



Shropshire Hills AONB Nature Recovery Plan

Draft at 22nd March 2021

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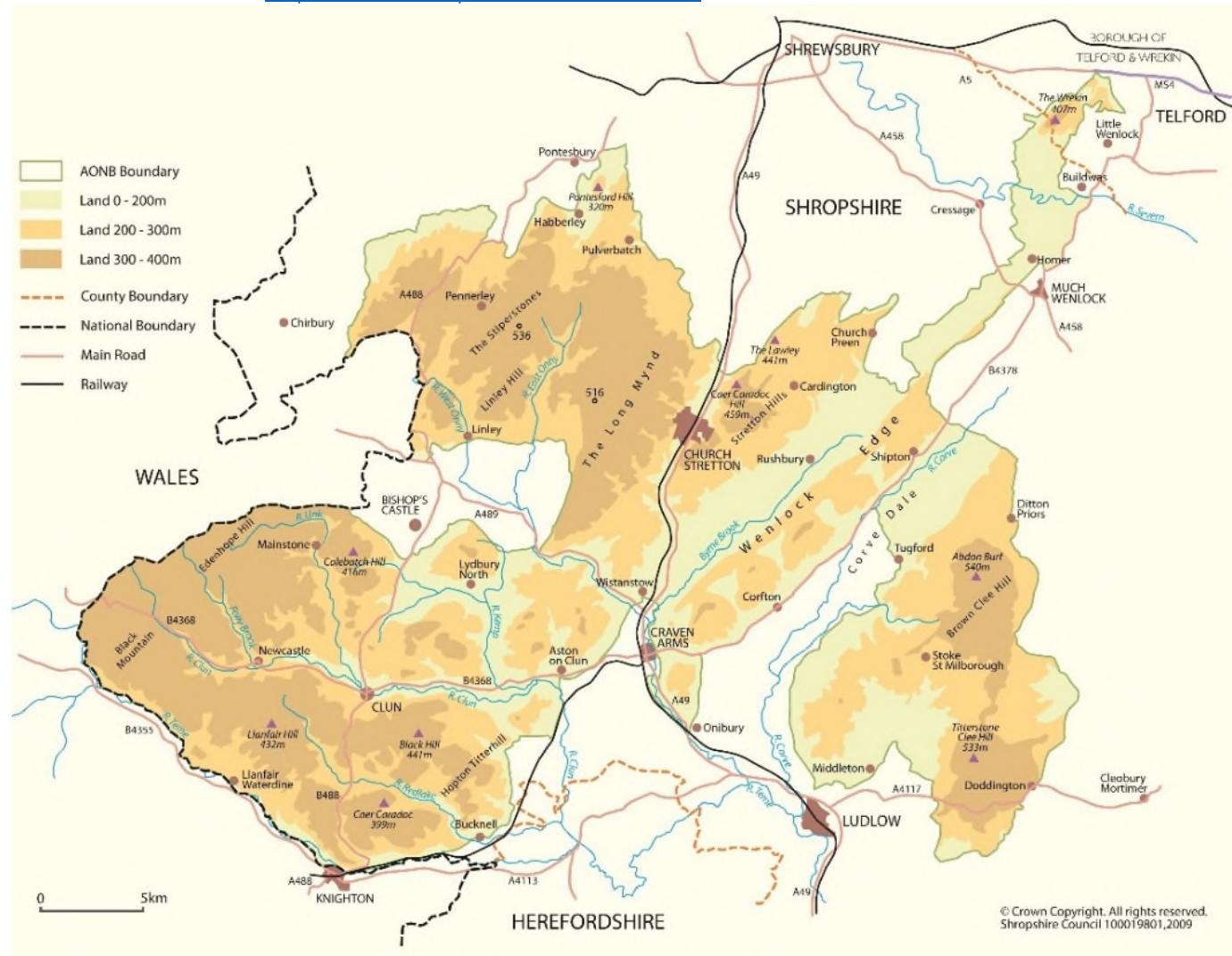
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The Shropshire Hills Area of Outstanding Natural Beauty is a designated national landscape covering 23% of Shropshire.

This Plan links to the statutory AONB Management Plan 2019-24 [1], drawing on material from it, but adding further detail on this topic. The high level findings and actions from this Plan will be built into the next AONB Management Plan for 2024-2029.

For further background information see
<https://www.shropshirehillsaonb.co.uk/>



Summary

To help nature recover, we need:

- **To prevent further harm** – positive action can be undermined by damage to habitats and ecosystems through other impacts
- **The best current habitat areas in optimum condition** and where possible expanded and with good habitat transitions at their margins
- **More natural river channels and corridors**, with more tree and shrub cover and wider margins separating rivers from farmland
- **More complex, varied and taller vegetation on hills**, including more and better heathland (with appropriate grazing), wooded gullies, headwater springs and flushes allowed to take natural form
- **Naturally wet areas allowed to develop** as wetland habitats by rewetting or reducing drainage, and minimising eutrophication
- **Species-rich grasslands and hay meadows expanded** and managed carefully by cutting and/or grazing
- **Expanded woodland cover** (e.g. doubling) in ways which reflect pattern of natural woodland, and more trees integrated in farmland (hedges and field boundaries, agro-forestry etc)
- **High Nature Value farmland with variety of habitat** (including productive pasture and arable land), good hedgerows, regenerative practices to improve soil health, and protecting features of interest and expanding habitat networks
- **People more connected to nature** so that they care about it and see the benefits to their wellbeing, quality of life and prosperity.

There is a need to be more ambitious, but nature recovery will also need to fit with farming and other land uses, and we welcome a dialogue on this.



The Shropshire Hills AONB contains a high concentration of the county's priority habitats, and these are connected in stronger networks than compared to some areas, though much reduced and fragmented. The hills have heathlands and grasslands which are our largest areas of good habitat and along with the rivers define our landscape. Small meadows, species-rich grasslands and wetlands are often without protection and especially vulnerable. Woodland, trees and hedges are vital elements in the landscape we need to protect and manage carefully what we have while expanding tree cover further.

A whole range of mechanisms are needed for nature recovery, including:

- Agriculture and land use policy supporting sustainable activity, and support for transitions recognising the social and cultural context
- Government schemes for farm conservation with good incentives and minimal barriers, and good advice for landowners and farmers
- Ownership of key sites by conservation bodies and trusts and linking them with the wider landscape
- Planning decisions and enforcement action by various regulators to prevent direct harm
- Ambitious projects to recreate and restore habitats, needing public, private and third sector finance and partnership working
- Grassroots action by communities and individuals.

Introduction

Nature is in trouble and we need to help. This is true within the AONB as well as in the UK and the world more generally. We have lost some species to the area, and also lost abundance of once common species. The declines in biodiversity and ecological health of our land and water are reaching critical levels which threaten humans' survival as well as quality of life. Alongside and integrated with our urgent action to tackle climate change, we need to take more action to allow nature and natural processes to recover. The severity of climate change has reached the mainstream of public awareness, but the urgency of nature recovery is not so widely acknowledged. There are even risks of harm to nature from well intentioned action on climate, so the two must be seen as inter-connected and dealt with together. Nature recovery is also a vital part of climate change adaptation [2].

The Government's [Dasgupta review on the Economics of Biodiversity](#) [3] has these summary messages:

- Our economies, livelihoods and well-being all depend on our most precious asset: Nature
- We have collectively failed to engage with Nature sustainably, to the extent that our demands far exceed its capacity to supply us with the goods and services we all rely on.
- Our unsustainable engagement with Nature is endangering the prosperity of current and future generations.

The [Defra 25 Year Environment Plan](#) [4] sets out a vision for a national [Nature Recovery Network](#).

"The concept for the Nature Recovery Network is simple. Our existing protected sites constitute our best areas for wildlife and provide many other economic and social benefits. They should form the core of any future network. However, for nature to recover we have to also look beyond protected sites and take action to extend and link our existing sites, both to support wildlife and to recover the range of economic and social benefits that nature provides."

Defra scoping paper, April 2019

The [Colchester Declaration](#) [5] of July 2019 is a bold statement by the National Association for AONBs (NAAONB) on nature recovery, and one of its commitments is for each AONB to prepare a Nature Recovery Plan.

The 2020 [Environment Bill](#) [6] (not yet passed into law) introduces a legal requirement for local authorities to produce [Local Nature Recovery Strategies](#) generally for a county scale.

