

## Section E: Setting out priorities

### 1. Defining the key features of Devon's biodiversity and geodiversity

#### 1.1 What are 'key features'?

A vital part of the bio- and geodiversity action planning process is the identification and specific targeting of those features for which there is a particular conservation priority. In so doing, it is important to remember that such an exercise does not imply that these 'key features' are intrinsically more important than other elements of the County's natural heritage, but instead indicates that they are currently deserving of particular conservation attention in Devon. For example, a blackbird is of no lesser importance than a curlew, but the greater vulnerability, rarity and concentration of this latter species within the County means that it is likely to require special measures to maintain and enhance its status; both species are deserving of conservation, but the approach and degree of specific targeting will differ for the two.

For the purposes of this exercise, the overall definition of a key feature is one which, "***is of special conservation significance and requires active conservation measures to sustain it***". The criteria used in the selection of key wildlife and geological features are defined in the following sections. For practical reasons it has been necessary to adopt an arbitrary cut-off point in the selection of these features although in reality there is a gradual transition in the respective conservation significance that might be attached to the individual components of the County's wildlife and geology.

The practical purposes of producing such an assessment are:

- To provide an inventory of those elements of the natural world within Devon which are most in need of specific conservation attention.
- To assist in the allocation of limited resources towards the conservation of key features.
- To help identify those features which are currently under-protected, or perhaps receive undue attention, so that new resources can be sought, and existing ones re-allocated, to achieve maximum effectiveness.

## 1.2 The selection of Key Features

In keeping with the principles of bio- and geodiversity action planning, the selection of key features in Devon has been informed by nationally or internationally identified priorities which have then been set within a local context.

The national context for wildlife habitats and species was provided by the content of the UK Biodiversity Steering Group Report. This defines 38 key habitats which have been selected from a simplified classification of 37 broad habitat types represented in the UK (as of February 2005, there are now 45 priority habitats identified in the UK BAP). It also contains three lists of species of national conservation concern based on their degree of global threat, importance and distribution within the UK and protected status. These national lists were subsequently refined into two: 'Priority Species' (i.e. species which are globally threatened or are rapidly declining in the UK) and 'Species of Conservation Concern'. These national lists have been adapted and reproduced in Appendix i to show those 'Priority Species' and 'Species of Conservation Concern' known to occur within Devon. This task was greatly facilitated by the information set out in 'Action for Biodiversity in the South-West'.

**Please note:** the above has now been effectively superseded by the Natural Environment and Rural Communities Act 2006. This requires the production of lists of habitats and species that are of principal importance in England. These are now the BAP priority habitats and species for England. The lists can be viewed here:

[www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx](http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx)

Rather than simply adopt these national biodiversity priorities, they have been subject to a further rigorous assessment in the manner set out below in order to identify those habitats and species of special conservation significance in a Devon context. The identification of these key features is intended as a practical conservation tool and should not be considered to form, or be judged as, a precise and wholly objective academic analysis. The lists are not definitive and, indeed, should be modified over time to reflect changes in the status of the various components of the natural world and the chosen manner of defining key features.

The national context for geological features is provided by the Geological Conservation Review (GCR) which has identified the most important geological localities in the UK and classified these within a series of 97

subject 'blocks'. Appendix ii lists those subject 'blocks' represented within Devon. An international context is also now available in the context of the Global Geosites programme, which in the UK builds on this GCR framework (see Section D). As a significant number of Global Geosites selection frameworks are recognisable in Devon, they provide an invaluable and independent way in which the County's key geological features can be identified.

As well as forming an essential step in the development of the Devon BAP, the identification of Devon's key features should also provide valuable assistance to more local biodiversity initiatives by establishing a county-wide framework within which their own priorities might be assessed.

## 2. Key wildlife features

### 2.1 Criteria for the selection of key wildlife features

As a general rule, the following criteria were used in the definition of key features of Devon's wildlife:

- The features must be under threat AND EITHER
- Of recognised national or international importance OR
- Of particular popular appeal or characteristic of the County OR
- Known to be sensitive indicators of environmental change.

These criteria were applied to all habitats (and associated communities) and species represented in the County for which there is readily available information. An attempt was made to ensure that all major biological groups were represented, but some bias is apparent due to the varying levels of knowledge about different groups. The omission of certain groups has resulted either from a serious shortfall in knowledge (e.g. fungi) or the lack of any key species (e.g. no key amphibians).

The selection of some species – such as bryophytes, lichens and invertebrates - presents particular difficulties due to the very large number of rarities within the County and the lack of available expertise for many of their component groups. In places a choice has been made between the inclusion of species of similar status in order to keep the lists to a practical length; where possible, such selection has been based on species which are spectacular or well-known and have habitat requirements shared by other, excluded, rarities. In this way, the conservation of several species may be achieved by focusing on just one.

In some cases, species which cannot truly be said to be under threat have been included, so characteristic are they of the County or of particular habitats. 'Heather' is one such example.

Not all UK BAP priority species which are known to occur in Devon have been selected as key features. This is partly for the reasons above and partly because not all such species can be said to have a significant or meaningful presence within the County (e.g. tree sparrow). However, the identification of key features should be under continuous review and is not a precise and wholly objective academic analysis.

## **2.2 The selected key wildlife features**

The selected key wildlife features are shown in Table 1, this comprising 31 habitats (and associated communities) and 260 species.

# **3. Key Earth science features in Devon**

## **3.1 Criteria for the Selection of Key Geological Features**

The following criteria were used in the initial 1998 Devon BAP to define Devon's key geological features:

- The feature must be of recognised national or international importance for scientific study AND EITHER
- Be better represented within the County than elsewhere in Britain OR
- Be exceptionally well exemplified in the County.

Subsequent international developments have now, however, provided an independent way in which the County's key geological features can be assessed and reported.

In the early 1990s the Global Indicative List of Geological Sites, or GILGES, was established as a collaboration between the International Union of Geological Sciences (IUGS), UNESCO, the International Union for the Conservation of Nature (IUCN) and the International Geological Correlation Programme (IGCP) to compile a list of geological sites of global importance, largely to inform World Heritage listing. In 1996 this scheme evolved into the more comprehensive 'Global Geosites' project as more rigorous criteria and procedures were developed. A key part of the latter involve the participation of geological specialists in individual countries who would propose frameworks relevant to their countries within which such sites could be selected, followed by 'regional' collaboration

(i.e. on a European scale in the case of the UK) to agree such frameworks and subsequently identify individual representative 'Global Geosites', i.e. geological and geomorphological sites of truly international importance.

In Britain the compilation of this list has been coordinated by the British Institution for Geological Conservation (BIGC) in collaboration with ProGEO – the European Association for the Conservation of the Geological Heritage. The proposed frameworks for the UK have now been published in several journals and are also available via the [ProGEO website](#). Many geological sites in Devon are relevant to these frameworks, which therefore provide an independent assessment of the international significance of the County's geology and an appropriate refinement of the Key Geological Features of the initial 1998 Devon BAP. No other comprehensive listing of internationally important geological sites currently exists and although legislative frameworks for their recognition are not currently available, it is possible that in the future the European Union may be in a position to develop such procedures.

### **3.2 The selected key geological features**

The 18 relevant Global Geosites frameworks are listed on Table 2 as an independent statement of the international importance of the Devon's geology. An additional framework is added here which will be proposed for addition to the UK framework - *Variscan structures of Devon and Cornwall* - and relates to the scientifically internationally important structural record of the Variscan Orogeny in Devon and Cornwall (current categories refer only to South Wales). Pleistocene glacial/ interglacial mammal/ hominid assemblages in the UK are also not explicitly recognised in the Geosites listing – these are here provisionally included within the *Late Pleistocene interglacial/glacial cave/beach sediments (Saalian-Weichselian)* framework as Devon includes several key internationally important sites.

The table also lists the main types of geological (and geomorphological) site which exhibit the interest of the key features and provides comment on the importance of these features in Devon.

## **4. Selection of features for Action Plans**

### **4.1 Action Plans for Devon**

The key habitats, species and geological features identified in Tables 1 and 2 form the basis for the selection of features for which individual action plans have been produced as part of the Devon BAP. However, these have been subject to a further sifting exercise to select the first 'tranche' of habitats, species and geological features for treatment through

individual plans. This process has been necessary for practical reasons and to ensure that only those features appropriate to a county-based local biodiversity initiative are dealt with through this particular document. In this way, the Key Features tables identify those elements of Devon's wildlife and geology for which conservation action is particular priority, whereas action plans have been produced only for a selection of these features where they are best dealt with at the County scale.

