

Section C: Planning for biodiversity and geodiversity conservation in Devon

An introduction to natural diversity conservation

1. A definition

Biodiversity is a modern term used to describe the full variety of living things. It has gained prominence internationally since the United Nations Conference on Environment and Development, known as the Earth Summit, in 1992, which formally defined it as:

“The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems”

Thus, biodiversity equates with what we popularly know as wildlife, but also encompasses the wider canvass which that wildlife inhabits - the woods, meadows, hedges, rivers, rocky coasts and seas. It also describes the variation between individual creatures at the unseen, genetic level, which is the raw material of future evolutionary change. In short, biodiversity is an attempt to represent in a single word the natural world in all its kaleidoscopic richness.

The natural world is about more than just its living, biological component. Bedrock geology sculptured and sometimes blanketed by geomorphological processes literally forms the foundations of this living world. This geology also records the heritage of our planet, including the diversity of ancient life – and the ancestors of the species we value today - the dramatic processes that have destroyed oceans and built continents and the chemical products of this history, naturally occurring minerals, some of which are of great economic value to our society. In an attempt to capture the essence of the tremendous variety of this geological heritage and its related processes, the term **geodiversity** has been used, in an analogous sense to ‘biodiversity’. A generally accepted definition would be:

"The natural range (diversity) of geological (rocks, minerals, fossils), geomorphological (land form, processes) and soil features. It includes their assemblages, relationships, properties, interpretations and systems" [Grey 2004]

The term is often also used to include geological materials in a cultural and economic context, such as building stones, jewellery and ornaments. In the context of the Devon BAP, however, it is the natural context that is emphasised, although links to cultural heritage disciplines such as archaeology are occasionally indicated. This natural foundation is also often referred to as a *Geological Heritage* or an *Earth Heritage*.

2. Why conserve bio- and geodiversity?

To rationalise what for many is a deep-seated sense of something right by defining a set of justifications for biodiversity conservation, risks producing a reductionist answer to this question which misses the point. However, the rational reasons for the conservation of bio- and geodiversity are indeed distinct and solid enough to stand such analysis, and touch every aspect of human life.

Biodiversity is a source of material, social, intellectual and spiritual wealth. Human life is poorer for its loss in every conceivable way. Wild species have been and continue to be the source for all domestic food crops, while truly wild marine populations are the basis of the fishing industry. Insects are the vehicle for pollination upon which crop production depends, while unseen invertebrates in the soil are the basis for the cycle of nutrients which allows that production to be repeated. Natural habitats like forests are the source of raw materials, while rivers, bogs and aquifers hold our water supplies. Natural landscapes like coasts and hills are social assets which give pleasure to millions. The draw which wild places exert on the public provides the asset at the root of the tourist industry in areas like the South West. Natural habitats and landscapes are a living laboratory for the natural sciences of biology, ecology and geology, and a limitless outdoor classroom for the education of the young. Wildlife, whether on the garden bird table, the local nature reserve or the television screen, is a source of interest and enjoyment to many of us, while an indefinable sense of 'Nature' is sustenance to the soul of most.

As the natural foundation for biodiversity, many of the same basic principles used to justify biodiversity conservation can also be applied to geodiversity. The latter does have a distinct facet, however; its historical context which philosophically has much more

in common with aspects of archaeology and the built environment when it comes to justifying its conservation. In order to capture this essence, the 1st International Symposium on the Protection of Geological Heritage, held in Digne-les-Bains, Haut-Provence in 1991 produced the International Declaration of the Rights of the Memory of the Earth, the so-called 'Digne declaration', a few key extracts being:

"The Earth is 4.5 billion years old and the cradle of life, of renewal and of the metamorphosis of life. Its long evolution, its slow rise to maturity, has shaped the environment in which we live."

"Our history and the history of the Earth are closely linked. Its origins are our origins, its history is our history and its future will be our future."

"Just as an old tree keeps all the records of its growth and life, the Earth retains memories of its past... A record inscribed both in its depths and on the surface, in the rocks and in the landscapes, a record which can be read and translated."

"We have always been aware of the need to preserve our memories – i.e. our cultural heritage. Now the time has come to protect our natural heritage, the environment. The past of the Earth is no less important than that of human beings. Now it is time for us to learn to protect, and by doing so, learn about the past of the Earth, to read this book written before our advent: that is our geological heritage."