Many organisations are working towards similar goals. Nature has been brought to the brink by a myriad of harmful actions, not all deliberate or dramatic. Enabling nature to recover will similarly require actions large and small everywhere. [7]

This Plan is aimed at anyone with an interest in nature and land in the Shropshire Hills. It is part of an ongoing dialogue about how we restore biodiversity and ecological functions to long term health, alongside addressing the challenges of climate change. Other organisations are also working on this in Shropshire, and we will continue to work with them on developing and refining the approach. We also especially welcome discussion with those who manage land –

farmers,
foresters and
others. To
achieve nature
recovery, it will
need to fit with
viable
businesses and
rural economies
and we need to
work out
together how
to achieve that.



Vision

Nature is recovering in the Shropshire Hills.

Our landscape has a more resilient nature network of habitats – the best sites are in as good condition as they can be, and creation and restoration of habitats is linking up them better.

Our rivers are clean and have more natural channels and corridors.

More trees and more diversity of vegetation and healthier soils are supporting more biodiversity, storing more carbon and regulating peak flows of water.

Individual species may be changing their distribution, and not everything may be increasing, but a healthier habitat network allows them to adapt, especially as the climate changes. Species which are indicators of healthy ecosystems are thriving.

Nature is regarded as an asset for land management and the economy, and so there is a will to look after it. Healthier nature and ecosystems are also helping farming and ensuring we can still feed people indefinitely.

People are more connected to nature, and their health and wellbeing is improved by this.



State of nature in the AONB

The Shropshire Hills AONB is important for nature and is faring better than some parts of the country. But the landscape is under increasing pressure and declines in some wildlife and natural systems are evident.

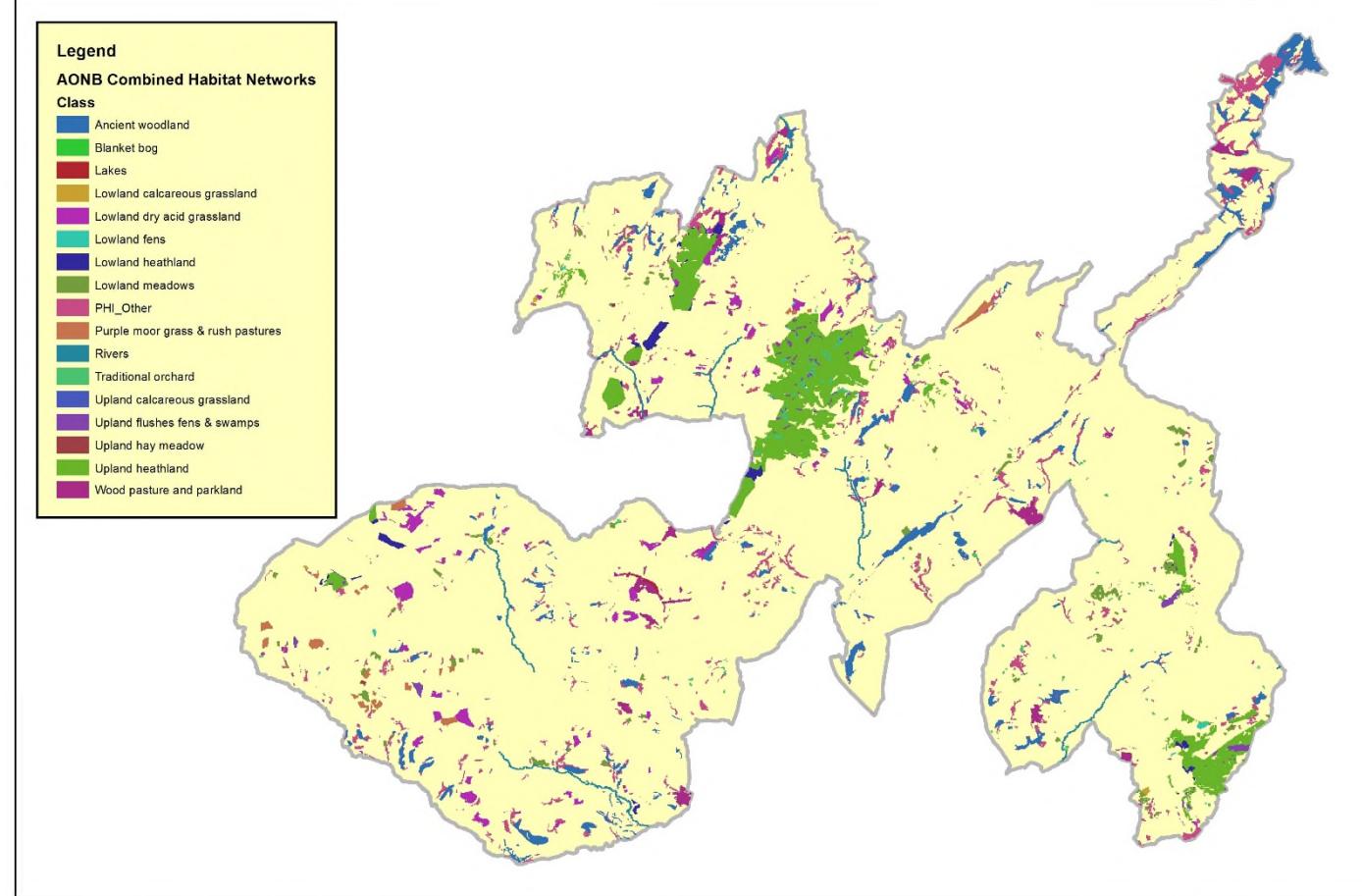
The habitats and species found in the AONB reflects its varied geology, the mix of upland and lowland, and its location spanning the range both of some northern and southern species and communities within the UK.

Natural England's Inventory of Priority Habitat [8] is a good starting point to understand the nature resource.

Priority Habitats found in the Shropshire Hills AONB

Upland heathland	3,537.8	ha
Priority Habitat Inventory Other *	2,380.9	ha
Ancient woodland	1,853.0	ha
Lowland dry acid grassland	719.8	ha
Rivers	596.9	ha
Wood pasture and parkland	583.6	ha
Lowland meadows	420.3	ha
Purple moor grass & rush pastures	246.1	ha
Lowland heathland	231.2	ha
Upland flushes fens & swamps	173.1	ha
Traditional orchard	110.7	ha
Lowland fens	105.2	ha
Lowland calcareous grassland	33.3	ha
Lakes	18.3	ha
Upland hay meadow	7.2	ha
Upland calcareous grassland	0.7	ha
Blanket bog	0.1	ha
TOTAL	11,018.2	ha

* The 'Other' category is mainly good quality semi-improved grassland



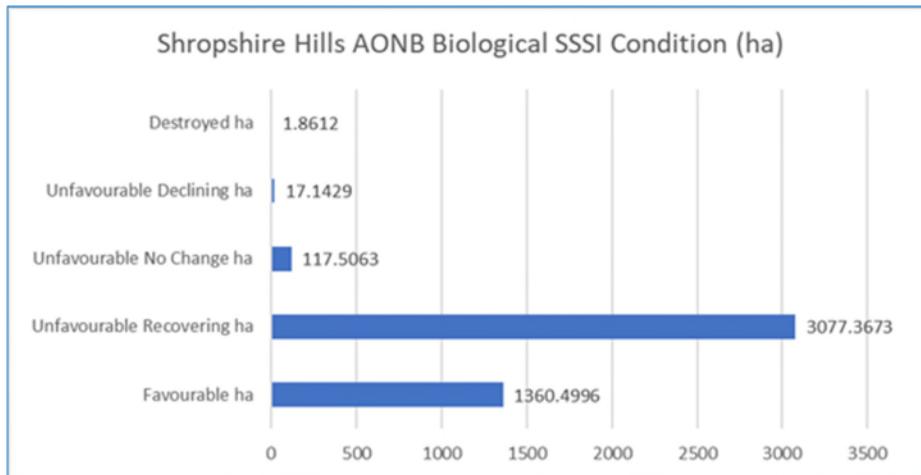
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These priority habitats were those that were identified as being the most threatened and requiring conservation action under the UK Biodiversity Action Plan, and make up 13.7% of the AONB or 110km².