In selecting geological features for treatment through action plans, the types of site through which the identified GCR subject 'blocks' are particularly well exhibited (as listed in Table 2) has provided the most practical approach to the targeting of conservation action. A decision was also taken to integrate wildlife and geological sites into combined 'habitat' action plans rather than deal with these separately. For example, the action plan for 'Pits, Quarries and Cuttings' addresses the wildlife features associated with this 'habitat' as well as defining conservation objectives and actions appropriate to the geological interest of the CGR 'blocks' represented within such sites.

## **4.2 Criteria Used in Selecting Features for Action Plans**

The following criteria were used to guide the selection of features to be covered in the first 'tranche' of Devon action plans:

- Identified as a key feature in Devon, as listed in Tables 1 and 2.
- Highlighted in the UK Steering Group report and is a feature which is well represented in Devon or for which Devon has a particular conservation responsibility.
- Priority given to features for which a national or regional action plan has been developed.
- The feature is not confined to a single locality or area for which a more local action plan might be more appropriate.
- A county-wide approach to conservation action for the feature is possible and desirable.
- Selection of species to ensure a broad coverage of the major taxa.

In a few cases, the precise scope of a selected action plan deviated slightly from the definition of the relevant key features provided by the tables, particularly where it was felt that conservation action could be targeted more effectively in this way. For example, the 'Rocky Shore and Sea Bed' key habitat is dealt with through two separate action plans,

given that very different approaches must be taken to secure the effective conservation of each. In addition, geological interests were combined with wildlife interests in a number of plans.

Although not technically meeting the criteria listed above, it was decided that an action plan should be produced for 'Cities, Towns and Villages' given the social importance of the natural environment within urban areas where the majority of Devon residents live.

On the basis of the above procedure, 17 habitats (and, where relevant, their associated geological features) and 20 species were initially selected for the production of county-wide action plans. Each of these individual plans is now presented through this document. Three additional action plans with a key geological context were added in 2008. Further action plans for additional habitats, species or geological features might be prepared in due course.

#### **4.3 Key features without a Devon Action Plan**

On the basis of the criteria set out above, many key features identified in Tables 1 and 2 were deliberately excluded from the production of county-wide action plans. This reflects the fact that certain features, particularly those with a very localised distribution, might better be addressed through biodiversity initiatives at other scales. For example, action plans for upland heathland and blanket bog and several of their associated key species have been prepared through the Dartmoor and Exmoor Biodiversity Action Plans and the Torbay BAP includes an action plan for the small blue butterfly, although none of these habitats and species has action plans within the Devon BAP. Similarly, although a national action plan has been produced for Lundy cabbage, adapting or reproducing this action plan within a broader Devon-wide focus is not necessary or even appropriate.

This same principle applies to other features where conservation action is better applied at a broader scale. For example, no Devon action plan has been produced for farmland, despite the importance and extent of this habitat type, as the most effective biodiversity action is likely to stem from broad agricultural policy which is best addressed at national or regional level.

Given the above, it is important to realise that the Devon BAP does not set out detailed objectives, targets and actions for all aspects of biodiversity conservation in Devon. Instead, it concentrates on a selection of features of particular conservation significance and priority where these can be effectively tackled at a County scale.

It should also be recognised that the current set of Devon-based action plans is not complete. The lack of available information or expertise for certain biological groups such as invertebrates, mosses, liverworts, lichens and fungi means that these are either missed completely or under-represented through the current selection of action plans.

#### **4.4 Action Plans for 'Common Themes'**

In preparing the individual action plans for key features, it became apparent that certain issues were common to all plans. At the same time there was a danger of such common issues being addressed in a piecemeal manner. For this reason, five brief action plans were prepared for 'common themes' which permeate most aspects of bio- and geodiversity conservation in Devon. The 'common themes' selected for treatment in this way were adapted from those previously presented through the *Draft Nature Conservation Strategy for Devon* and cover the following issues:

- Data and Information
- Public awareness and involvement
- Land management and advice
- Legislation and development planning
- Policy for the wider environment

Table 1 - Key habitats and species in Devon, linked to national, regional and local biodiversity plans

Key wildlife features in Devon				Associated Biodiversity Action Plan(s)			
Key Habitat	Associated key Species			<a href="#">Habitats and species of principal importance in England</a>	<a href="#">South West BIP work sector</a>	Devon BAP	Devon area BAPs
	Plants	Invertebrates	Other				
Ash-maple woodland	<ul style="list-style-type: none"> <li>• Spring snowflake</li> <li>• Small-leaved lime</li> <li>• Purple gromwell</li> <li>• Yellow bird's-nest</li> <li>• Greater butterfly orchid*</li> </ul>		<ul style="list-style-type: none"> <li>• Buzzard*</li> <li>• Dormouse*</li> </ul>	<ul style="list-style-type: none"> <li>• Upland mixed ashwoods</li> <li>• Yellow bird's-nest</li> <li>• Dormouse</li> </ul>	<ul style="list-style-type: none"> <li>• Woodlands and forestry</li> </ul>	<ul style="list-style-type: none"> <li>• Dormouse</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Dartmoor</a> (Woodland; Dormouse).</li> <li>• <b>East Devon</b> (Broadleaved woodland).</li> <li>• <a href="#">Torbay</a> (Broadleaved woodland).</li> </ul>
Alder / willow wet woodland	<ul style="list-style-type: none"> <li>• Lungwort lichens</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Neoascia obliqua</i> (hoverfly)</li> <li>• <i>Limnophila abdominalis</i> (crane-fly)</li> </ul>	<ul style="list-style-type: none"> <li>• Willow tit *</li> </ul>	<ul style="list-style-type: none"> <li>• Wet woodland</li> <li>• Willow tit</li> </ul>	<ul style="list-style-type: none"> <li>• Woodlands and forestry</li> </ul>	<ul style="list-style-type: none"> <li>• Alder/willow wet woodland</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Dartmoor</a> (Woodland; Mosses, lichens &amp; ferns).</li> <li>• <b>East Devon</b> (Broadleaved woodland).</li> <li>• <a href="#">Exmoor</a> (Lungwort lichens).</li> </ul>

