to make a significant contribution to the overall movement/dispersal of species within the local landscape as wildlife 'stepping stones' or conduits. These include for example, areas of species-rich semi-improved grassland, double hedgerows/hedgebanks, significant belts/areas of scrub, semi-natural or plantation broadleaved woodland and ponds.

Key Network Feature
Key Network Features are the best habitats within the Biodiversity Network

B. Former 'Local Site' Designations
Local Wildlife Site
This designation used to be used for sites of significant wildlife interest within a local context that do not reach the criteria for County Wildlife Sites. However, given the potential confusion with the 'Local Sites' terminology promoted through the Defra guidance, and the lack of any consistent approach to the selection of such sites across Devon, this informal designation has been dropped. Since these sites still have some wildlife interest, information will be retained about them, but they will be referred to as Other Sites of Wildlife Interest (OSWI).

Site Selection and the 'Ratcliffe Criteria'

The guidelines for selecting County Wildlife Sites are based on the Ratcliffe Criteria (Ratcliffe, 1997) which is a long established and widely accepted method of determining the nature conservation value of a site, based on the following attributes:

- Size
- Naturalness
- Representativeness
- Rarity
- Diversity
- Position in an ecological unit
- Recorded History
- Fragility
- Potential Value
- Intrinsic Appeal

These criteria are considered to underpin the selection of all 'Local Sites' in Devon and have been used in the establishment of more detailed criteria, which are intended to be of particular relevance to Devon and to help establish which sites might be considered to be of significance at a County scale.

However, the selection of Local Sites is not always a precise science. The Ratcliffe Criteria assist in providing a consistent approach which is used widely across the UK in recognising attributes that contribute to the perceived nature conservation value of a particular site or feature. More detailed criteria can further assist in the establishment of thresholds. However, there will also be borderline cases. For this reason, this Manual recognises that it primary role is to provide detailed and consistent guidance to inform the selection process, but that decision will involve an element of subjectivity, which should be applied by those with a good knowledge and experience of Devon's wildlife.

Relationship with BAP Habitats and Priority Species

Section 74 of Countryside and Rights of Way Act requires the Secretary of State to publish a list of BAP habitats and priority species. It is these which are addressed through the many volumes which make up the UK BAP. In a Devon context, it is 'The Nature of Devon – A Biodiversity Action Plan' which defines key features of biodiversity significance (see Table 2 of Section D of the Devon BAP). Action Plans have been prepared for a sub-set of these. However, action plans are not presented where these might be more appropriately addressed a local, rather than a County level (e.g. action plans for upland habitats are confined to the Dartmoor and Exmoor BAPs. Whilst these documents are intended to inform conservation action for these habitats and priority species, they are not sufficient to inform the selection of individual sites of substantive nature conservation importance. So, BAP status will be one of the points taken into account through the Ratcliffe criteria, with some overt reference to BAP priorities within the more detailed criteria. BAP status has been used to inform the range of habitats for which detailed criteria are now presented; for example, it is their BAP status which has prompted the specific inclusion of criteria for 'Coastal and Floodplain Grazing Marsh' and 'Traditional Orchards'.

Artificial habitats

County Wildlife Sites and Biodiversity Networks may include artificial habitats that qualify under other habitat or species criteria. These include arable land (and set-aside) and improved grassland that, for example supports important bird wintering grounds; wildlife corridors such as hedgerows, green lanes, dry stone walls, road verges, railway verges, disused railway lines; and areas such as disused airfields, parks, golf courses, gardens, cemeteries, churchyards, tips, sewage works, industrial sites, derelict land and disused buildings that still have value for wildlife, especially in the built environment.

2. The Selection of County Wildlife Sites

The selection of all County Wildlife Sites in Devon, from the full range of habitat present in the County, will be undertaken through the rigorous application of the following Guidelines. The procedure for the confirmation of County Wildlife Sites selection will be carried out by a panel of experts from within the County, who operate as an approved County Wildlife Site selection panel. Sites can be selected under habitat or species guidelines.

Non-Statutory Wildlife Site Selection Procedure

2.1 Introduction:

Non-statutory Local Sites are included on Local Development Framework proposals maps as 'sites of substantive nature conservation interest' as required by Planning Policy Statement 9: Biodiversity and Geological Conservation. DEFRA's publication 'Local Sites: Guidance on their Identification, Selection and Management' outlines the importance of clear and transparent procedures for designating Local Sites.

This document outlines the procedure for designating and de-designating Local Sites adopted by the Devon Biodiversity Records Centre (DBRC) Steering Group. In Devon, Local Sites are known as County Wildlife Sites or CWS, and are referred to as such in this document. The criteria used for designation of County Wildlife Sites are published in the 'Guidelines for the Selection of County Wildlife Sites in Devon – fifth working draft April 1995' and surveys are carried out according to the DBRC Data Collection Policy (2005).

2.2 Nomination of Sites:

In general, sites will be nominated for selection by DBRC following systematic Wildlife Site survey undertaken in conjunction with the relevant District Council or Unitary Authority. Sites can, however, be nominated for selection by any person or organisation. The person or organisation nominating a site should provide sufficient information to allow the panel to judge the site against written criteria. There is a minimum amount of information that must be available in order to apply the criteria. DBRC can provide guidance on the collection of this information

2.3 Written Evidence (environmental data):

Selection must be supported by validated written evidence sufficient to judge a site against the criteria. Written evidence can be collected by any of the parties above or may be from other sources. All written evidence should be validated by DBRC and a copy should be held at DBRC for future reference.

2.4 The Wildlife Site Selection Panel:

Non-statutory Wildlife Sites in Devon are selected by a panel consisting of:

- Devon County Council Ecologist

- Appropriate Local Authority Planning and/or Countryside Officers and/or museum officers
- The relevant Devon Wildlife Trust Officer
- A named local naturalist of known reputation and other specialists where appropriate*
- Relevant Natural England Area Officer
- Devon Biodiversity Records Centre Manager (and Survey Officers where possible)

Panel meetings should ideally be attended by ALL the members above (or their representatives) and every effort should be made to set meeting dates which are possible for all members. Members should try and send a representative where they are unable to attend. The meeting will be quorate when attended by four out of the six categories of member listed above, which must include a DBRC staff member and the relevant local authority representative. The secretariat for the meeting will be provided by DBRC and meetings will be chaired by the County Ecologist or other member of the panel.

*Appropriate specialists might include:
- Environment Agency officers to discuss wetland sites
- Bat Group representatives when discussing bat sites

2.5 Criteria:

Selection is on the basis of written criteria. Guidance on application of criteria has been published and is currently under review. Regular review (at least every five years) of the guidance should be carried out by DBRC with detailed consultation with members of the Panel, relevant statutory agencies and appropriate species, habitat and earth science specialists. The DBRC Steering Group will act as a significant avenue for consultation on review of the guidance and the guidance should be endorsed by the Steering Group prior to publication.

The selection process should be documented by DBRC (e.g. reasons for selection, persons involved in the selection process and date selection was made) and this documentation should be held with the written evidence.

The collection, management and presentation of written evidence are dependent on resources being available. Evidence that can be used in the designation of County Wildlife Sites includes, but is not limited to:

- Data from specific CWS survey
- Data from other surveys, as long as permission to carry out the survey has been granted
- Publicly available information such as aerial photos, approved documents such as Environmental Impact Assessments

2.6 CWS Site Boundaries:

CWS site boundaries are usually chosen to select a boundary which is clearly defined by features on the ground, such as a hedge or fence line. This may mean that the site includes areas which clearly do not meet the necessary selection criteria (such as areas of poor semi-improved grassland within a field of otherwise unimproved grassland). Sites can also include entire parcels of ground (i.e. individual fields, or blocks within a woodland) which do not clearly meet the criteria, but are justified in the context of an overall site complex (e.g. blocks of conifer of no apparent interest which are isolated within an otherwise semi-natural woodland).

Continuity with an adjoining, related habitat in a SSSI or County Wildlife Site should be a consideration when designating sites, and sites selected as geological SSSIs may also be selected as a County Wildlife Site.

2.7 The CWS Designation Procedure:

The CWS Selection Panel is responsible for ALL additions / deletions / boundary changes to the CWS list. The Panel can meet in person or by writing/e-mail/telephone conference. There are three methods of designation:

2.7.1 Full Panel discussion:

For sites where CWS designation is not clear, the CWS Panel members consider each site on an individual basis. Panel members are provided with a copy of the evidence, and summary information (prepared by DBRC and in the form of a table). The summary lists the relevant CWS criteria for each site, and any concerns or problems (e.g. if the site does not easily conform to the CWS criteria, or if only part of the site is of CWS standard). The issues relating to each site are discussed, until agreement is reached on whether the site meets the criteria and what its boundary should be.

2.7.2 Endorsement:

For clear-cut CWS selection or non-selection cases, the Panel members are specifically informed of ALL sites which are proposed for CWS status and are given summary information about these in the form of a table. The table is compiled by DBRC staff, and includes the reasons for the selection or non-selection of each site. Where a site is to be selected as a CWS, the relevant CWS criteria are listed. The Panel looks at one or two examples of these to be sure that the interpretation of the CWS guidelines by DBRC staff is correct. The Panel then endorses the remaining recommendations *en bloc* (i.e. adopt these, with the discretion to look in more detail and reverse any recommendations from DBRC staff).

2.7.3 Delegation:

For minor and non-controversial boundary amendments, such as re-digitising sites so that they are correct to the landline maps, correcting mistakes in digitisation and deleting areas where there is clear and irrefutable evidence that they no longer of CWS standard (e.g. part of a site that is now under a housing development) the Panel members have given DBRC staff the authority to take decisions on behalf of the Panel. The list of decisions does not have to be presented to, and specifically approved and adopted by the Panel.

2.8 The CWS De-designation Procedure:

Sites may be de-designated as County Wildlife Sites if it is found that their nature conservation interest has deteriorated to such an extent that they are no longer of CWS standard. As with the designation procedure, sites where there is clear and irrefutable evidence that they no longer of CWS standard the Panel will delegate the process to DBRC. Otherwise, cases will be considered by a full Panel discussion.

Sites may be de-designated if:

- There is no evidence to support their selection as CWS
- New evidence clearly shows that the CWS interest has been lost
- If the evidence used for CWS selection was obtained in an inappropriate manner e.g. if a survey was undertaken without access permission and in the absence of any publicly available information justifying the selection of the site (e.g. aerial photos)

Information on sites that have been de-designated will be retained by DBRC on a 'Deleted Sites' layer on the DBRC database. This will cover sites that have been de-designated because there is no evidence to support their selection as CWS, or the CWS interest has been lost. Sites that have been surveyed without landowner permission will be downgraded to Unconfirmed Wildlife Sites, and the fact that landowner permission was not obtained will be noted.

2.9 Challenges to decisions:

Owners or occupiers of sites may challenge the factual basis on which a parcel of land has been selected or not selected as CWS. This procedure will not be used to change the designation of a site because the owner requires this, but will be used to determine whether the selection process has been properly applied. This procedure should be operated by DBRC through the auspices of the Selection Panel and controversial cases will be addressed by the full Panel (by exchange of e-mails, if necessary). However, in some cases, it may be sufficient for the Panel to delegate the consideration of certain issues to DBRC staff.

The designation of a site may be challenged if:

- There is available and appropriate evidence to justify the selection of a CWS on the basis of the published selection guidelines - whether or not the site actually contains the specific feature which has justified its selection (e.g. a rare or notable species) and / or whether this feature is of sufficient quality (i.e. does the habitat comprise

NVC community types which justify its selection and are there other factors which might count against this, such as a dominance of invasive species).

- The boundary of a site has been drawn inappropriately – including areas that do not meet CWS standard that are not covered by paragraph 6.

2.10 Adoption by Local Authority:

After sites are selected, the relevant Local Authority should be formally notified of the sites within their area. The Local Authority will be invited to adopt the sites and to incorporate the designated sites in the Local Plan in accordance with the County Structure Plan and Planning Policy Statement note 9.

A rolling programme of review of CWS selection should be phased, as far as is practicable, to coincide with the Local Plan process for each Planning Authority.

2.11 Notification to landowners:

After sites are selected or de-designated, landowners shall be notified by either DBRC or the relevant Local Authority.

Where sites that clearly meet the CWS guidelines have been identified using information that has not been gathered as part of a targeted County Wildlife Site survey (see 2.5) landowners will be contacted prior to the CWS panel meeting to inform them of our intention to designate the site. If the landowners object to the designation, the site will remain as a Proposed County Wildlife Site (pCWS).

3. Habitat Guidelines for County Wildlife Sites

3.1 Woodlands

Devon is a relatively well-wooded County, with woodland covering approximately 8% of the land area. Of this area, about one third is believed to be of ancient origin, with this third comprising 60% ancient semi-natural woodland and 40% plantations on ancient sites. Ancient semi-natural woodland in the County is characterised by acid oak-birch stands on well-drained slopes with relatively poor ground floras often supplemented by rich assemblages of bryophytes and epiphytic lichens. Gleying of soils leads to rich flushed woodlands in valley bottoms. Clay soils away from the steep valleys support rich oak-ash-maple woods, while the restricted calcareous soils in the south east of the County support distinctly rich woodland communities. The remainder of the woodland resource is made up of amenity plantations on country estates, conifer plantations on former moorland heath and secondary broadleaved woodland which has arisen through natural regeneration on abandoned farmland and heathland.

The following will be selected as County Wildlife Sites:

3.1.1 Ancient Woodland

3.1.1.1 Woodland recorded on the Provisional Devon Inventory of Ancient Woodland (note i) as carrying a semi-natural canopy, unless post-inventory survey has shown this record to be erroneous (note ii), or has revealed severe degradation (note iii).

3.1.1.2 Woodland recorded on the Provisional Devon Inventory of Ancient Woodland as carrying a replanted coniferous or broadleaved crop, which is shown to retain, on the basis of post-Inventory survey, restorable elements of its previous semi-natural character, and other extant features of wildlife interest. These should include all of the following:

(a) the presence of at least 10 ancient woodland indicator species(note iv);
(b) the presence of at least 5 species that are representative of a specific NVC/IHS community type (e.g. acid/base-rich/wet. N.b. Currently lists are only available for W8 & W10) and
(c) significant additional features such as herb-rich rides, glades or pockets of semi-natural canopy.

3.1.1.3 Woodland not recorded on the Inventory of Ancient Woodland but believed, nevertheless, to be ancient because
(a) its location is shown as wooded on the Tithe Maps and recent survey has confirmed the presence of a semi-natural canopy (note v) or
(b) field evidence suggests ancient origin.
(c) Sites should normally be 0.5 ha or larger to qualify.

3.1.2 Non-ancient Woodland

3.1.2.1 Woodland which is not believed to be of ancient origin but which carries a semi-natural canopy (note v) and meets all of the following qualifications:

(a) it has a diverse and well-developed structure (ground flora/shrub, layer/canopy or ride/glade system) and;

(b) it has a flora which is rich in the context of the woodland community concerned (note vi) with the presence of at least five species from the relevant NVC/IHS community and;

(c) it is not degraded by having grazing, poaching, domination by invasive and/or non-native species (notes iii and vii), or other heavy usage for recreation or other purposes: and

(d) the features of value are present in at least 50% of the woodland area.

(e) Sites should normally be 0.5 ha or larger.

3.1.3 Wet Woodland

3.1.3.1 Woodland which has clear affinities with NVC communities W1, W4, W5, W6 or W7 (see note vi and appendix 2 for IHS categories). Sites should normally be 0.5 ha or larger.

3.1.4 Scrub

3.1.4.1 Some scrub communities are common and widespread, and may be considered to be invasive and pose a threat to other habitat types. However, other scrub communities are more restricted in their occurrence and are of conservation value in their own right. Scrub communities can support a wide range of wildlife species, for instance dormice, nesting birds, specialised lichen assemblages and a variety of invertebrates, some of which are partly or wholly dependant on scrub habitats. Scrub is often found as part of a habitat mosaic, where it provides additional valuable niches and micro-habitats (the 'edge effect') which significantly increase the overall value and species-richness of a habitat. Scrub will not normally be selected on its own (other than where it clearly meets the species criteria), but the following may be selected as County Wildlife Sites:

3.1.4.2 Scrub which

(a) has clear affinities with NVC communities W21 to W25 (See note vi and appendix 2 for IHS categories), and

(b) is 0.5ha or larger and

(c) is structurally diverse (i.e. has wide range of shrub species with a mixed age structure, has many clearings or glades or an irregular edge and has a well-developed marginal zone with other habitats).

3.1.4.3 Areas of scrub may be included within other habitat County Wildlife Sites, where it forms a valuable complement to these other habitats, by increasing structural and species diversity.

Notes

i. The Provisional Devon Inventory of Ancient Woodland was published by the Nature Conservancy Council in 1986. The definition of Ancient Woodland used in these Guidelines accords with that given in this publication. It should be noted that the Inventory only lists Ancient Woodland of 2ha or larger.

ii. It is recognised that sites shown on the Ancient Woodland Inventory were identified using a variety of techniques and were not all subject to field confirmation at the time of that project. Any such field survey is now more than five years old. Thus although presence on this inventory will be taken as grounds for recognition as County Wildlife Sites, such recognition will usually be confirmed by recent re-survey, and where it is not, recognition will be regarded as provisional pending such survey.

iii. A 'Severely degraded' site in this context is defined as one where, if management were to be changed immediately to the optimum, the previous nature conservation interest would be unlikely to be regained in the foreseeable future. See 3.1.2.1 (c) for examples of causes of degradation.

Ancient woodland indicator species for this purpose are defined as those which appear on the Devon Ancient Woodland Vascular Plants List, given as Appendix 1. This List is based on the Ancient Woodland Indicators for the South West put forward by Francis Rose in British Wildlife April 1999, and on English Nature's 1993 recommendations. Indicator species should occur widely throughout the body of the wood, rather than be confined to boundaries, open rides or small key features. A further list of ancient woodland indicator species that are representative of a specific NVC community type (e.g. acid/base-rich/wet) are also listed here.

iv. Conclusive field evidence will require the presence of 10 or more ancient woodland indicator species (Appendix 1) and physical features such as ditch and bank boundaries, the shape/outline of the woodland, parish boundaries, large ancient trees/coppice stools or historic name.

v. Semi-natural woodland is defined as all woodland stands which do not obviously originate from planting, the distribution of species generally reflecting natural variations in site and soil. For practical purposes semi-natural woodlands are also taken to include woods where true semi-natural stands have been slightly modified by planting, eg. Mixed coppice containing a scattering of ornamental conifers, sweet chestnut etc. and also mature plantations of native species which have attained semi-natural characteristics.

vi. Where NVC data is available, the site should represent a good (typical) example of its community type. Woodland and Scrub NVC and IHS communities occurring in Devon are listed in Appendix 2. Some NVC types are intrinsically poor in species and their lack of richness should not necessarily be taken as an indication of lesser worth.

vii. Major blocks of coniferous plantation should not normally be selected (conifers on ancient woodland sites are covered separately in 3.1.1.2 above). Exceptions will include sites where there are especially rich rides or other features within the plantation which could not practicably be defined without including the adjacent stand, where the planting is in small patches surrounded by semi-natural woodland or where the ground flora beneath the plantation remains exceptionally rich.

3.1.5 Parkland, Wood Pasture and Veteran Trees

Devon contains a large number of parklands – the *Provisional Inventory of Parklands, Wood Pastures and Veteran Tree Sites in Devon* (2007) lists 162 sites of which 43 are assessed as being of at least CWS quality. This assessment is based partly on the numbers and types of veteran trees present and partly on existing knowledge of their specialist wildlife of fungi, lichens and invertebrates which are dependent on concentrations of veteran trees on historic (ancient) sites. Similarly 47 wood pasture sites are listed of which 28 are of CWS quality. There are also miscellaneous sites with concentrations of veteran trees, notably along river floodplains and settlement pollards. The wood pasture sites are almost certainly already covered by woodland CWSs and form part of the data on cover of ancient semi-natural woodland in Devon.

The key feature of these sites – in terms of vegetation – are the populations of open-grown veteran trees. The trees may be within a matrix of other semi-natural vegetation such as grassland or heathland, or within open country under more intensive land-use systems such as improved or semi-improved pastures or even arable. Soil type and hydrology are to a considerable extent irrelevant, although wood pastures tend to occur on land difficult to cultivate and parklands are often on soils which form productive pastures. Some veteran tree sites may have become engulfed within secondary woodland or plantations due to abandonment of grazing or afforestation.

The key features of the trees which make them of significance for specialist wildlife are the characteristics of the wood itself – the bark, sapwood and heartwood – and so particular tree species are not of the same level of significance as, for example, in ancient semi-natural woodland. Non-native broadleaves can be just as important for their veteran tree biological assemblages as native tree species. Also of great importance is tree form, with open-grown conditions providing the best conditions for the specialist biodiversity.

Small trees and even shrubs can be included. Hawthorn and elder are particularly easily overlooked.

The following will be selected as County Wildlife Sites:

3.1.5.1 Concentrations of 10 or more veteran trees
3.1.5.2 Sites with ancient trees
3.1.5.3 Concentrations of 5 or more trees of more than 1.5m diameter

Notes
viii. Ancient trees are defined in terms of the stage achieved in the life of the particular tree species. Ancient oaks may be 500 years or more in age but an ancient birch less than 100years. Ancient hawthorns and elder will be small and easily overlooked. Canopy break-up due to age – natural retrenchment - is the key feature and this requires expert recognition. Particular care will be required with historic pollards, trees which have been crown reduced for Health & Safety reasons (retrenchment pruning), and wind-damaged trees.

ix. Veteran trees are defined in terms of their features which mirror natural aging, particularly the extensive presence of dead and/or decaying wood, including heartwood which is often not readily visible to the observer.

x. The *Provisional Inventory of Parklands, Wood Pastures and Veteran Tree Sites in Devon* was produced by Devon County Council in 2007. While most of the larger parklands in the county will be listed, it was recognised that many smaller sites will have been overlooked. The core of the wood pasture sites listed are common land, but sites on private land will be under-represented. The miscellaneous other types of sites with concentrations of veteran trees are especially under-represented as exploration on the ground may be the best way of detecting these.

3.1.6 Traditional Orchards

Traditional orchards have great cultural and landscape importance and can be valuable habitats for a wide range of species including fungi, lichens, invertebrates, birds and mammals. The trunks of old orchard trees are particularly valuable for lichens, saproxylic invertebrates, insectivorous birds, hole-nesting birds and roosting bat species, with the fruit blossom and fallen fruit providing a source of food for further invertebrates, mammals and birds. The wildlife value of such sites is often increased by the presence of unimproved grassland beneath the orchard canopy, and by their enclosure within species rich hedgerows. Orchards are similar to wood pasture and parkland but the species composition of the trees is different, these being primarily in the family Rosaceae, and the arrangement of trees is usually denser. The trees are usually much smaller, but some still may be veterans. In Devon 6,000 acres of orchards have been lost since 1905, and they were once a characteristic feature of the landscape.