The most widespread habitats are heathland, grassland and woodland, followed by various kinds of wetland. Apart from some large blocks of heathland (bright green), the map shows clearly how fragmented good quality habitats now are, and this is a big factor driving the Plan.

Nationally important sites are protected as Sites of Special Scientific Interest, and there is an additional tier of local Wildlife Sites. Condition of key conservation sites including biological SSSIs has improved, due to targeted work by Natural England and others. Around two thirds of our SSSI area is recovering but still in unfavourable condition.



Local Wildlife Sites have minimal protection and are not regularly monitored. While many are valued and well managed by those who own them, a number are known to be declining in condition. Since the system was introduced, 122 AONB local Wildlife Sites have been lost in the AONB through habitat modification, equivalent to 648ha.

A number of indicators from the AONB Management Plan (opposite) help to illustrate aspects of the current state of nature in the AONB.

The rest of this section considers some of the main habitats, species and natural assets in the AONB. Some are approached from useful different angles to the priority habitats classification. Most of our habitats are integral or closely linked with farmland. Many habitats rely on active farming practices to maintain them, and the interactions between action for nature recovery and farming are a thread throughout this plan, as well as being considered in more detail in the Strategy and delivery sections.

Relevant AONB Management Plan indicators and current level and trends

Special qualities of the AONB	Headline Indicator and status at 2009	Trend at 2009	Trend at 2013	Trend at 2018	Trend at 2021	Current status (at 2021, or most recent data available)
Hills	70.5% of farmed land (46,625ha) is managed under an agri-environment scheme ^a	↗	↘	↗	↘	57.1% (2021) Decrease at 2020 due to ending of many ELS agreements
Farmed landscape						
Woodlands	50% of overall woodland (6,800ha) is managed under a woodland scheme agreement ^b	➔	↘	↗	➔?	38.5% in Jan 2018 ^b 31.8% in 2013 ^b NB does not include FC holdings
Rivers and river valleys	0% of river SSSIs are in favourable or recovering condition ^a (one site – River Teme including River Clun SAC)	➔	➔	↘	↘	Unit 6 (River Clun) Declining in 2014 - Considerable activity but no sections are yet in recovering condition ^a
Wildlife	58.2% of biological SSSIs (by land area) are in favourable or recovering condition ^a Key farmland and upland bird species are declining ^{c, d}	↗	↗	↗	↗	97.0% (2020) ^a A large proportion of this is 'unfavourable recovering' Some species stabilising slightly at low levels ^c
Environmental and scenic quality	32% of river length is 'good' water quality ^f	↗	↗?	↘	↘	6.1% (2019) No AONB waterbodies achieving "Overall Good Status", For Ecological Status* two waterbodies achieve "Good", 25 are Moderate and 3 are Poor. All 30 waterbodies fail on Chemical Status.

* Downward arrow indicates a negative trend for condition of the AONB

a Data supplied by Natural England

b Data supplied by Forestry Commission

c Based on data from Shropshire Ornithological Society, Upper Onny Wildlife Group, Upper Clun Community Wildlife Group and Kemp Valley Community Wildlife Group

d http://www.rspb.org.uk/Images/SUKB_2012_tcm9-328339.pdf

f Data supplied by Environment Agency

Heathland and rough grassland

Heath and moorland habitats are found in large blocks on the Long Mynd, Stiperstones and Clee Hills, most of which is common land and maintained through grazing by commoners. In the Clun uplands heathland has become fragmented through agricultural improvement and now only survives as vestiges. The condition of heathlands has generally improved over the last twenty years, due especially to agri-environment agreements.



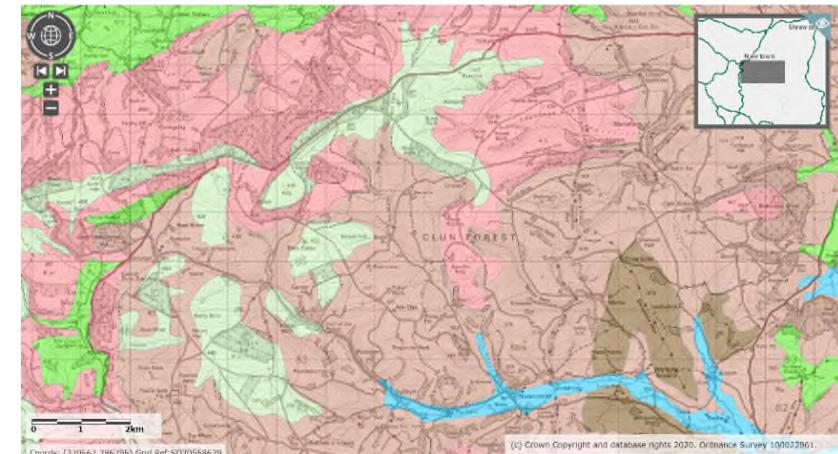
The most extensive grasslands within the AONB are improved and semi-improved grasslands managed principally for farming. These generally have much lower biodiversity value, especially for plants, but are still important for certain birds, especially curlew. The nature of the grazing regime is significant to the condition of heath and upland grasslands, and the timing of grazing and type of stock are as relevant to conservation interest as overall stock numbers.



Small areas of unimproved low-sward acid grassland, valued for invertebrates as well as scarce plants, lichens and bryophytes, are scattered around higher ground in the AONB, especially on south facing slopes of steep valleys.

Peatlands

Peatlands in the Shropshire Hills have perhaps been overlooked in the past, since they are mainly highly modified (as pasture or forestry) or otherwise small areas of 'pockety' peat. With greater emphasis now on land management for carbon storage, more attention is being paid to our peatlands. Mapping and data is not really adequate, but peatlands are being found to be more extensive than formerly understood. Drainage is the main way in which they are reduced in their value.



Shallow fairly extensive peatlands are found in the high plateau areas of the Clun Forest and valley, the Clee Hills and Stiperstones (pale green areas on Soilscapes map. Magic.gov.uk).



Shallow peatland in the Clun Forest – Rhos Fiddle nature reserve in the foreground, modified peatland as pasture and forestry in the background

Species rich meadows and grassland

Species-rich grasslands have become much reduced in the AONB in the second half of the 20th Century and generally only remain in situations where farming is not fully commercial. Many of these sites are recognised as Local Wildlife Sites.

Traditionally managed hay meadows are particularly valuable for the plant and invertebrate communities they support, and most of the few remaining small meadows are found in the Clee Hills and Stiperstones areas.



Woodland

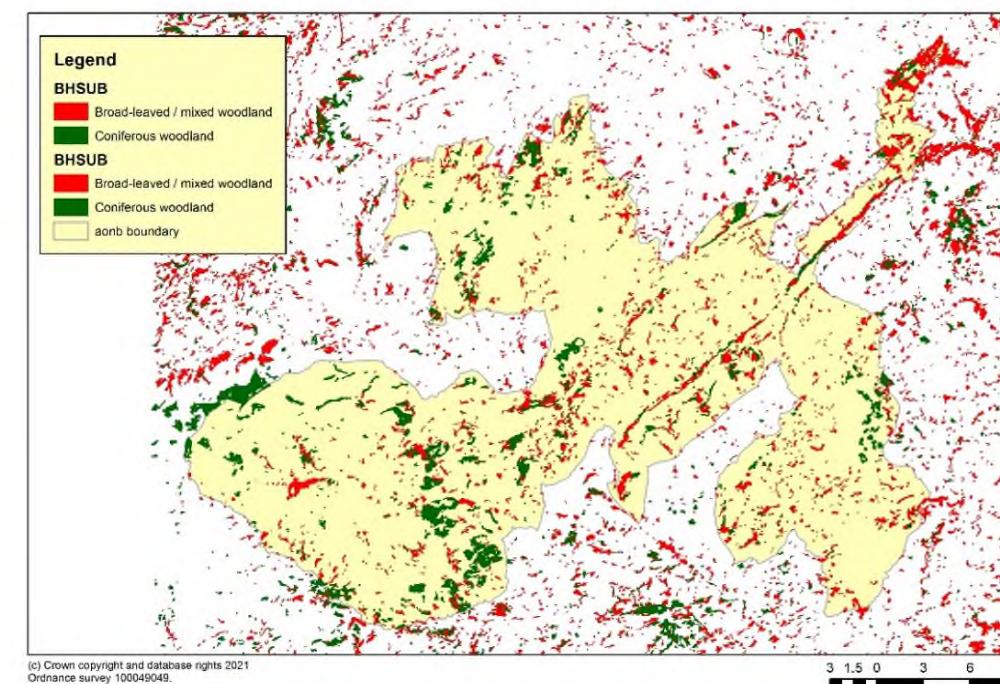
Woodland currently covers 14% of the area of the AONB with a total area of 11,291 ha. 5% of this is classified as ancient woodland, with ancient and semi natural woodland having a total area of 1,478ha and PAWS sites (Plantation on Ancient Woodland Sites) accounting for 2,689ha. Broadleaved woodland (46%) is found mostly on steeper ground, often fragmented and in small blocks, though the woodland on Wenlock Edge is continuous over a distance of 20 miles. Mixed and coniferous woodlands (39%) are more extensive and in larger blocks than semi-natural woodland, and are an important biodiversity resource.