Key wildlife features in Devon				Associated Biodiversity Action Plan(s)			
Key Habitat	Associated key Species			<a href="#">Habitats and species of principal importance in England</a>	<a href="#">South West BIP work sector</a>	Devon BAP	Devon area BAPs
	Plants	Invertebrates	Other				
Oak woodland	<ul style="list-style-type: none"> <li>• <i>Porina guaranitica</i> (lichen)</li> <li>• <i>Graphina pauciloculata</i> (lichen)</li> <li>• <i>Schismatomma graphidioides</i> (lichen)</li> <li>• Lungwort lichens</li> <li>• Filmy ferns</li> <li>• Hay-scented buckler-fern</li> <li>• Royal fern*</li> <li>• Flax-leaved St John's-wort</li> <li>• Irish spurge</li> <li>• Wild daffodils*</li> <li>• Rare whitebeams (<i>Sorbus devoniensis</i> and <i>S. vexans</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Anatella lenis</i> (fungus gnat)</li> <li>• <i>Chalandea pinguis</i> (centipede)</li> <li>• <i>Anthogona britannica</i> (millipede)</li> <li>• <i>Carabus intricatus</i> (Blue ground beetle)</li> <li>• Stag beetle</li> <li>• <i>Formica rufa</i> (Wood-ant)</li> <li>• Wood cricket</li> <li>• Heath Fritillary (butterfly)</li> <li>• Pearl bordered fritillary (butterfly)</li> <li>• Orange upperwing (moth)</li> </ul>	<ul style="list-style-type: none"> <li>• Barbastelle bat</li> <li>• Buzzard*</li> <li>• Dormouse*</li> <li>• Red deer*</li> </ul>	<ul style="list-style-type: none"> <li>• Upland oakwood</li> <li>• <i>Graphina pauciloculata</i> (lichen)</li> <li>• <i>Schismatomma graphidioides</i> (lichen)</li> <li>• <i>Sorbus vexans</i></li> <li>• <i>Carabus intricatus</i> (Blue ground beetle)</li> <li>• Stag beetle</li> <li>• Heath Fritillary (butterfly)</li> <li>• Pearl-bordered fritillary (butterfly)</li> <li>• Orange upperwing (moth)</li> <li>• Barbastelle bat</li> <li>• Dormouse</li> </ul>	<ul style="list-style-type: none"> <li>• Woodlands and forestry</li> </ul>	<ul style="list-style-type: none"> <li>• Oak woodland</li> <li>• Devon whitebeam and related species</li> <li>• Pearl-bordered fritillary (butterfly)</li> <li>• Dormouse</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Dartmoor</a> (Woodland; Mosses, lichens &amp; ferns; Flax-leaved St. John's-wort; Blue ground beetle; High brown &amp; pearl bordered fritillaries; Dormouse; Bats).</li> <li>• <a href="#">East Devon</a> (Broadleaved woodland).</li> <li>• <a href="#">Exmoor</a> (Upland oakwood; Lungwort lichens; Endemic whitebeams; Dormouse; Heath fritillary).</li> <li>• <a href="#">North Devon</a> (Oak woodland).</li> </ul>
Parkland and wood pasture	<ul style="list-style-type: none"> <li>• Lungwort lichens</li> <li>• <i>Teloschistes flavicans</i> (Golden-hair lichen)</li> <li>• <i>Caloplaca luteoalba</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Velleius dilatatus</i> (rove beetle)</li> <li>• Stag beetle</li> </ul>	<ul style="list-style-type: none"> <li>• Buzzard*</li> </ul>	<ul style="list-style-type: none"> <li>• Wood-pasture and parkland</li> <li>• <i>Teloschistes flavicans</i> (Golden-hair lichen)</li> <li>• <i>Caloplaca luteoalba</i></li> <li>• Stag beetle</li> </ul>	<ul style="list-style-type: none"> <li>• Woodlands and forestry</li> </ul>	<ul style="list-style-type: none"> <li>• Parkland and wood pasture</li> <li>• Golden hair lichen</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Dartmoor</a> (Woodland; Mosses, lichens &amp; ferns).</li> <li>• <a href="#">Exmoor</a> (Parkland, wood pastures &amp; veteran trees; Lungwort lichens).</li> <li>• <a href="#">North Devon</a> (Parkland &amp; wood pasture).</li> <li>• <a href="#">Torbay</a> (Parklands and veteran trees).</li> </ul>

Key wildlife features in Devon				Associated Biodiversity Action Plan(s)			
Key Habitat	Associated key Species			<a href="#">Habitats and species of principal importance in England</a>	<a href="#">South West BIP work sector</a>	Devon BAP	Devon area BAPs
	Plants	Invertebrates	Other				
Traditional orchards	<ul style="list-style-type: none"> <li>To be supplied</li> </ul>	<ul style="list-style-type: none"> <li>To be supplied</li> </ul>	<ul style="list-style-type: none"> <li>To be supplied</li> </ul>	<ul style="list-style-type: none"> <li>Traditional orchards</li> </ul>	<ul style="list-style-type: none"> <li>Farming and food</li> </ul>		
Species-rich hedges*	<ul style="list-style-type: none"> <li>Primrose*</li> <li>Bastard balm</li> <li>Plymouth pear</li> <li>Devon whitebeam</li> <li>Balm-leaved figwort</li> </ul>	<ul style="list-style-type: none"> <li>Small eggar (moth)</li> <li>Brown hairstreak (butterfly)</li> </ul>	<ul style="list-style-type: none"> <li>Cirl bunting</li> <li>Linnet</li> <li>Song thrush</li> <li>Reed bunting</li> <li>Dormouse*</li> <li>Horseshoe bats</li> </ul>	<ul style="list-style-type: none"> <li>Hedgerows</li> <li>Bastard balm</li> <li>Plymouth pear</li> <li>Brown hairstreak</li> <li>Dormouse</li> <li>Greater horseshoe bat</li> <li>Lesser horseshoe bat</li> <li>Cirl bunting</li> <li>Linnet</li> <li>Reed bunting</li> <li>Song thrush</li> </ul>	<ul style="list-style-type: none"> <li>Farming and food</li> </ul>	<ul style="list-style-type: none"> <li>Species-rich hedges</li> <li>Primrose</li> <li>Cirl bunting</li> <li>Dormouse</li> <li>Greater horseshoe bat</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">Dartmoor</a> (Field boundaries &amp; isolated trees; Dormouse; Bats).</li> <li><b>East Devon</b> (Species-rich hedgerows).</li> <li><b>North Devon</b> (Species-rich hedgerows).</li> <li><a href="#">Teignbridge</a> (Bats; Cirl bunting).</li> <li><a href="#">Torbay</a> (Cirl bunting; Farmland).</li> </ul>
Farmland	<ul style="list-style-type: none"> <li>Field eryngo</li> <li>Broad-fruited cornsalad</li> <li>Pennyroyal</li> </ul>		<ul style="list-style-type: none"> <li>Cirl bunting</li> <li>Barn owl</li> <li>Skylark*</li> <li>Buzzard*</li> <li>Linnet</li> <li>Reed bunting</li> <li>Song Thrush</li> <li>Grey partridge</li> <li>Woodlark</li> <li>Bullfinch</li> <li>Brown hare</li> <li>Horseshoe bats</li> <li>Natterer's bat</li> </ul>	<ul style="list-style-type: none"> <li>Arable field margins</li> <li>Field eryngo</li> <li>Pennyroyal</li> <li>Cirl bunting</li> <li>Skylark</li> <li>Linnet</li> <li>Reed bunting</li> <li>Song Thrush</li> <li>Grey partridge</li> <li>Woodlark</li> <li>Bullfinch</li> <li>Brown hare</li> <li>Greater horseshoe bat</li> <li>Lesser horseshoe bat</li> </ul>	<ul style="list-style-type: none"> <li>Farming and food</li> </ul>	<ul style="list-style-type: none"> <li>Cirl bunting</li> <li>Barn owl</li> <li>Brown hare</li> <li>Greater horseshoe bat</li> </ul>	<ul style="list-style-type: none"> <li><b>East Devon</b> (Bats).</li> <li><b>North Devon</b> (Farmland).</li> <li><a href="#">Teignbridge</a> (Bats; Cirl bunting).</li> <li><a href="#">Torbay</a> (Cirl bunting; Farmland).</li> </ul>