The following will be selected as County Wildlife Sites:

3.1.6.1 Traditional orchards will be selected as County Wildlife Sites if they meet all of the following guidelines:

(a) It is not degraded by heavy grazing, poaching, dominated by scrub or non-native species or receiving heavy usage for recreation or other purposes;
(b) It is stocked with "traditional" varieties of fruit tree (these include apple (for fruit or cider), pear (for fruit or perry), cherry, plum, damson trees or cob nut plantations);
(c) Sites should normally be 0.5ha or larger to qualify, with at least 10 old orchard trees.

3.1.6.2 Or – The site meets any of the species criteria as set out in sections 1-6 of the species guidelines.

3.2 GRASSLANDS

A wide range of grassland communities of wildlife interest are represented in Devon. These include acidic, mesotrophic and calcareous communities on both well-drained and marshy or boggy ground. A characteristic of sites with these communities is the tendency for true grassland components to be adjacent to or mixed with wet or dry heath, bog or secondary woodland. These communities may need to be judged under other sections of these Guidelines. Acid grassland communities occur relatively frequently, particularly as components of wet acid habitats, but their true distribution has been largely overlooked due in part to their inherent lack of species richness. Mesotrophic communities are scattered across the County, represented principally by the NVC community MG5, with a frequency of occurrence which is of at least regional or possibly national significance. Such communities are commonly associated with well-drained valley slopes but also occur on the margins of marshy communities referred to above. Calcareous grassland communities are of restricted occurrence in the County, being largely confined to soils derived from calcareous outcrops in the south and east.

The following will be selected as County Wildlife Sites:

3.2.1 Where NVC/IHS community analysis information is available, all sites, normally of 0.5 ha or greater (except severely degraded examples – note iii) containing those NVC/IHS communities listed in Appendix 3. See also notes xi and xii.

3.2.2 Where NVC/IHS data are not available, mesotrophic/calcareous/calcifugous grassland sites, normally of 0.5 ha or greater, with either:

(a) a high diversity of species (this is measured as the number of different grasses, sedges and herbs over a 1m² area. Specifically for acidic grasslands – 10 species, for neutral grasslands – 15 species & for calcareous grasslands – 20 species) or

(b) an assemblage of species indicative of the above NVC community types or
(c) the presence of at least 5 of the 'indicator species' listed in Appendix 3). Indicator species should occur widely throughout the body of the site. See also notes xi, xii and xiii.

Notes

xi. Where an area of interest constitutes only a part of an otherwise improved or semi-improved enclosure, the site should be considered in the same way as for whole enclosures, ie. on the basis of the size and quality of the area of interest. In such cases, if the area of interest makes up more than one quarter of the enclosure, then the whole enclosure should be regarded as a County Wildlife Site for mapping purposes.

xii. Refer also to mire and fen meadow criteria for Culm Grassland sites.

xiii. Examples should normally be 0.5 ha or larger to be selected, except where smaller sites containing particularly rare or threatened communities or species are encountered.

3.3 Lowland Heath

Lowland heath is considered to be a habitat type of international importance in Britain, with Devon holding a significant proportion of the total resource. While larger areas of heath are present to the west in Cornwall and to the east in Dorset, the Devon heathlands are noteworthy among other reasons for the presence of particular NVC communities which are not common outside of the county. Key concentrations of lowland heath are found on the East Devon Pebblebed Heaths, the Haldon Ridge, the Bovey Basin, the fringes of Dartmoor and Exmoor, and parts of the Blackdown Hills. There is a dry heathland component to the Culm Grasslands of the north and west of the county, though Culm sites will generally be picked out by other sections of these guidelines. Given the significance and restricted occurrence of heathland in the County, the Guidelines seek to include all examples as County Wildlife Sites.

The following will be selected as County Wildlife Sites:

3.3.1 All sites dominated by assemblages of heathland species which have clear affinities to heathland communities defined by the NVC/IHS, and are listed in Appendix 4.

3.3.2 Sites should normally be 0.5 ha or larger (see also note xiii).
3.3.3 Sites should normally contain at least 10% cover of Calluna.
3.3.4 Sites may contain up to 25% scrub, bare ground, grassland or ruderals. More than 25% may be included where there is an intention to manage to increase the area of heathland communities (eg scrub removal).

3.3.5 Remnant heathland under conifer plantations and recovering heathland in clear-felled plantation areas may be included where the conifer crop is failing and/or there is an intention to manage for heathland.

3.3.6 Areas of dense bracken should not be included.

3.3.7 Wet heathland will be assessed under the criteria for Mires in Section 3.5. There is an artificial distinction between lowland heaths and mire and bog communities. The area criteria for both types can be added together on a mosaic site.

3.4 Upland Habitats

Upland habitats are generally defined as being above 300m, although some habitats are present in both upland and lowland areas. Devon possesses a fine range of upland habitats within the two National Parks of Dartmoor and Exmoor. These habitats include large tracts of upland heath, grassland and bracken. The identification of County Wildlife Site Quality essentially mirrors the criteria used in the drawing up of the National Park Section 3 Moor and Heath Maps (Wildlife and Countryside (Amendment) Act 1985), and hence the correlation between the two is recognised by these Guidelines.

The following will be selected as County Wildlife Sites:

3.4.1 All examples of upland heath, mire and acidic grassland NVC/IHS communities listed in Appendices 4, 5 and 6.

3.4.2 All sites with vegetation communities restricted to upland areas, except where severely degraded (see note iii).

3.4.3 Stands of the bracken community, U20, only where they possess a diverse vernal flora including, for example, *Viola* species (see note xiv). Lower altitude examples of NVC U20 community should also be included here.

3.4.4 Any other area defined on Section 3 Moor and Heath Maps that supports upland habitats that are not degraded (see note iii).

Notes

xiv. Stands of bracken which form a component of a wider complex of other habitat types should normally be included within a larger County Wildlife Site boundary defined for the other components.

3.5 Mires, Bogs, Fens and Swamps

Mire and bog communities are especially well represented in parts of Devon, with the County possessing an assemblage of some communities which is of national significance. Of particular note are those wet, acid communities of the Culm Measures, referred to as Culm Grasslands, where rich examples of the NVC mire communities M23, M24, M25 and M27 are represented, with accompanying important invertebrate and other fauna.

Similar communities are also concentrated on the Blackdown Hills in the east of the County. Elsewhere such communities are more restricted. Fen or swamp communities are not well-represented in the County, with most examples occurring as modest components of larger mire or grassland sites, or as marginal communities around open water habitats.

The following will be selected as County Wildlife Sites:

3.5.1 All examples of mire communities as defined by NVC/IHS and listed in Appendix 5.
3.5.2 All examples of fen meadow communities as defined by NVC/IHS and listed in Appendix 5.
3.5.3 All examples of tall-herb fens and swamp communities as defined by NVC/IHS and listed in Appendices 5 and 6.
3.5.4 Where NVC/IHS data are not available, examples should comprise assemblages of species indicative of these community types.

Notes
xv. Examples should normally be 0.5 ha or larger to be selected, except where smaller sites containing particularly rare or threatened communities or species are encountered.

3.6 Standing waters

Standing water communities in the form of lakes, ponds, gravel pits, reservoirs, canals and ditches are at a premium in Devon. Sizeable single areas of open water are particularly scarce, with the most significant concentration of sites occurring in the Bovey Basin area, while other examples are provided by rare natural features such as the lagoon at Slapton Ley and artificial impoundments such as Roadford Lake. Open water sites support particularly important populations of Odonata and other invertebrates, offer important breeding and wintering grounds for waterfowl and are sometimes associated with rich marginal vegetation communities.

The following will be selected as County Wildlife Sites:

3.6.1 Sites with a higher than average number of submerged, floating and emergent plant species for a community type (note xvi), or with individual species that indicate that the site is an especially rich example of its type.
3.6.2 Sites with four or more species of *Potamogeton*.
3.6.3 All mesotrophic open water sites except where severely degraded (note iii).
3.6.4 Sites showing a transition from freshwater to saline conditions, except where severely degraded (note iii).
3.6.5 Sites with associated marginal vegetation communities selected under other criteria, e.g. swamp, wet woodland, reedbed or tall-herb fen.

Notes

xvi. See SSSI Selection Guidelines, Table 12, p.125 for an indication of normal expected numbers of species in a given community.

3.7 Rivers does this need more work?

Devon supports an exceptional range of river systems of high quality, most of which support rich marginal communities along main river corridors and associated tributaries. There is a preponderance of spate rivers and a relative lack of wide, slow-flowing river examples. Most rivers in the county support populations of key species, most notably the otter, which has a stronghold in the north and west of the county.

Given that the great majority of rivers in Devon have substantial importance in nature conservation terms, they will be considered in a different way from other habitat types for the purposes of County Wildlife Site selection.

All rivers in the County will normally be recognised as being of comparable value to County Wildlife Sites. Stretches of river afforded County Wildlife Site status will normally be expected to exhibit a minimum degree of modification to bed and water level and a high proportion of semi-natural habitat on both banks. Blocks of habitat adjacent to river channels will be evaluated on their individual merits, with reference to other sections of these Guidelines. The boundary of a riverine County Wildlife Site will be the top of the bank if there is no contiguous semi-natural habitat.

Rivers are also an important part of Biodiversity Networks, so are also covered in Section 6.

3.8 Coastal and Floodplain Grazing Marsh and lowland ditch systems

****THIS SECTION NEEDS APPROVING/EDITING.**

Floodplain grazing marsh is very restricted in Devon. It can be defined as periodically inundated pasture or meadow with ditches containing standing fresh water, which regulate or maintain the water levels. These ditches are especially rich in plants and invertebrates. Almost all areas are grazed and some are cut for hay or silage. Sites may contain seasonal water filled pools, or less often, permanent ponds such as old 'ox-bows' containing emergent swamp communities.

This is a diverse category, covering drained and improved grassland and marshy habitats with a high proportion of rush and sedge species or meadowsweet. All of these habitats are liable to periodic flooding, mainly from October to April. The grasslands are the product of agricultural management and are found on alluvial nutrient-rich soil created by the periodic flooding of rivers and streams. Grazing marsh is also of great importance for breeding waders and wildfowl, as well as rare wetland plants and invertebrates.

The main groups of grazing marsh are:

- Improved grassland, often re-seeded with rye-grass, timothy or clover mixes;
- Fen or marshy grassland with a high proportion of rushes, sedges or meadowsweet;
- Wet pasture with a predominance of tall herbs such as valerian or wild angelica.

3.8.1 All fragments of coastal grazing marsh will be considered for County Wildlife Site status if they meet the following criteria:

(a) All examples of grazing marsh containing those NVC/IHS communities listed in Appendix 5 and Appendix 7. Sites should normally be 0.5ha or greater.
(b) Sites which are of importance for breeding or wintering wildfowl and waders (see Section 4.4).
(c) Sites which are of importance for invertebrates (especially aquatic) or sites with Nationally Notable (Na or Nb) species or Red Data Book species present (see Section 4.6);
(d) Sites which are of importance for vascular plants (see Section 4.1).
(e) Other sites where the coastal or floodplain grazing marsh does not meet a-d above, but where they support natural processes.

Ditch systems will be considered as County Wildlife Sites if they meet any of the following criteria:

(a) Complex interconnected ditch systems (excluding completely shaded ditches) >1 km. in total ditch length where at least 25% of the wet ditches have >= 10 submerged/floating/emergent/wet bank species per 20m length with at least one 20m length per field side sampled. Improved grasslands/arable land between ditches will be included within sites as buffer zone;
(b) Any ditch with a 20m length with at least 15 (brackish ditch 10) floating, submergent, emergent/ wetbank species plus any connecting ditches with at least 10 (brackish ditch 6) of the above species;
(c) Any site sample with either at least 10 different invertebrate orders or at least 35 aquatic invertebrate species.

3.9 Coastal and Marine

A large proportion of Devon's coastline is of high wildlife value, with a large element considered to be of international nature conservation importance. In the coastal context, of particular note are the estuarine complexes on the south and north coasts, and the stretches of rocky coastline, especially the calcareous cliffs of the Torbay and East Devon areas, and the hard granite cliffs of the Exmoor and north Devon coast. Rarer features include the sand dune complexes of Braunton Burrows. Coastal habitats form part of a wider

ecological unit, encompassing estuary, sea cliff, saltmarsh, foreshore and the true marine environment, referred to collectively as the coastal zone. This zone overlaps with existing considerations of coastal areas as part of the inland environment, but for the purposes of these guidelines we distinguish between:

- Open coast - including small offshore islands
- Estuaries (note xvii)

and between:

- above high water (above MHWS[1])
- intertidal (MHWS-MLWS[2])
- sub-tidal (below MLWS)

The following table provides a summary of how sites may, or may not, be defined in this zone.

	Above high water	**Intertidal**	**Sub-tidal**
Open coast	Defined in 3.9.1	All, unless modified	N/A
Estuaries	Defined in 3.9.3	Defined in 3.9.4	All

3.9.1 Open coast - above high water

The following will be selected as County Wildlife Sites:

3.9.1.1 All coastal sites which qualify on one or more of the following grounds:

(a) Sites with maritime cliff, maritime heath, scrub or perched saltmarsh, shingle, strandline and dune communities communities as defined by the NVC/IHS and listed in Appendix 7, unless severely degraded (note iii), usually of 0.5 ha or larger.
(b) Sites which show a transition between the above communities and heathland or mesotrophic/calcareous/calcifugous grassland communities (listed in Appendices 3 and 4), usually of 0.5 ha or larger.
(c) Where NVC/IHS data are not available sites with grassland, heath, sea cliff vegetation, scrub or perched saltmarsh, shingle, strandline and dune vegetation usually of 0.5 ha or larger with either a high diversity of herb species or an assemblage of species indicative of the above NVC/IHS community types.

[1] Mean High Water Springs
[2] Mean Low Water Springs

3.9.2 Open coast - intertidal

The following will be selected as County Wildlife Sites:

3.9.2.1 All open coast intertidal sites (note xviii) unless significantly modified (note xix).

3.9.2.2 Intertidal sites which have been significantly modified may be considered and selected on an individual basis if a) the modification has not changed the basic substrate type of the site (e.g. stone construction behind/on rocky intertidal) and b) that the modified areas exhibit natural inter-tidal communities in keeping with adjacent areas of similar substrate.

3.9.3 Estuaries - above high water

The following will be selected as County Wildlife Sites:

3.9.3.1 Blocks of habitat above the high water mark on estuaries will be evaluated on their individual merits, with reference to other sections of the Guidelines.

3.9.4 Estuaries - intertidal

The following will be selected as County Wildlife Sites:

3.9.4.1 All estuary intertidal sites which qualify on one or more of the following grounds:

3.9.4.2 Sites with saltmarsh, coastal floodplain and grazing marsh (note xx) or reedbeds (note xx) as defined by the NVC/IHS and listed in Appendix 7, unless severely degraded (note iii), usually of 0.5 ha or larger.

3.9.4.3 Sites which show a transition between the above communities and heathland or mesotrophic/calcareous/calcifugous grassland communities (listed in Appendices 3 and 4), usually of 0.5 ha or larger.

3.9.4.4 Where NVC/IHS data are not available, sites with saltmarsh, coastal floodplain and grazing marsh or reedbed vegetation, usually of 0.5 ha or larger with either a high diversity of herb species or an assemblage of species indicative of the above NVC community types.

3.9.4.5 All other estuary intertidal sites (note xxii).

3.9.5 Estuaries - sub-tidal

The following will be selected as County Wildlife Sites:

3.9.5.1 All sub-tidal sites in estuaries (note xxii).

Notes

xvii) The inland extent of an estuary is taken to be the tidal limit. The seaward extent of any estuary will be the UK baseline or, if appropriate, the seaward limit of any existing estuary or harbour management areas.

xviii) In contrast to most terrestrial habitats, where variations in natural communities can reflect human management as well as basic natural processes, differences in community richness etc. in the intertidal zone is most often explained by reference to coastal or estuarine processes and substrate type. It is therefore not appropriate to distinguish between intertidal sites except in terms of the amount of human modification they might be subject to.

xix) 'Significantly modified' in this context includes sites where the intertidal zone has been altered by construction of harbour walls, coastal defences, slipways etc.

xx) Criteria for identifying and recognising valuable open water and seabed habitats are being developed though other projects such as the Irish Sea Pilot. Similarly, the need for new marine management frameworks are currently being discussed and so it is unlikely that there will be any future need for incorporating criteria for sub-tidal open coast into any future CWS review.

xxi) NVC communities for broad habitat type as defined in SW NBN Pilot

xxii) The value of estuary intertidal and estuary sub-tidal habitats does not lie solely in the plant and/or animal communities they directly support. Their form, and presence or absence, will also have significant effects upon the physical processes within the estuary as a whole, and therefore influence the wider distribution of habitats and species. As such it is not considered appropriate to distinguish between these sites on any biological or physical grounds.

3.10 Non-montane Rock Habitats

Examples of nature conservation interest include tors, clitter slopes, and small rock outcrops in grasslands, heathlands and woodlands. Detailed information is often lacking on these habitats, so they are assessed on species interest or are included within County Wildlife Sites chosen by other criteria.

3.11 Artificial Habitats

These sites may also be covered by the Regionally Important Geological Sites (RIGS) criteria. These are currently covered by a different system, but the long term aim is to integrate them into the wildlife sites system.

The following artificial or artificially created sites should be considered for County Wildlife Site status:

a) Disused quarries. These will normally be assessed on other criteria, but sites which demonstrate particularly good examples of active succession from bare ground towards wildlife-rich grassland, heathland or woodland communities will be included.

b) Disused mining sites. Sites will be selected which carry good examples of flora showing adaptations to heavy metal-rich soils. Such sites should normally be 0.5 ha or larger.

c) Roadside cuttings and walls (mural habitats). These sites will be assessed on the presence of species adapted to these habitats.

3.12 Mosaic Sites

It is recognised that combination sites, where two or more semi-natural habitats occur in close combination or mosaic, may warrant recognition as County Wildlife Sites where individually one or more of the habitats may fail to qualify on single habitat or notable species grounds.

Where mosaics occur, in order to qualify, at least one of the habitats in the mosaic should be considered a borderline County Wildlife Site. This component should constitute a significant proportion of the whole mosaic, usually one quarter or more.

Species Guidelines for County Wildlife Sites

Sites which meet any of the following guidelines on species grounds should be selected as County Wildlife Sites: There is no minimum or maximum size for sites; species needs will be taken into consideration and each site will be considered on a case by case basis.

1. Vascular Plants

1.1 Sites where one or more Red Data Book 1, 2 or 3 species (Critically Endangered, Endangered or Vulnerable) or one or more Schedule 8 species with full protection have been recorded within the past five years (see Appendix 8)

1.2 Sites where one or more nationally rare or two or more nationally scarce species have been recorded within the last 5 years (see Appendix 8)

1.3 Sites where three or more Devon rarities (see Appendix 8) have been recorded in the past five years.

1.4 Sites where five or more Devon notable species (see Appendix 8) have been recorded in the past 5 years.

2. Non-Vascular Plants

These include lichens, bryophytes, fungi and charophytes.

2.1 Sites with 1 or more RDB 1,2,3 (Critically Endangered, Endangered or Vulnerable) or nationally rare, or 2 or more nationally scarce species (see Appendix 13)

2.2 Sites with 5 or more Devon notable species. If no published list will use the informed opinion of County Experts

2.3 Fungi

2.3.1 Waxcap grasslands

Waxcap grasslands are of conservation interest as indicators of semi-natural species-rich grasslands. The species concerned can be associated with unfertilised, unimproved, nutrient-poor grasslands, but are not always associated with botanically rich grassland. They often thrive in short, moss-rich, often highly grazed swards. Waxcap grasslands are under-recorded in Devon, but Exmoor and the Blackdown Hills hold nationally important populations.

Sites which meet any of the following guidelines will be selected as County Wildlife Sites:

(a) The presence of any of the following UK BAP/RDB species: the pink (Ballerina) waxcap (*Hygrocybe calyptriformis*), the date waxcap (*Hygrocybe spadicea*) or the olive earthtongue (*Microglossum olivaceum*).
(b) The presence of at least 5 species of *Hygrocybe*
(c) Sites with 5 or more Devon Notable species.

3. Mammals work needs to be done on the definition of 'contiguous semi-natural habitat'

3.1 Otter

3.3.1 All confirmed recent holts and hovers, together with contiguous semi-natural habitat, usually selected under other criteria.

3.2 Water Vole

3.2.1 Sites with water vole recorded in the past five years with associated semi-natural habitat selected under other criteria.

3.3 Water Shrew

3.3.1 Sites with water shrew recorded in the past five years with associated semi-natural habitat selected under other criteria.

3.4 Bats

3.4.1 Known recent greater and lesser horseshoe maternity sites, together with contiguous semi-natural habitat, selected under other criteria.

3.4.2 Winter roosts where five or more horseshoe bats have been recorded in the past five years.

3.4.3 Breeding roosts of barbastelle, Bechstein's, grey long-eared, Natterer's, Daubenton's, whiskered, Brandt's, serotine, noctule and Leisler's bats.

3.2.4 Winter roosts of the above species with two or more species or more than 10 animals occupying roost at any one time for at least five years.

3.3 Dormouse

3.3.1 Sites with dormouse recorded in the past five years, with associated semi-natural habitat selected under other criteria.

4 Birds

4.1 Sites with Rare Breeding Species (less than 20 pairs or less than 5 sites)

4.1.1 All sites with regular breeding by the species in group 1 in Appendix 9.

4.1.2 In addition, any sites holding c.1% of the Devon breeding population of cirl bunting (7 pairs); or c.0.5% of the Devon breeding population of cirl bunting (4 pairs) in strategic locations that are considered to be of particular importance to the maintenance or spread of the species' range (see Note xxiii).

4.1.3 A number of other rare species, considered to be of National or County importance are occasional, former (e.g. bittern, honey buzzard, little ringed plover, long-eared owl and serin) or potential breeding species in Devon. Sites for any such species that (re-)establish regular breeding should also be selected.

4.2 Sites with Important Breeding Assemblages

4.2.1 Sites which regularly support outstanding breeding assemblages of the species listed in Appendix 9 (see Note xxvi). County Wildlife Sites will have a total score of at least 12.

4.2.2 Sites with colonies of at least 10% of the Devon breeding population (10 pairs of cormorants, 13 pairs of grey herons, 15 pairs of sand martins or 13 pairs of shags) should be considered as County Wildlife Sites in their own right.

4.3 Sites with Important Non-Breeding Populations

4.3.1 Sites which regularly support either:

- 0.5% of the peak British non-breeding population or 10% of the peak Devon non-breeding population of any one of the species listed in Appendix 10 (see Note xxviii), or
- 0.1% of the peak British non-breeding population or 5% of the peak Devon non-breeding population of four or more of the species listed in Appendix 10 (see Note xxviii).

4.4 Sites with Non-Breeding Populations of Notable Species

4.4.1 Sites which regularly support communal roost sites of the following species:

- Hen harrier
- Merlin
- Hawfinch (at least 5)

- Pied/White wagtail (at least 200)
- Starling (at least 250,000)

4.4.2 Sites which regularly support wintering populations of the following species, even where remote from known breeding territories:

- Cirl bunting (at least 15; (see Note xxiv)
- Woodlark (at least 10; (see Note xxv)

4.5 Marine Sites

4.5.1 County Wildlife Sites do not address some species of importance that are mainly or wholly associated with sub-tidal marine areas (notably divers, black-necked and slavonian grebes, balearic shearwater, common scoter, eider and roseate tern). Neither do they include sub-tidal areas vital to some coastal breeding species.