The proportion of woodland in the AONB under the government grant schemes has declined. Restoration of plantations on ancient woodland sites (PAWS) is a high priority and more PAWS sites remain in need of restoration, though the incentive for the landowner needs to be present. Some upland woods suffer from uncontrolled grazing, which prevents regeneration and inhibits ground flora.



While the best woods are generally in good condition, many smaller woodlands are neglected, and their condition is slowly declining. Limiting factors include difficult access, and lack of tradition of active woodland management. Non-intervention may be appropriate in some cases, but many woods in fact benefit from some felling and restocking to maintain habitat diversity and ground flora.

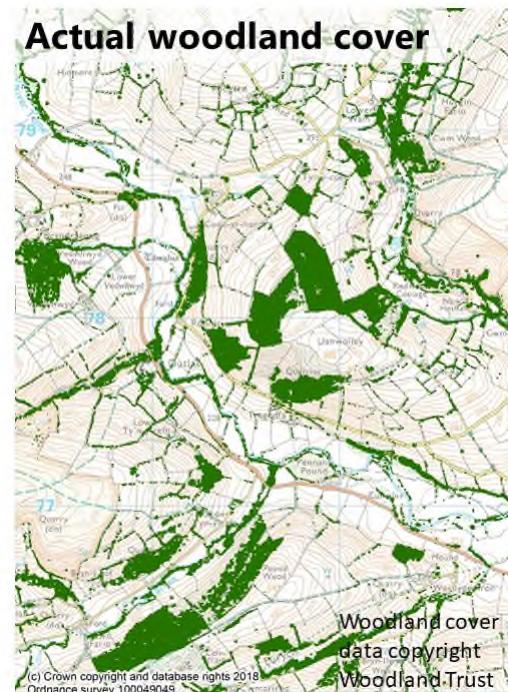
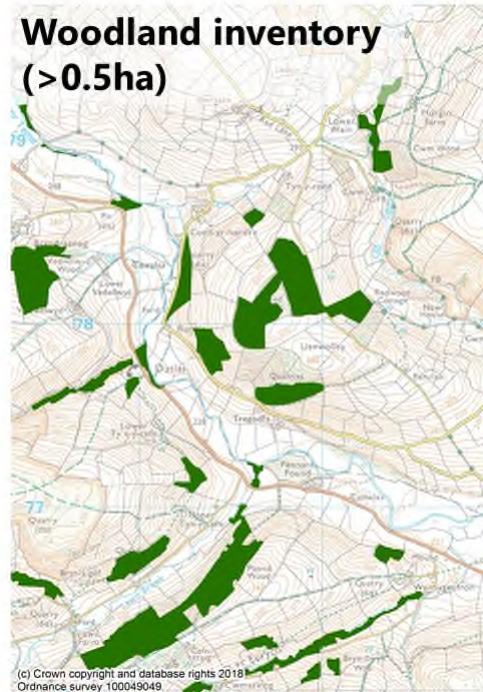


Trees outside woods

Any low angled view shows the number and significance of trees outside woodlands – those in hedgerows and within fields, and riverside or riparian woodland, typically composed of Alder and Willow, often only as a single row of trees along the river bank.



This is shown also in the maps below – the right hand map shows every tree and clearly shows the importance of field boundaries and river /stream corridors.

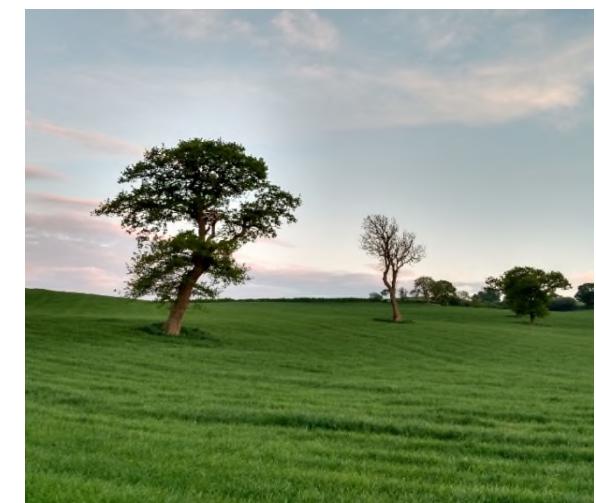


Tree disease is an increasing problem, and Ash dieback (*Hymenoscyphus fraxineus*) is found throughout the AONB and its effects will become steadily more noticeable. Ash is the dominant tree in woodlands along Wenlock Edge, and it is very common as a hedgerow tree.

Among our trees outside woods are some wonderful veteran trees. These have great value for specialised invertebrates as well as being of cultural and historical significance.



Ash tree suffering from Ash Dieback



Cultivating closely around in-field trees can be harmful to their roots and related soil biota (i.e. plants, animals and micro-organisms)

Rivers, streams and ponds

Most of the AONB lies in the upper catchment of the River Teme, including its tributaries the Clun, Onny and Corve. In total the AONB contains 1,802km of rivers and streams and no part of it is more than 1km from flowing water.



River and streams are highly diverse ecosystems from high on the hills to flood plains, with gravels, silt, bedrock, tree roots, riffles, pools and glides, littoral and benthic zones, upland and lowland etc. At the interface between the aquatic and terrestrial, the narrow riparian zone is one of our most vulnerable and irreplaceable habitats hosting some of our rarest and threatened species.

Many rivers have been modified by straightening and by weirs, which prevent migration of fish and invertebrates. Drainage ditches and land drains have extended the watercourse network, disrupting natural catchment hydrology and speeding run-off. Climate change is bringing more extreme rainfall and drought events. Greater peak flows contribute to accelerated bank erosion, whilst higher temperature and periods of drought put our rivers under greater Biological Oxygen Demand (BOD). Due to low flows it is not uncommon for fish rescues to be undertaken in the Rivers Teme and Redlake.

Where farming is active the riparian zone is often reduced confined to a single line of trees, often without shrub and field layers due to grazing.



Floodplain of the River Teme, with unnaturally low tree cover

Unrestricted stock access often results in poaching of riverbanks and together with faecal matter contributes to mineral and organic sediments leading to siltation of gravel beds used by spawning fish and Freshwater Pearl Mussel. In much of the AONB riverside alders are suffering from alder disease *Phytophthora alni*. Alder is a keystone species which helps to moderate temperature, provide habitat and food for fish and invertebrates, and to stabilise riverbanks and protect against erosive flows.

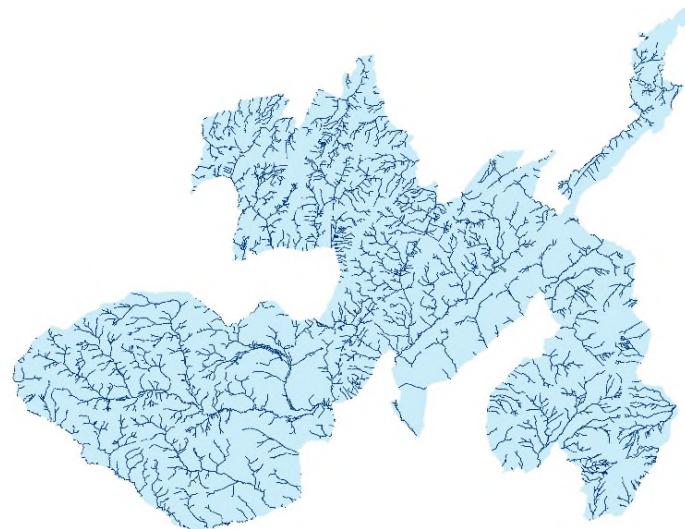
Diffuse pollution represents a significant risk to AONB waters, including silt, nutrients and pesticides from farming and forestry, and contaminated drainage from urban areas and roads. Point source emissions from sewage treatment works add to this load. Eutrophication caused by elevated levels of phosphates and nitrates are the most frequent causes of rivers failing EU Water Framework Directive (WFD) and impacts can linger for years. Rivers are also affected by invasive non-native species including Signal crayfish and Himalayan Balsam.