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	Plants	Invertebrates	Other				
Standing Freshwater (including seasonal ponds and reed beds)	<ul style="list-style-type: none"> <li>• Strapwort</li> <li>• Spring quillwort</li> </ul>	<ul style="list-style-type: none"> <li>• Fairy shrimp</li> <li>• <i>Lymnaea glabra</i> (snail)</li> <li>• <i>Pseudamnicola confusa</i> (snail)</li> <li>• Scarce blue-tailed damselfly</li> <li>• Small red damselfly</li> </ul>	<ul style="list-style-type: none"> <li>• Great-crested newt</li> <li>• Aquatic warbler</li> <li>• Cetti's warbler</li> <li>• Bittern</li> </ul>	<ul style="list-style-type: none"> <li>• Ponds</li> <li>• Reedbeds</li> <li>• Strapwort</li> <li>• Great-crested newt</li> <li>• Bittern</li> <li>• Aquatic warbler</li> </ul>	<ul style="list-style-type: none"> <li>• Water and wetlands</li> </ul>	<ul style="list-style-type: none"> <li>• Freshwater reedbed</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Dartmoor</a> (Freshwater; Scarce dragonflies).</li> <li>• <b>East Devon</b> (Great-crested newt).</li> <li>• <a href="#">Torbay</a> (Wetlands).</li> </ul>
Rivers, streams and floodplains	<ul style="list-style-type: none"> <li>• Lungwort lichens</li> <li>• <i>Cryphaea lamyana</i> (moss)</li> <li>• <i>Fissidens serratalus</i> (moss)</li> <li>• <i>Fissidens polyphyllus</i></li> <li>• Filmy fern</li> <li>• Royal fern*</li> <li>• Cornish moneywort</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Hydrochus nitidicollis</i> (water beetle)</li> <li>• White-clawed crayfish</li> <li>• Freshwater pearl mussel</li> <li>• Medicinal leech</li> </ul>	<ul style="list-style-type: none"> <li>• Atlantic salmon*</li> <li>• Brown trout</li> <li>• Dipper*</li> <li>• Barbestelle bat</li> <li>• Natterer's bat</li> <li>• Otter</li> <li>• Water vole**</li> </ul>	<ul style="list-style-type: none"> <li>• Rivers</li> <li>• <i>Cryphaea lamyana</i> (multi-fruited river moss)</li> <li>• <i>Fissidens serratalus</i> (moss)</li> <li>• <i>Hydrochus nitidicollis</i> (water beetle)</li> <li>• White-clawed crayfish</li> <li>• Freshwater pearl mussel</li> <li>• Atlantic salmon</li> <li>• Brown trout</li> <li>• Barbastelle bat</li> <li>• Otter</li> <li>• Water vole</li> </ul>	<ul style="list-style-type: none"> <li>• Water and wetlands</li> </ul>	<ul style="list-style-type: none"> <li>• Rivers, streams, floodplains and fluvial processes</li> <li>• Freshwater pearl mussel</li> <li>• Atlantic salmon</li> <li>• Otter</li> <li>• White-clawed crayfish</li> <li>• Water vole</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Dartmoor</a> (Freshwater; Bats).</li> <li>• <b>East Devon</b> (Water vole).</li> </ul>
Inland rock exposures	<ul style="list-style-type: none"> <li>• <i>Tortula solmsii</i> (moss)</li> <li>• Filmy ferns</li> <li>• Forked spleenwort</li> <li>• Flax-leaved St John's-wort</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Trigoniophthalmus alternatus</i> (bristle-tail)</li> </ul>	<ul style="list-style-type: none"> <li>• Ring ouzel</li> <li>• Peregrine</li> </ul>	<ul style="list-style-type: none"> <li>• Inland rock outcrop and scree habitats</li> <li>• Ring ouzel</li> </ul>		<ul style="list-style-type: none"> <li>• Pits, quarries and cuttings</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Dartmoor</a> (Rocks; Flax-leaved St John's-wort).</li> <li>• <a href="#">Teignbridge</a> (Limestone rock &amp; grassland).</li> <li>• <a href="#">Torbay</a> (Earth heritage).</li> </ul>

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	Plants	Invertebrates	Other				
Inland caves and mines (including spoil tips)		<ul style="list-style-type: none"> <li>• <i>Niphargus glennei</i> (shrimp)</li> <li>• <i>Hydrochus nitidicollis</i> (water beetle)</li> </ul>	<ul style="list-style-type: none"> <li>• Bechstein's bat</li> <li>• Natterer's bat</li> <li>• Horseshoe bats</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Niphargus glennei</i> (shrimp)</li> <li>• <i>Hydrochus nitidicollis</i> (water beetle)</li> <li>• Bechstein's bat</li> <li>• Greater horseshoe bat</li> <li>• Lesser horseshoe bat</li> </ul>		<ul style="list-style-type: none"> <li>• Caves, karst and limestone habitats</li> <li>• Mines and mineral waste tips</li> <li>• Greater horseshoe bat</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Dartmoor</a> (Rocks; Bats).</li> <li>• <a href="#">Teignbridge</a> (Bats; Limestone rock &amp; grassland).</li> <li>• <a href="#">Torbay</a> (Earth heritage).</li> </ul>
Lowland heathland	<ul style="list-style-type: none"> <li>• Heath lobelia (in 'heathy' grassland)</li> <li>• Western gorse*</li> </ul>	<ul style="list-style-type: none"> <li>• Southern damselfly</li> <li>• <i>Formica exsecta</i> (ant)</li> <li>• Silver-studded blue (butterfly)</li> <li>• <i>Pelecocera tricincta</i> (hoverfly)</li> </ul>	<ul style="list-style-type: none"> <li>• Nightjar</li> <li>• Dartford warbler</li> </ul>	<ul style="list-style-type: none"> <li>• Lowland heathland</li> <li>• Heath lobelia</li> <li>• Southern damselfly</li> <li>• <i>Formica exsecta</i> (ant)</li> <li>• Silver-studded blue (butterfly)</li> <li>• Nightjar</li> </ul>	<ul style="list-style-type: none"> <li>• Farming and food</li> <li>• Woodlands and forestry</li> </ul>	<ul style="list-style-type: none"> <li>• Lowland heathland</li> <li>• Nightjar</li> <li>• Southern damselfly</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Dartmoor</a> (Moorland).</li> <li>• <b>East Devon</b> (Lowland heathland; Heath lobelia).</li> <li>• <a href="#">Exmoor</a> (Lowland heath; Nightjar).</li> <li>• <a href="#">Teignbridge</a> (Lowland heathland).</li> </ul>
Upland heathland (including associated acidic grassland and bracken)	<ul style="list-style-type: none"> <li>• Stag's-horn clubmoss</li> <li>• Heather*</li> <li>• Vigur's eyebright</li> <li>• Chamomile</li> </ul>	<ul style="list-style-type: none"> <li>• High-brown fritillary (butterfly)</li> <li>• Heath fritillary (butterfly)</li> </ul>	<ul style="list-style-type: none"> <li>• Golden plover</li> <li>• Red grouse</li> <li>• Hen harrier</li> <li>• Whinchat</li> <li>• Stonechat*</li> <li>• Wheatear*</li> <li>• Skylark*</li> <li>• Ring ouzel</li> <li>• Merlin</li> </ul>	<ul style="list-style-type: none"> <li>• Upland heathland</li> <li>• Vigur's eyebright</li> <li>• High-brown fritillary (butterfly)</li> <li>• Heath fritillary (butterfly)</li> <li>• Red grouse</li> <li>• Hen harrier</li> <li>• Skylark</li> <li>• Ring ouzel</li> </ul>	<ul style="list-style-type: none"> <li>• Farming and food</li> </ul>		<ul style="list-style-type: none"> <li>• <a href="#">Dartmoor</a> (Moorland; High brown fritillary; Vigur's eyebright; Ring ouzel)</li> <li>• <a href="#">Exmoor</a> (Upland heath; Heath fritillary).</li> </ul>

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	Plants	Invertebrates	Other				
Maritime heathland	<ul style="list-style-type: none"> <li>• <i>Teloschistes flavicans</i> (Golden-hair lichen)</li> </ul>	<ul style="list-style-type: none"> <li>• Large blue (butterfly)</li> </ul>		<ul style="list-style-type: none"> <li>• Maritime cliff and slopes</li> <li>• <i>Teloschistes flavicans</i> (Golden-hair lichen)</li> <li>• Large blue (butterfly)</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal and marine environment</li> </ul>	<ul style="list-style-type: none"> <li>• Lowland heathland</li> <li>• Sea cliff and slope</li> <li>• Golden hair lichen</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Exmoor</a> (Lowland heathland).</li> <li>• <b>North Devon</b> (Coastal heathland).</li> </ul>
Blanket bog (including raised mire)	<ul style="list-style-type: none"> <li>• <i>Sphagnum imbricatum</i> (bog moss)</li> <li>• Cranberry</li> <li>• Sundews*</li> </ul>		<ul style="list-style-type: none"> <li>• Golden plover</li> <li>• Dunlin</li> </ul>	<ul style="list-style-type: none"> <li>• Blanket bog</li> </ul>	<ul style="list-style-type: none"> <li>• Farming and food</li> </ul>		<ul style="list-style-type: none"> <li>• <a href="#">Dartmoor</a> (Moorland; Golden plover &amp; dunlin).</li> <li>• <a href="#">Exmoor</a> (Blanket bog).</li> </ul>
Valley bog	<ul style="list-style-type: none"> <li>• Irish lady's-tresses</li> <li>• Bog orchid</li> <li>• Sundews*</li> <li>• Marsh clubmoss</li> </ul>	<ul style="list-style-type: none"> <li>• Marsh fritillary (butterfly)</li> <li>• Keeled skimmer (dragonfly)</li> <li>• <i>Eristalis cryptarum</i> (bog hoverfly)</li> </ul>	<ul style="list-style-type: none"> <li>• Curlew</li> <li>• Snipe</li> </ul>	<ul style="list-style-type: none"> <li>• Lowland fens</li> <li>• Marsh clubmoss</li> <li>• Marsh fritillary</li> <li>• <i>Eristalis cryptarum</i> (hoverfly)</li> <li>• Curlew</li> </ul>	<ul style="list-style-type: none"> <li>• Farming and food</li> </ul>	<ul style="list-style-type: none"> <li>• Marsh fritillary</li> <li>• Curlew</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Dartmoor</a> (Moorland; Scarce dragonflies; Bog hoverfly; Marsh fritillary &amp; Narrow-bordered bee hawk-moth).</li> </ul>
Herb-rich neutral grasslands	<ul style="list-style-type: none"> <li>• Green-winged orchid*</li> <li>• Corky-fruited water-dropwort*</li> <li>• Greater butterfly orchid (upland areas)</li> </ul>	<ul style="list-style-type: none"> <li>• Hornet robberfly</li> </ul>		<ul style="list-style-type: none"> <li>• Lowland meadows</li> <li>• Hornet robberfly</li> </ul>	<ul style="list-style-type: none"> <li>• Farming and food</li> </ul>	<ul style="list-style-type: none"> <li>• Flower-rich meadows and pastures</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Dartmoor</a> (Haymeadows &amp; species-rich dry pastures).</li> <li>• <b>East Devon</b> (Neutral grassland).</li> <li>• <a href="#">Exmoor</a> (Neutral grassland; Ballerina waxcap)</li> <li>• <a href="#">Torbay</a> (Farmland).</li> </ul>