Notes

xxiii. Sites will be deemed to comprise the breeding territories and those fields or other parcels of land contiguous with, or in close proximity to, these where they provide habitats known, or considered suitable, to support Cirl Buntings or which have the clear potential to provide such conditions through changes in management (in particular, through changes in cropping patterns).

xxiv. Such habitats are likely to include unimproved, semi-improved and other rough grasslands, orchards, hedgerows and patchy scrub for nesting; and, especially for wintering birds, areas of arable (particularly where this has conservation headlands or field margins, is subject to rotational set-aside or supports winter stubbles) or market garden cultivation.

xxv. Such habitats are likely to include arable, particularly rotational set-aside or overwinter stubbles, or areas of market garden cultivation; sites will be typically in undulating terrain, have scattered mature trees and may have overhead cables.

xxvi. The rarity scores are based on recent surveys and/or data published in Devon Bird Reports, with some amendments in the light of current knowledge or belief.

xxvii. The national figures in Appendix 10 are based on Baker *et al*., 2006 (Population estimates of birds in Great Britain and the United Kingdom. *British Birds* 99: 25-44) or from mean Wetland Bird Survey (WeBS) counts; Devon figures are derived from WeBS and other information in recent Devon Bird Reports.

5 Reptiles and Amphibians

Amphibians:

5.1 Sites with a recently (within 15 years*) confirmed population of great crested newts (Triturus cristatus). *Taking into account the known life span of great crested newts and the likelihood of repeat surveys.

5.2 Sites with good populations of smooth newts (NCC SSSI guidelines, 1989 – see note xxix).

5.3 Sites supporting widespread amphibian species with score of five or more using the NCC SSSI guidelines (see note xxix).

5.4 Both the breeding ponds and a substantial surrounding area (ideally with a radius of at least 300m from the pond) should be included. The site boundary should include substantial semi-natural terrestrial habitat where this occurs contiguous to or near the breeding sites (i.e. structurally diverse mixtures of open, scrub and woodland habitats, and other features such as allotments). Sites should exclude garden ponds. Groups of ponds within 250m of each other may count as a single site.

Notes

xxix. SSSI Guidelines (NCC, 1989)

		Low population Score 1	Good population Score 2	Exceptional population Score 3
Great Crested Newt	Seen or netted in day Counted at night	<5 <10	5-50 10-100	>50 >100
Smooth Newt	Netted in day/counted at night	<10	10-100	>100
Palmate Newt	Netted in day/counted at night	<10	10-100	>100
Common Toad	Estimated Counted	<500 <100	500-5000 100-1000	>5000 >1000
Common Frog	Spawn clumps counted	<50	50-500	>500

NB: Scores have to be for breeding sites observed during the breeding season. Daytime netting should be made during a 15-minute period for sites with less than 50m of water's edge, for 30 minutes for sites with 50-100 m etc. To compute the total score for a site, add the scores for individual species and add one point for four of these species present and two points for five species. If natterjack toads are present, add two more points.

Reptiles:

5.5 Sites supporting populations of smooth snakes or sand lizards. NB. As far as we know smooth snakes are not present in Devon at the moment, though they are found in Dorset. Sand lizards have been re-introduced to two sites in Devon. Re-introductions need to follow official guidelines and populations must be shown to be self-sustaining before the site can be considered to be a County Wildlife Site.

5.6 Sites with recent (within the last 15 years) records of three or more reptile species, giving a score of five or more (see table). Where there is contiguous, open, semi-natural habitat (i.e. structurally diverse mixtures of open, scrub and woodland habitats, and other features such as allotments) these should be included even though reptiles may not have been recorded in all parts of the site. Suitable man-made structures (e.g. tumuli, embankments and stone walls) should also be included. The site boundary should be drawn around parcels of land use rather than be drawn to narrowly around a specific good habitat. Consideration should also be given to incorporating parcels of adjacent open land, if it provides an essential buffer against future land-use pressures such as housing.

	Score if present on site
Adder	2
Grass snake	2
Common Lizard	1
Slow worm	1
If any of the species are known to be breeding, add one extra point	

6 Invertebrates

Butterflies and moths to be given more consideration in due course – currently have no moth criteria

6.1 Sites with one or more records of RDB 1, 2 or 3 and Schedule 5 species within the last five years (note xxxii).

6.2 Sites with one or more records of Nationally Notable (Na) species or two or more Nationally Notable (Nb) species within the last five years should normally also be selected (note xxxii). Such selection will necessarily be discretionary in part and will be linked with selection criteria for other semi-natural habitats present.

6.3 Sites with **??** or more records of UKBAP species within the last five years (note xxxii)

6.4 All current ISR a, b & c sites which have been surveyed or resurveyed within the last five years. The current JNCC list of ISR sites in Devon is held by the Devon Biodiversity Records Centre.

6.5 Sites with habitat features valuable for invertebrate life, normally within semi-natural habitat selected under other criteria.

6.6 Sites holding suitable breeding habitat with any of the butterfly species listed in Appendix 11, recorded in past five years (note xxxii) (including re-introductions, but not introductions or casual records).

Notes

xxxii. Firm records more than five years old may be acceptable if the complete loss of the species at the site is in doubt and the necessary habitat conditions remain.

6.6 Dragonflies

The criteria follow those produced by the British Dragonfly Society in 2007 for the identification of "Key Dragonfly Sites" in the UK. They are determined through evidence, obtained during the last ten years, of species' abundance, persistence and breeding (see definitions and flowchart in Appendix 12 for details). Confirmed and Probable Key Sites should be regarded as County Wildlife Sites, those with RDB species being of SSSI potential.

Key Sites should hold established breeding populations of Nationally Important or Locally Important species, or exceed Vice County species diversity thresholds. For Devon, they are defined as either:

Sites holding abundant breeding populations of any of the following species:
- White-legged Damselfly (*Platycnemis pennipes*)*
- Scarce Blue-tailed Damselfly (*Ischnura pumilio*)
- Southern Damselfly (*Coenagrion mercuriale*)
- Red-eyed Damselfly (*Erythromma najas*)*
- Small Red Damselfly (*Ceriagrion tenellum*)
- Hairy Dragonfly (*Brachytron pratense*)*
- Downy Emerald (*Cordulia aenea*)*
- Scarce Chaser (*Libellula fulva*)
- Ruddy Darter (*Sympetrum sanguineum*)*

or

Sites holding abundant breeding populations of at least 14 species.

Definitions
- Nationally Important species: RDB species, as revised for JNCC by the BDS in 2007.
- Locally Important species (* in the list above): recorded during the last 20 years in 2% or less of the tetrads in Devon from which dragonfly records have been received.
- Abundant: at least 21 individuals for damselfly species (but six in the case of Scarce Blue-tailed Damselfly), at least six for dragonfly species (21 for Migrant Hawker, Four-spotted Chaser, Keeled Skimmer, Black-tailed Skimmer, Common Darter, Ruddy Darter and Black Darter).

7 Reintroduced species

Populations of reintroduced species qualify for CWS status providing:

7.1 The reintroduction has been carried out following IUCN guidelines

7.2 The population is deemed to be stable and self-sustaining after an appropriate number of years (to be determined for each species)

5. Social and Community Guidelines for County Wildlife Sites

County Wildlife Sites are selected using criteria based on the Ratcliffe Criteria. However, in some areas these criteria need to be adapted slightly, to allow for special circumstances.

In the built environment sites are more likely to be modified (so are less natural) they can be small and isolated, and may not have a high level of diversity or rare species or habitats. However, these sites are still valuable for wildlife and may provide important green space within the built environment. The Social and Community Criteria allow the assessment of sites that may not quite reach the CWS criteria on habitats or species on their own, but are important to local communities. Sites will not be selected on their social and community qualities alone; instead these criteria will be used to 'add value' to a site.

Many wildlife sites are valuable because they give access to the public to see and enjoy wildlife. Our quality of life is enhanced by everyday contact with wildlife. Having access to wildlife sites close at hand increases our opportunities to study and learn about ecology and the natural world.

The importance of wildlife sites for people is recognized in PPS9 which states that *'...Local Sites, have a fundamental role to play in meeting overall national biodiversity targets; contributing to the quality of life and the well-being of the community; and in supporting research and education'*

Community criteria apply not only to urban areas, but also to Country Parks, churchyards and any place in the town, countryside or urban fringe where people can experience wildlife. These criteria assess the social value derived from the enjoyment and understanding of wildlife and natural features on site.

These criteria should be seen as contributing to the substantive nature conservation value of a proposed CWS, and be used to in the assessment of sites that do not have a clear justification in terms of habitat or species.

Indicators of a site's social and community wildlife value are assessed at three levels (High, Medium and Low). A quantitative assessment is not possible for all factors. It is important in these instances to collate documentary evidence to support the assessment.

These scores will be used to guide the professional judgments of the CWS selection panel rather than attempting to achieve a specific target or threshold for social or community value. It would be expected that a site would have mostly High or Medium scores for these criteria (see Appendix 14).

5.1 Visual Amenity

Views within, into, and out of, a site should be considered in terms of how they contribute to a visitors appreciation of wildlife. Features which provide a seasonal high point such as a carpet of bluebells, heather in bloom, autumn colour, winter wetlands

5.2 Accessibility and usage

Accessibility and usage should be assessed by a single site survey looking for evidence of human activity. Use of a site varies according to time of day, season and weather. In addition, activity will increase at the weekend and during holidays. For this reason, only hard evidence in the form of physical features seen on the site should be used; observed use by people is not a reliable indicator because it will be affected by too many factors. A human use map showing the path network, access points, links to other facilities and locations of main features such as areas for informal children's play, should be documented as part of the assessment.

Indicators:
The site is a public open space or freely open to the public most of the time, or a significant proportion of the site can be seen(Visual Access) from adjacent land which is freely open to public access (such as a park, public open space, canal towpath, public right of way or highway).

5.3 Education and awareness

The use of a site for informal education and awareness raising of the general public needs to be considered as well as its formal use by educational establishments.

5.4 Community ownership

Sites of importance to the local community may be 'adopted' by a group of people either informally or by agreement with the owner. It is not necessary for the site to be accessible to a group for them to feel ownership of it.

Indicators:
There is a group of people who have been actively and voluntarily involved in the care and management of the wildlife of the site or actively campaigning for the site for some time.

Group activities may include voluntary wardening, species recording, practical nature conservation management, habitat creation, guided walks and organising events. Groups do not need to be solely responsible for a site, but can be actively involved in a partnership with other agencies.

5.5 History

Sites may be of value to the community because they played an important historic role in natural history or because they are associated with a well-known naturalist. Other sites may continue to play an important role as part of a monitoring scheme.

Indicators:

The site is associated with an historic event of significance to the study of wildlife and the environment. For example, the site may have been featured in an important publication, studied by a famous naturalist or was a key site in the development of ecological understanding, whether in a local or wider context, or there is an historical record of past management and wildlife on the site. The historical record must be extensive and systematic so that it can provide a genuine and scientific basis for site monitoring.

6. Biodiversity Networks

Paragraph 12 of Planning Policy Statement 9 identifies Biodiversity Networks as providing 'a valuable resource. They can link sites of biodiversity importance and provide routes or stepping stones for the migration, dispersal and genetic exchange of species in the wider environment. They can also buffer existing statutory and non-statutory sites, such as County Wildlife Sites against development.

Biodiversity Networks can be used in urban and rural areas, and consist of linear features and blocks of habitat, collectively known as Network Features. These include watercourses and their associated vegetation, hedgerows, green lanes, railway lines, road verges, ponds, small woods, dense scrub, amenity grassland, improved grassland and allotments. These habitats may not be of high conservation value, but they still have value for wildlife, and provide vital 'green space' especially within an urban area.

The Network Features are usually adjacent to existing sites, but discontinuous patches of habitat also enable wildlife to disperse and migrate and so form 'stepping stones'. The best areas of the Biodiversity Network are often referred to as 'Key Network Features', and may include sites that were surveyed as part of a County Wildlife Site survey, but did not reach County Wildlife Site standard.

6.1 Identifying Biodiversity Networks:

When identifying areas to make up a Biodiversity Network the following should be considered:

- Land which extends or buffers (i.e. is contiguous with) designated nature conservation sites – these areas prevent disturbance to valuable habitats, from light, water and noise pollution as well as reducing the intensity of use by people.
- Land which creates a green finger from the wider countryside into the urban area - priority should be given to habitat features likely to support the movement of wildlife into urban areas.
- Land which links nature conservation sites – these areas should link wildlife sites occurring within close, or moderately close proximity to one another by broadly direct routes. As a guideline there should be no more than approximately 3 large or 5 small field boundaries between linked sites.
- Land which links nature conservation sites with the wider countryside - priority should be given to routes that support assemblages of ecological/landscape features offering the best potential for the passage of wildlife and where possible form a connection with other significant wildlife habitat and/or recognised wildlife sites within the wider landscape.
- Land which may have nature conservation interest that cannot be covered by the CWS guidelines, such as bat foraging areas, bird feeding areas and toad migration routes
- Areas of open water, such as ponds or lakes, especially if they link to other areas of semi-natural habitat

- Linear features such as watercourses, hedges, railway lines and green lanes

6.1.2 Watercourses

Rivers and streams form an important part of a Biodiversity Network, as they provide vital wildlife corridors and links. Significant watercourses that are selected as part of a Biodiversity Network should have a 50 metre wide (25 metres from each bank) buffer wherever possible

6.1.3 Green lanes and important hedgerows:

A green lane can be defined as an unmetalled track with field boundaries either side. These boundaries may be banks, hedges, woodland edge, stone walls or fences and often features such as ditches or streams are incorporated within the lanes. The combination of the track, its boundaries and associated features create a landscape unit with its own microclimate and ecology. These sheltered conditions within lanes are of great importance to butterfly populations and may be more botanically species-rich than single hedge boundaries. Many green lanes contain ancient hedges with veteran trees and can support declining species such as dormouse, brown hairstreak and many bat species. In Devon there are many hundreds of miles of species-rich hedge, and many green lanes. The South Hams district is particularly well known for its green lanes.

Appendix 1 – Ancient Woodland Vascular Plant Indicators in Devon

90 species which in Devon are typical components of botanically rich ancient woodlands. Uncommon indicators or those that have a strong/strict affinity with ancient woodland are marked with an asterisk.

Scientific Name	Scientific Name
Acer campestre	*Lysimachia nemorum*
*Aconitum napellus**	*Malus sylvestris*
Adoxa moschatellina	*Melampyrum pratense*
Allium ursinum	*Melica uniflora*
Anemone nemorosa	*Melittis melissophyllum**
*Aquilegia vulgaris**	*Milium effusus*
Blechnum spicant	*Moehringia trinerva*
Bromus ramosus (Bromopsis?)	*Narcissus pseudonarcissus*
*Calamagrostis epigejos**	*Neottia nidus-avis**
*Carex laevigata**	*Orchis mascula*
*Carex pallescens**	*Oreopteris limbosperma**
Carex pendula	*Oxalis acetosella*
Carex remota	*Phegopteris connectilis**
Carex sylvatica	*Phyllitis scolopendrium*
Chrysosplenium oppositifolium	*Platanthera chlorantha**
Conopodium majus	*Poa nemoralis*
Corydalis claviculata	*Polypodium vulgare*
Daphne laureola	*Polystichum aculeatum**
*Dryopteris aemula**	*P. setiferum*
D. affinis	*Populus tremula*
*D. carthusiana**	*Potentilla sterillis*
Elymus caninum	*Primula vulgaris*
*Epipactis helleborine**	*Prunus avium*
Equisetum sylvaticum	*Quercus petraea*
Euphorbia amygdaloides	*Ranunculus auricomus**
Festuca gigantea	*Ribes nigrum*
Frangula alnus	*R. sylvestre*
*Galium odoratum**	*Rosa arvensis*
*Geum rivale**	*Ruscus aculeatus**
*Helleborus foetidus**	*Sanicula europaea*
*H. viridis**	*Sibthorpia europaea**
Holcus mollis	*Scirpus sylvaticus*
Hyacinthoides non-scripta	*Solidago virgaurea*
*Hymenophyllum tunbrigense**	*Sorbus* (microspecies)*
Hypericum androsaemum	*Sorbus torminalis*
H. pulchrum	*Stachys officinalis*
Ilex aquifolium	*Tamus communis*
Iris foetidissima	*Tilia cordata**
Lamiastrum galeobdolon	*Ulmus glabra*
*Lathraea squamaria**	*Vaccinium myrtillus*
Lathyrus montanus	*Viburnum opulus*
L. sylvestris	*Vicia sylvatica**
Luzula forsteri	*Viola palustris*
L. pilosa	*V. reichenbachiana*
L. sylvatica	*Wahlenbergia hederacea*

Appendix 1 – Ancient Woodland Vascular Plant Indicators in Devon

Ancient Woodland indicator species are characteristic of:
1) Ash-maple-mercury woodland (W8) on calcareous soils, or of
2) Oak-bracken-bramble woodland (W10) on heavier more acidic soils.

Indicators of base-rich soils (W8 type)	**Indicators of acidic soils (W10 type)**
Acer campestre	*Anemone nemorosa*
Adoxa moschatellina	*Blechnum spicant*
Allium ursinum	*Conopodium majus*
Carex pendula	*Epipactis helleborine*
Carex sylvatica	*Equisetum sylvaticum*
Daphne laureola	*Hyacinthoides non-scripta*
Iris foetidissima	*Ilex aquifolium*
Lamiastrum galeobdolon	*Lathyrus montanus*
Lathyrus sylvestris	*Lysimachia nemorum*
Neottia nidus-avis	*Melampyrum pratense*
Phyllitis scolopendrium	*Orchis mascula*
Platanthera chlorantha	*Oxalis acetosella*
P. setiferum	*Populus tremula*
Ranunculus auricomus	*Solidago virgaurea*
Sanicula europaea	*Vaccinium myrtillus*

Appendix 2 – Woodland NVC/IHS communities present in Devon

Wet Woodland NVC

W1 Salix *cinerea – Galium palustre* woodland.
Occasional on water margins on mineral soils.

W2 *Salix cinerea* – Betula pubescens – Phragmites australis *woodland*.
Occasional on topogenous fen-peats on flood plain mires.

W4 Betula pubescens – Molinia caerulea *woodland*.
Occasional on moderately acidic peaty soils.

W5 Alnus *glutinosa – Carex paniculata* woodland.
Occasional on base-rich wet or waterlogged organic soils.

W6 Alnus *glutinosa – Urtica dioica* woodland.
Occasional on moist, eutrophic mineral soils.

W7 Alnus *glutinosa – Fraxinus excelsior – Lysimachia nemorum* woodland.Occasional on moist base-rich, but not eutrophic, mineral soils. Locally common at the base of slope in valley oakwoods, where flushing concentrates nutrients from above.

Wet Woodland IHS

WB34 Wet woodland (Priority Habitat Type) (NVC W1-W7)

WB341 Residual alluvial forests (NVC W5, W6, W7)

WB342 Bog woodland (NVC W4)

WB34Z Other wet woodland (NVC W1, W2, W3, W5, W6)

Dry Woodland NVC

W8 *Fraxinus excelsior – Acer campestre – Mercurialis perennis* woodland.
Widespread and locally common on calcareous mull soils in lowland areas.

W9 *Fraxinus excelsior – Sorbus aucuparia – Mercurialis perennis* woodland.
Occasional as the analogue of W8 on moist, free-draining brown earths derived from calcareous bedrocks, in upland situations subject to high rainfall. May be associated with W7 in valley systems.

W10 *Quercus robur – Pteridium aquilinum – Rubus fruticosus* woodland.
Widespread and common on base-poor brown earthes in lowland areas. Also common in treatment-derived stands or plantations.

Appendix 2 – Woodland NVC/IHS communities present in Devon

W11 *Quercus petraea – Betula pubescens – Oxalis acetosella* woodland. Occasional as the analogue of W10 on moist, free-draining base-poor soils in wetter, cooler upland situations.

W14 *Fagus sylvatica - Rubus fruticosus* woodland. Beech community of base-poor, poorly drained brown earths, sometime under plantations.

W15 *Fagus* sylvatica – Deschampsia flexuosa woodland. Beech community of very acid soils, sometimes derived from W16 where the oak canopy has been replaced.

W16 *Quercus* – Betula – Deschamsia caespitosa woodland. Common oak community of very acidic soils in lowland areas.

W17 Quercus petraea – Betula pubescens – Dicanum majus woodland. Occasional oak community of very acidic soils in upland situations.

Dry Woodland IHS

WB31 Upland Oakwood (Priority Habitat Type) (NVC W11, W17, W16b, W10, W10e)

WB32 Upland mixed ash woodland (Priority Habitat Type) (NVC W8, W9)

WB321 Tilio-Acerion forests of slopes, screes and ravines (upland) NVC W8, W9)

WB32Z Other upland mixed ashwoods (NVC W8)

WB331 Lowland beech and yew woodland (Priority Habitat Type) (W12, W13, W14, W15) n.b. we don't get true beech woodlands in Devon, but some beech dominated woodlands have affinities to these beech communities.

WB3311 Beech forests with Ilex and Taxus, rich in epiphytes (NVC W14, W15)

WB35 Upland birch woodland (PHT) (NVC W11, W17, small patches of W9, W4 & W7)

WB36 Lowland mixed deciduous woodland (Priority Habitat Type) (NVC W8, W10, W16)

WB361 Old acidophilus oak woods with Quercus robur on sandy plains (NVC W10, W16)

WB36Z Other lowland mixed deciduous woodland

WB3Z Other broadleaved woodland (NVC W16)

Scrub NVC

Appendix 2 – Woodland NVC/IHS communities present in Devon

W21 Crataegus monogyna – Hedera helix *scrub.*

W22 Prunus spinosa – Pteridium aquilinum *scrub.*

W23 *Ulex europaeus – Rubus fruticosus* scrub.

W24 *Rubus fruticosus – Holcus lanatus* underscrub.

W25 *Pteridium aquilinum – Rubus fruticosus* underscrub

Scrub IHS

WB2 Scrub woodland (NVC W21-25)

Mesotrophic NVC

MG4 *Alopecurus pratensis – Sanguisorba officinalis* flood-meadow.
Scarce on traditionally-managed alluvial meadows.

MG5 *Cynosurus cristatus – Centaurea nigra* meadow and pasture.
Widespread on range of soil types in lowland areas, with affinities to both calcicolous and acid grasslands.

MG8 *Cynosurus cristatus – Caltha palustris* flood pasture.
Scarce on traditional riverside pastures.

MG11 *Festuca rubra – Agrostis stolonifera – Potentilla anserina* inundation grassland.
Occasional in lowland river valleys, and rarely from saltmarsh margins.

MG12 *Festuca arundinacea* coarse grassland.
A coastal community of estuaries and saltmarshes.