The River Teme is the only SSSI river in the AONB it is "Unfavourable" condition. The lower River Clun section which is considered "Unfavourable Declining" is also designated a Special Area of Conservation (SAC) for its freshwater pearl mussel interest (one of only three rivers in England so designated) and part of a European network of Natura 2000 sites.

Upland pools and ponds have significant biodiversity interest often as a result of their clear, low nutrient waters. Many pools are at least partly artificial and some are managed as fisheries. Their wildlife value will be optimised by taking a natural approach to management.

Headwaters

Headwaters are the tributaries feeding a river system, defined as being the first 2.5km of streams from their source. Due to the very high number of branching small channels, these can make up 70% of total river length.



Watercourses in the AONB (OS licence 100049049)

They are the essential ecological foundation for healthy functioning river systems, a habitat in their own right and the support system for downstream rivers. Hydrologically they are the 'gathering grounds' for river flow and crucial in controlling water supply (quality and quantity) and flood risk management. In the Shropshire Hills headwaters are often highly modified, by drainage, simplified vegetation and in some cases culverting.

Trees and woody material in the channel add habitat complexity through debris dams, exposed tree root systems and channel sinuosity, providing niches for a wide range of species, particularly lower plants and invertebrates. Leaf litter is a food source for invertebrates, which in turn support trout and salmonids.



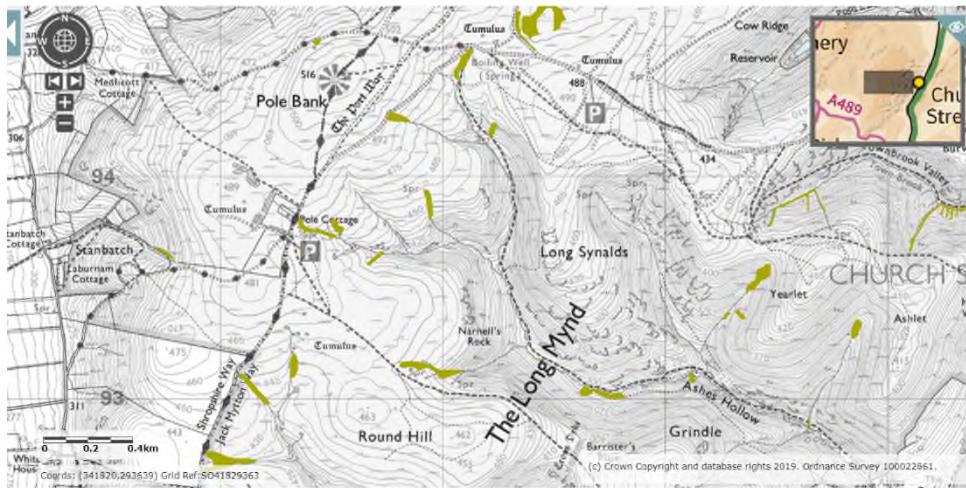
The degree of naturalness or modification of land at stream sources will make a big difference to the river catchment

The aim should be to restore natural ecosystem function and habitat mosaics, including in channel, riparian and wetland habitats. Restoration of natural processes include natural flow, geomorphology and water quality regimes. This requires a large scale perspective, looking at the land at catchment heads and not just the stream or riparian area.



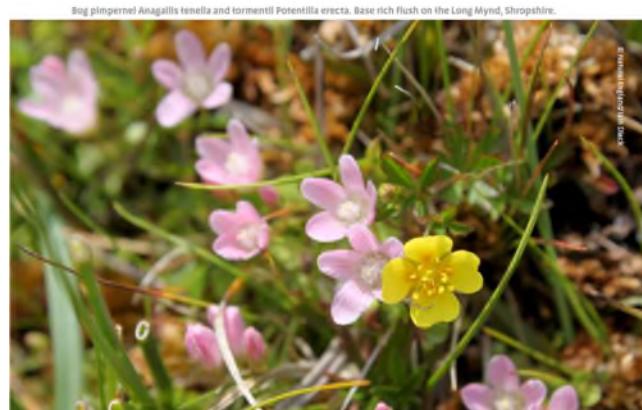
Upland flushes

These tend to be small in area and located within upland heath and grasslands. They are however often the most species-rich part of a hill and provide invertebrate feeding to species which range across the wider these surrounding habitats.



Upland flushes on the Long Mynd, at stream headwaters

Maintaining wetness is likely to be the need, including reversing the effects of past drainage, for example through drain and gully blocking and re-profiling water courses. Grazing levels and timing need to be managed to reduce the risk of over grazing, eutrophication and severe poaching, and where scrub encroachment becomes a problem, ensuring appropriate management to prevent a loss of ground flora.



Bog pimpernel – a plant species of upland flushes

Ffridd

This habitat recognised in Wales [9] and found also in Shropshire is a transitional zone between the enclosed lowlands and the uplands, and is often a mosaic of rough grass, scrub and bracken, but also including wood pasture, mire and ponds. Ffridd is created as a result of a long history of fluctuating intensity of land management. Its variety of vegetation communities and structure make it important to a range of wildlife such as tree pipits, yellowhammers, linnets, twites and whinchats, as well as fungi, lichens, pearl-bordered and dark green fritillary butterflies and plants such as the globe flower, lesser butterfly-orchid, wood bitter-vetch, and bog orchid.



The tendency towards more uniform close grazed pasture or towards dense woodland will lower the wildlife value of ffridd, and management should aim to create or maintain a mosaic of habitats including scattered trees, scrub, grassland with differing swards heights, scattered bracken and wet areas. Grazing may be necessary to keep marshy areas open but might need removing for a period if no natural regeneration of trees is taking place.

Species

The Shropshire Hills spans upland and lowland and includes a mix of species of northern Britain and those more associated with the south. 41% of species have declined in the UK since 1970, and unfortunately the situation in the Shropshire Hills reflects national trends. Some of the threatened species are obscure, but these are nevertheless important parts of ecosystems.

Mammals

11 of the 47 mammals native to Britain are classified as being at risk of extinction, a further five are classified as 'near threatened' and since 1970 the average distribution of mammals has declined by 26%.

The Lesser Horseshoe bat is one of the UK's rarer bats and is resident in the Shropshire Hills. It is particularly sensitive to disturbance and intensive land management practices and has shown a marked decline in numbers and distribution. The population trend for dormouse is unknown, and locally Brown Hare may have suffered from the decline in mixed farming.



Lesser horseshoe bat

Pine marten has made a welcome return to the Shropshire Hills and is now known at a few sites in the south-west of the AONB.

BAP Priority Species	IUCN Status	Trend
Lesser horseshoe bat	Near Threatened	Decreasing
Noctule	Least Concern	Unknown
Polecat	Least Concern	Decreasing
Eurasian Otter	Near Threatened	Unknown
Hazel dormouse	Least Concern	Unknown
European Hare	Least Concern	Stable
Harvest Mouse	Least Concern	Stable
Hedgehog	Least Concern	Stable
Pine marten	Least Concern	Stable

Birds

The Shropshire Hills is important in a regional context for upland and farmland birds, including Curlew, Lapwing, Dipper, and Snipe, but the breeding populations of all these species except Dipper have fallen to critically low levels. As elsewhere, these long-term declines are linked principally to loss of habitat, with predation becoming significant when numbers reach low levels.

Nationally curlew has declined by 65% since 1970. In Shropshire, the population declined by an estimated 77% between 1990 and 2010, down to 160 pairs, with a further decline since.

Disturbance of ground nesting birds, especially by dogs, may be a significant issue at popular visitor locations such as the Long Mynd.

Farmland birds have undergone a significant decline, as nationally.