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	Plants	Invertebrates	Other				
Herb-rich chalk and limestone grasslands	<ul style="list-style-type: none"> <li>• White rock-rose</li> <li>• Early gentian***</li> <li>• Field eryngo</li> <li>• Honewort</li> <li>• Small hare's-ear</li> <li>• Small rest-harrow</li> <li>• Goldilocks aster</li> <li>• Autumn squill</li> <li>• Little-robin</li> <li>• Deptford pink</li> </ul>			<ul style="list-style-type: none"> <li>• Lowland calcareous grassland</li> <li>• Early gentian</li> <li>• Field eryngo</li> <li>• Deptford pink</li> </ul>	<ul style="list-style-type: none"> <li>• Farming and food</li> </ul>		<ul style="list-style-type: none"> <li>• <a href="#">Dartmoor</a> (Deptford Pink).</li> <li>• <b>East Devon</b> (Calcareous grassland).</li> <li>• <a href="#">Torbay</a> (Lowland calcareous grassland; small blue butterfly; white rock-rose).</li> <li>• <a href="#">Teignbridge</a> (Deptford pink; Limestone rock &amp; grassland).</li> </ul>
Rhôs pasture (wet acidic pasture) and spring-line mires	<ul style="list-style-type: none"> <li>• Wavy St John's-wort</li> <li>• Meadow thistle*</li> </ul>	<ul style="list-style-type: none"> <li>• Narrow-bordered bee hawkmoth</li> <li>• Marsh fritillary (butterfly)</li> <li>• Small pearl-bordered fritillary</li> <li>• Marbled white (butterfly)*</li> <li>• Southern damselfly</li> <li>• Double-line moth</li> <li>• <i>Syndyas nigripes</i> (dance fly)</li> <li>• <i>Tipula marginata</i> (crane-fly)</li> </ul>	<ul style="list-style-type: none"> <li>• Barn owl</li> <li>• Curlew</li> <li>• Snipe</li> </ul>	<ul style="list-style-type: none"> <li>• Purple moor-grass and rush pastures</li> <li>• Marsh fritillary</li> <li>• Small pearl-bordered fritillary</li> <li>• Southern damselfly</li> <li>• Narrow-bordered bee hawkmoth</li> <li>• Curlew</li> </ul>	<ul style="list-style-type: none"> <li>• Farming and food</li> </ul>	<ul style="list-style-type: none"> <li>• Rhôs pasture</li> <li>• Marsh fritillary</li> <li>• Southern damselfly</li> <li>• Barn owl</li> <li>• Curlew</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Dartmoor</a> (Rhôs pasture; marsh fritillary &amp; narrow-bordered bee hawk-moth).</li> <li>• <b>East Devon</b> (Spring-line mires).</li> </ul>
Maritime grassland	<ul style="list-style-type: none"> <li>• Thrift*</li> <li>• Autumn squill</li> <li>• Small hare's-ear</li> <li>• Slender bird's-foot trefoil</li> <li>• Hairy bird's-foot trefoil</li> <li>• Early meadow-grass</li> </ul>	<ul style="list-style-type: none"> <li>• Thyme lacebug</li> <li>• <i>Cathormiocerus attaphyllus</i> (weevil)</li> <li>• Great green bush-cricket</li> </ul>		<ul style="list-style-type: none"> <li>• Maritime cliff and slopes</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal and marine environment</li> </ul>	<ul style="list-style-type: none"> <li>• Sea cliff and slope</li> <li>• Great green bush-cricket</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Torbay</a> (maritime cliff and slope).</li> </ul>

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	Plants	Invertebrates	Other				
Sand dunes	<ul style="list-style-type: none"> <li>• Petalwort (liverwort)</li> <li>• Early gentian***</li> <li>• Chamomile</li> <li>• Sand Crocus</li> <li>• Water Germander</li> <li>• Round-headed Club Rush</li> <li>• Sharp Rush</li> <li>• Sea Stock</li> </ul>	<ul style="list-style-type: none"> <li>• Sandbowl snail</li> <li>• <i>Dionaea aurifrons</i> (parasitic fly)</li> <li>• Great Green Bush-cricket*</li> </ul>	<ul style="list-style-type: none"> <li>• Sand lizard</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal sand dunes</li> <li>• Petalwort (liverwort)</li> <li>• Early Gentian</li> <li>• Chamomile</li> <li>• Water germander</li> <li>• Round-headed club rush</li> <li>• Sea stock</li> <li>• Sandbowl snail</li> <li>• Sand lizard</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal and marine environment</li> </ul>	<ul style="list-style-type: none"> <li>• Dynamic coastal landforms and habitats</li> <li>• Great green bush-cricket</li> </ul>	<ul style="list-style-type: none"> <li>• <b>North Devon</b> (Sand dunes).</li> </ul>

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	Plants	Invertebrates	Other				
Sea cliff and slope	<ul style="list-style-type: none"> <li>• <i>Ramalina siliquosa</i> (lichen)</li> <li>• <i>Rocella fuciformis</i> (lichen)</li> <li>• <i>Heterodermia leucomelos</i> (Ciliate strap lichen)</li> <li>• <i>Teloschistes flavicans</i> (Golden-hair Lichen)</li> <li>• <i>Bartula cordata</i> (Cordate Beard Moss)</li> <li>• Lanceolate spleenwort</li> <li>• Maidenhair Fern</li> <li>• Small Rest-harrow</li> <li>• Lundy Cabbage</li> <li>• Purple gromwell</li> <li>• Shore dock</li> <li>• Sea lavender</li> <li>• Nottingham catchfly</li> <li>• Small hare's-ear</li> <li>• Goldilocks aster</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Andrena hattorfiana</i> (mining bee)</li> <li>• <i>Nomada guttulata</i> (cuckoo bee)</li> <li>• <i>N. sexfasciata</i></li> <li>• <i>Lasioglossum laticeps</i> (mining bee)</li> <li>• <i>L. angusticeps</i></li> <li>• <i>Adicellis filicornis</i> (caddis fly)</li> <li>• <i>Ernodes urticularis</i> (caddis fly)</li> <li>• <i>Calliepis nocturna</i> (spider)</li> <li>• Lundy cabbage flea beetle</li> <li>• <i>Cardiphorus erichsoni</i> (click beetle)</li> <li>• Great green bush-cricket*</li> <li>• Morris's wainscot (moth)</li> <li>• Scarce black-neck moth</li> </ul>	<ul style="list-style-type: none"> <li>• Puffin</li> <li>• Guillemot</li> <li>• Peregrine</li> </ul>	<ul style="list-style-type: none"> <li>• Maritime cliff and slopes</li> <li>• <i>Heterodermia leucomelos</i> (ciliate strap lichen)</li> <li>• <i>Teloschistes flavicans</i> (Golden-hair Lichen)</li> <li>• Lundy Cabbage</li> <li>• Shore dock</li> <li>• <i>Lasioglossum angusticeps</i></li> <li>• Lundy cabbage flea beetle</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal and marine environment</li> </ul>	<ul style="list-style-type: none"> <li>• Sea cliff and slope</li> <li>• Golden hair lichen</li> <li>• Great green bush-cricket</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Torbay</a> (Seabirds; maritime cliff and slope).</li> </ul>
Mosaics of coastal features	<ul style="list-style-type: none"> <li>• Balm-leaved Figwort</li> <li>• Tree mallow</li> </ul>	<ul style="list-style-type: none"> <li>• Scarce Black-neck (moth)</li> <li>• <i>Leptoiulus belgicus</i> (millipede)</li> </ul>	<ul style="list-style-type: none"> <li>• Linnet</li> </ul>	<ul style="list-style-type: none"> <li>• Maritime cliff and slopes</li> <li>• Linnet</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal and marine environment</li> </ul>	<ul style="list-style-type: none"> <li>• Sea cliff and slope</li> <li>• Lowland heathland</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Exmoor</a> (Lowland heathland).</li> <li>• <b>North Devon</b> (Coastal heathland).</li> </ul>