MG13 *Agrostis stolonifera – Alopecurus geniculatus* grassland.
Locally common on lowland alluvium soils.

Mesotrophic IHS

GN1 Lowland Hay meadow (Priority Habitat Type) (NVC MG5, MG4, MG8)

GN11 Lowland hay meadows (Alopecurus pratensis- Sanguisorba officinalis) (NVC MG4)

GNZ Other neutral grassland (only NVC that qualifies is MG11-13) all other NVC in this category are not CWS standard (eg. NVC MG6, MG9, MG10 – should be considered if in the context of coastal floodplain and grazing marsh).

Calcareous NVC

CG1 *Festuca ovina – Carlina vulgaris* grassland.
Occasional on hard limestone outcrops in the south of the county.

CG2 *Festuca ovina _ Avenula pratensis* grassland.
Occasional on limestone in the south.

CG3 *Bromus erectus* grassland.
Rare on calcareous soils.

CG4 *Brachypodium pinnatum* grassland.
Rare on calcareous soils.

CG5 *Bromus erectus – Brachypodium pinnatum* grassland.

Rare on limestone.

CG6 *Avenula pubescens* grassland.
Rare on limestone.

CG7 *Festuca ovina – Hieracium pilosella – Thymus praecox* grassland.
Very occasional on calcareous soils in the south.

Calcareous IHS

GC1 Lowland calcareous grassland (Priority Habitat Type) (NVC CG1-5, CG6, CG7), (*CG8-14 don't get these in Devon*)

GC12 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (important orchid sites) (NVC CG2-CG5)

Calcifugous NVC

U1 *Festuca ovina – Agrostis capillaris – Rumex acetosella* grassland.
Widespread on light, dry soils in lowland areas.

U2 *Deschampsia flexuosa* grassland.
Locally frequent on moist but free-draining base-poor soils in lowland areas.

U3 *Agrostis curtesii* grassland
A locally frequent community based on frequency of *A. curtisii*

U4 *Festuca ovina-Agrostis capillaris-Galium saxatile* grassland. NB this habitat can be agriculturally improved, so only species-rich examples should be chosen as County Wildlife Site.

Calcifugous IHS

GA1 Lowland dry acid grassland (Priority Habitat Type) (NVC U1, U2-U4 - lowland examples)

GA1Z Other lowland dry acid grassland

GAZ Upland acid grassland (NVC U2-U4 – upland examples), *(U5, U6 don't get these in Devon)*

Appendix 3 – Grassland NVC/IHS communities of importance in Devon for the selection of County Wildlife Sites

Species indicative of old unimproved neutral/acid/calcareous grassland in Devon

"*" denotes plants which seldom occur outside unimproved grasslands/marshes or are particularly indicative of a long period of traditional grassland management.

Agrimonia eupatoria	Agrimony
Agrostis curtisii	Bristle bent
Anacamptis pyramidalis	Pyramidal Orchid
Briza media	Quaking Grass *
Carex caryophyllea	Spring Sedge
Carex nigra	Black Sedge
Carex panicea	Carnation Sedge
Carlina vulgaris	Carline Thistle
Centaurea nigra	Common knapweed
Centaurea scabiosa	Great Knapweed
Conopodium majus	Pignut
Cruciata laevipes	Crosswort
Danthonia decumbens	Heath Grass
Deschampsia flexuosa	Wavy hair-grass
Euphrasia officinalis agg.	Eyebright
Galium saxatile	Heath bedstraw
Galium verum	Lady's Bedstraw
Helianthemum nummularium	Rock-rose
Inula conyzae	Ploughman's Spikenard
Juncus squarrosus	Heath Rush
Koeleria macrantha	Crested hair-grass
Lathyrus nissolia	Grass Vetchling
Lathyrus pratensis	Meadow vetchling
Leucanthemum vulgare	Ox-eye daisy
Luzula campestris	Field wood-rush
Molinea caerulea	Purple Moor-grass
Nardus stricta	Mat-grass
Ophioglossum vulgatum	Adder's Tongue Fern
Orchis morio	Green-winged Orchid *
Pedicularis sylvatica	Lousewort
Pilosella officinarum	Mouse-ear hawkweed
Pimpinella saxifraga	Burnet-saxifrage
Potentilla anglica	Trailing Tormentil
Potentilla erecta	Tormentil
Primula veris	Cowslip
Rhinanthus minor	Yellow Rattle *
Sanguisorba minor ssp. minor	Salad Burnet
Silaum silaus	Pepper Saxifrage *
Spiranthes spiralis	Autumn Lady's-tresses *
Stachys officinalis	Betony
Succisa pratensis	Devil's-bit scabious

Thymus polytrichus	Wild Thyme
Trisetum flavescens	Yellow oat-grass

Indicators of calcareous grassland	
Anacamptis pyramidalis	Pyramidal Orchid
Briza media	Quaking Grass
Carlina vulgaris	Carline Thistle
Centaurea scabiosa	Great Knapweed
Cirsium acaule	Dwarf Thistle
Filipendula vulgaris	Dropwort
Galium verum	Ladies bedstraw
Helianthemum nummularium	Rock-rose
Helictotrichon pratense	Meadow Oat-grass
Hippocrepis comosa	Horseshoe Vetch
Inula conyza	Ploughman's Spikenard
Koeleria macrantha	Crested hair-grass
Picris heracioides	Hawkweed Oxtongue
Pilosella officinarum	Mouse-ear hawkweed
Sanguisorba minor	Salad Burnet
Trisetum flavescens	Yellow oat-grass
Thymus polytrichus	Wild Thyme

Indicators of acidic grassland	
Agrostis curtisii	Bristle bent
Conopodium majus	Pignut
Danthonia decumbens	Heath Grass
Deschampsia flexuosa	Wavy hair-grass
Galium saxatile	Heath bedstraw
Molinia caerulea	Purple Moor-grass
Nardus stricta	Mat-grass
Oenanthe pimpinelloides	Corky-fruited Water-dropwort
Peduncularis sylvatica	Lousewort
Potentilla erecta	Tormentil

Indicators of neutral grassland	
Agrimonia eupatoria	Agrimony
Anthoxanthum odoratum	Sweet vernal-grass
Carex sp.	Sedges
Centaurea nigra	Common knapweed
Conopodium majus	Pignut
Cynosurus cristatus	Crested dog's-tail
Euphrasia officinalis agg.	Eyebrights
Lathyrus pratensis	Meadow vetchling
Leontodon autumnalis	Autumn hawkbit
Leucanthemum vulgare	Oxeye daisy

Lotus corniculatus	Common bird's-foot-trefoil
Luzula campestris	Field wood-rush
Oenanthe pimpinelloides	Corky-fruited water-dropwort
Pimpinella saxifraga	Burnet-saxifrage
Polygala vulgaris	Common milkwort
Rhinanthus minor	Yellow-rattle

Dry Heath NVC

H4 *Ulex gallii – Agrostis curtisii* heath.
The commonest community of lowland heathlands in the county.

H7 *Calluna vulgaris – Scilla verna* heath.
Very local on coastal cliffs.

H8 *Calluna vulgaris – Ulex gallii* heath.
Widespread on lowland heath sites.

H10 *Calluna vulgaris – Erica cinerea* heath.
On Dartmoor and Exmoor

H12 *Calluna vulgaris – Vaccinum myrtillus* heath.
Common on the fringes of Dartmoor.

H18 *Vaccinium myrtillus – Deschampsia flexuosa* heath.
Localised - on southwest Dartmoor.

Dry and wet heath IHS

HE0 Dwarf shrub heath

HE1 European dry heaths (Priority Habitat Type) (NVC H4, H7-8, H10, H12, H18) *(H1-H3, H5-6, H11 don't get in Devon)*

HE2 Wet heaths (NVC M14-16)

HE21 Northern Atlantic wet heaths with Erica tetralix (NVC M14-16)

HE2Z Other wet heaths

HE3 Lichen/Bryophyte heath??

HEZ Other dwarf shrub heath

(See also wet heath NVC communities below).

Appendix 5 – Mire NVC/IHS communities present in Devon

M1 *Sphagnum auriculatum* – bog pool community.

M3 *Sphagnum cuspidatum – Sphagnum recurvum* bog pool community.

M4 *Carex rostrata – Sphagnum recurvum* mire.
Rare, confined to bog pools.

M6 *Carex echinata – Sphagnum recurvum/auriculatum* mire.
Widespread in soligenous situations.

M13 *Schoenus nigricans – Juncus subnodulosus* mire.
Rare in soligenous situations.

M14 *Schoenus nigricans – Narthecium ossifragum* mire.
Occasional in east Devon.

M15 *Scirpus cespitosus – Erica tetralix* wet heath.
Occasional component of heathland sites.

M16 *Erica tetralix – Sphagnum compactum* wet heath.
Common in seasonally waterlogged bases of heathland sites.

M17 *Scirpus cespitosus – Eriophorum vaginatum* blanket mire.
Common component of soligenous mires.

M21 *Narthecium ossifragum – Sphagnum papillosum* valley mire.

M29 *Hypericum elodes – Potamogeton polygonifolius* soakway.

M35 *Ranunculus omiophyllus – Montia fontana* rill.

Fen Meadows

M22 *Juncus subnodulosus – Cirsium palustre* fen-meadow.
Rare in east of the county.

M23 *Juncus effusus/acutiflorus – Galium palustre* rush pasture.
Widespread on a range of moist soils, especially on Culm Measures.

M24 *Molinia caerulea – Cirsium dissectum* fen-meadow.
Frequent of peat and peaty-mineral soils, especially the Culm Measures and a speciality of the south west.

M25 *Molinia caerulea – Potentilla erecta* mire.
Widespread on Culm Measures and elsewhere on peat or peaty-mineral soils.

M27 *Filipendula ulmaria – Angelica sylvestris* mire.
Widespread on circumneutral soils protected from grazing.

M28 *Iris pseudacorus – Filipendula ulmaria* mire.
Rare on coastal fringes.

(Refer also to fen woodland communities W1 – W6 above).

Mire & fen-meadow IHS

EO0 Bog

EO1 Blanket bog (Priority Habitat Type) (NVC M17, M1, M3) *(M18, M2 – don't get in Devon)*

EO2 Lowland raised bog (M17, M1, M3) *(M18, M2 – don't get in Devon)*

EO21 Degraded raised bogs still capable of natural regeneration

EO22 Active raised bogs (NVC M1, M3, M21) *(M18, M2 – don't get in Devon)*

EO2Z Other lowland raised bogs

EOZ Other bogs

EM0 Fen, marsh and swamp (NVC M4, M6, M13-14, M21-22, M24-25, M27-29, M35 S3-S14, S16, S18-S28) *(M5, M7-M12, M26, M30-M34 M36-M38, S1-S2, S15, S17, don't get in Devon)*

EM3 Fens
EM31 Fens (and flushes - lowland) (PHT)

EM314 Transition mires and quaking bogs (lowland)

EM31Z Other lowland fens

EM3Z Other fens, transition mires, springs and flushes (NVC M6, M27, M28) *(M7, M36 don't get in Devon)*

EM4 Purple moor grass and rush pastures (Molinia-Juncus) (PHT) (NVC M22-25) (*M26 don't get in Devon)*

EM41 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinia caeruleae) (NVC M24), (*M26 don't get in Devon)*

EM4Z Other purple moor grass and rush pastures (Molinia-Juncus) (NVC M22, M23, M25)

Appendix 6 – Swamp NVC/IHS communities present in Devon

S3 *Carex paniculata swamp.*

S4 *Phragmites australis swamp and reed beds.*

S5 *Glyceria maxima swamp.*

S6 *Carex riparia swamp.*

S7 *Carex acutiformis swamp.*

S8 *Scirpus lacustris ssp. lacustris swamp.*

S9 *Carex rostrata swamp.*

S10 *Equisetium fluviatile swamp.*

S11 *Carex vesicaria swamp.*

S12 *Typha latifolia swamp.*

S13 *Typha angustifolia swamp.*

S14 *Sparganium erectum swamp.*

S16 *Sagittaria sagittifolia swamp.*

S18 *Carex otrubae swamp.*

S19 *Eleocharis palustris swamp.*

S20 *Scirpus lacustris ssp. tabernaemontani swamp.*

S22 *Glyceria fluitans swamp.*

S24 *Phragmites australis – Peucedanum palustre tall-herb fen.*

S25 *Phragmites australis – Eupatorium cannbinum tall-herb fen.*

S26 *Phragmites australis – Urtica dioica tall-herb fen.*

S27 *Carex rostrata – Potentilla palustris tall-herb fen.*

S28 *Phalaris arundinacea tall-herb fen.*

Swamp IHS

EM1 Swamp (NVC S3-14, S15, S16, S18-S28) (*S1-S2, S15, S17, don't get in Devon)*

Appendix 6 – Swamp NVC/IHS communities present in Devon

EM1Z Other swamp vegetation (NVC S3, S5-S14, S16, S18, S19-23) *(S1, S15, S17 don't get in Devon)*

EM2 Marginal and inundation vegetation

EM21 Marginal vegetation (NVC S3, S5-S14, S16, S18S-23) *(S1, S15, S17 don't get in Devon)*

EM22 Inundation vegetation

AS31 Mesotrophic lakes (Priority Habitat Type)

Maritime Cliff Communities NVC

MC1 *Crithmum maritimum – Spergularia rupicola* maritime rock-crevice community

MC4 *Brassica oleracea* maritime cliff-ledge community

MC5 *Armeria maritima – Cerastium diffusum ssp. diffusum* maritime therophyte community

MC6 *Atriplex hastata – Beta vulgaris ssp. maritima* sea-bird cliff community

MC7 *Stellaria media – Rumex acetosa* sea-bird cliff community

MC8 *Festuca rubra – Armeria maritima* maritime grassland

MC9 *Festuca rubra – Holcus lanatus* maritime grassland

MC10 *Festuca rubra – Plantago spp.* maritime grassland

MC11 *Festuca rubra – Daucus carota ssp. gummifer* maritime grassland

MC12 *Festuca rubra – Hyacinthoides non-scripta* maritime grassland

Maritime Cliff Communities IHS

SR1 Vegetated maritime cliff and slopes (Priority Habitat Type) (NVC MC1, MC4-MC12) *(MC2, MC3 don't get in Devon)*

SR11 Vegetated sea cliffs of the Atlantic and Baltic coasts (NVC MC1, MC4-MC12, H8) *(MC2, MC3, H6 don't get in Devon)*

SR1Z Other vegetated cliffs and lichen dominated cliffs

Maritime Heath Community NVC

H7 *Calluna vulgaris – Scilla verna* heath

Maritime Scrub Communities NVC

W22 *Prunus spinosa – Pteridium aquilinum* scrub

W23 *Ulex europaeus - Rubus fruticosus* scrub

Perched Saltmarsh Community NVC

SM15 *Festuca rubra* saltmarsh (TO BE CHECKED AND CONFIRMED)

Shingle, Strandline and Dune Communities (as mapped in British Plant Communities vol 5) NVC

SD6 *Ammophila arenaria* mobile dune community

SD7 *Ammophila arenaria – Festuca rubra* semi-fixed dune community

SD16 *Salix repens – Holcus lanatus* dune-slack community

SD17 *Phleum arenarium – Arenaria serpyllifolia* dune annual community

Shingle, Strandline and Dune Communities IHS

SS1 Coastal sand dunes (Priority Habitat Type) (NVC SD6-SD7, SD16, H10, M15-16) *(SD2, SD5, SD8-SD15, SD17, H11 don't get in Devon)*

SS12 Shifting dunes along the shoreline with Ammophila arenaria ("white dunes") (NVC SD6) *(SD5 don't get in Devon)*

SS13 Fixed dunes with herbaceous vegetation ("grey dunes") (NVC SD7) *(SD8 don't get in Devon)*

SS15 Dunes with Salix repens ssp. argentea (Salicion arenariae)

SS17 Humid dune slacks (NVC SD16) *(SD14-SD15, SD17 don't get in Devon)*

SS3 Shingle above high tide mark

SS31 Coastal vegetated shingle (Priority Habitat Type)

Saltmarsh Communities (as mapped in British Plant Communities - vol 5) NVC

SM1 *Zostera* communities

SM2 *Ruppia maritima* saltmarsh

SM3 *Eleocharis parvula* saltmarsh

SM4 *Spartina maritima* saltmarsh

SM6 *Spartina anglica* saltmarsh

SM14 *Halimione portulacoides* saltmarsh

SM16 *Festuca rubra* saltmarsh

SM24 *Elymus pycanthus* saltmarsh

Saltmarsh Communities IHS

LS3 Coastal saltmarsh (Priority Habitat Type) (NVC SM1-SM4, SM6, SM14, SM16) *(SM5, SM7-SM13, SM15 SM17-SM23 don't get in Devon)*

LS31 Salicornia (glasswort) and other annuals colonising mud and sand (NVC SM8, SM9, SM27) *Not in Devon?*

LS32 Spartina swards (Spartinion maritimae) (SM4, SM6) *(SM5 don't get in Devon)*

LS33 Atlantic salt meadows (NVC SM13 and others) *don't get in Devon?*

LS34 Mediterranean salt meadows (Juncetalia maritima) (NVC SM15, SM18) *Don't get in Devon?*

LS3Z Other saltmarsh

Reedbed Communities NVC (as defined in SW NBN Pilot and mapped in British Plant Communities vol 4)

S4 Phragmites australis swamp and reed-beds

Reedbed Communities IHS

EM11 Reedbeds (NVC S4, S26)

Coastal floodplain and grazing marsh (as defined in SW NBN Pilot and mapped in British Plant Communities vols 2, 3 & 4)

MG6 *Lolium perenne - Cynosurus cristatus* grassland

MG9 *Holcus lanatus - Deschampia cespitosa* grassland

MG10 *Holcus lanatus - Juncus effusus* rush pasture

MG11 *Festuca rubra - Agrostis stolonifera - Potentilla anserina* grassland

MG12 *Festuca arundinacea* grassland

M22 *Juncus subnodulosus - Cirsium palustre* fen-meadow

M23 *Juncus effusus/acutiflorus - Galium palustre* fen-meadow

M24 *Molinia caerulea - Cirsium dissectum* fen-meadow

M25 *Molinia caerulea - Potentilla erecta* mire

S6 *Carex riparia* swamp

Appendix 8 – Notable Plant Species in Devon

Scientific name[1]	Common name	Old status[3]	Red Data Book status[2]
Aconitum napellus	(Monk's-hood)	NS, 1	x
Adiantum capillus-veneris	(Maidenhair Fern)	NS, DR, 1	LC
Agrostemma githago	(Corncockle)	NR, 1	x
Alchemilla filicaulis subsp. vestita	(Hairy Lady's-mantle)	1	LC
Alchemilla xanthochlora	(Lady's-mantle)	1	LC
Alisma lanceolatum	(Narrow-leaved Water-Plantain)	DR, 1	LC
Allium oleraceum	(Field Garlic)	NS, DR, 1	VU
Alopecurus bulbosus	(Bulbous Foxtail)	NS, DR, 1	LC
Ammophila arenaria	(Marram)	1	LC
Anacamptis pyramidalis	(Pyramidal Orchid)	2	LC
Anagallis arvensis subsp. foemina	(Blue Pimpernel)	NR, DR, 1	LC
Anagallis minima	(Chaffweed)	DR, 1	NT
Anisantha madritensis	(Compact Brome)	NR, DR, 1 I?	x
Anthemis arvensis	(Corn Chamomile)	3	EN
Anthemis cotula	(Stinking Chamomile)	3	VU
Anthriscus caucalis	(Bur Chervil)	1	LC
Apium graveolens	(Wild Celery)	3	LC
Apium inundatum	(Lesser Marshwort)	1	LC
Arabis hirsuta	(Hairy Rock-cress)	1	LC
Arenaria serpyllifolia subsp. leptoclades	(Thyme-leaved Sandwort)	2	LC
Artemisia absinthium	(Wormwood)	2	LC
Arum italicum subsp. neglectum	(Italian Lords-and-Ladies)	NS, 1	x
Asperula cynanchica	(Sqinancywort)	DR, 1	LC
Asplenium marinum	(Sea Spleenwort)	3	LC
Asplenium obovatum	(Lanceolate Spleenwort)	NS, 3	NT
Asplenium septentrionale	(Forked Spleenwort)	NS, DR, 1	NT
Aster linosyris	(Goldilocks Aster)	NR, DR, 1	LC
Aster tripolium	(Sea Aster)	3	LC
Atriplex glabriuscula	(Babington's Orache)	2	LC
Atriplex laciniata	(Frosted Orache)	1	LC
Atriplex littoralis	(Shore Orache)	DR, 1	LC
Atriplex portulacoides	(Sea-purslane)	2	LC
Baldellia ranunculoides	(Lesser Water-plantain)	DR, 1	NT
Berula erecta	(Lesser Water-parsnip)	2	LC
Bidens cernua	(Nodding Bur-marigold)	1	LC
Bidens tripartita	(Trifid Bur-marigold)	2	LC
Blackstonia perfoliata	(Yellow-wort)	2	LC
Botrychium lunaria	(Moonwort)	1	LC
Brachypodium pinnatum	(Tor-grass)	1	x
Brassica oleracea	(Cabbage)	NS	LC
Bromopsis erecta	(Upright Brome)	1	LC
Bromus commutatus	(Meadow Brome)	2	LC
Bromus hordeaceus subsp. ferronii	(Soft Brome)	1	LC
Bromus racemosus	(Smooth Brome)	2	LC
Bromus secalinus	(Rye Brome)		VU
Bupleurum baldense	(Small Hare's-ear)	S, NR, DR, 1	VU
Butomus umbellatus	(Flowering-rush)	1	LC