In recent years, however, this historical aspect has taken on a far greater significance, as rocks and other geological deposits record the Earth's continuously changing climates. Understanding this record can help us understand the challenges facing our society today and help us make appropriate decisions for the future.

1.2.4 With such a list of benefits arising from it, the conservation of natural diversity, including both bio- and geodiversity is plainly essential to society. Beyond those benefits though, the fact that such a richness of life, landscapes and geological features simply exist in their own right, is perhaps reason enough for us to strive to safeguard them for the future.

3. The biodiversity and geodiversity planning process

3.1 The Biodiversity Convention

An important product of the Earth Summit was the Convention on Biological Diversity, signed by 153 countries including the European Community and the UK. Article 6A of the Convention requires each contracting party to:

'develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity'.

Meanwhile, the central message of the Earth Summit was summarised succinctly in Article 4 of the Rio Declaration:

'In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.'

Thus, the Earth Summit established new principles for how we view biodiversity and cater for its conservation: that biodiversity is the key test of sustainability, and development cannot be regarded as sustainable unless biodiversity is conserved; and that to conserve biodiversity, society needs to develop strategic plans which clarify and integrate the needs of biodiversity conservation in the same terms as planning for any other aspect of human activity.

3.2 The UK Biodiversity Action Plan

The UK was one of the first countries to follow up its commitment under the Convention on Biological Diversity, when *Biodiversity: the UK Action Plan* was published in January 1994. The report took stock of Britain's biodiversity and identified ways of improving its protection. In parallel the voluntary conservation sector produced a comprehensive plan - *Biodiversity Challenge* - which outlined action plans for key UK habitats and species.

From these foundations the Government appointed a UK Biodiversity Steering Group, chaired by the then Department of the Environment, which drew its membership from all sectors to advise the Government. The Group had four tasks: to develop a range of costed targets for key species and habitats for the years 2000 and 2010; to improve the accessibility and co-ordination of existing biological datasets; to provide common standards for future

recording and to examine the feasibility of a UK Biota Database; to recommend ways of increasing public awareness and involvement in conserving biodiversity; and to establish a review process for the delivery of commitments in the Plan.

The UK Biodiversity Steering Group published its Report - *Meeting the Rio Challenge* - in December 1995. The Report contained action plans for over 100 endangered species and 14 key habitats, together with a commitment to produce a further 286 species plans and 24 habitat plans over the following three years. The methodology used was endorsed in a Government Response published in May 1996.

In fact, the Steering Group Report has subsequently been joined by an additional six volumes of Tranche 2 Action Plans, published in 1998 and 1999. There are now 45 UK Priority Habitat Action Plans and 382 UK Priority Species Action Plans. In addition, there are 9 Grouped Species Action Plans with common policies, targets and actions for similar species, such as marine turtles.

An index to these Tranche 2 Volumes and the original Steering Group Report was published in 2000. It lists all the UK priority habitats and species and contains a useful glossary of terms.

In 2002, the Department for Environment, Food and Rural Affairs (Defra) published *Working with the grain of nature: A biodiversity strategy for England*. The document aims to help start a fundamental shift in public policy and the behaviour of the population at large which will contribute to achieving a truly sustainable future. It seeks to embed biodiversity considerations in all the main sectors of economic activity. The strategy sets out a vision; an assessment of the issues, and a programme of action for the following broad sectors: agriculture; water; woodland; marine and coastal management, and urban areas.

3.3 National biodiversity targets through Local Action Plans

Up to this point the Biodiversity Planning process might be seen as just another national strategic exercise, which has little tangible effect on the ground. However, the process took an innovative next step, by recognising that national targets needed to be translated into local action through the medium of local biodiversity action plans. The UK Biodiversity Steering Group proposed the use of a standard methodology for the production of local biodiversity action plans, which should be based upon the priorities of the UK Plan supplemented as appropriate by local priorities. The UK Biodiversity

Secretariat published a series of *Guidance Notes* to aid this process. Most parts of the UK now have a local biodiversity action plan, often conforming to county boundaries.

3.4 The South West Regional Guidance for Biodiversity

The UK biodiversity planning process envisages a series of local biodiversity action plans eventually being developed such that the summation of their targets equals those of the UK Plan. It then proposes a reporting structure to allow progress at the local level to be communicated upwards to enable national targets to be monitored. While this is a desirable objective (and considerable progress has now been made), it was clear at an early stage to those working in the South West that this local-to-national linkage would be hard to establish without an intermediate 'translation' at the regional level.