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	Plants	Invertebrates	Other				
Estuaries (including rias and saltmarsh)	<ul style="list-style-type: none"> <li>• Triangular club-rush</li> <li>• Dwarf spike-rush</li> <li>• Eel grasses (Zostera spp.)</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Ophelia bicornis</i> (polychaete worm)</li> <li>• <i>Gammarus chevreuxi</i> (crustacean)</li> <li>• <i>Laomedea angulata</i> (hydroid)</li> <li>• <i>Hartlaubella gelatinosa</i> (hydroid)</li> </ul>	<ul style="list-style-type: none"> <li>• Allis shad</li> <li>• Twaite shad</li> <li>• Sea lamprey</li> <li>• Sea bass</li> <li>• Common goby</li> <li>• Dark-bellied brent goose</li> <li>• Wigeon</li> <li>• Avocet</li> <li>• Little egret</li> <li>• Grey plover</li> <li>• Golden plover</li> <li>• Lapwing</li> <li>• Dunlin</li> <li>• Redshank</li> <li>• Curlew</li> <li>• Black-tailed godwit</li> <li>• Oystercatcher</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal saltmarsh</li> <li>• Coastal sand dunes</li> <li>• Intertidal mudflats</li> <li>• Seagrass beds</li> <li>• Triangular club-rush</li> <li>• Allis shad</li> <li>• Twaite shad</li> <li>• Sea lamprey</li> <li>• Dark-bellied brent goose</li> <li>• Lapwing</li> <li>• Curlew Black-tailed godwit</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal and marine environment</li> </ul>	<ul style="list-style-type: none"> <li>• Estuaries</li> <li>• Curlew</li> </ul>	<ul style="list-style-type: none"> <li>• <b>East Devon</b> (Estuaries).</li> <li>• <b>North Devon</b> (Estuaries).</li> <li>• <a href="#">Teignbridge</a> (Estuaries).</li> </ul>
Grazing marsh	<ul style="list-style-type: none"> <li>• Parsley water-dropwort</li> <li>• Corky-fruited water-dropwort</li> <li>• Frogbit</li> <li>• Marsh arrowgrass</li> </ul>	<ul style="list-style-type: none"> <li>• Hairy dragonfly</li> <li>• Ruddy darter</li> </ul>	<ul style="list-style-type: none"> <li>• Curlew</li> <li>• Golden plover</li> <li>• Black-tailed godwit</li> <li>• Redshank</li> <li>• Snipe</li> <li>• Shoveler</li> <li>• Wigeon</li> <li>• Brent goose</li> <li>• Reed bunting</li> <li>• Skylark</li> <li>• Reed warbler</li> <li>• Sedge warbler</li> <li>• Cetti's warbler</li> <li>• Barn owl</li> <li>• Otter</li> <li>• Water vole**</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal and floodplain grazing marsh</li> <li>• Curlew</li> <li>• Black-tailed godwit</li> <li>• Dark-bellied brent goose</li> <li>• Reed bunting</li> <li>• Skylark</li> <li>• Otter</li> <li>• Water vole</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal and marine environment</li> <li>• Farming and food</li> </ul>	<ul style="list-style-type: none"> <li>• Grazing marsh</li> <li>• Curlew</li> <li>• Barn owl</li> <li>• Otter</li> <li>• Water vole</li> </ul>	

Key wildlife features in Devon				Associated Biodiversity Action Plan(s)			
Key Habitat	Associated key Species			<a href="#">Habitats and species of principal importance in England</a>	<a href="#">South West BIP work sector</a>	Devon BAP	Devon area BAPs
	Plants	Invertebrates	Other				
Sediment - shore and sea bed (including coastal sand and mudflats)	<ul style="list-style-type: none"> <li>• <i>Pterosiphonia pennata</i> (alga)</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Anthopleara baltii</i> (sea anemone)</li> <li>• <i>Ophelia bicornis</i> (polychaete worm)</li> <li>• Red sea finger (sponge)</li> <li>• <i>Stelliger bellulus</i> (sea slug)</li> <li>• <i>Molgula oculata</i> (sea squirt)</li> </ul>	<ul style="list-style-type: none"> <li>• Red band fish</li> <li>• Stephen's goby</li> <li>• Sanderling</li> </ul>	<ul style="list-style-type: none"> <li>• Mudflats</li> <li>• Subtidal sands and gravels</li> <li>• Intertidal mudflats</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal and marine environment</li> </ul>	<ul style="list-style-type: none"> <li>• Estuaries</li> </ul>	

Key wildlife features in Devon				Associated Biodiversity Action Plan(s)			
Key Habitat	Associated key Species			<a href="#">Habitats and species of principal importance in England</a>	<a href="#">South West BIP work sector</a>	Devon BAP	Devon area BAPs
	Plants	Invertebrates	Other				
Rocky shore and sea bed	<ul style="list-style-type: none"> <li>• <i>Asperococcus compressus</i> (alga)</li> <li>• <i>Bornetia secundiflora</i> (alga)</li> <li>• <i>Gelidium sesquipedale</i> (alga)</li> <li>• <i>Gigartina pistillata</i> (alga)</li> <li>• <i>Gracilaria bursa-pastoris</i> (red alga)</li> <li>• <i>Gymnogongrus devoniensis</i> (red alga)</li> <li>• <i>Padina pavonica</i> (alga)</li> <li>• <i>Pterosiphonia pennata</i> (alga)</li> <li>• Thrift*</li> <li>• Shore dock</li> </ul>	<ul style="list-style-type: none"> <li>• Scarlet and Gold star coral</li> <li>• Devonshire cup coral</li> <li>• Sunset cup coral</li> <li>• Ross coral</li> <li>• <i>Haplanguia durotrix</i> (coral)</li> <li>• <i>Carophylla inornata</i> (cup coral)</li> <li>• <i>Eunicalla verrucosa</i> (Pink sea fan)</li> <li>• Edible sea urchin</li> <li>• <i>Episinus maculipes</i> (spider)</li> <li>• <i>Aglaophenia kirchenpaueri</i> (hydroid)</li> <li>• <i>Okenia elegans</i> (mollusc)</li> <li>• <i>Tritonia nilsodneri</i> (bean slug)</li> <li>• <i>Ocenebrina aciculata</i> (sea snail)</li> <li>• <i>Amphianthus dohrnii</i> (sea anemone)</li> <li>• <i>Cataphellia brodicii</i> (sea anemone)</li> <li>• <i>Isozoanthus sulcatus</i> (sea anemone)</li> <li>• <i>Parazoanthus axinella</i> (sea anemone)</li> <li>• <i>Pycnoclavella aurilucens</i> (sea squirt)</li> </ul>	<ul style="list-style-type: none"> <li>• Turnstone</li> <li>• Giant goby</li> <li>• Common goby</li> <li>• Grey seal</li> </ul>	<ul style="list-style-type: none"> <li>• Estuarine rocky habitats</li> <li>• <i>Padina pavonica</i> (alga)</li> <li>• Shore dock</li> <li>• Sunset cup coral</li> <li>• <i>Eunicalla verrucosa</i> (Pink sea fan)</li> <li>• <i>Amphianthus dohrnii</i> (sea anemone)</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal and marine environment</li> </ul>	<ul style="list-style-type: none"> <li>• Rocky foreshore</li> <li>• Rocky seabed</li> <li>• Pink seafan</li> </ul>	<ul style="list-style-type: none"> <li>• <b>North Devon</b> (Rocky foreshore; Rocky seabed).</li> <li>• <b>Torbay</b> (Marine habitats).</li> </ul>
Devon BAP Version: May 2009		<ul style="list-style-type: none"> <li>• <i>Axinella damicornis</i> (sponge)</li> <li>• <i>Thyrosia guernia</i> (sponge)</li> <li>• <i>Suberites massa</i></li> </ul>			20		