Cakile maritima	(Sea Rocket)	2	LC
Calamagrostis epigejos	(Wood Small-reed)	2	LC
Callitriche obtusangula	(Blunt-fruited Water-starwort)	1	LC
Callitriche truncata	(Short-leaved Water-starwort)	NS, 1	LC
Calystegia soldanella	(Sea Bindweed)	2	LC
Campanula rotundifolia	(Hairbell)	1	LC
Campanula trachelium	(Nettle-leaved Bellflower)	1	LC
Cardamine impatiens	(Narrow-leaved Bitter-cress)	NS, 1	NT
Carduus pycnocephalus	(Plymouth Thistle)	DR, 1, I	x
Carex acutiformis	(Lesser Pond-sedge)	2	LC
Carex arenaria	(Sand Sedge)	2	LC
Carex curta	(White Sedge)	DR, 1	LC
Carex dioica	(Dioecious Sedge)	DR, 1	LC
Carex distans	(Distant Sedge)	2	LC
Carex disticha	(Brown Sedge)	1	LC
Carex divisa	(Divided Sedge)	NS, DR, 1	VU
Carex divulsa subsp. leersii	(Leers' Sedge)	DR, 1	LC
Carex extensa	(Long-bracted Sedge)	2	LC
Carex lasiocarpa	(Slender Sedge)	DR, 1	LC
Carex montana	(Soft-leaved Sedge)	NS, DR, 1	LC
Carex pallescens	(Pale Sedge)	2	LC
Carex pseudocyperus	(Cyperus Sedge)	1	LC
Carex punctata	(Dotted Sedge)	NS, DR, 1	LC
Carex riparia	(Greater Pond-sedge)	2	LC
Carex rostrata	(Bottle Sedge)	3	LC
Carex strigosa	(Thin-spiked Wood-Sedge)	DR, 1	LC
Carex vesicaria	(Bladder-sedge)	1	LC
Carex viridula subsp. brachyrrhyncha	(Long-stalked Yellow-sedge)	1	LC
Carex viridula subsp. viridula	(Yellow-sedge)	1	LC
Carum verticillatum	(Whorled Caraway)	2	LC
Catabrosa aquatica	(Whorl-grass)	1	LC
Catapodium marinum	(Sea Fern-grass)	2	LC
Centaurea cyanus	(Cornflower)	NS, DR, 1	LC
Centaurium pulchellum	(Lesser Centaury)	1	LC
Cerastium arvense	(Field Mouse-ear)	DR, 1	LC
Cerastium diffusum	(Sea Mouse-ear)	3	LC
Cerastium pumilum	(Dwarf Mouse-ear)	NS, DR, 1	NT
Cerastium semidecandrum	(Little Mouse-ear)	2	LC
Ceratophyllum demersum	(Rigid Hornwort)	1	LC
Ceratophyllum submersum	(Soft Hornwort)	NS, DR, 1	LC
Chamaemelum nobile	(Chamomile)	3	VU
Chenopodium bonus-henricus	(Good-King-Henry)		VU
Chenopodium ficifolium	(Fig-leaved Goosefoot)	DR, 1	LC
Chenopodium glaucum	(Oak-leaved Goosefoot)	DR, 1	VU
Chenopodium murale	(Nettle-leaved Goosefoot)	2	VU
Chenopodium rubrum	(Red Goosefoot)	DR, 1	LC
Chenopodium vulvaria	(Stinking Goosefoot)	S, NR, DR, 1	EN
Chrysanthemum segetum	(Corn Marigold)		VU
Chrysosplenium alternifolium	(Alternate-leaved Golden-saxifrage)	1	LC
Cicendia filiformis	(Yellow Centaury)	NS, DR, 1	VU
Cirsium acaule	(Dwarf Thistle)	2	LC
Cirsium eriophorum	(Woolly Thistle)	DR, 1	LC

Cladium mariscus	(Great Fen-sedge)	DR, 1	LC
Clinopodium acinos	(Basil Thyme)	1	VU
Cochlearia anglica	(English Scurvygrass)	2	LC
Coeloglossum viride	(Frog Orchid)		VU
Coincya wrightii	(Lundy Cabbage)	E, S, NR, DR, 1	VU
Corrigiola litoralis	(Strapwort)	S, NR, DR, 1	CR
Crambe maritima	(Sea-kale)	NS, 1	LC
Crepis biennis	(Rough Hawk's-beard)	2	LC
Cryptogramma crispa	(Parsley Fern)	DR, 1	LC
Cuscuta epithymum	(Dodder)		VU
Cynodon dactylon	(Bermuda-grass)	DR, 1	x
Cynoglossum officinale	(Hound's-tongue)	1	NT
Cyperus longus	(Galingale)	NS, DR, 1	NT
Cystopteris diaphana			VU
Cystopteris fragilis	(Brittle Bladder-fern)	DR, 1	LC
Cytisus scoparius subsp. maritimus	(Broom)		NT
Dactylorhiza incarnata	(Early Marsh-orchid)	2	LC
Daphne laureola	(Spurge-laurel)	2	LC
Dianthus armeria	(Deptford Pink)	NS, DR, 1	EN
Dianthus deltoides	(Maiden Pink)	NS, DR, 1	NT
Diplotaxis tenuifolia	(Perennial Wall-rocket)	DR, 1	LC
Dipsacus pilosus	(Small Teasel)	DR, 1	LC
Draba muralis	(Wall Whitlowgrass)	NS, 1	LC
Drosera anglica	(Great Sundew)	DR, 1	NT
Drosera intermedia	(Oblong-leaved Sundew)	2	LC
Dryopteris aemula	(Hay-scented Buckler-fern)	3	LC
Dryopteris carthusiana	(Narrow Buckler-fern)	3	LC
Elatine hexandra	(Six-stamened Waterwort)	NS, DR, 1	LC
Eleocharis acicularis	(Needle Spike-rush)	NS, 1	LC
Eleocharis parvula	(Common Spike-rush)	NS, DR, 1	LC
Eleocharis quinqueflora	(Few-flowered Spike-rush)	DR, 1	LC
Eleocharis uniglumis	(Slender Spike-rush)	DR, 1	LC
Eleogiton fluitans	(Floating Club-rush)	2	LC
Elytrigia atherica	(Sea Couch)	3	LC
Elytrigia juncea	(Sand Couch)	1	LC
Empetrum nigrum	(Crowberry)	DR, 1	LC
Epipactis palustris	(Marsh Helleborine)	1	LC
Equisetum sylvaticum	(Wood Horsetail)	2	LC
Equisetum variegatum	(Variegated Horsetail)	NS, DR, 1	LC
Erigeron acer	(Blue Fleabane)	2	LC
Eriophorum latifolium	(Broad-leaved Cottongrass)	DR, 1	LC
Erodium maritimum	(Sea Stork's-bill)	NS, 1	LC
Erodium moschatum	(Musk Stork's-bill)	NS, 1	LC
Eryngium campestre	(Field Eryngo)	S, NR, DR, 1	CR
Eryngium maritimum	(Sea-holly)	1	LC
Euphorbia exigua	(Dwarf Spurge)	2	NT
Euphorbia hyberna	(Irish Spurge)	NR, DR, 1	VU
Euphorbia paralias	(Sea Spurge)	NS, 1	LC
Euphorbia portlandica	(Portland Spurge)	NS, 3	LC
Euphrasia anglica	(Eyebright)		EN
Euphrasia arctica subsp. borealis	(Eyebright)		DD
Euphrasia confusa	(Eyebright)		DD

Euphrasia micrantha	(Eyebright)		DD
Euphrasia pseudokerneri	(Eyebright)	NS, DR, 1	EN
Euphrasia tetraquetra	(Eyebright)		DD
Euphrasia vigursii	(Eyebright)		EN
Festuca arenaria	(Rush-leaved Fescue)	NS, 1	LC
Festuca filiformis	(Fine-leaved Sheep's-fescue)	1	LC
Filago minima	(Small Cudweed)	1	LC
Filago vulgaris	(Common Cudweed)		NT
Filipendula vulgaris	(Dropwort)	1	LC
Frankenia laevis	(Sea-heath)	NS, DR, 1	NT
Fumaria bastardii	(Tall Ramping-fumitory)	NS, 1	LC
Fumaria capreolata	(White Ramping-fumitory)	NS, 3	LC
Fumaria purpurea	(Purple Ramping-fumitory)	NS, 1	LC
Galeopsis angustifolia	(Red Hemp-nettle)	NS, 1	CR
Galeopsis speciosa	(Large-flowered Hemp-nettle)		VU
Galium constrictum	(Slender Marsh-bedstraw)	NR, DR, 1	LC
Galium parisiense	(Wall Bedstraw)	NS, DR, 1	VU
Gastridium ventricosum	(Nit-grass)	NR, DR, 1	LC
Genista anglica	(Petty Whin)	3	NT
Genista tinctoria	(Dyer's Greenweed)	1	LC
Gentianella amarella	(Autumn Gentian)	1	LC
Gentianella anglica	(Early Gentian)	S, NS, DR, 1	x
Gentianella campestris	(Field Gentian)	DR, 1	VU
Geranium purpureum	(Little-Robin)	NR, 1	LC
Geranium rotundifolium	(Round-leaved Crane's-bill)	NS, 3	LC
Geranium sanguineum	(Bloody Crane's-bill)	1	LC
Geum rivale	(Water Avens)	1	LC
Glaucium flavum	(Yellow Horned-poppy)	1	LC
Glyceria maxima	(Reed Sweet-grass)	2	LC
Gnaphalium sylvaticum	(Heath Cudweed)		EN
Groenlandia densa	(Opposite-leaved Pondweed)	DR, 1	VU
Gymnadenia conopsea	(Fragrant Orchid)	1	LC
Gymnadenia conopsea subsp. densiflora	(Fragrant Orchid)		DD
Hammarbya paludosa	(Bog Orchid)	NS, DR, 1	LC
Helianthemum apenninum	(White Rock-rose)	NR, DR, 1	VU
Helianthemum nummularium	(Common Rock-rose)	1	LC
Helictotrichon pratense	(Meadow Oat-grass)	1	LC
Helictotrichon pubescens	(Downy Oat-grass)	2	LC
Helleborus viridis	(Green Hellebore)	1	LC
Hippocrepis comosa	(Horseshoe Vetch)	1	LC
Hippuris vulgaris	(Mare's-tail)	1	LC
Honckenya peploides	(Sea Sandwort)	1	LC
Hordeum marinum	(Sea Barley)	NS, DR, 1	VU
Hordeum secalinum	(Meadow Barley)	1	LC
Huperzia selago	(Fir Clubmoss)	1	LC
Hydrocharis morsus-ranae	(Frogbit)	NS, DR, 1	VU
Hymenophyllum tunbrigense	(Tunbridge Filmy-fern)	1	LC
Hymenophyllum wilsonii	(Wilson's Filmy-fern)	2	NT
Hyoscyamus niger	(Henbane)	NS, 1	VU
Hypericum linariifolium	(Toadflax-leaved St John's-wort)	NR, 1	NT
Hypericum maculatum	(Imperforate St John's-wort)	2	LC
Hypericum montanum	(Pale St John's-wort)	NS, 3	NT
Hypericum undulatum	(Wavy St John's-wort)	NS, 2	LC

Hypochaeris glabra	(Smooth Cat's-ear)	NS, 1	VU
Inula crithmoides	(Golden-samphire)	NS, 1	LC
Isoetes echinospora	(Spring Quillwort)	NS, 1	LC
Isoetes lacustris	(Quillwort)	DR, 1	LC
Isolepis cernua	(Slender Club-rush)	1	LC
Juncus acutus	(Sharp Rush)	NS, 1	LC
Juncus compressus	(Round-fruited Rush)	1	NT
Juncus gerardii	(Mud Rush)	3	LC
Juncus maritimus	(Sea Rush)	2	LC
Juncus subnodulosus	(Blunt-flowered Rush)	2	LC
Kickxia elatine	(Sharp-leaved Fluellen)		LC
Kickxia spuria	(Round-leaved Fluellen)	2	LC
Koeleria macrantha	(Crested Hair-grass)	1	LC
Lactuca virosa	(Great Lettuce)	1, I	LC
Lamium amplexicaule	(Henbit Dead-nettle)		LC
Lamium hybridum	(Cut-leaved Dead-nettle)	1	LC
Lathraea squamaria	(Toothwort)	DR, 1	LC
Lathyrus aphaca	(Yellow Vetchling)	NS, DR, 1	VU
Lathyrus japonicus	(Sea Pea)	NS, DR, 1	LC
Lathyrus nissolia	(Grass Vetchling)	1	LC
Lavatera arborea	(Tree-mallow)	NS, 3	LC
Legousia hybrida	(Venus's-looking-grass)	DR, 1	LC
Lemna gibba	(Fat Duckweed)	2	LC
Lemna trisulca	(Ivy-leaved Duckweed)	1	LC
Leucojum aestivum	(Summer Snowflake)	NR, DR, 1	LC
Leymus arenarius	(Lyme-grass)	DR, 1	LC
Limonium binervosum agg. (includes endemic microspecies)	(Rock Sea-lavender)	NS, 2	LC
Limonium vulgare	(Common Sea-lavender)	1	LC
Linaria repens	(Pale Toadflax)	2	LC
Linaria supina	(Prostrate Toadflax)	NR, DR, 1	x
Liparis loeselii	(Fen Orchid)	S, NR, DR, 1	EN
Listera cordata	(Lesser Twayblade)	DR, 1	LC
Lithospermum arvense	(Field Gromwell)	1	EN
Lithospermum officinale	(Common Gromwell)	2	LC
Lithospermum purpurocaeruleum	(Purple Gromwell)	NR, 1	LC
Littorella uniflora	(Shoreweed)	1	LC
Lobelia urens	(Heath Lobelia)	NR, DR, 1	VU
Lotus angustissimus	(Slender Bird's-foot-trefoil)	NR, 1	NT
Lotus glaber	(Narrow-leaved Bird's-foot-trefoil)	1	LC
Lotus subbiflorus	(Hairy Bird's-foot-trefoil)	NS, 1	LC
Lycopodiella inundata	(Marsh Clubmoss)	NS, DR, 1	EN
Lycopodium clavatum	(Stag's-horn Clubmoss)	DR, 1	LC
Lysimachia vulgaris	(Yellow Loosestrife)	2	LC
Marrubium vulgare	(White Horehound)	NS, 1	LC
Matthiola incana	(Hoary Stock)	NR, 1	x
Matthiola sinuata	(Sea Stock)	NR, 1	VU
Medicago polymorpha	(Toothed Medick)	NS, 1	LC
Melittis melissophyllum	(Bastard Balm)	NS, 2	VU
Mentha pulegium	(Pennyroyal)	S, NR, DR, 1	EN
Mentha suaveolens	(Round-leaved Mint)		DD
Minuartia hybrida	(Fine-leaved Sandwort)	NS, DR, 1	EN

Misopates orontium	(Lesser Snapdragon)		VU
Moenchia erecta	(Upright Chickweed)	NS, 2	LC
Monotropa hypopitys subsp. hypophegea	(Yellow Bird's-nest)		EN
Myosoton aquaticum	(Water Chickweed)	3	LC
Myosurus minimus	(Mousetail)	NS, DR, 1	VU
Myrica gale	(Bog-myrtle)	1	LC
Myriophyllum alterniflorum	(Alternate Water-milfoil)	2	LC
Myriophyllum spicatum	(Spiked Water-milfoil)	1	LC
Neottia nidus-avis	(Bird's-nest Orchid)	1	NT
Nuphar lutea	(Yellow Water-lily)	1	LC
Nymphaea alba	(White Water-lily)	1, I	LC
Oenanthe fistulosa	(Tubular Water-dropwort)	DR, 1	VU
Oenanthe lachenalii	(Parsley Water-dropwort)	1	LC
Oenanthe pimpinelloides	(Corky-fruited Water-dropwort)	3	LC
Ononis reclinata	(Small Restharrow)	S, NR, DR, 1	LC
Ononis spinosa	(Spiny Restharrow)	DR, 1	LC
Onopordum acanthium	(Cotton Thistle)	1	LC
Ophioglossum azoricum	(Small Adder's-tongue)	NS, DR, 1	LC
Ophioglossum vulgatum	(Adder's-tongue)	1	LC
Ophrys apifera	(Bee Orchid)	1	LC
Ophrys insectifera	(Fly Orchid)	DR, 1	VU
Orchis morio	(Green-winged Orchid)	1	NT
Orchis ustulata	(Burnt Orchid)		EN
Ornithogalum pyrenaicum	(Spiked Star-of-Bethlehem)	NS, 1	LC
Orobanche hederae	(Ivy Broomrape)	NS, 2	LC
Orobanche minor	(Common Broomrape)	2	LC
Orobanche rapum-genistae	(Greater Broomrape)	NS, 1	NT
Osmunda regalis	(Royal Fern)	3	LC
Papaver argemone	(Prickly Poppy)	NS, DR, 1	VU
Papaver dubium subsp. lecoqii	(Yellow-juiced Poppy)	DR, 1, I?	LC
Papaver hybridum	(Rough Poppy)	NS, DR, 1	LC
Parapholis strigosa	(Hard-grass)	1	LC
Parentucellia viscosa	(Yellow Bartsia)	NS, 2	LC
Paris quadrifolia	(Herb-Paris)	DR, 1	LC
Persicaria minor	(Small Water-pepper)	NS, DR, 1	VU
Persicaria mitis	(Tasteless Water-pepper)	NS, DR, 1	VU
Petroselinum crispum	(Garden Parsley)	1	LC
Petroselinum segetum	(Corn Parsley)	1	LC
Phegopteris connectilis	(Beech Fern)	2	LC
Phleum arenarium	(Sand Cat's-tail)	DR, 1	LC
Physospermum cornubiense	(Bladderseed)	NR, DR, 1	LC
Pilularia globulifera	(Pillwort)		NT
Plantago media	(Hoary Plantain)	2	LC
Platanthera bifolia	(Lesser Butterfly-orchid)	3	VU
Platanthera chlorantha	(Greater Butterfly-orchid)	1	NT
Poa angustifolia	(Narrow-leaved Meadow-grass)	2	LC
Poa bulbosa	(Bulbous Meadow-grass)	NS, 1	LC
Poa infirma	(Early Meadow-grass)	NS, 1	LC
Polycarpon tetraphyllum	(Jacob's-ladder)	NR, DR, 1	LC
Polygonatum multiflorum	(Solomon's-seal)	1	LC
Polygonum oxyspermum	(Ray's Knotgrass)	NS, DR, 1	LC
Polypodium cambricum	(Southern Polypody)	NS, DR, 1	LC
Populus nigra subsp. betulifolia	(Black Poplar)	DR, 1	LC

Potamogeton alpinus	(Red Pondweed)	DR, 1	LC
Potamogeton berchtoldii	(Small Pondweed)	1	LC
Potamogeton coloratus	(Fen Pondweed)	NS, DR, 1	LC
Potamogeton crispus	(Curled Pondweed)	2	LC
Potamogeton lucens	(Shining Pondweed)	DR, 1	LC
Potamogeton obtusifolius	(Blunt-leaved Pondweed)	DR, 1	LC
Potamogeton pectinatus	(Fennel Pondweed)	1	LC
Potamogeton perfoliatus	(Perfoliate Pondweed)	1	LC
Potamogeton pusillus	(Lesser Pondweed)	DR, 1	LC
Potentilla argentea	(Hoary Cinquefoil)		NT
Potentilla palustris	(Marsh Cinquefoil)	3	LC
Primula veris	(Cowslip)	3	LC
Puccinellia distans	(Reflexed Saltmarsh Grass)	2	LC
Puccinellia fasciculata	(Borrer's Saltmarsh Grass)	NS, DR, 1	VU
Puccinellia maritima	(Common Saltmarsh Grass)	2	LC
Puccinellia rupestris	(Stiff Saltmarsh-grass)	NS, DR, 1	LC
Pyrola rotundifolia subsp. maritima	(Round-leaved Wintergreen)	NS, DR, 2	LC
Pyrus cordata	(Plymouth Pear)	S, NR, DR, 1	VU
Radiola linoides	(Allseed)	DR, 1	NT
Ranunculus aquatilis	(Common Water-crowfoot)	3	LC
Ranunculus arvensis	(Corn Buttercup)	NS, DR, 1	CR
Ranunculus auricomus	(Goldilocks Buttercup)	2	LC
Ranunculus baudotii	(Brackish Water-crowfoot)	NS, 1	LC
Ranunculus circinatus	(Fan-leaved Crowfoot)	DR, 1	LC
Ranunculus fluitans	(River Water-crowfoot)	2	LC
Ranunculus omiophyllus	(Round-leaved Crowfoot)	1	LC
Ranunculus parviflorus	(Small-flowered Buttercup)	NS, 3	LC
Ranunculus peltatus	(Pond Water-crowfoot)	2	LC
Ranunculus penicillatus	(Stream Water-crowfoot)	2	LC
Ranunculus sardous	(Hairy Buttercup)	1	LC
Ranunculus trichophyllus	(Thread-leaved Water-crowfoot)	1	LC
Ranunculus tripartitus	(Three-lobed Crowfoot)	NS, 1	EN
Reseda lutea	(Wild Mignonette)	1	LC
Rhamnus cathartica	(Buckthorn)	DR, 1	LC
Rhynchospora alba	(White Beak-sedge)	2	LC
Rhynchospora fusca	(Brown Beak-sedge)	NS, DR, 1	LC
Romulea columnae	(Sand Crocus)	S, NR, DR, 1	VU
Rorippa amphibia	(Great Yellow-cress)	2	LC
Rosa agrestis	(Small-leaved Sweet-briar)	NS, DR, 1	NT
Rosa micrantha	(Small-flowered Sweet-briar)	1	LC
Rosa pimpinellifolia	(Burnet Rose)	2	LC
Rosa rubiginosa agg.	(Sweet-briar)	2	LC
Rubus saxatilis	(Stone Bramble)	DR, 1	LC
Rumex hydrolapathum	(Water Dock)	2	LC
Rumex maritimus	(Golden Dock)	NS, DR, 1	LC
Rumex rupestris	(Shore Dock)	NR, DR, 1	EN
Ruppia maritima	(Beaked Tasselweed)	DR, 1	LC
Sagina maritima	(Sea Pearlwort)	2	LC
Sagina nodosa	(Knotted Pearlwort)	3	LC
Sagina subulata	(Heath Pearlwort)	3	LC
Sagittaria sagittifolia	(Arrowhead)	1	LC
Salicornia agg.	(Glasswort)	2	LC
Salix triandra	(Almond Willow)	1	LC

Salsola kali subsp. kali	(Prickly Saltwort)	1	VU
Salvia verbenaca	(Wild Clary)	1	LC
Sambucus ebulus	(Dwarf Elder)	DR, 1	LC
Samolus valerandi	(Brookweed)	2	LC
Sanguisorba officinalis	(Great Burnet)	3	LC
Saxifraga granulata	(Meadow Saxifrage)	DR, 1, I?	LC
Scabiosa columbaria	(Small Scabious)	2	LC
Scandix pecten-veneris	(Shepherd's-needle)	NS, DR, 1	CR
Schoenoplectus lacustris	(Common Club-rush)	1	LC
Schoenoplectus tabernaemontani	(Grey Club-rush)	2	LC
Schoenoplectus triqueter	(Triangular Club-rush)	S, NR, DR, 1	CR
Schoenus nigricans	(Black Bog-rush)	2	LC
Scilla autumnalis	(Autumn Squill)	NS, 1	LC
Scilla verna	(Spring Squill)	1	LC
Scirpoides holoschoenus	(Round-headed Club-rush)	NR, DR, 1	EN
Scirpus sylvaticus	(Wood Club-rush)	3	LC
Scleranthus annuus	(Annual Knawel)	1	EN
Scleranthus annuus subsp. annuus	(Annual Knawel)		EN
Scrophularia scorodonia	(Balm-leaved Figwort)	NR, 2	LC
Sedum forsterianum	(Rock Stonecrop)	NS, 1	LC
Sedum telephium	(Orpine)	3	LC
Seriphidium maritimum	(Sea Wormwood)	1	LC
Sibthorpia europaea	(Cornish Moneywort)	NS, 3	LC
Silaum silaus	(Pepper-saxifrage)	1	LC
Silene gallica	(Small-flowered Catchfly)	NS, DR, 1	EN
Silene noctiflora	(Night-flowering Catchfly)	NS, DR, 1	VU
Silene nutans	(Nottingham Catchfly)		NT
Silybum marianum	(Milk Thistle)	1	LC
Sorbus anglica	(a Whitebeam)		NT
Sorbus devoniensis	(Rowan)	NS, 1	LC
Sorbus porrigentiformis	(Rowan)	E, NS, DR, 1	LC
Sorbus rupicola	(Rock Whitebeam)	NS, DR, 1	LC
Sorbus subcuneata	(a Whitebeam)		VU
Sorbus torminalis	(Wild Service-tree)	2	LC
Sorbus vexans	(a Whitebeam)		EN
Sparganium emersum	(Unbranched Bur-reed)	2	LC
Spartina anglica	(Common Cord-grass)	DR?, 1	LC
Spartina maritima	(Small Cord-grass)		EN
Spergula arvensis	(Corn Spurrey)		VU
Spergularia marina	(Sea-spurrey)	3	LC
Spergularia media	(Greater Sea-spurrey)	2	LC
Spiranthes romanzoffiana	(Irish Lady's-tresses)	S, NR, DR, 1	LC
Spiranthes spiralis	(Autumn Lady's-tresses)	2	NT
Spirodela polyrhiza	(Greater Duckweed)	1	LC
Stachys arvensis	(Field Woundwort)		NT
Stellaria nemorum	(Wood Stitchwort)	1	LC
Stellaria pallida	(Lesser Chickweed)	DR, 1	LC
Suaeda maritima	(Annual Sea-blite)	2	LC
Teesdalia nudicaulis	(Shepherd's-cress)	NS, 2	NT
Teucrium scordium	(Water Germander)	NR, DR, 1	EN
Thalictrum flavum	(Common Meadow-rue)	DR, 1	LC
Thalictrum minus	(Lesser Meadow-rue)	DR, 1	LC
Thelypteris palustris	(Marsh Fern)	NS, DR, 1	LC