Curlew (Leo Smith)

Our woodlands support populations of pied flycatcher, wood warbler, redstart and tree pipit. Red kites are continuing to spread and are now a familiar sight in many parts of the AONB. There have however been incidents of persecution of peregrine. Some species are stable, but Ring Ouzel have been lost to the area as a breeding species within the last twenty years.

BAP Priority Species	IUCN Status	Trend
Eurasian curlew	Vulnerable	Decreasing
Lapwing	Vulnerable	Decreasing
Snipe	Least Concern	Decreasing
Dipper	Least Concern	Decreasing
Skylark	Least Concern	Decreasing
Grey Partridge	Least Concern	Decreasing
Starling	Least Concern	Decreasing
European nightjar	Least Concern	Stable
Cuckoo	Least Concern	Stable
Barn-owl	Least Concern	Stable
Wood warbler	Least Concern	Stable

Butterflies, Bees and Beetles

Invertebrates are the very heart of our natural systems, but are suffering the greatest declines. As Buglife puts it - "*it is the small things that run the planet*". Many of our bugs are specialists with specific habitat requirements and therefore at greatest risk from rapid environmental change. There are thousands of UK invertebrate species and two out of three UK bug species are in decline.



Grayling

There are more endangered species of moths than there are butterflies. The UK BAP lists 53 endangered moth species.

Bees are a vital component in ecological networks and provide significant social and economic benefits through crop pollination. In the Shropshire Hills we have the bilberry bumblebee which as its name suggests is found in association with stands of bilberry on heathland sites such as Long Mynd.

BAP Priority Species	IUCN Status	Trend
Grayling	Least Concern	Decreasing
Small Pearl-bordered Fritillary	Least Concern	Stable
Wood White	Least Concern	Stable
White Letter Hairstreak	Least Concern	Stable
Drab Looper	No Data	
Bilberry bumblebee	Least Concern	Decreasing

Molluscs

The Shropshire Hills used to be a stronghold for the freshwater pearl mussel. 16th Century accounts affirm that the River Clun was once carpeted with mussels, perhaps in the hundreds of thousands. These populations were sustained by our unpolluted rivers, but in recent decades populations from the Rivers Teme and Onny have been lost, and the Clun population is now limited to less than one thousand individuals, is contracting in range, and restricted to waters outside of the AONB. Influenced by unsustainable practices in the AONB, recruitment of juveniles is thought to be zero and the Clun population is considered functionally extinct. Critically endangered, the freshwater pearl mussel is at risk of global extinction.

BAP Priority Species	IUCN Status	Trend
Freshwater pearl mussel	Critically Endangered	Decreasing

Crustaceans

The Clun catchment supports isolated populations of White-clawed crayfish (our only native crayfish). A major threat to these populations is the non-native North American Signal crayfish which was introduced to Britain in the 1970s. Signal crayfish are larger, more aggressive and carry a fungal pathogen known as crayfish plague. In the Shropshire Hills, Signal crayfish are now well-established in the Rivers Teme, Onny and their tributaries. Their proximity to the Clun catchment greatly increases the risk to remaining native crayfish populations. Efforts to safeguard the White-clawed crayfish in the Clun include a recently established crayfish ark located remote from other waters but still within the Clun catchment.



White-clawed crayfish

Reptiles & Amphibians

Britain's 13 species of amphibians and reptiles have all seen declines in their numbers and habitats. Adders, lizards and slow worms depend on heathland and grasslands, amphibians on wetlands.



Adder

BAP Priority Species	IUCN Status	Trend
Adder	Least Concern	Decreasing
Grass Snake	Least Concern	Decreasing
Common Lizard	Least Concern	Decreasing
Slow Worm	Least Concern	Stable
Great Crested Newt	Least Concern	Decreasing
Common Toad	Least Concern	Stable

Fish

The European eel is found in all AONB waters. They live long, complex lives, travelling thousands of miles from the Sargasso Sea and transforming between life stages before they reach our rivers. Once common, the number of young eels arriving in Europe has fallen by around 95% since the 1970s.

Like eels, the Atlantic salmon is found in all AONB waters and also has a complex life cycle. Born in our rivers but, spending most of its life in the sea, they return to AONB rivers to spawn. In just 25 years the Atlantic salmon has experienced a decline of 70%.

BAP Priority Species	IUCN Status	Trend
European Eel	Critically Endangered	Decreasing
Atlantic salmon	Vulnerable	Decreasing
Brown Trout	Least Concern	Unknown
Grayling	Least Concern	Unknown
Bullhead	Least Concern	Unknown
Brook Lamprey	Least Concern	Unknown
Ninespine Stickleback	Least Concern	Unknown
Threespine Stickleback	Least Concern	Unknown

Vascular Plants

Some recent work has been done to map the distribution of characteristic plant species to indicate areas of high-quality habitat to guide conservation activity. Upland plants such as Mountain Pansy are known to have declined significantly. Marsh Gentian is found nowhere else in the West Midlands apart from one site on Catherton Common in the Clee Hills. The Shropshire Hills is a stronghold of Black Poplar, the distribution of which is now known almost comprehensively.



Green-winged orchid

BAP Priority Species	IUCN Status	Trend
Green winged orchid	Near Threatened	Decreasing
Marsh Gentian	Least Concern	Decreasing
Lesser Butterfly-orchid	Least Concern	Decreasing
Floating Water Plantain	Least Concern	Decreasing
Annual Knawel	No Data	
Basil Thyme	No Data	
Yellow Bird's-nest	No Data	
Spreading Bellflower	No Data	
Mountain Pansy	No Data	
Black poplar (<i>betulifolia</i>)	Data Deficient	

Non-Vascular Plants

The Shropshire Hills has one of only seven sites known in the UK for Marsh Flapwort (*Jamesoniella undulifolia*), an endangered species found in wet flushes.



BAP Priority Species	IUCN Status	Trend
Marsh Flapwort	Endangered	Decreasing

Natural capital and ecosystem functioning

Natural capital is the stock of natural assets providing free goods and ecosystem services to society. It includes species, freshwater, land, minerals, the air and oceans, as well as ecosystems, natural processes and functions. The ONS estimates the value of UK natural capital to be nearing £1 trillion. [Natural England's county Natural Capital Atlases](#) [10] give a useful breakdown of the distribution and condition of valuable natural assets. The maps for quantity of many habitat types and for naturalness of biological assemblage show the importance of the AONB. Other selected maps shown here give useful information on the water environment and soils.

Naturalness of Watercourses (ID: 64)

WFD river 'ecological status' describes how the quality of a river compares to its natural 'reference' condition. It is based on biological quality elements, supported by physico-chemical and hydromorphological quality elements. The map shows length of river with 'good' or 'high' WFD Ecological Status in 2016.

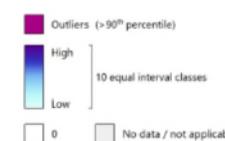


WFD Ecological Status:

— 'High' or 'Good'

— 'Moderate', 'Poor' or 'Bad'

Map Key
Indicator value:



Hexagon values: 45.64 – 74.73 t; Outliers: 74.73 – 101.27 t

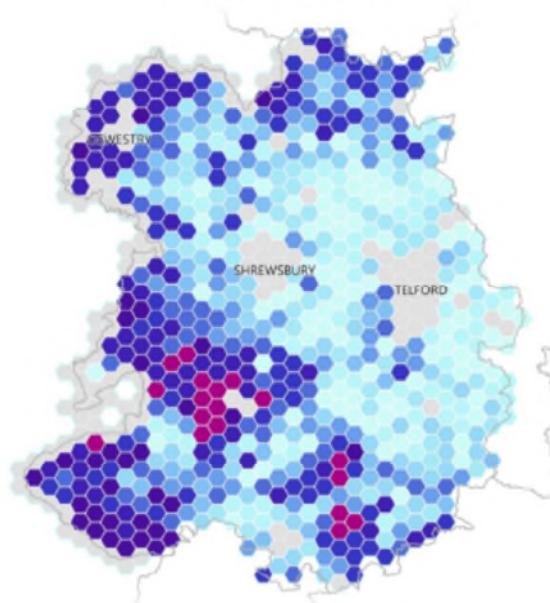
The maps reinforce that the AONB is of high nature value, reflected in levels of soil carbon and biota as well as habitats. For ecological status of watercourses the AONB shows slightly better than the rest of the county, but still with significant issues. These maps give no indication of trend, or the potential of some of the assets to be better (e.g. soil to store more carbon).