Key wildlife features in Devon				Associated Biodiversity Action Plan(s)			
Key Habitat	Associated key Species			<a href="#">Habitats and species of principal importance in England</a>	<a href="#">South West BIP work sector</a>	Devon BAP	Devon area BAPs
	Plants	Invertebrates	Other				
Honeycomb worm reefs		<ul style="list-style-type: none"> <li>• <i>Sabellaria alveolata</i> (polychaete)</li> <li>• <i>Sabellaria spinulosa</i> (polychaete)</li> </ul>		<ul style="list-style-type: none"> <li>• <i>Sabellaria alveolata</i> reefs</li> <li>• <i>Sabellaria spinulosa</i> reefs</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal and marine environment</li> </ul>		<ul style="list-style-type: none"> <li>• <a href="#">Torbay</a> (Marine habitats).</li> <li>• <b>Teignbridge</b> (Honeycomb worm).</li> </ul>
Eel grass beds (Zostera spp.)	<ul style="list-style-type: none"> <li>• Eel grasses (Zostera spp.)</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Hartlaubella gelatinosa</i> (hyrdoid)</li> <li>• <i>Stelliger bellulus</i> (mollusc)</li> </ul>	<ul style="list-style-type: none"> <li>• Wigeon</li> <li>• Brent goose</li> </ul>	<ul style="list-style-type: none"> <li>• Seagrass beds</li> <li>• Dark-bellied brent goose</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal and marine environment</li> </ul>	<ul style="list-style-type: none"> <li>• Estuaries</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Torbay</a> (Marine habitats).</li> </ul>
Kelp forests	<ul style="list-style-type: none"> <li>• <i>Laminaria ochroleuca</i> (brown alga)</li> </ul>				<ul style="list-style-type: none"> <li>• Coastal and marine environment</li> </ul>		
Open Sea			<ul style="list-style-type: none"> <li>• Atlantic salmon*</li> <li>• Sea bass</li> <li>• Basking shark</li> <li>• Marine turtles</li> <li>• Guillemot</li> <li>• Black-throated diver</li> <li>• Red-throated diver</li> <li>• Great Northern diver</li> <li>• Slavonian grebe</li> <li>• Gannet</li> <li>• Razorbill</li> <li>• Harbour porpoise</li> <li>• Bottle-nosed dolphin</li> <li>• Common Dolphin</li> <li>• Long-finned pilot whale</li> <li>• Grey seal</li> </ul>	<ul style="list-style-type: none"> <li>• Atlantic salmon</li> <li>• Basking shark</li> <li>• Leatherback turtle</li> <li>• Harbour porpoise</li> <li>• Common dolphin</li> <li>• Bottle-nosed dolphin</li> <li>• Long-finned pilot whale</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal and marine environment</li> </ul>	<ul style="list-style-type: none"> <li>• Atlantic salmon</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Torbay</a> (Dolphins, porpoises &amp; basking sharks; seabirds).</li> </ul>

Key and notes to Table 1

- \* Species selected primarily because they are characteristic of the County and/or of particular popular appeal.
- \*\* Water vole – now believed to be extinct in Devon.
- \*\*\* Early gentian – now believed to be genetically indistinct from autumn gentian (*Gentianella amarella*).

Table 2 - Key geological features in Devon (applicable Global Geosite framework categories)

	<b>Global geosite framework</b>	<b>Types of site</b>	<b>Comment</b> (see also Section D, 4.1)
1.	<p><b>Devon (marine) carbonates and clastics (Devon [- Cornwall])</b></p> <p>(= '<i>Marine Devonian Rocks, part, / Lyme Bay Coast (Lyme Regis to Start Point)</i>', part, of 1998 Key features)</p>	<p><b>Exposure sites:</b> Disused quarries, pits and cuttings, Active quarries and pits, Coastal and river cliffs, Foreshore exposures, Inland outcrops and stream sections.</p> <p><b>Integrity sites:</b> Unique mineral, fossil or other geological sites.</p> <p><b>Moveable geological heritage:</b> Fossils.</p>	<p>Devon is the type area for the Devonian System, an interval of Earth history between around 416 and 359 million years ago. Marine rocks with rich invertebrate faunas of this age are only found in Devon, Cornwall and West Somerset in the UK.</p>
2.	<p><b>Permian-Triassic red-bed sequence (Devon coast)</b></p> <p>(= '<i>Lyme Bay Coast (Lyme Regis to Start Point)</i>', part, of 1998 Key Features)</p>	<p><b>Exposure sites:</b> Disused quarries, pits and cuttings, Active quarries and pits, Coastal and river cliffs, Foreshore exposures.</p> <p><b>Integrity sites:</b> Unique mineral, fossil or other geological sites.</p> <p><b>Moveable geological heritage:</b> Fossils.</p>	<p>The Permian-Triassic succession between Torbay and Axmouth is the most completely exposed in the UK. It records the initial stages of the development of the Wessex depositional basin and includes an important reptile fauna. Part of this succession is now included within the Dorset and East Devon World <a href="#">Jurassic Coast</a> World Heritage Site.</p>
3.	<p><b>Lower Jurassic, classic marine Hettangian-Toarcian (West Dorset [-Devon])</b></p> <p>(= <i>Lyme Bay Coast (Lyme Regis to Start Point)</i>', part, of 1998 Key Features)</p>	<p><b>Exposure sites:</b> Disused quarries, pits and cuttings, Coastal and river cliffs, Foreshore exposures.</p> <p><b>Integrity sites:</b> Unique mineral, fossil or other geological sites.</p> <p><b>Moveable geological heritage:</b> Fossils.</p>	<p>The Devon coast east of Axmouth includes the basal part of the famous Lower Jurassic successions of West Dorset (the Triassic-Jurassic boundary is only seen in Devon). These rocks yield important faunas including ammonites and marine reptiles. This area now forms part of the Dorset and East Devon World <a href="#">Jurassic Coast</a> World Heritage Site.</p>

	<b>Global geosite framework</b>	<b>Types of site</b>	<b>Comment</b> (see also Section D, 4.1)
4.	<p><b>Sub-Albian regional unconformity (Dorset-Devon)</b></p> <p>(relevant, in part, to 'Lyme Bay Coast (Lyme Regis to Start Point)' of 1998 Key Features)</p>	<p><b>Exposure sites:</b> Disused quarries, pits and cuttings, Active quarries and pits, Coastal and river cliffs, Foreshore exposures.</p> <p><b>Integrity sites:</b> Unique mineral, fossil or other geological sites.</p> <p><b>Moveable geological heritage:</b> Fossils.</p>	<p>The Cretaceous marine transgression which commenced in the late Lower Cretaceous (i.e. Aptian-Albian stages) marks the beginning of the period of the highest sea levels recorded in post Palaeozoic Britain. The unconformity cuts across Jurassic, Triassic, Permian, Carboniferous and Devonian rocks between Lyme Regis and Newton Abbot.</p>
5.	<p><b>Late Pleistocene interglacial/glacial, cave/beach sediments (Saalian-Weichselian)</b></p> <p>[provisionally includes Pleistocene giant mammal/hominid assemblages]</p> <p>(= 'Quaternary Features', part / Lyme Bay Coast (Lyme Regis to Start Point)', part, of 1998 Key features)</p>	<p><b>Integrity sites:</b> Static (fossil) geomorphological sites, Caves and Karst, Unique mineral, fossil or other geological sites.</p> <p><b>Moveable geological heritage:</b> Fossils.</p>	<p>Cave sediments in south Devon, including in Torbay and near Buckfastleigh provide an important record of large mammal faunas and climate changes going back at least 350,000 years.</p>
6.	<p><b>Late Pleistocene Interglacial (OIS7, 5e) raised beaches (southern England, Cornwall, South Wales)</b></p> <p>(= 'Quaternary Features', part / Lyme Bay Coast (Lyme Regis to Start Point)', part, of 1998 Key features)</p>	<p><b>Integrity sites:</b> Static (fossil) geomorphological sites.</p> <p><b>Moveable geological heritage:</b> Fossils.</p>	<p>Well developed raised beaches in both south and north-west Devon provide important information on climate and associated sea-level changes.</p>