Appendix 8 – Notable Plant Species in Devon

Tilia cordata	(Small-leaved Lime)	1	LC
Torilis arvensis	(Spreading Hedge-parsley)		EN
Torilis nodosa	(Knotted Hedge-parsley)	2	LC
Trichophorum cespitosum subsp. cespitosum	(Deergrass)		DD
Trifolium fragiferum	(Strawberry Clover)	1	LC
Trifolium glomeratum	(Clustered Clover)	NS, DR, 1	LC
Trifolium incarnatum subsp. molinerii	(Long-headed Clover)		VU
Trifolium occidentale	(Western Clover)	NS, DR, 1	LC
Trifolium ornithopodioides	(Bird's-foot Clover)	NS, 1	LC
Trifolium scabrum	(Rough Clover)	2	LC
Trifolium squamosum	(Sea Clover)	NS, DR, 1	LC
Trifolium striatum	(Knotted Clover)	2	LC
Trifolium suffocatum	(Suffocated Clover)	NS, DR, 1	LC
Triglochin palustre	(Marsh Arrow-grass)	1	LC
Trinia glauca	(Honewort)	NR, DR, 1	LC
Typha angustifolia	(Lesser Reedmace)	1	LC
Ulmus minor subsp. angustifolia	(Smooth-leaved Elm)	3	LC
Utricularia australis	(Bladderwort)	1	LC
Valeriana dioica	(Marsh Valerian)	3	LC
Valerianella dentata	(Narrow-fruited Cornsalad)	NS, 1	EN
Valerianella eriocarpa	(Hairy-fruited Cornsalad)	NR, DR, 1	LC
Valerianella rimosa	(Broad-fruited Cornsalad)	NR, DR, 1	EN
Verbascum lychnitis	(White Mullein)	NS, DR, 1	LC
Verbascum nigrum	(Dark Mullein)	1	LC
Verbascum virgatum	(Twiggy Mullein)	NS, 2	x
Veronica anagallis-aquatica	(Blue Water-speedwell)	2	LC
Veronica catenata	(Pink Water-speedwell)	1	LC
Vicia bithynica	(Bithynian Vetch)	NS, DR, 1	VU
Vicia lutea	(Yellow-vetch)	NS, DR, 1	NT
Vicia orobus	(Wood Bitter-vetch)		NT
Vicia parviflora	(Slender Tare)	NS, 1	VU
Vicia sylvatica	(Wood Vetch)	2	LC
Viola canina	(Heath Dog-violet)		NT
Viola canina subsp. canina	(Heath Dog-violet)		NT
Viola lactea	(Pale Dog-violet)	NS, 2	VU
Viola tricolor	(Wild Pansy)		NT
Viola tricolor subsp. tricolor	(Wild Pansy)		NT
Vulpia ciliata subsp. ambigua	(Bearded Fescue)	NS, DR, 1	LC
Vulpia fasciculata	(Dune Fescue)	DR, 1	LC
Vulpia myuros	(Rat's-tail Fescue)	2	LC
Wahlenbergia hederacea	(Ivy-leaved Bellflower)	3	NT
Zannichellia palustris	(Horned Pondweed)	DR, 1	LC
Zostera angustifolia	(Narrow-leaved Eelgrass)	NS, 1	x
Zostera marina	(Eelgrass)	1	NT
Zostera noltei	(Dwarf Eelgrass)	NS, 1	VU

[1] all scientific and common names based on Stace 1991/1997

[2]**'Red Data' categories according to Cheffings & Farrell (2005)**

CR Critically endangered (Red Data Book 1) facing an extremely high risk of extinction in the wild in the immediate future, as defined by any of the criteria A to E. Red listing based on 2001 IUCN guidelines.

EN Endangered (Red Data Book 2) not Critically endangered but is facing a very high risk of extinction in the wild in the near future. Red listing based on 2001 IUCN guidelines.

VU Vulnerable (Red Data Book 3) not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium term future. Red listing based on 2001 IUCN guidelines.

DD Data deficient

LC Least concern

NT Near threatened

X Not included on Cheffings & Farrell's table

[3]Key to species status (old):

DR Devon rarity:
Native species recorded from 3 or fewer localities within Devon

1 Devon notable 1:
1-25 2km squares (tetrads) in the Atlas of Devon Flora, 1984

2 Devon notable 2:
26-50 2km squares (tetrads) in the Atlas of Devon Flora, 1984

3 Devon notable 3:
Selected species recorded from over 50 2km squares (tetrads) in the Atlas of Devon Flora, 1984

NR Nationally rare:
1-15 10 km squares in the Atlas of British Flora, 1962

NS Nationally scarce:
15-100 10km squares in the Atlas of British Flora, 1962

S Listed under Schedule 8 1981 Wildlife & Countryside Act

Check official abbreviations and definitions, make sure are consistant with non-vascular plants

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Appendix 9 – Species rarity scores for breeding bird assemblages

Group definition		Species	Score
1	Less than 20 breeding pairs or less than 5 sites in Devon	Black-headed Gull, Common Sandpiper, Curlew, Dunlin, Golden Plover, Gadwall, Goshawk, Guillemot, Hawfinch, Kittiwake, Lapwing, Little Egret, Manx Shearwater, Merlin, Puffin, Quail, Razorbill, Red-breasted Merganser, Redshank, Ring Ouzel, Ringed Plover, Shoveler, Teal, Woodcock	12
2	20-50 breeding pairs or 5-20 sites in Devon	Cetti's Warbler, Crossbill, Goosander, Great Crested Grebe, Grey Partridge, Greylag Goose, Hobby, Lesser Spotted Woodpecker, Lesser Whitethroat, Little Grebe, Mandarin, Oystercatcher, Red Grouse, Tufted Duck, Turtle Dove, Water Rail, Woodlark.	6
3	50-100 breeding pairs or 20-50 sites in Devon	Grasshopper Warbler, Kingfisher, Lesser Redpoll, Little Owl, Mute Swan, Peregrine, Willow Tit.	4
4	100-500 breeding pairs in Devon	Barn Owl, Coot, Cormorant, Fulmar, Grey Heron, Great Black-backed Gull, Lesser Black-backed Gull, Nightjar, Pied Flycatcher, Redstart, Sand Martin, Sedge Warbler, Shag, Shelduck, Siskin, Snipe, Tree Pipit, Wheatear, Whinchat, Wood Warbler, Dartford Warbler	3
5	500-1000 breeding pairs in Devon or recorded in a mean of less than 10% of Breeding Bird Survey 1km squares in Devon	Cuckoo, Dipper, Kestrel, Moorhen, Reed Bunting, Reed Warbler, Rock Pipit, Stonechat.	2
6	Red List species recorded in a mean of at least 10% of Breeding Bird Survey 1km squares in Devon	Bullfinch, House Sparrow, Linnet, Marsh Tit, Skylark, Spotted Flycatcher, Song Thrush, Starling, Yellowhammer.	1
7	Amber List species recorded in a mean of at least 10% of Breeding Bird Survey 1km squares in Devon	Dunnock, Goldcrest, Green Woodpecker, Grey Wagtail, Herring Gull, House Martin, Meadow Pipit, Mistle Thrush, Stock Dove, Swallow, Willow Warbler.	1 for 4 species

Appendix 10 – Non-breeding populations for selected species

Species	British Non-breeding Population	0.5% British Non-breeding Population	0.1% British Non-breeding Population	Devon Non-breeding population	10% Devon Non-breeding population	5% Devon Non-breeding population
Mute Swan	37,500	188	38	320	32	16
Canada Goose	96,100	481	96	3,000	300	150
Dark-bellied Brent Goose	98,100	491	98	1,700	170	85
Shelduck	78,200	391	78	1,200	120	60
Mandarin	7,000	35	7	50	5	3
Wigeon	406,000	2,030	406	6,000	600	300
Teal	192,000	960	192	2,500	250	125
Mallard	352,000	1,760	352	5,000	500	250
Gadwall	17,100	86	17	80	8	4
Pintail	27,900	140	28	150	15	8
Shoveler	14,800	74	15	140	14	7
Pochard	59,500	372	60	200	20	10
Tufted Duck	90,100	451	90	240	24	12
Goldeneye	24,900	125	25	50	5	3
Red-breasted Merganser	9,840	49	10	160	16	8
Goosander	16,100	81	16	60	6	3
Little Grebe	7,770	39	8	120	12	6
Great Crested Grebe	15,900	80	16	100	10	5
Cormorant	23,000	115	23	800	80	40
Grey Heron	30,000	150	30	1,000	100	50
Little Egret	1,650	8	2	440	44	22
Spoonbill	10	1	1	5	5*	1
Moorhen	750,000	3,750	750	3,000	300	150
Coot	173,000	865	173	1,000	100	50

Appendix 10 – Non-breeding populations for selected species

Cont.

Species	British Non-breeding Population	0.5% British Non-breeding Population	0.1% British Non-breeding Population	Devon Non-breeding population	10% Devon Non-breeding population	5% Devon Non-breeding population
Water Rail	1,000	5	1	100	10	5
Oystercatcher	315,200	1,580	315	5,000	500	250
Avocet	3,395	17	3	650	65	33
Ringed Plover	32,450	162	32	500	50	25
Golden Plover	250,000	1,250	250	5,000	500	250
Grey Plover	52,750	264	53	500	50	25
Lapwing	1,500,000	7,500	1,500	6,000	600	300
Knot	283,600	1,418	284	150	15	8
Sanderling	20,540	103	21	130	13	7
Dunlin	555,800	2,779	556	5,000	500	250
Purple Sandpiper	17,530	88	18	40	5*	2
Jack Snipe	10,000	50	10	50	5	3
Snipe	>100,000	>500	>100	1,000	100	50
Woodcock	10,000	50	10	100	10	5
Black-tailed Godwit	15,390	77	15	1,000	100	50
Bar-tailed Godwit	61,590	308	62	340	34	17
Whimbrel	3,530	18	4	200	20	10
Curlew	147,100	736	147	2,400	240	120
Redshank	116,100	581	116	1,100	110	55
Greenshank	4,290	21	4	160	16	8
Green Sandpiper	1000	5	1	10	5*	1
Common Sandpiper	2600	13	7	12	5*	1
Turnstone	49,550	248	50	200	20	10
Mediterranean Gull	200	1	1	35	5*	3
Black-headed Gull	1,682,385	8,412	1,682	35,000	3500	1750

Appendix 10 – Non-breeding populations for selected species

Cont.

Species	British Non-breeding Population	0.5% British Non-breeding Population	0.1% British Non-breeding Population	Devon Non-breeding population	10% Devon Non-breeding population	5% Devon Non-breeding population
Common Gull	429,331	2,147	429	1,200	120	60
Lesser Black-backed Gull	60,831	304	61	1,200	120	60
Herring Gull	376,775	1,884	377	8,000	80	40
Great Black-backed Gull	43,108	216	43	1,200	120	60
Sandwich Tern	10.536	53	11	325	33	17
Common Tern	10,134	51	10	120	12	6
Kingfisher	8,600	43	9	50	5	3
Water Pipit	100	1	1	25	5*	1

* An arbitrary minimum threshold of 5 is used for 10% of the Devon non-breeding population.

Appendix 11 – Butterflies of County importance in the selection of County Wildlife Sites in Devon

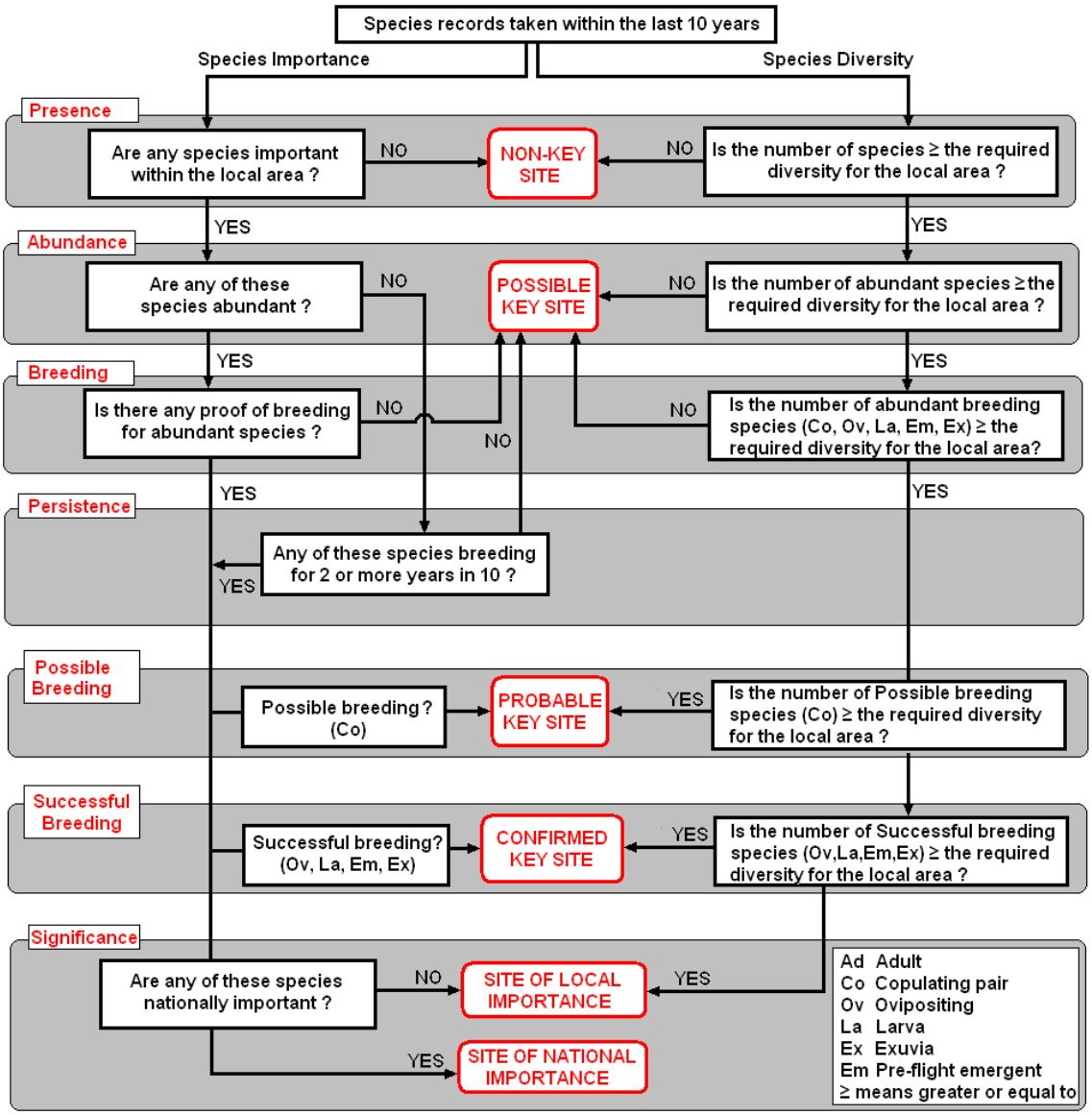
1. Nationally rare species

Wood White	*Leptidea sinapis*
Silver-studded Blue	*Plebejus argus*
Adonis Blue	*Laysandra bellargus*
Large Blue	*Maculinea arion*
Purple Emperor	*Apatura iris*
Pearl Bordered Fritillary	*Boloria euphrosyne*
High Brown Fritillary	*Argynnis adippe*
Marsh Fritillary	*Eurodryas aurinia*
Heath Fritillary	*Mellicta athalia*
Grayling	*Hipparchia semele*

2. Species which have suffered substantial local declines

Essex Skipper	*Thymelicus lineola*
Dingy Skipper	*Erynnis tages*
Grizzled Skipper	*Pyrgus malvae*
Green Hairstreak	*Callophrys rubi*
Purple Hairstreak	*Quercusia quercus*
White Letter Hairstreak	*Satyrium w-album*
Small Blue	*Cupido minimus*
Brown Argus	*Aricia agestis*
Chalk-hill Blue	*Lysandra coridon*
Small Pearl-bordered Fritillary	*Boloria selene*
White Admiral	*Ladoga camilla*
Dark Green Fritillary	*Argynnis aglaja*

Appendix 12 – Dragonflies of County importance in the selection of County Wildlife Sites in Devon



Non-Vascular Plants: still needs sorting

Liverworts: (Listings based on 2001 IUCN guidelines and Bryophyte Red List British Bryological Society, 2005 + Preston, C.D. 2006. A revised list of nationally scarce bryophytes. Field Bryology 90: 22-30).

- **NR** **Nationally Rare -** Rare and scarce species occurring in 15 or fewer hectads in Great Britain. Excludes rare species qualifying under the main IUCN criteria.
- **NS** **Nationally Scarce -** Rare and scarce species occurring in 16-100 hectads in Great Britain. Excludes rare species qualifying under the main IUCN criteria.
- **CE** **Red Data Book 1 Critically Endangered -** facing an extremely high risk of extinction in the wild in the immediate future, as defined by any of the criteria A to E. Red listing based on 2001 IUCN guidelines.
- **E** **Red Data Book 2 Endangered -** not Critically endangered but is facing a very high risk of extinction in the wild in the near future. Red listing based on 2001 IUCN guidelines.
- **V** **Red Data Book 3 Vulnerable -** not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium term future. Red listing based on 2001 IUCN guidelines.

Scientific Name	Common Name	Status
Acrobolbus wilsonii		NS
Adelanthus decipiens		NS
Adelanthus lindenbergianus		NR, E
Anastrophyllum alpinum		NR
Anastrophyllum donnianum		NS
Anastrophyllum hellerianum		NS
Anastrophyllum joergensenii		NR
Anastrophyllum saxicola		NR; V
Anthelia juratzkana		NS
Athalamia hyaline		NR; V
Barbilophozia kunzeana		NR; V
Barbilophozia lycopodioides		NS
Barbilophozia quadriloba		NR
Bazzania pearsonii		NS
Calypogeia azurea		NS
Calypogeia integristipula		NS
Calypogeia suecica		NS
Cephalozia ambigua		NR; V
Cephalozia catenulate		NS
Cephalozia loitlesbergeri		NS
Cephalozia macrostachya		NS
Cephalozia pleniceps		NS
Cephaloziella baumgartneri		NR; E
Cephaloziella calyculata		NR; V
Cephaloziella dentata		NR, CE

Cephaloziella elachista		NR
Cephaloziella integerrima		NR; V
Cephaloziella massalongi		NR
Cephaloziella nicholsonii		NS; V
Cephaloziella spinigera		NS
Cephaloziella stellulifera		NS
Cephaloziella turneri		NS
Cladopodiella francisci		NS
Cololejeunea rossettiana		NS
Cryptothallus mirabilis		NS
Diplophyllum taxifolium		NS
Dumortiera hirsuta		NR; V
Eremonotus myriocarpus		NS
Fossombronia angulosa		NS
Fossombronia caespitiformis		NS
Fossombronia fimbriata		NR
Fossombronia foveolata		NS
Fossombronia husnotii		NS
Fossombronia incurva		NS
Fossombronia maritima		NS
Geocalyx graveolens		NR; V
Gongylanthus ericetorum		NR
Gymnocolea acutiloba		NR; V
Gymnomitrion apiculatum		NR; V
Gymnomitrion corallioides		NR
Haplomitrium hookeri		NS
Harpanthus flotovianus		NS
Herbertus borealis		NR; V
Jamesoniella autumnalis		NS
Jamesoniella undulifolia		NR; E
Jungermannia borealis		NS
Jungermannia caespiticia		NR; V
Jungermannia confertissima		NS
Jungermannia leiantha		NR, CE
Jungermannia polaris		NR; V
Jungermannia subelliptica		NS
Leiocolea fitzgeraldiae		NR
Leiocolea gillmanii		NR
Leiocolea heterocolpos		NS
Leiocolea rutheana		NR; E
Lejeunea holtii		NR; V
Lejeunea mandonii		NR; E
Leptoscyphus cuneifolius		NS
Lophozia capitata		NS; E
Lophozia herzogiana		NR; V
Lophozia longidens		NS
Lophozia longiflora		NR, CE
Lophozia obtuse		NS

Lophozia opacifolia		NS
Lophozia perssonii		NR
Lophozia wenzelii		NR; V
Marsupella adusta		NS
Marsupella alpine		NS
Marsupella arctica		NR; V
Marsupella boeckii		NR; V
Marsupella brevissima		NS
Marsupella condensate		NR
Marsupella profunda		NR; V
Marsupella sparsifolia		NR; V
Marsupella sphacelata		NS
Marsupella stableri		NS
Mastigophora woodsii		NS
Moerckia blyttii		NS
Moerckia hibernica		NS
Nardia breidleri		NR
Nardia geoscyphus		NS
Nardia insecta		NR; V
Odontoschisma elongatum		NS
Odontoschisma macounii		NR; V
Pallavicinia lyellii		NS
Pedinophyllum interruptum		NS
Petalophyllum ralfsii		NS
Plagiochila atlantica		NS
Plagiochila carringtonii		NS
Plagiochila norvegica		NR
Pleurocladula albescens		NS
Porella pinnata		NS
Radula carringtonii		NR; V
Radula voluta		NS
Riccardia incurvata		NS
Riccia beyrichiana		NS
Riccia bifurca		NR; E
Riccia canaliculata		NR; V
Riccia cavernosa		NS
Riccia huebeneriana		NS
Riccia nigrella		NR; E
Ricciocarpos natans		NS
Scapania aequiloba		NS
Scapania calcicola		NS
Scapania curta		NR
Scapania cuspiduligera		NS
Scapania degenii		NS
Scapania gymnostomophila		NR
Scapania lingulata		NS
Scapania nimbosa		NS
Scapania ornithopodioides		NS

Scapania paludicola		NR
Scapania paludosa		NR
Scapania parvifolia		NR
Scapania praetervisa		NR; V
Scapania uliginosa		NS
Southbya nigrella		NR; V
Southbya tophacea		NR; V
Sphaerocarpos michelii		NS
Sphaerocarpus texanus		NS; V
Sphenolobopsis pearsonii		NS
Targionia hypophylla		NS
Telaranea murphyae		V
Telaranea nematodes		NR; E
Tetralophozia setiformis		NS
Tritomaria exsecta		NS
Tritomaria polita		NS

Mosses: (Listings based on 2001 IUCN guidelines and Bryophyte Red List British Bryological Society, 2005 + Preston, C.D. 2006. A revised list of nationally scarce bryophytes. Field Bryology 90: 22-30).