Thus conservation bodies and the SW Regional Planning Conference came together to develop first an 'audit' of the key features of the region's biodiversity, published in February 1996 as *The Biodiversity of the South West*, followed by a set of action plans in *Action for Biodiversity in the South West*, published in June 1997 and designed to provide a link between UK priorities and the development of local biodiversity action plans. Many of the habitat and species action plans in the South West Plan have formed the basis for Devon action plans in this document.

Action for Biodiversity in the South West included a number of regional habitat and species targets. The habitat targets were revised and included within the Regional Planning Guidance (RPG 10) document in 2001 and within the South West chapter of the England Rural Development Plan (ERDP).

In 2004, *the South West Regional Biodiversity Implementation Plan* (SWBIP) was published by the South West Regional Biodiversity Partnership (now known as Biodiversity South West). It sets out a framework of policy, priorities and actions to assist in a more coordinated approach to delivering biodiversity. It has a series of regional objectives and actions centred on the same 5 broad sector areas as the England Biodiversity Strategy *Working with the grain of nature* (e.g. water and wetlands; farming and food).

The SWBIP also establishes a Regional Nature Map. Whilst acknowledging that that most areas of the South West are rich in wildlife and the opportunities to enhance this, it seeks to identify the larger areas within the Region that have a high value for

biodiversity and, crucially, potential for habitat restoration. It presents a strategic picture; a framework within which to facilitate action in and around priority areas. Further details on the Regional Nature Map can be found on the web site of the [South West Observatory](#).

3.5 Geodiversity Action Planning [including Local Geodiversity Action Plans (LGAPs) and Geodiversity Audits]

In the absence of an integrated approach to natural heritage conservation in most Local Authority areas, geological conservation aspirations have been developed within a parallel programme of *Local Geodiversity Action Plans*. Although the approach adopted is more distinctively geological, the general purpose of such plans is to promote improved site management, including responsible use, and develop educational and interpretative potential. As such there is little fundamental difference from the ecological BAP process, as implemented at Local Authority level.

The LGAP process has been promoted in recent years in England by UKRIGS – the national body for local Regional Important Geological Sites (or RIGS) groups – and Natural England (i.e. that part of it formerly known as English Nature), England’s central government advisor on nature conservation (see Appendix IX for sources). Its origins, however, go back much further and earlier strategies for geological conservation include that produced by Durham County Council in the mid 1990s.

As the process lies outside of the conventional BAP system in most areas, it is typically driven and maintained by independent organisations such as RIGS Groups and Geology Trusts. Only occasionally has a Local Authority lead. Funding to establish an LGAP can come from various sources but is generally in the form of grant aid to compile the initial document. In England, the Aggregates Levy Sustainability Fund (ALSF) administered by Defra has been a major source. Sustaining such initiatives beyond set-up, however, requires further financing and this consideration has the potential to be major factor in the long-term future of an independent LGAP process.

Exceptions to such a scenario, however, may be where the LGAP has been developed to meet the specific needs of a designated area, such as a ‘European Geopark’ or National Park where a Local Authority lead is fundamental. A key example in Devon is the proposed [‘European Geopark’ for Torbay](#) [now listed as the English Riviera Geopark], where a detailed management plan was produced

to satisfy the requirements of the wider European Network as underpinned by principles originally established by UNESCO.

Beyond the LGAP process are Geodiversity Audits, although the two distinct processes are often combined (and commonly confused). The latter are not primarily intended as strategy documents to establish general principles, but as an assessment of the available resource. They range from scientific surveys such as those carried out by the *British Geological Survey* (BGS) or through scientific research projects, to site assessments for potential designation (such as RIGS), through to more commercial or policy reviews of mineral resources (including *Minerals Local Plans*) or even a surveys of indigenous building stones.

Key examples of geodiversity audits in Devon include:

- [*Geodiversity Audit of Active Aggregate Quarries in Devon*](#) (2003) which produced detailed surveys and reports for 16 active aggregate quarry sites throughout the County, highlighting key features of scientific and geotechnical interest
- [*Educational Register of Geological Sites in Devon*](#) (2001) which provides a review of around 80 sites in the County with educational potential
- *Geodiversity Audit and interpretative review of the mining districts of the Tamar and Tavy rivers in West Devon* (2004), produced to select new RIGS sites within an area included within an application to UNESCO for World Heritage status;
- *Devon Aggregates and Biodiversity Project*, a partnership between Aggregates Industries UK and Devon County Council and funded by the Aggregates Levy Sustainability Fund (ALSF) which produced 10 Parish Geodiversity Audits in the County for areas surrounding working quarry sites (2005-2006).

