

Biodiversity

FORCES FOR CHANGE

Reversing the decline of habitats and species

Characteristic habitats and species are in decline or have been lost due to a range of factors. Changes in farming have been the principal cause. Large areas of semi-natural habitat have been lost to improvement and ploughing for arable crops. Global market and notably climate change influences are affecting crop choice and reducing local distinctiveness in varieties, with adverse effects on associated biodiversity. Development pressures can also lead to loss of habitats. Areas of habitat do survive but are fragmented. This reduces the viability of species and hence their ability to survive and also prevents re-colonisation. Nationally, whilst overall populations of farmland birds may have stabilised, numbers of 'specialist' farmland birds, such as skylarks and grey partridges, have declined steeply. The skylark is a key species in the Cotswolds.

Improving habitat management

The condition and ultimately the survival of wildlife habitats can also be threatened by inappropriate management, such as overgrazing, lack of grazing and scrub invasion, replanting with conifers, and poor management of ancient trees'. The outcome of the review of agri-environment programmes may provide an opportunity to provide better targeted support. The 'Caring for the Cotswolds' grasslands project, using Heritage Lottery Funds, has illustrated the potential success of this approach.

Irregular flows in rivers and streams

Groundwater fed rivers are susceptible to low flows as groundwater levels drop following a period of low rainfall. This can be exacerbated by abstraction of water for public supply, agriculture etc. Reduced flows concentrate river based pollutants. Heavy rainfall in areas of the catchment with steep gradients can cause rapid run off from agricultural land and urban areas leading to excessive sediment entering the watercourses smothering important river habitat. Good agricultural practice and sustainable drainage systems can help reduce these problems. Climate change may well increase the low flow problems in the future with a trend for hotter, drier summers evident. Similarly heavy localised storm events may well become more common.

Presence of problem species

Introduced/non-native species, such as signal crayfish and mink, and sometimes native species can cause problems. Deer and grey squirrel can cause severe damage to woodland. Deer are a problem across significant parts of the AONB. Introduced water plants can choke rivers and streams while mink are a major contributor to the decline in water voles.

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Managing visitor pressure

Access to areas that are rich in biodiversity adds to the quality of experience for visitors to the countryside. Visitor pressure at some locations that are important for recreation, such as commons, can lead to localised pressure at some sites, with physical changes in habitat due to wear and tear and disturbance to sensitive species such as the dormouse. Visitor use can also lead to destructive events such as fires. Visitor pressures need to be carefully managed through a more integrated approach to improve visitor appreciation and enjoyment while managing the impacts.

Disjointed information

There is limited knowledge about the overall biodiversity resource of the AONB. This is partly because of gaps in survey and analysis and also because information gathered is usually collated on a county basis, making it very difficult to extract information on the AONB. The need to charge for extraction and collation of data which is not always computerised creates restrictive costs for certain data sets. Development of local record centres and better coordination between them is required. Biodiversity Action Plans also need to be coordinated better. The key data sets that are critical to AONB management need to be clearly identified.

Raising awareness

Increased membership and interest in organisations that support wildlife conservation is occurring. However, there remains limited understanding of how land use management and development policies affect wildlife. Better access to records and their interpretation is needed to support improved awareness and appreciation of the importance of biodiversity, in terms of ecology, geology and geomorphology, economy, heritage and sense of place, as a positive contribution to quality of life and sustainability.

Climate Change¹

Climate change will exacerbate the problems faced by isolated populations and fragmented habitats. Species at the southern edge of their range would be most at risk of loss and those suited to harsher winters will be adversely affected. Those species vulnerable to drought (most importantly beech) or which require a sub-zero period to break seed dormancy would also be at risk. Conversely, flora and fauna with more southerly distributions and naturalised alien species could expand within the Cotswolds. There is some evidence nationally of increases in some bird populations which may be benefiting from climate change. As yet the effects of climate change within the AONB are not clear. Careful monitoring is required to establish changes in habitats and species over time. Action will need to be taken at a landscape

¹ See Climate Change section for more detail and response.

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scale if successful adaptation to and mitigation of the effects of climate change is to be achieved.

Landscape scale approach to management.

While the protection and management of important sites and species is an essential task, it is also important to improve the quality of habitats in the wider landscape. This needs to involve both enlarging and linking important habitats that are fragmented or isolated, restoring those which are damaged or degraded, and improving the quality of the surrounding environment to sustain the wildlife outside of them and to allow natural movement across the landscape in response to forces like climate change and human pressures.