- **NR** **Nationally Rare -** Rare and scarce species occurring in 15 or fewer hectads in Great Britain. Excludes rare species qualifying under the main IUCN criteria.
- **NS** **Nationally Scarce -** Rare and scarce species occurring in 16-100 hectads in Great Britain. Excludes rare species qualifying under the main IUCN criteria.
- **CE** **Red Data Book 1 Critically Endangered -** facing an extremely high risk of extinction in the wild in the immediate future, as defined by any of the criteria A to E. Red listing based on 2001 IUCN guidelines.
- **E** **Red Data Book 2 Endangered -** not Critically endangered but is facing a very high risk of extinction in the wild in the near future. Red listing based on 2001 IUCN guidelines.
- **V** **Red Data Book 3 Vulnerable -** not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium term future. Red listing based on 2001 IUCN guidelines.
- **WCA** **Legally Protected Mosses:** Wildlife and Countryside Act 1981 Schedule 8 Plants which are protected from: intentional picking, uprooting or destruction; selling, offering for sale, possessing or transporting for the purpose of sale; advertising for buying or selling.

Scientific Name	**Common Name**	**Status**
Acaulon triquetrum		NR; E, WCA
Aloina ambigua		NS
Aloina brevirostris		NS
Aloina rigida		NS
Amblyodon dealbatus		NS
Amblystegium confervoides		NS

Amblystegium humile		NS
Amblystegium radicale		NR
Amphidium lapponicum		NS
Andreaea alpestris		NR
Andreaea blyttii		NR
Andreaea frigida		NR; V
Andreaea megistospora		NS
Andreaea mutabilis		NS
Andreaea nivalis		NS; V
Andreaea sinuosa		NR
Anomodon attenuatus		NR; CE
Anomodon longifolius		NR; E, WCA
Aongstroemia longipes		NR
Aplodon wormskjoldii		NR; CE
Arctoa fulvella		NS
Atrichum angustatum		NS; CE
Atrichum tenellum		NS
Aulacomnium turgidum		NS
Bartramia halleriana		NS
Bartramia stricta		NR; CE; WCA
Blindia caespiticia		NR; V
Brachydontium trichodes		NS
Brachythecium erythrorrhizon		NR
Brachythecium glaciale		NR
Brachythecium reflexum		NR
Brachythecium salebrosum		NS
Brachythecium starkei		NR; E
Brachythecium trachypodium		NR; CE
Bryoerythrophyllum caledonicum		NR
Bryum archangelicum		NR
Bryum arcticum		NR; V
Bryum calophyllum		NR; E
Bryum canariense		NS
Bryum creberrimum		NS
Bryum cyclophyllum		NR; E
Bryum dixonii		NS
Bryum dyffrynense		NR
Bryum elegans		NS
Bryum gemmilucens		NR
Bryum gemmiparum		NR, E
Bryum intermedium		NS
Bryum knowltonii		NR; V
Bryum kunzei		NR
Bryum mamillatum		WCA
Bryum marratii		NR; E
Bryum mildeanum		NS
Bryum muehlenbeckii		NR
Bryum neodamense		NR; WCA

Bryum pallescens		NS
Bryum riparium		NS
Bryum salinum		NR; E
Bryum schleicheri		NR; WCA
Bryum schleicheri var. latifolium		CE
Bryum tenuisetum		NS
Bryum torquescens		NS
Bryum uliginosum		NR; CE
Bryum warneum		NS; V
Bryum weigelii		NS
Buxbaumia aphylla		NS
Buxbaumia viridis		NR; E; WCA
Calliergon trifarium		NS
Campyliadelphus elodes		NS
Campylophyllum calcareum		NS
Campylophyllum halleri		NR; V
Campylopus pilifer		NS
Campylopus schimperi		NS
Campylopus setifolius		NS
Campylopus shawii		NS
Campylopus subulatus		NS
Campylostelium saxicola		NS
Catoscopium nigritum		NS
Ceratodon conicus		NR; CE
Cheilothela chloropus		NR; V
Cinclidium stygium		NS
Cinclidotus riparius		NR; V
Cirriphyllum cirrosum		NR; V
Conardia compacta		NS
Conostomum tetragonum		NS
Coscinodon cribrosus		NS
Cryphaea lamyana		NR; V; WCA
Ctenidium procerrimum		NR; V
Cyclodictyon laetevirens		NR;E; WCA
Cynodontium jenneri		NS
Cynodontium polycarpon		NR; V
Cynodontium strumiferum		NR
Cynodontium tenellum		NR; V
Daltonia splachnoides		NR; V
Dichodontium flavescens		NS
Dicranella crispa		NS
Dicranella grevilleana		NR; V
Dicranodontium asperulum		NS
Dicranodontium uncinatum		NS
Dicranoweisia crispula		NS
Dicranum bergeri		NS; V
Dicranum elongatum		NR; CE
Dicranum flagellare		NS

Dicranum leioneuron		NR
Dicranum polysetum		NS
Dicranum spurium		NS; V
Dicranum subporodictyon		NR
Didymodon acutus		NS
Didymodon cordatus		NR; E; WCA
Didymodon glaucus		NR; CE; WCA
Didymodon icmadophilus		NR
Didymodon mamillosus		NR
Didymodon tomaculosus		NS
Didymodon umbrosus		NS
Discelium nudum		NS
Distichium inclinatum		NS
Ditrichum cornubicum		NR; E; WCA
Ditrichum flexicaule		NS
Ditrichum lineare		NS
Ditrichum plumbicola		NR
Ditrichum pusillum		NS
Ditrichum subulatum		NR; V
Ditrichum zonatum		NS
Drepanocladus lycopodioides		NS
Drepanocladus sendtneri		NS
Drepanocladus vernicosus		WCA
Encalypta alpine		NS
Encalypta ciliata		NS
Encalypta rhaptocarpa		NS
Ephemerum cohaerens		NR; E
Ephemerum recurvifolium		NS
Ephemerum sessile		NS
Eurhynchium meridionale		NR; V
Eurhynchium pulchellum		NR
Eurhynchium pulchellum var. diversifolium		E
Eurhynchium striatulum		NS
Fissidens curvatus		NR; E
Fissidens limbatus		NS
Fissidens monguillonii		NR
Fissidens polyphyllus		NS
Fissidens rivularis		NS
Fissidens rufulus		NS
Fissidens serrulatus		NR; V
Funaria muhlenbergii		NS
Funaria pulchella		NR; V
Glyphomitrium daviesii		NS
Grimmia alpestris		NR; V
Grimmia arenaria		NR; V
Grimmia atrata		NS
Grimmia austrofunalis		NS

Grimmia crinita		NR; CE
Grimmia decipiens		NS
Grimmia dissimulata		NS
Grimmia elatior		NR; V
Grimmia elongata		NR; E
Grimmia incurva		NS
Grimmia laevigata		NS
Grimmia longirostris		NS
Grimmia montana		NS
Grimmia orbicularis		NS
Grimmia ovalis		NS
Grimmia retracta		NS
Grimmia tergestina		NR; V
Grimmia ungeri		NR; E
Grimmia unicolor		NR; V; WCA
Gymnostomum calcareum		NS
Gymnostomum viridulum		NS
Habrodon perpusillus		NS; E
Hamatocaulis vernicosus		NS
Hedwigia ciliata		NR
Hedwigia integrifolia		NS
Herzogiella seligeri		NS
Herzogiella striatella		NS
Heterocladium dimorphum		NR; V
Homomallium incurvatum		NR; CE
Hygrohypnum duriusculum		NS
Hygrohypnum molle		NR; V
Hygrohypnum polare		NR; E; WCA
Hygrohypnum smithii		NR; V
Hygrohypnum styriacum		NR; CE
Hylocomium pyrenaicum		NS
Hymenostylium insigne		NR
Hynum bambergeri		NR
Hypnum hamulosum		NS
Hypnum imponens		NS
Hypnum revolutum		NR; E
Hypnum vaucheri		NR; WCA
Isopterygiopsis muelleriana		NS
Kiaeria falcata		NS
Kiaeria glacialis		NS
Kiaeria starkei		NS
Leptobarbula berica		NS
Leptodontium gemmascens		NR; V
Meesia uliginosa		NS
Microbryum starckeanum		NS
Micromitrium tenerum		NR; CE; WCA
Mielichhoferia elongata		NR; V
Mielichhoferia mielichhoferiana		NR; E; WCA

Mnium ambiguum		NR; V
Mnium spinosum		NR
Mnium thomsonii		NS
Myrinia pulvinata		NS
Myurella julacea		NS
Myurella tenerrima		NR; E
Myurium hochstetteri		NS
Octodiceras fontanum		NS
Oedipodium griffithianum		NS
Oncophorus virens		NS
Oncophorus wahlenbergii		NR
Orthodontium gracile		NR; V
Orthothecium rufescens		NS
Orthotrichum gymnostomum		NR; V
Orthotrichum obtusifolium		NR; V; WCA
Orthotrichum pallens		NR; E
Orthotrichum pumilum		NR; E
Orthotrichum speciosum		NR
Palustriella decipiens		NR
Paraleptodontium recurvifolium		NS
Paraleucobryum longifolium		NR
Philonotis arnellii		NS
Philonotis caespitosa		NS
Philonotis cernua		NR; CE
Philonotis marchica		NR; E
Philonotis rigida		NS
Philonotis seriata		NS
Philonotis tomentella		NR
Physcomitrium eurystomum		NR; CE
Physcomitrium sphaericum		NR
Pictus scoticus		NR
Plagiobryum demissum		NR; E
Plagiomnium medium		NR
Plagiopus oederianus		NS
Plagiothecium cavifolium		NS
Plagiothecium laetum		NS
Plagiothecium piliferum		WCA
Plagiothecium platyphyllum		NS
Platydictya jungermannioides		NS
Platygyrium repens		NS
Pleurochaete squarrosa		NS
Pohlia andalusica		NR
Pohlia crudoides		NR; V
Pohlia elongata polymorpha		NS
Pohlia filum		NS
Pohlia flexuosa		NS
Pohlia lescuriana		NS
Pohlia ludwigii		NS

Pohlia obtusifolia		NR; E
Pohlia proligera sens. strict.		NS
Pohlia scotica		NR; V
Polytrichum sexangulare		NS
Pottiopsis caespitosa		NS
Pseudobryum cinclidioides		NS
Pseudoleskea incurvata		NR; V
Pseudoleskea patens		NS
Pseudoleskeella catenulata		NS
Pseudoleskeella nervosa		NR; CE
Pseudoleskeella rupestris		NR
Pterigynandrum filiforme		NS
Pterygoneurum ovatum		NS
Ptychodium plicatum		NR; V
Pylaisia polyantha		NS
Racomitrium affine		NS
Racomitrium canescens		NS
Racomitrium elongatum		NS
Racomitrium himalayanum		NR; V
Racomitrium macounii		NR
Racomitrium sudeticum		NS
Rhizomnium magnifolium		NS
Rhynchostegiella curviseta		NS
Rhynchostegium alopecuroides		NS
Rhynchostegium rotundifolium		NR; CE; WCA
Rhytidiadelphus subpinnatus		NR; E
Rhytidium rugosum		NS
Saelania glaucescens		NR; V; WCA
Sanionia orthothecioides		NR
Schistidium agassizii		NS
Schistidium atrofuscum		V
Schistidium confertum		NS
Schistidium frigidum		NS
Schistidium papillosum		NS
Schistidium pruinosum		NS
Schistidium robustum		NS
Schistidium trichodon		NS
Scopelophila cataractae		NR; V
Scorpidium turgescens		NR; V; WCA
Seligeria acutifolia		NS
Seligeria brevifolia		NR; V
Seligeria campylopoda		NR; V
Seligeria carniolica		NR; CE
Seligeria diversifolia		NR; V
Seligeria pusilla		NS
Sematophyllum demissum		NR; V
Sematophyllum micans		NS
Sematophyllum substrumulosum		NR

Sphagnum affine		NS
Sphagnum angustifolium		NS
Sphagnum austinii		NS
Sphagnum balticum		NR; E; WCA
Sphagnum flexuosum		NS
Sphagnum lindbergii		NS
Sphagnum majus		NR; V
Sphagnum platyphyllum		NS
Sphagnum pulchrum		NS
Sphagnum riparium		NR
Sphagnum skyense		NR
Sphagnum subsecundum		NS
Splachnum vasculosum		NS; V
Stegonia latifolia		NR; V
Syntrichia norvegica		NR; V
Syntrichia princes		NS
Syntrichia virescens		NS
Tayloria lingulata		NR; E
Tayloria tenuis		NR; CE
Tetraplodon angustatu		NS
Tetrodontium repandum		NR; CE
Thamnobryum angustifolium		NR; CE; WCA
Thamnobryum cataractarum		NR; V
Thuidium abietinum abietinum		NS
Thuidium abietinum hystricosum		NS
Thuidium recognitum		NS
Timmia austriaca		NR; E
Timmia megapolitana		V
Timmia norvegica		NR
Tomentypnum nitens		NS
Tortella densa		NS
Tortella fragilis		NR; V
Tortella inclinata		NS
Tortella inflexa		NS
Tortula atrovirens		NS
Tortula canescens		NS
Tortula cernua		NR; E; WCA
Tortula cuneifolia		NR; E
Tortula freibergii		NR
Tortula leucostoma		NR; V
Tortula solmsii		NR; V
Tortula vahliana		NR; V
Tortula wilsonii		NS; E
Trichostomum hibernicum		NS
Ulota calvescens		NS
Ulota coarctata		NS
Weissia condensa		NS; V
Weissia levieri		NR; E

Weissia multicapsularis		NR; CE
Weissia perssonii		NS
Weissia rostellata		NS
Weissia squarrosa		NS; V
Weissia sterilis		NS; V
Zygodon forsteri		NR; E; WCA
Zygodon gracilis		NR; E; WCA

Lichens: Listing based on A conservation evaluation of British lichens, R.G. Woods & B.J. Coppins. British Lichen Society, London, 2003

- **NR Nationally Rare -** Rare and scarce species occurring in 15 or fewer hectads in Great Britain. Excludes rare species qualifying under the main IUCN criteria.
- **NS Nationally Scarce -** Rare and scarce species occurring in 16-100 hectads in Great Britain. Excludes rare species qualifying under the main IUCN criteria.
- **CE Red Data Book 1 Critically Endangered -** facing an extremely high risk of extinction in the wild in the immediate future, as defined by any of the criteria A to E. Red listing based on 2001 IUCN guidelines.
- **E Red Data Book 2 Endangered -** not Critically endangered but is facing a very high risk of extinction in the wild in the near future. Red listing based on 2001 IUCN guidelines.
- **V Red Data Book 3 Vulnerable -** not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium term future. Red listing based on 2001 IUCN guidelines.
- **WCA Legally Protected Lichens:** Wildlife and Countryside Act 1981 Schedule 8 Plants which are protected from: intentional picking, uprooting or destruction; selling, offering for sale, possessing or transporting for the purpose of sale; advertising for buying or selling.

Scientific Name	Common Name	Status
Absconditella delutula		NS
Acarospora glaucocarpa		NS
Acarospora heppii		NS
Acarospora rhizobola		V
Acarospora subrufula		V
Acarospora umbilicata		NS
Acarospora veronensis		NS
Acrocordia macrospore		NS
Adelanthus lindenbergianus		WCA
Agonimia allobata		NS
Agonimia gelatinosa		NS
Agonimia globulifera		NS
Agonimia octospora		NS
Ainoa mooreana		NS
Alectoria ochroleuca		V; WCA
Alectoria sarmentosa sarmentosa		NS

Alectoria sarmentosa vexillifera		NS
Allantoparmelia alpicola		NS
Amandinea coniops		NS
Amandinea lecideina		NS
Amygdalaria consentiens		NS
Anaptychia ciliaris ciliaris		V
Anaptychia ciliaris mamillata		NS
Anisomeridium viridescens		NS
Arthonia anglica		E
Arthonia anombrophila		NS
Arthonia apotheciorum		NS
Arthonia arthonioides		NS
Arthonia astroidestera		NS
Arthonia cohabitans		V
Arthonia endlicheri		NS
Arthonia fuscopurpurea		NS
Arthonia graphidicola		NS
Arthonia leucopellaea		NS
Arthonia mediella		NS
Arthonia muscigena		NS
Arthonia phaeobaea		NS
Arthonia stellaris		NS
Arthonia varians		NS
Arthopyrenia carneobrunneola		NS
Arthopyrenia cerasi		NS
Arthopyrenia fraxini		NS
Arthopyrenia nitescens		NS
Arthopyrenia saxicola		NS
Arthothelium lirellans		NS
Arthothelium macounii		V
Arthothelium orbilliferum		NS
Arthothelium ruanum		NS
Arthrorhaphis aeruginosa		NS
Arthrorhaphis alpine		NS
Arthrorhaphis grisea		NS
Aspicilia epiglypta		NS
Aspicilia laevata		NS
Aspicilia melanaspis		E
Bacidia absistens		NS
Bacidia beckhausii		NS
Bacidia caesiovirens		NS
Bacidia caligans		NS
Bacidia carneoglauca		NS
Bacidia chloroticula		NS
Bacidia circumspecta		NS; V
Bacidia delicate		NS
Bacidia egenula		NS
Bacidia friesiana		NS

Bacidia fuscoviridis		NS
Bacidia herbarum		NS
Bacidia igniarii		V
Bacidia incompta		V
Bacidia saxenii		NS
Bacidia subincompta		NS; V
Bacidia trachoma		NS
Bacidia vermifera		E
Bacidia viridescens		NS
Bactrospora corticola		NS
Bactrospora dryina		CE
Bactrospora homalotropa		NS
Bellemerea alpina		CE
Belonia incarnate		NS
Belonia russula		NS
Biatora carneoalbida		CE
Biatora chrysantha		NS
Biatora tetramera		V
Biatora vernalis		NS
Biatorella fossarum		E
Biatorella hemisphaerica		V
Biatoridium delitescens		V
Biatoridium monasteriense		E
Brodoa intestiniformis		CE
Bryonora curvescens		V
Bryophagus gloeocapsa		NS
Bryoria bicolor		NS
Bryoria capillaris		NS
Bryoria chalybeiformis		NS
Bryoria furcellata		V; WCA
Bryoria lanestris		NS
Bryoria nadvornikiana		V
Bryoria smithii		CE
Buellia asterella		CE; WCA
Buellia badia		NS
Buellia erubescens		NS
Buellia hyperbolica		V
Buellia insignis		CE
Buellia papillata		CE
Buellia pulverea		NS
Buellia sequax		NS
Buellia stellulata		NS
Byssoloma marginatum		NS
Calicium adspersum		CE
Calicium corynellum		CE
Calicium diploellum		CE
Calicium lenticulare		NS
Caloplaca alociza		NS

Caloplaca aractina		V
Caloplaca arenaria		NS
Caloplaca arnoldii		NS
Caloplaca atroflava		CE
Caloplaca caesiorufella		V
Caloplaca cerina var. chloroleuca		NS
Caloplaca cerinelloides		NS
Caloplaca chalybaea		NS
Caloplaca cinnamomea		E
Caloplaca crenulatella		NS
Caloplaca ferruginea		NS
Caloplaca flavorubescens		NS; E
Caloplaca herbidella		V
Caloplaca littorea		NS
Caloplaca lucifuga		V
Caloplaca luteoalba		NS; V; WCA
Caloplaca maritima		NS
Caloplaca nivalis		WCA
Caloplaca nivalis		CE
Caloplaca obliterans		NS
Caloplaca ochracea		NS
Caloplaca phlogina		NS
Caloplaca scopularis		NS
Caloplaca ulcerosa		NS
Caloplaca virescens		NS; E
Calvitimela aglaea		NS
Calvitimela armeniaca		NS
Candelariella aurella f. smaragdula		NS
Carbonea vorticosa		NS
Catapyrenium cinereum		NS
Catapyrenium daedaleum		V
Catapyrenium lachneum		NS
Catapyrenium michelii		V
Catapyrenium pilosellum		NS
Catapyrenium psoromoides		WCA
Catapyrenium psoromoides		CE
Catapyrenium squamulosum		NS
Catapyrenium waltheri		CE
Catillaria alba		V
Catillaria atomarioides		NS
Catillaria contristans		NS
Catillaria globulosa		NS
Catillaria modesta		V
Catillaria nigroclavata		NS
Catillaria scotinodes		NS
Catillaria subviridis		V
Catinaria neuschildii		V
Catolechia wahlenbergii		WCA

Catolechia wahlenbergii		V
Cavernularia hultenii		NS
Cecidonia umbonella		NS
Cecidonia xenophana		NS
Celothelium ischnobelum		NS
Cetraria ericetorum		NS
Chaenotheca brachypoda		NS
Chaenotheca gracilenta		E
Chaenotheca hispidula		NS
Chaenotheca laevigata		E
Chaenotheca phaeocephala		CE
Chaenotheca stemonea		NS
Chaenotheca xyloxena		V
Chaenothecopsis nigra		NS
Chaenothecopsis pusilla		NS
Chromatochlamys larbalestieri		V
Chrysothrix chlorina		NS
Cladonia azorica		NS
Cladonia botrytis		CE
Cladonia callosa		NS
Cladonia cariosa		NS
Cladonia carneola		NS
Cladonia coccifera s. str.		NS
Cladonia convoluta		WCA
Cladonia convoluta		V
Cladonia cryptochlorophaea		NS
Cladonia cyathomorpha		NS
Cladonia firma		NS
Cladonia incrassata		NS
Cladonia macrophylla		NS
Cladonia maxima		V
Cladonia mediterranea		CE
Cladonia merochlorophaea		NS
Cladonia peziziformis		CE
Cladonia phyllophora		NS
Cladonia symphycarpia		NS
Cladonia trassii		WCA; V
Cladonia uncialis uncialis		V
Cladonia zopfii		NS
Claurouxia chalybeioides		NS
Clauzadea metzleri		NS
Clauzadeana macula		NS
Cliostomum corrugatum		V
Coccotrema citrinescens		NS
Collema bachmanianum		NS
Collema ceraniscum		V
Collema dichotomum		NS; V; WCA
Collema fasciculare		NS