Unlike LGAPS, Geodiversity Audits are statements of resources at a particular point in time and therefore do not necessarily require updating or review to retain their relevance.

3.6 Natural diversity Action Plan methodology

All scales of bio- and geodiversity action planning, from the UK Plan through the regional link to local plans, adhere to a common methodology and format. This methodology seeks to place nature conservation in a new business planning context in order to

promote greater clarity and better co-ordination of resources. The first key feature of this common methodology is the structure of Action Plans themselves. In common with the UK and regional approach, the Devon process contains the following steps:

- An *Audit* of the current extent, distribution and status of the habitat, species, or geological / geomorphological feature. This will generally draw together existing available information, identifying gaps in knowledge. The Audit must identify *Priorities* for action, by making sometimes difficult decisions about where resources for conservation should be targeted.
- An assessment of the *Factors* currently affecting the conservation of the habitat, species or geological / geomorphological feature. This will include identification of problems which may be causing loss or decline in the habitat, species or feature, as well as recognition of current conservation initiatives which are already known to be having a positive effect.
- A clear set of *Objectives* clarifying the direction and purpose of actions for the habitat, species or geological feature.
- A set of *Targets* for the habitat, species or geological feature, quantifying the objectives and providing a yardstick against which progress can be measured. Targets should be ambitious but realistic, providing a focus to encourage progress.
- A set of proposed *Actions* which indicate what needs to be done to achieve the targets for the habitat, species or geological feature. These include existing and new activities. The 2004 revised version of the Devon BAP includes fewer actions, and these are of a priority or indicative nature.
- A methodology for *Monitoring* the action plan by assessing the achievement of actions and progress towards targets, and enabling review and amendment as appropriate.

The second key feature of the bio- and geodiversity planning process is its open-ended timescale. A natural diversity action plan is and should be a *live* document, guiding current action while evolving in the light of progress and changing circumstances. It needs to be flexible and the 'BAP' itself should be seen as subordinate to the *process* which produces it.

This is reflected by the 2004 revision of the Devon BAP and its 2007 geological update; in particular, the act of replacing the previous long lists of very specific and prescriptive actions with shorter lists

of priority actions. This will help the BAP to be (and stay) a more flexible and contemporary document. The priority actions set the framework for what needs to be done. It will be up to the Partnership, with guidance from the BAP, the BAP coordinator, the Champions and especially each other, to establish more detailed short to medium programmes of work. These programmes can then be developed according to current opportunities, priorities and funding.

4. The objectives of the Devon Biodiversity and Geodiversity Action Plan

The Devon BAP sets out Devon's part in the UK biodiversity planning process, by seeking to define what needs to be done for Devon to make its full contribution to the achievement of UK biodiversity targets. Crucially, it also fulfils the role of a Local Geodiversity Action Plan, by seamlessly integrating geological and geomorphological objectives with those of ecological conservation. In doing so it works to the following objectives:

- To provide a vision for the future of Devon's biodiversity and geodiversity that inspires collective action.
- To establish priorities for biodiversity and geodiversity conservation in Devon, in the context of UK biodiversity priorities and national and international geodiversity conservation priorities, as informed by local needs.
- To develop an initial set of Action Plans for a selection of the highest priority habitats, species and geological features in Devon.
- To develop strong partnerships between those with a part to play in biodiversity and geodiversity conservation, and to use these partnerships to seek consensus on objectives and targets for habitat, species and geological conservation.
- To define objectives and targets for priority habitats, species and geological features, arrived at through discussion and consensus, and to set out actions needed to achieve these targets.
- To provide a basis for monitoring future progress in biodiversity and geodiversity conservation in Devon, in order both to inform

partners and allow refinement of objectives and targets, and to feed into monitoring procedures at the UK and international level.

5. Links between the Devon Biodiversity and Geodiversity Action Plan and other County bio- and geodiversity initiatives

5.1 Co-ordinating and informing existing strategic initiatives

The Devon Biodiversity & Geodiversity Action Plan is intended to build upon and inform existing strategic initiatives in Devon, not to replace or duplicate them. A BAP is a co-ordinating document, which recognises existing action, identifies gaps, and seeks to focus all parties on common aims. The production of this Plan both informs, and is informed by, a number of extant or evolving documents in Devon, as listed below.