	<b>Global geosite framework</b>	<b>Types of site</b>	<b>Comment</b> (see also Section D, 4.1)
7.	<p><b>Early Jurassic marine reptiles and insects (Lyme Regis and Yorkshire)</b></p> <p>(= <i>Lyme Bay Coast (Lyme Regis to Start Point)</i>’, part, of 1998 Key Features)</p>	<p><b>Exposure sites:</b> Coastal and river cliffs, Foreshore exposures.</p> <p><b>Moveable geological heritage:</b> Fossils.</p>	<p>The early Jurassic reptile faunas of the Lyme Regis area, including from both East Devon and West Dorset, are some of the best preserved recorded anywhere and have been famous since the early days of geological science. This area now forms part of the Dorset and East Devon World <a href="#">Jurassic Coast</a> World Heritage Site.</p>
8.	<p><b>Palaeogene paratropical floras (London, Hampshire [and Bovey] basins)</b></p> <p>(= <i>‘Ball clays of Tertiary Age’</i>, part, of 1998 Key features)</p>	<p><b>Exposure sites:</b> Active quarries and pits.</p> <p><b>Moveable geological heritage:</b> Fossils.</p>	<p>The ‘Ball Clays’ of the Eocene to Oligocene Bovey Basin have yielded an important fossil flora, which is quite distinct from those known from sites in the Hampshire Basin.</p>
9.	<p><b>Igneous rocks linked to the northern European Variscan fold-belt</b></p> <p>(= <i>‘Igneous Rocks of South West England’</i>, part, of 1998 Key Features)</p>	<p><b>Exposure sites:</b> Disused quarries, pits and cuttings, Active quarries and pits, Coastal and river cliffs, Foreshore exposures, Inland outcrops and stream sections.</p> <p><b>Integrity sites:</b> Unique mineral, fossil or other geological sites.</p> <p><b>Moveable geological heritage:</b> Minerals.</p>	<p>The Devonian and Carboniferous rocks of Devon were formed during the extension and subsequent closure of the Rheic Ocean. They therefore provide important information on both pre-Orogeny activity and the Orogeny itself, most notable including the intrusion of the Dartmoor granite.</p>
10.	<p><b>Permian-Carboniferous igneous rocks of Britain</b></p> <p>(= <i>‘Igneous Rocks of South West England’</i>, part, of 1998 Key Features)</p>	<p><b>Exposure sites:</b> Disused quarries, pits and cuttings.</p>	<p>In the context of Devon this category is interpreted as representing the unusual post-orogenic volcanism of the Permian Crediton trough.</p>

	Global geosite framework	Types of site	Comment (see also Section D, 4.1)
11.	<b>Minerals and mineral assemblages in igneous intrusions</b>  (= 'Mineralisation', part, of 1998 Key features)	<b>Exposure sites:</b> Disused quarries, pits and cuttings, Inland outcrops and stream sections. <b>Integrity sites:</b> Unique mineral, fossil or other geological sites. <b>Moveable geological heritage:</b> Minerals.	Late stage processes during the crystallisation of the Dartmoor granite produced the unique Meldon Aplite, with its assemblages of rare minerals.
12.	<b>Sn-Cu-AS veins associated with Cornubian batholith</b>  (= 'Mineralisation', part, of 1998 Key features)	<b>Integrity sites:</b> Unique mineral, fossil or other geological sites, Mine dumps. <b>Moveable geological heritage:</b> Minerals.	South West England is nationally and internationally important for the hydrothermal mineralisation associated with the intrusion of the variscan granites. The region contains many mineral type localities and part of the County is now included within the Cornwall and West Devon Mining Landscapes World Heritage site.
13.	<b>Contact metamorphic assemblages</b>  (= 'Mineralisation', part, of 1998 Key features)	<b>Exposure sites:</b> Disused quarries, pits and cuttings, Active quarries and pits, Inland outcrops and stream sections, Mines and tunnels. <b>Integrity sites:</b> Unique mineral, fossil or other geological sites, Mine dumps. <b>Moveable geological heritage:</b> Minerals.	The heat of the Dartmoor granite and the fluids that it released reacted with the rocks into which it was intruded, locally forming rich assemblages of metamorphic minerals.
14.	<b>Supergene mineralisation</b>  (= 'Mineralisation', part, of 1998 Key features)	<b>Integrity sites:</b> Unique mineral, fossil or other geological sites, Mine dumps. <b>Moveable geological heritage:</b> Minerals.	Hydrothermal mineral veins, including those most closely related to the intrusion of the Dartmoor granite, can subsequently react with ground waters to form important suites of secondary metalliferous minerals. Several sites in Devon have yielded such assemblages.

	<b>Global geosite framework</b>	<b>Types of site</b>	<b>Comment</b> (see also Section D, 4.1)
15.	<p><b>Landslides (both relic and active)</b></p> <p>(= '<i>Quaternary Features</i>', part / '<i>Coastal Geomorphology</i>', part / <i>Lyme Bay Coast (Lyme Regis to Start Point)</i>, part, of 1998 Key features)</p>	<p><b>Integrity sites:</b> Static (fossil) geomorphological sites, Active process geomorphological sites.</p>	<p>Devon includes some of the largest coastal landslip systems known within Europe.</p>
16.	<p><b>Atlantic coastal dunes</b></p> <p>(= '<i>Coastal Geomorphology</i>', part, of 1998 Key features)</p>	<p><b>Integrity sites:</b> Active process geomorphological sites.</p>	<p>Braunton Burrows represents one the largest active dune systems in the UK.</p>
17.	<p><b>Erosional structure/lithology-controlled coast (east Devon)</b></p> <p>(= '<i>Coastal Geomorphology</i>', part / (= <i>Lyme Bay Coast (Lyme Regis to Start Point)</i>, part, of 1998 Key features)</p>	<p><b>Integrity sites:</b> Active process geomorphological sites.</p>	<p>The coast of Devon is both nationally and internationally important for its coastal features including cliffs and shore platforms.</p>
18.	<p><b>Rias (west Wales and Devon/Cornwall)</b></p> <p>(= '<i>Coastal Geomorphology</i>', part / (= <i>Lyme Bay Coast (Lyme Regis to Start Point)</i>, part, of 1998 Key features)</p>	<p><b>Integrity sites:</b> Static (fossil) geomorphological sites.</p>	<p>Devon and Cornwall have some of the best developed 'drowned' river valleys or rias in the UK.</p>

	<b>Global geosite framework</b>	<b>Types of site</b>	<b>Comment</b> (see also Section D, 4.1)
19.	<b>Granite tors of Devon/Cornwall</b>  (= ' <i>Quaternary Features</i> ', part of 1998 Key features)	<b>Integrity sites:</b> Static (fossil) geomorphological sites.	Dartmoor represents the largest area of unglaciated upland in the UK and hence contains remarkably well preserved periglacial features including its famous tors.
20.	<b>Early Jurassic (Lias) vertebrate faunas (Lyme Regis and Whitby) (Historical category)</b>  (= ' <i>Lyme Bay Coast (Lyme Regis to Start Point)</i> ', part, of 1998 Key Features)	<b>Exposure sites:</b> Coastal and river cliffs, Foreshore exposures. <b>Moveable geological heritage:</b> Fossils.	The early Jurassic reptile faunas of the Lyme Regis area, including from both East Devon and West Dorset, are some of the best preserved recorded anywhere and have been famous since the early days of geological science. This area now forms part of the Dorset and East Devon World <a href="#">Jurassic Coast</a> World Heritage Site.
[21]*	<b>Variscan structures of Devon and Cornwall</b>  (= ' <i>Variscan Structures</i> ' of 1998 Key Features)	<b>Exposure sites:</b> Disused quarries, pits and cuttings, Active quarries and pits, Coastal and river cliffs, Foreshore exposures, Inland outcrops and stream sections.	Devon and Cornwall are of European importance for their exposures of rocks dramatically folded and faulted during the Variscan Orogeny. In particular, the northern limit of the major nappe dominated terrain of the Orogeny crosses the counties.

\*category to be proposed for Geosites framework. Entries in [square brackets] are additions to currently quoted geographical extent of Geosites framework.