Collema fragile		V
Collema fragrans		NS; E
Collema glebulentum		NS
Collema latzelii		V
Collema limosum		NS
Collema multipartitum		NS
Collema nigrescens		NS
Collema occultatum		NS
Collema parvum		V
Collema polycarpon		NS
Cryptolechia carneolutea		NS; V
Cyphelium notarisii		NS
Cyphelium trachylioides		CE
Cyrtidula hippocastani		NS
Degelia ligulata		V
Dermatocarpon leptophyllodes		NS
Dermatocarpon meiophyllizum		NS
Diploschistes caesioplumbeus		NS
Diploschistes gypsaceus		NS
Diplotomma chlorophaeum		NS
Diplotomma venustum		NS
Dirina massiliensis f. massiliensis		NS
Eiglera flavida		NS
Endocarpon adscendens		E
Endocarpon pusillum		E
Enterographa elaborata		WCA, CE
Eopyrenula avellanae		NS
Eopyrenula grandicula		NS
Epigloea soleiformis		NS
Epilichen scabrosus		NS
Farnoldia jurana		NS
Fellhanera bouteillei		NS
Flavocetraria nivalis		NS
Frutidella caesioatra		NS
Fulgensia bracteata		V
Fulgensia fulgens		E
Fuscidea arboricola		NS
Fuscidea austere		NS
Fuscidea gothoburgensis		NS
Fuscidea intercincta		NS
Fuscidea praeruptorum		NS
Fuscopannaria ignobilis		V; WCA
Fuscopannaria mediterranea		NS
Fuscopannaria sampaiana		NS
Geocalyx graveolens		WCA
Gomphillus calycioides		NS
Graphina pauciloculata		V
Graphina ruiziana		NS

Gyalecta derivate		NS
Gyalecta flotowii		NS
Gyalecta geoica		NS
Gyalecta ulmi		E; WCA
Gyalidea roseola		CE
Gyalideopsis muscicola		NS
Gymnomitrion apiculatum		WCA
Halecania alpivaga		V
Halecania ralfsii		NS
Halecania rhypodiza		V
Halecania viridescens		NS
Herteliana taylorii		NS
Heterodermia leucomela		E; WCA
Heterodermia propagulifera		WCA
Heterodermia speciosa		CE
Hymenelia cyanocarpa		NS
Hymenelia epulotica		NS
Hymenelia heteromorpha		V
Hymenelia melanocarpa		V
Hymenelia prevostii		NS
Hypocenomyce anthracophila		E
Hypocenomyce friesii		NS
Hypogymnia vittata		V
Hypotrachyna endochlora		NS
Immersaria athroocarpa		NS
Ionaspis odora		NS
Jamesoniella undulifolia		WCA
Japewia tornoensis		V
Japewiella tavaresiana		NS
Koerberiella wimmeriana		NS
Lauderlindsaya acroglypta		NS
Lecanactis dilleniana		NS
Lecanactis hemisphaerica		NS; WCA
Lecania aipospila		NS
Lecania atrynoides		NS
Lecania baeomma		NS
Lecania chlorotiza		NS
Lecania cuprea		NS
Lecania cyrtellina		NS
Lecania hutchinsiae		NS
Lecania inundata		NS
Lecania rabenhorstii		NS
Lecania subfuscula		NS
Lecania sylvestris		NS
Lecanographa abscondita		NS
Lecanographa amylacea		NS; V
Lecanographa grumulosa		NS
Lecanora achariana		CE; WCA

Lecanora aitema var. aitema		NS
Lecanora albella		NS
Lecanora andrewii		NS
Lecanora argentata		NS
Lecanora atromarginata		V
Lecanora cadubriae		NS
Lecanora caesiosora		NS
Lecanora campestris dolomitica		NS
Lecanora chlorophaeodes		V
Lecanora cinereofusca		V
Lecanora compallens		NS
Lecanora ecorticata		NS
Lecanora epanora		NS
Lecanora epibryon		V
Lecanora farinaria		NS
Lecanora frustulosa		V
Lecanora handelii		NS
Lecanora horiza		NS
Lecanora leptacina		NS
Lecanora persimilis		NS
Lecanora piniperda		NS
Lecanora praepostera		NS
Lecanora pruinosa		NS
Lecanora quercicola		NS
Lecanora rupicola var. efflorens		NS
Lecanora sambuci		NS
Lecanora stenotropa		NS
Lecanora strobilina		V
Lecanora subaurea		NS
Lecanora subcarnea		NS
Lecanora sublivescens		NS
Lecanora xanthostoma		NS
Lecanora zosterae		NS
Lecidea ahlesii		NS
Lecidea antiloga		V
Lecidea auriculata		NS
Lecidea berengeriana		NS
Lecidea brachyspora		NS
Lecidea confluens		NS
Lecidea diducens		NS
Lecidea doliiformis		NS
Lecidea erythrophaea		V
Lecidea fuliginosa		NS
Lecidea hypnorum		NS
Lecidea hypopta		NS
Lecidea inops		E; WCA
Lecidea lichenicola		NS
Lecidea nylanderi		NS

Lecidea paupercula		NS
Lecidea plana		NS
Lecidea pycnocarpa f. pycnocarpa		NS
Lecidea pycnocarpa f. sorediata		NS
Lecidea sanguineoatra		NS
Lecidea sarcogynoides		V
Lecidea silacea		NS
Lecidea swartzioidea		NS
Lecidella anomaloides		NS
Lecidella meiococca		NS
Lecidella wulfenii		V
Lecidoma demissum		NS
Leiocolea rutheana		WCA
Lempholemma botryosum		NS
Lempholemma chalazanum		NS
Lempholemma polyanthes		NS
Lepraria atlantica		NS
Lepraria eburnean		NS
Lepraria elobata		NS
Lepraria neglecta		NS
Lepraria nivalis		NS
Lepraria umbricola		NS
Leproloma diffusum var. diffusum		NS
Leptogium biatorinum		NS
Leptogium brebissonii		NS
Leptogium britannicum		NS
Leptogium cochleatum		NS; V
Leptogium corniculatum		NS
Leptogium intermedium		NS
Leptogium saturninum		NS; V
Leptogium subtile		NS
Leptogium tenuissimum		NS
Leptorhaphis atomaria		NS
Leptorhaphis maggiana		NS
Lithographa tesserata		NS
Lopadium coralloideum		V
Lopadium disciforme		NS
Macentina stigonemoides		NS
Marsupella profunda		WCA
Megalaria laureri		E
Megalospora tuberculosa		NS
Megaspora verrucosa		NS
Melanelia commixta		NS
Melanelia disjuncta		NS
Melanelia hepatizon		NS
Melanelia septentrionalis		NS
Melanelia stygia		NS
Melanelia subargentifera		CE

Melaspilea atroides		NS
Melaspilea granitophila		NS
Melaspilea ochrothalamia		NS
Melaspilea proximella		NS
Micarea adnata		NS
Micarea assimilata		V
Micarea coppinsii		NS
Micarea crassipes		V
Micarea elachista		E
Micarea incrassata		NS
Micarea lignaria var. endoleuca		NS
Micarea lithinella		NS
Micarea misella		NS
Micarea myriocarpa		NS
Micarea prasina s. str.		NS
Micarea pycnidiophora		NS
Micarea stipitata		NS
Micarea subnigrata		NS
Micarea synotheoides		NS
Micarea tuberculata		NS
Micarea turfosa		NS
Microcalicium ahlneri		NS
Miriquidica atrofulva		NS
Miriquidica complanata f. complanata		NS
Miriquidica garovaglii		V
Miriquidica griseoatra		NS
Miriquidica nigroleprosa var. nigroleprosa		NS
Moelleropsis nebulosa		NS
Mycoblastus affinis		NS
Mycocalicium subtile		NS
Mycoglaena myricae		NS
Neofuscelia delisei		NS
Nephroma arcticum		E; WCA
Ochrolechia inaequatula		NS
Ochrolechia inverse		NS
Ochrolechia microstictoides		NS
Ochrolechia szatalaënsis		NS
Omphalina pseudoandrosacea		NS
Opegrapha corticola		NS
Opegrapha demutata		NS
Opegrapha dolomitica		NS
Opegrapha fumosa		NS
Opegrapha lithyrga		NS
Opegrapha mougeotii		NS
Opegrapha pertusariicola		NS
Opegrapha prosodea		NS
Opegrapha rupestris		NS

Opegrapha saxigena		NS
Opegrapha subelevata		E
Opegrapha thelotrematis		NS
Opegrapha viridis		NS
Opegrapha xerica		NS
Orphniospora moriopsis var. moriopsis		NS
Pannaria hookeri		NS
Parmeliella testacea		NS
Parmelina quercina		NS; V
Parmelinopsis horrescens		NS
Parmelinopsis minarum		V; WCA
Parmentaria chilensis		WCA
Parmotrema arnoldii		NS
Parmotrema robustum		CE
Peltigera Britannica		NS
Peltigera degenii		NS
Peltigera lepidophora		CE; WCA
Peltigera malacea		E
Peltigera neckeri		NS
Peltigera polydactylon		NS
Peltigera scabrosa		V
Peltigera venosa		NS; V
Pertusaria borealis		NS
Pertusaria bryontha		CE; WCA
Pertusaria chiodectonoides		NS
Pertusaria coronata		NS
Pertusaria dactylina		NS
Pertusaria excludens		NS
Pertusaria glomerata		V
Pertusaria lactescens		NS
Pertusaria melanochlora		E
Pertusaria monogona		NS
Pertusaria oculata		NS
Pertusaria ophthalmiza		NS
Pertusaria pustulata		V
Pertusaria velata		NS; V
Pertusaria xanthostoma		NS
Petalophyllum ralfsii		WCA
Phaeographis inusta		NS
Phaeographis lyellii		NS
Phaeophyscia endococcina		V
Phaeophyscia endophoenicea		NS
Phaeophyscia sciastra		NS
Phlyctis agelaea		NS
Phyllopsora rosei		NS
Physcia clementei		NS
Physcia tribacioides		NS; V

Pilophorus strumaticus		NS
Placidiopsis custnani		NS
Placidiopsis pseudocinerea		CE
Placopsis gelida		NS
Placynthiella dasaea		NS
Placynthiella oligotropha		NS
Placynthium flabellosum		NS
Placynthium pannariellum		NS
Placynthium subradiatum		NS
Placynthium tantaleum		NS
Platismatia norvegica		NS
Poeltinula cerebrina		V
Polyblastia agraria		NS
Polyblastia albida		NS
Polyblastia cruenta		NS
Polyblastia cupularis		NS
Polyblastia deminuta		NS
Polyblastia dermatodes		NS
Polyblastia inumbrata		NS
Polyblastia melaspora		NS
Polyblastia sendtneri		V
Polyblastia theleodes		NS
Polyblastia wheldonii		NS
Polychidium dendriscum		V
Polychidium muscicola		NS
Polysporina lapponica		NS
Porina ahlesiana		NS
Porina atlantica		CE
Porina borreri var. borreri		NS
Porina coralloidea		NS
Porina guentheri var. guentheri		NS
Porina guentheri var. lucens		NS
Porina interjungens		NS
Porina rosei		NS
Porocyphus coccodes		NS
Porpidia contraponenda		NS
Porpidia flavocaerulescens		NS
Porpidia hydrophila		NS
Protoblastenia siebenhaariana		NS
Protomicarea limosa		NS
Protoparmelia atriseda		V
Protoparmelia ochrococca		NS
Protoparmelia oleagina		NS
Protothelenella corrosa		NS
Protothelenella sphinctrinoidella		NS
Pseudocyphellaria aurata		CE
Pseudocyphellaria intricata		NS
Pseudocyphellaria lacerata		V; WCA

Pseudocyphellaria norvegica		NS
Psilolechia clavulifera		NS
Psora decipiens		NS
Psora globifera		CE
Psora lurida		NS
Psora rubiformis		V; WCA
Psoroma hypnorum		NS
Psorotichia schaereri		NS
Pterygiopsis coracodiza		NS
Ptychographa xylographoides		NS
Punctelia ulophylla		NS
Pycnora xanthococca		V
Pyrenocollema elegans		NS
Pyrenocollema monense		NS
Pyrenocollema orustense		NS
Pyrenocollema strontianense		NS
Pyrenocollema sublitorale		NS
Pyrenopsis subareolata		NS
Pyrenula dermatodes		CE
Pyrenula hibernica		V
Pyrenula laevigata		NS
Pyrenula nitida		V
Pyrenula occidentalis		NS
Ramalina chondrina		V
Ramalina pollinaria		NS
Ramalina polymorpha		NS
Ramalina portuensis		NS
Ramonia chrysophaea		NS
Ramonia interjecta		NS
Ramonia nigra		CE
Rhaphidicyrtis trichosporella		NS
Rhizocarpon alpicola		NS
Rhizocarpon badioatrum		NS
Rhizocarpon expallescens		NS
Rhizocarpon furfurosum		NS
Rhizocarpon geminatum		NS
Rhizocarpon infernulum f. sylvaticum		NS
Rhizocarpon polycarpum		NS
Rhizocarpon subgeminatum		NS
Rhizocarpon viridiatrum		NS
Riccia bifurca		WCA
Rimularia badioatra		NS
Rimularia gyrizans		NS
Rimularia insularis		NS
Rimularia intercedens		NS
Rimularia limborina		NS
Rimularia mullensis		NS
Rimularia sphacelata		CE

Rinodina beccariana		NS
Rinodina bischoffii		NS
Rinodina colobinoides		V
Rinodina confragosa		NS
Rinodina conradii		NS
Rinodina degeliana		V
Rinodina efflorescens		NS
Rinodina fimbriata		NS
Rinodina griseosoralifera		NS
Rinodina isidioides		NS
Rinodina mniaraea var. cinnamomea		E
Rinodina orculariopsis		NS
Rinodina oxydata		NS
Roccella fuciformis		NS
Roccella phycopsis		NS
Ropalospora viridis		NS
Sarcogyne clavus		NS
Sarcogyne privigna		NS
Sarcosagium campestre var. campestre		NS
Schadonia fecunda		V
Schismatomma graphidioides		V
Schismatomma umbrinum		NS
Sclerophora pallida		NS; V
Sclerophora peronella		NS
Solenopsora holophaea		NS
Solenopsora liparina		V; WCA
Solorina crocea		NS
Solorina spongiosa		NS
Southbya nigrella		WCA
Sphinctrina turbinate		NS
Squamarina lentigera		CE; WCA
Staurothele areolata		V
Staurothele caesia		NS
Staurothele hymenogonia		NS
Staurothele rufa		E
Staurothele rupifraga		NS
Staurothele succedens		NS
Steinia geophana		NS
Stenocybe bryophila		NS
Stereocaulon condensatum		NS
Stereocaulon delisei		NS
Stereocaulon leucophaeopsis		NS
Stereocaulon nanodes		NS
Stereocaulon saxatile		NS
Stereocaulon symphycheilum		E
Stereocaulon vesuvianum var. nodulosum		NS

Stereocaulon vesuvianum var. symphycheileoides		NS
Sticta canariensis independ.green morph		V
Strangospora moriformis		NS
Strangospora pinicola		NS
Strigula jamesii		NS
Strigula stigmatella var. alpestris		NS
Strigula stigmatella var. stigmatella		E
Strigula taylorii		NS
Synalissa symphorea		V
Teloschistes chrysophthalmus		CE
Teloschistes flavicans		NS; V; WCA
Thelenella modesta		CE
Thelidium impressum		NS
Thelidium minutulum		NS
Thelidium pluvium		NS
Thelidium pyrenophorum		NS
Thelidium zwackhii		NS
Thelocarpon epibolum var. epibolum		NS
Thelocarpon impressellum		NS
Thelocarpon laureri		NS
Thelomma ocellatum		NS
Thelotrema macrosporum		NS
Thrombium epigaeum		NS
Toninia coelestina		V
Toninia mesoidea		NS
Toninia physaroides		CE
Toninia rosulata		E
Toninia thiopsora		NS
Toninia verrucarioides		NS
Trapeliopsis glaucolepidea		NS
Trapeliopsis percrenata		NS
Tylothallia biformigera		NS
Umbilicaria crustulosa		V
Umbilicaria deusta		NS
Umbilicaria hyperborean		NS
Umbilicaria spodochroa		E
Usnea glabrescens		NS
Usnea madeirensis		V
Usnea subscabrosa		V
Usnea wasmuthii		NS
Verrucaria amphibia		NS
Verrucaria bryoctona		NS
Verrucaria ditmarsica		NS
Verrucaria dufourii		NS
Verrucaria elaeina		NS
Verrucaria elaeomelaena		NS

Verrucaria funckii		NS
Verrucaria halizoa		NS
Verrucaria internigrescens		NS
Verrucaria murina		NS
Verrucaria pinguicula		NS
Verrucaria prominula		NS
Verrucaria rheitrophila		NS
Verrucaria simplex		NS
Verrucaria xyloxena		CE
Vestergrenopsis elaeina		V
Vezdaea acicularis		NS
Vezdaea leprosa		NS
Vezdaea retigera		NS
Vezdaea rheocarpa		NS
Wadeana dendrographa		NS
Wadeana minuta		NS
Xanthoparmelia tinctina		V
Xanthoria ucrainica		NS
Xylographa trunciseda		NS

Hornworts: Listing based on the Bryophyte Red List British Bryological Society, 2005 + Preston, C.D. 2006. A revised list of nationally scarce bryophytes. Field Bryology 90: 22-30.

- **NR** **Nationally Rare -** Rare and scarce species occurring in 15 or fewer hectads in Great Britain. Excludes rare species qualifying under the main IUCN criteria.

Scientific Name	Common Name	Status
Phaeoceros carolinianus		NR

Quillworts: Listings based on The Vascular Plant Red Data List for Great Britain - 2006 Cheffings, C. and Farrell, L. Editors and A tool for assessing the current conservation status of vascular plants on SSSIs in England: May 2006, ENRR 690 Leach & Rusbridge.

- **NR** **Nationally Rare -** Rare and scarce species occurring in 15 or fewer hectads in Great Britain. Excludes rare species qualifying under the main IUCN criteria.
- **V** **Red Data Book 3 Vulnerable -** not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium term future. Red listing based on 2001 IUCN guidelines.

Scientific Name	Common Name	Status
Isoetes histrix		NR; V

Clubmosses: Listings based on The Vascular Plant Red Data List for Great Britain - 2006 Cheffings, C. and Farrell, L. Editors and A tool for assessing the current conservation status of vascular plants on SSSIs in England: May 2006, ENRR 690 Leach & Rusbridge

- **NR** **Nationally Rare -** Rare and scarce species occurring in 15 or fewer hectads in Great Britain. Excludes rare species qualifying under the main IUCN criteria.
- **NS** **Nationally Scarce -** Rare and scarce species occurring in 16-100 hectads in Great Britain. Excludes rare species qualifying under the main IUCN criteria.
- **E** **Red Data Book 2 Endangered -** not Critically endangered but is facing a very high risk of extinction in the wild in the near future. Red listing based on 2001 IUCN guidelines.

Scientific Name	Common Name	Status
Diphasiastrum complanatum		NR
Lycopodiella inundata		NS, E
Lycopodium annotinum		NS

Stoneworts: Listings based on Review of the status of charophytes stoneworts - N Stewart unpublished.

- **NS** **Nationally Scarce -** Rare and scarce species occurring in 16-100 hectads in Great Britain. Excludes rare species qualifying under the main IUCN criteria.
- **E** **Red Data Book 2 Endangered -** not Critically endangered but is facing a very high risk of extinction in the wild in the near future. Red listing based on 2001 IUCN guidelines.
- **V** **Red Data Book 3 Vulnerable -** not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium term future. Red listing based on 2001 IUCN guidelines.
- **Legally Protected:** Wildlife and Countryside Act 1981 Schedule 8 Plants which are protected from: intentional picking, uprooting or destruction; selling, offering for sale, possessing or transporting for the purpose of sale; advertising for buying or selling.

Scientific Name	Common Name	Status
Chara aculeolata		NS
Chara curta		NS
Nitella flexilis		NS
Nitella mucronata		NS
Tolypella glomerata		NS
Chara canescens		E
Chara connivens		E
Chara intermedia		E
Nitella tenuissima		E
Tolypella intricate		E

Tolypella nidifica		E
Tolypella prolifera		E
Chara baltica		V
Chara fragifera		V
Nitella gracilis		V
Nitellopsis obtusa		V
Chara canescens		WCA
Lamprothamnium papulosum		WCA

Legally Protected Fungi: Wildlife and Countryside Act 1981 Schedule 8 Plants which are protected from: intentional picking, uprooting or destruction; selling, offering for sale, possessing or transporting for the purpose of sale; advertising for buying or selling.

Scientific Name	**Common Name**	**Status**
Battarraea phalloides		WCA
Boletus regius		WCA
Buglossoporus pulvinus		WCA
Catellaria laureri		WCA
Hericium erinaceum		WCA

Appendix 14 – Indicators for Social and Community guidelines

Criterion	Indicator	Notes
5.1	Features which provide a seasonal high point	e.g. a carpet of bluebells, heather in bloom, autumn colour, winter wetlands
5.2	Proportion of site covered by paths and their level of use	Informal desire lines represent evidence equivalent to formal hard-core paths. Vegetation encroachment, very narrow paths and significant areas of the site with no paths indicate low usage
5.2	Number of formal and informal access points.	
5.2	Ease of access for less able people or wheelchair users.	Positive features include low gradients; good bound surfaces; absence of steps, kerbs, ruts and muddy patches; kissing gates or open access points; seating places; handrails
5.2	Evidence of use by children for informal play using natural features	Positive features include signs of tree climbing; building dens; stream dams; swings
5.2	Proportion of site visible from adjacent land	This indicator is applicable to sites such as lakes, reservoirs and sewage treatment works used by birdwatchers where physical access is not feasible
5.3	Level of use by schools and education establishments for studying wildlife and the environment	High = regularly used for core curriculum Medium = irregularly used for core curriculum.
5.3	Provision at the site of a ranger or warden service whose remit includes helping the public to understand and appreciate the wildlife of the site	High = full-time rota of paid staff or volunteers Medium = part-time or voluntary service.
5.3	Facilities to help visitors understand and appreciate the site's wildlife. These facilities must be available to all sectors of the community	E.g. a visitor centre and interpretative leaflets or panels on site or information provided offsite i.e. leaflets, websites etc High = freely available on site for most of the time Medium = accessible at weekends or off site
5.3	Level of use for community development and training on an environmental theme.	Links with BTCV, Wildlife Trust, RSPB, Forest Schools, Youth groups, Scouts etc High = 3+ events per year Medium = 1+ events per year
5.4	A group of people have been actively and voluntarily involved in the care and management of the wildlife of the site or actively campaigning for the site for some time	e.g. voluntary wardening, species recording, practical nature conservation management, habitat creation, guided walks and organising events.
5.5	The site is associated with an historic event of significance to the study of wildlife and the environment	e.g. the site may have been featured in an important publication, studied by a famous naturalist or was a key site in the development of ecological understanding