5.2 Foundation biodiversity documents for the Devon BAP

Nature's Place: A Nature Conservation Strategy for Devon (Draft 1994) - The key background document to the Devon BAP, prepared in draft by Devon County Council with input from English Nature, Devon Wildlife Trust, the RSPB and the Earth Resources Centre at the University of Exeter. The 'Review' and 'Priorities' Sections (D and E) and several of the appendices which follow in this current document are based upon the work carried out in *Nature's Place*. This draft document is now superseded by the Devon BAP.

A Biodiversity Action Plan for Devon's Rivers and Wetlands (Consultation Draft 1996) - Co-ordinated by the Devon Wildlife Trust through a working partnership with the Environment Agency, English Nature, the Tarka Project and the Royal Holloway Institute for Environmental Research, this initiative represented the first attempt to produce a County-based biodiversity action plan and was focused specifically on the variety of habitats and wildlife species associated with freshwater rivers and wetlands in Devon. A Consultation Document containing a series of feature, habitat and species based action plans was published in draft in June 1996. To provide a single, County-wide focus for biodiversity planning, many of these draft plans have since been adapted and incorporated into the Devon BAP.

Natural Area Profiles - English Nature's Natural Areas initiative provided a framework for strategic biodiversity planning by dividing the Devon landscape and marine environment into discrete units with distinct physical and biological characteristics. There are nine Natural Areas which fall wholly or partly within Devon. Profile documents for these Natural Areas have been published by English Nature (now part of Natural England), and are summarised in Section D of this document.

5.3 Other Local Biodiversity Action Plans in Devon

The biodiversity planning process is relevant to planning for nature conservation at the sub-County level. Whether a local biodiversity action plan will be appropriate to a local district, unitary authority or other area (including work area – some businesses have their own BAPs) will depend on local circumstances. In some areas such a local plan will be seen to serve a useful purpose, translating targets in the Devon BAP into more local terms, and connecting with community-level initiatives.

Such is the case currently for the two National Parks in Devon, with both Dartmoor and Exmoor having their own biodiversity action plans. Whilst both of these plans have actions for features which are covered at a county level in the Devon BAP, they also have distinct plans for habitats and species which are of special note in their areas. For example, the Devon BAP does not contain any biodiversity targets for upland moorland, despite its obvious importance. This habitat is largely restricted to the National Parks in Devon, and both the Dartmoor and Exmoor BAPs contain objectives and actions aimed at its conservation.

There are also local Biodiversity Action Plans for North Devon; Teignbridge; Torbay and East Devon. Again, these plans contain actions for features which are both shared with the Devon BAP and specific to their own local areas.

In other areas existing strategic initiatives may fulfil this purpose without the need for an additional biodiversity plan. The Devon biodiversity planning process thus does not rely upon local plans being produced at the district level - the decision to do so should be made, appropriately, at the local level.

A variety of other strategic initiatives may be informed by the products of the Devon BAP. Application through these channels is assessed in Section F.

The relationship between BAPs in Devon is not strictly hierarchical. Often, local BAPs will contribute to County targets, and County to regional and regional to national. For example, the marsh fritillary butterfly has action plans in local, county, regional and UK BAPs. However, many BAPs will contain action plans for habitats and species that are important locally but do not have action plans at the national or regional level. For example, flax-leaved St. John's-wort has an Action Plan in the Dartmoor BAP and the small blue butterfly in the Torbay BAP but neither is included at this level in the Devon BAP. Similarly, primrose, whilst not listed in the UK or regional BAPs, is a priority species in the Devon BAP.

The various BAPs operating in the County compliment inform and support each other. Local targets and actions will help to contribute to the setting (as well as to the achievement) of national targets. It is not a one way process.

It should also be remembered that even in the absence of a local BAP there is often still a great deal of local biodiversity action.

Local BAPs in Devon:

Dartmoor: www.dartmoor-npa.gov.uk/au-baptoc

East Devon

Exmoor: www.exmoor-nationalpark.gov.uk/index/learning_about/wildlife/about_biodiversity.htm

North Devon: www.northdevon.gov.uk/nonlqcl_natures_space_biodiversity_action_plans.html

Teignbridge: www.teignbridge.gov.uk/index.aspx?articleid=2646&CFID=105062&CFTOKEN=74339666

Torbay: www.countryside-trust.org.uk/lbap.htm