This plan does not aim to go into detail on all aspects of natural capital but the maps reinforce that the natural assets of the AONB clearly warrant careful management and stewardship.

Note: All maps are © Natural England, 2020. Data sources and attributions for each map are listed on pages 72 and 73.

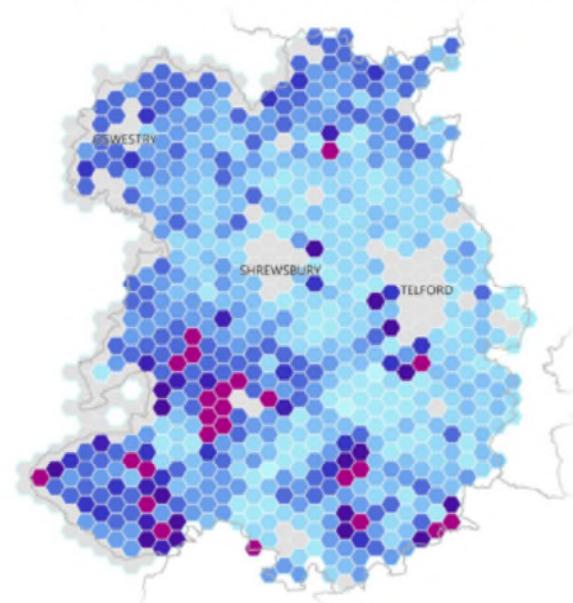
Soil Carbon/Organic Matter (ID: 59)

Mean estimates of carbon density in topsoil (0-15cm depth) – tonnes per hectare, mapped using data produced from Natural England and CEH's 'Mapping Natural Capital' project: Soil carbon (Henrys et al., 2012). N.b. This dataset is statistically extrapolated to a national level from CEH Countryside Survey data 2007.



Soil Biota (ID: 60)

Mean estimates of total abundance of invertebrates in topsoil (0-8 cm depth), mapped using data produced from Natural England and CEH's 'Mapping Natural Capital' project: Soil invertebrates (Henrys et al., 2012). N.b. This dataset is statistically extrapolated to a national level from CEH Countryside Survey data 2007.



The modelled dataset shows that higher densities of soil invertebrates tend to be found in semi-natural, less intensively managed habitats such as woodland, acid grassland and dwarf shrub heath (Henrys et al., 2012)

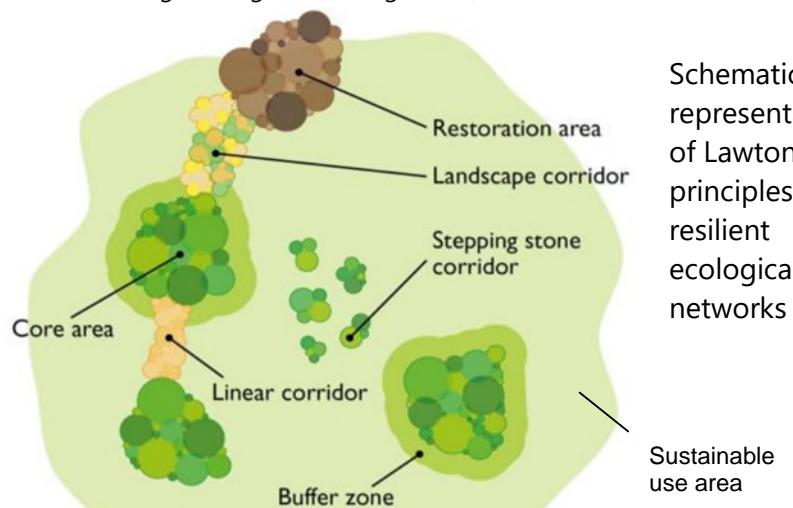
Hexagon values: 11 - 80; Outliers: 80 - 183

Statement of priorities for nature

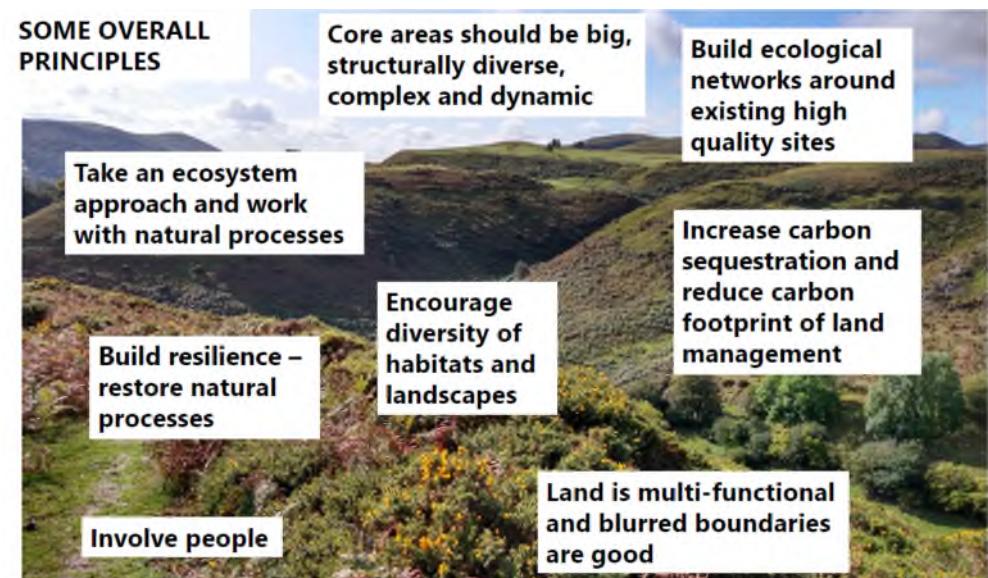
The ecological principles for restoring resilient habitat networks as set out in the 2010 [Lawton report 'Making Space for Nature'](#) [11] are universally accepted and provide the conceptual basis of a Nature Recovery Plan:

*"The essence of what needs to be done to enhance the resilience and coherence of England's ecological network can be summarised in four words: **more, bigger, better and joined**. There are five key approaches which encompass these, and also take account of the land around the ecological network. We need to:*

- (i) *Improve the quality of current sites* by better habitat management.
- (ii) *Increase the size of current wildlife sites*.
- (iii) *Enhance connections* between, or join up, sites, either through physical corridors, or through 'stepping stones'.
- (iv) *Create new sites*.
- (v) *Reduce the pressures* on wildlife by improving the wider environment, including through buffering wildlife sites."



SOME OVERALL PRINCIPLES



"As well as having a primary role of supporting abundant wildlife, a nature network should also enhance natural beauty and conserve geodiversity and opportunities should be taken to deliver benefits for people, such as flood alleviation, recreational opportunities and climate change adaptation and mitigation. These joint aims, for nature and people, are at the heart of Nature Networks and they are inter-dependent: networks for wildlife that also deliver benefits to people also tend to be more valued by people. Thus they are likely to receive greater investment and protection by society and consequently provide more for nature and be more sustainable in the long term."

From [Natural England's Nature Networks Evidence Handbook](#) [12]

The need for nature recovery means a more dynamic approach to landscape than being guided just by the current character and trying to preserve that. Changes for nature recovery will almost always enhance landscape quality and in most cases reinforce the best aspects of landscape character, albeit with some changes. A degree of balance with the cultural and historic character and value of the landscape will however be needed.

Our priorities for nature recovery in the Shropshire Hills are:

Best possible management of existing high quality habitats as 'core areas' of a nature recovery network.



Improving margins and buffer areas to heathland and rough grassland hills – to soften transitions, including mixed and mosaic 'ffridd' habitats, scrub and woodland.

Renaturalising catchment headwater areas – rewetting and roughening improved and drained pastures, including restoration of locally extensive hilltop peatlands and small upland flushes.



Regenerating and expanding upland semi-natural woodlands by excluding stock.



Woodland creation to improve habitat networks, especially on steep banks, upland gullies and streams, field corners, and new planting of trees outside woods including hedgerow trees and agroforestry. Restoration of Plantations on Ancient Woodland Sites (PAWS) and sensitive management of commercial woodland. Also new tree planting as a response to tree disease and restoration of hedges.

Habitat improvement of river and stream corridors including buffer strips with tree and shrub planting and control of stock access.

Restoration of flood plain wetland habitats.



Managing and re-creating wildflower meadows and species-rich grasslands, including roadside verges.



More sustainable regenerative management of farmland e.g. pasture regimes which increase soil organic content and reduce water run-off (e.g. through reduced compaction, buffering streams and wetlands), arable farming avoiding soil loss and harm to rivers by avoiding steep slopes and erosion-vulnerable land.



Management of invasive non-native species such as Signal Crayfish, Himalayan Balsam.



Connecting people to nature

Nature's future depends on people caring about it, which only comes from people connecting with nature in their lives. This also has huge benefits for people's wellbeing and quality of life.

Strategy

A number of strategies are suggested for helping to achieve nature recovery in the AONB. These include:

- Collaboration and co-operation – including between nature organisations, but crucially also with farmers and land managers
- Protection, restoration and creation of habitats
- Action for focal species and habitats
- Improving evidence gaps
- Communication and engagement

The Colchester Declaration sets a number of national targets to which this plan seeks to contribute. Local targets towards these are defined here:

200,000 hectares of SSSIs in the AONB in favourable condition by 2030

A Shropshire Hills target of 3,000ha is suggested (64% of SSSI in the AONB). This challenging target represents 1.5% of the national target, while the Shropshire Hills makes up 4.2% of AONBs in England. The current area in favourable condition is 1,460ha (31% of SSSI in the AONB), so an increase of 1,540ha is needed, or 171ha/year.

The Long Mynd makes up 88% of the SSSI area in the whole AONB which remains in unfavourable or recovering condition. The Stiperstones and the Hollies SSSI accounts for a further 6.5% and 17 other sites account for the remaining 5.4%. Action focused on the Long Mynd and Stiperstones is clearly critical to achieving this target, and will rest with the National Trust and Natural England, working with commoners and other stakeholders.

The main reasons for SSSI habitats being in a 'recovering/ unfavourable/ declining' condition are land management practices, including grazing (both under and overgrazing), bracken and scrub, fertiliser use and liming, deer damage to woodlands and conifer planting. For rivers (0% in favourable condition) the main factors are diffuse agricultural pollution, point source discharge, water levels, weirs and barriers, invasive species.

100,000 hectares of wildlife-rich habitat outside protected sites created or restored by 2030

A Shropshire Hills target of 4,200ha is suggested, in line with the share the Shropshire Hills makes up of the total of England's AONBs by area. This is equivalent to 466ha per year. A figure for recent levels of habitat creation or

restoration is not available, but a big increase in activity is likely to be needed to meet this target.

100,000 hectares of new woodland planted or allowed to regenerate by 2030
A Shropshire Hills target of 1,450ha per year is suggested, in line with the share the Shropshire Hills makes up of the total of England's AONBs by area. This is equivalent to 166ha per year. Current levels of new woodland creation are well below this. In the last 4 years new woodlands grant aided by the Forestry Commission (which tends to include the most significant sites) was 39ha, or an average of 9.8ha per year.

It is important to recognise that this Plan does not in itself bring new resources or delivery mechanisms. These targets are clearly challenging and will require a stepping up of action by a range of organisations. The Colchester Declaration calls on government to provide the power and resources to make these targets achievable.

The Colchester Declaration also has the following non-numerical targets:

Enable an approach that creates opportunities within AONBs for people to make an emotional connection with nature.

[Work by the University of Derby](#) [13] shows that people's connection to nature (as opposed to just experience or knowledge) is an important factor in personal wellbeing and pro-nature and pro-environment behaviours.

Ecosystems services approach into all AONB Management Plans

This is important because it underlines that natural beauty and the AONB designation is about ecologically functioning landscapes as well as aesthetics.

All AONB management plans include meaningful measures around climate change mitigation and adaptation, including clear, measurable targets to support Net Zero

Nature recovery activity is a vital part of climate change adaptation and will also help to deliver climate change mitigation through increased tree and woodland cover, better condition of peatlands and better condition of agricultural soils. Further work is needed to quantify this.

Each AONB adopting a species on the threatened list and by preparing and delivering a Species Action Plan, at least thirty species relevant to AONBs will be taken off the list

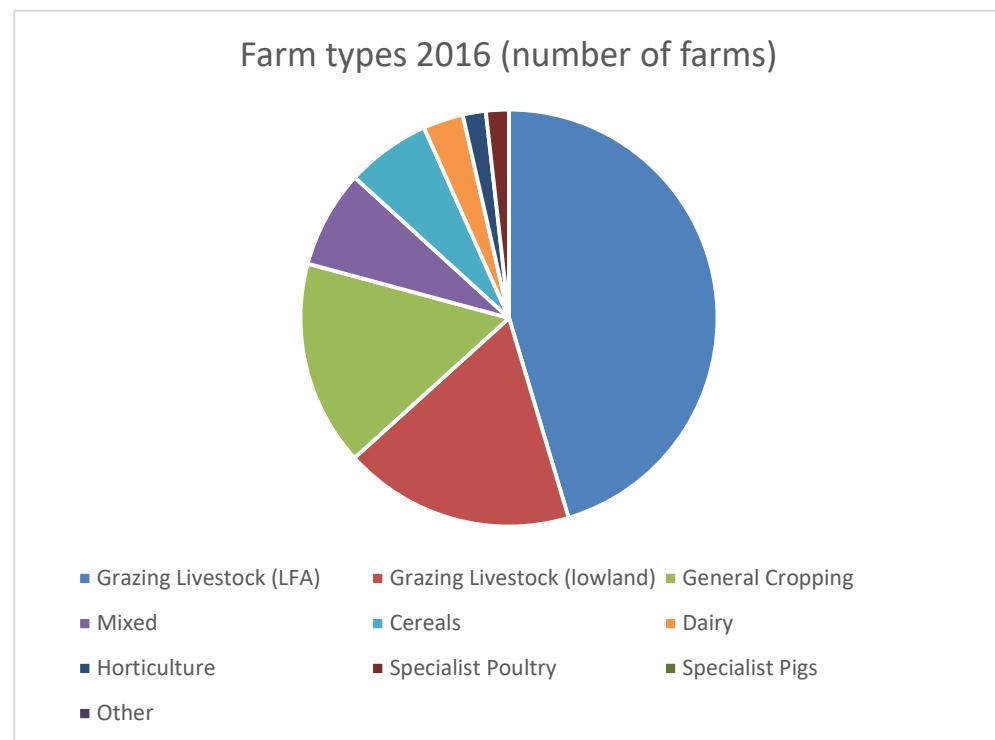
At present we have not identified a species on which to focus this action.

Synergies with other land uses and environmental approaches

Farming and nature recovery

Farming is undergoing some of the most significant change in decades with the transition from the CAP to UK post-Brexit agricultural policy, with an emphasis on public money being provided for public goods. This creates opportunities but also great uncertainty for farmers. This Plan is intended to help provide farmers and agents with a more clarity about action for nature recovery, and of the public benefits relating to nature which are likely to be supported under new funding streams such as Environmental Land Management (ELM) and the Farming in Protected Landscapes programme.

At the last June Agricultural Census [14] (2016) there were 917 farm holdings in the AONB. 44% of holdings were upland (Less Favoured Area) grazing livestock farms. A total of 46,256 cattle and 371,176 sheep on around 50,000ha of pasture, with about 13,400ha of cropped land.



As in other sectors the success of mainly economic focused activity has been at the expense of the natural world. The long-term capacity to continue producing food depends on looking after natural capital (such as soils, clean water and pollinators). If approached in the right way, nature is an asset which can benefit farming rather than being a constraint.

Much of the AONB is used for raising grass-fed livestock which is relatively low intensity farming, but some of the land is worked hard and has become ecologically simplified. There are directions within the industry towards regenerative and agroecological farming, and lower input grazing systems where reducing stocking rates can increase profitability. These approaches could be very beneficial to nature recovery.

The RSA Food, Farming & Countryside Commission [15] sees the synergy between farming for healthier diets in people and for a healthier environment, with a more mixed farming system with greater crop diversity and more biodiverse and permanent grasslands, grazed by native ruminants. The Integrated Farm Management model of LEAF (Linking Environment & Farming) [16] is also very useful:



The benefits to nature from farming can come not just from looking after habitats at the fringes – the fields themselves matter too. The long term of production also requires healthy soils and ecosystems.

This is recognised in **High Nature Value (HNV) farming** [17] where relatively low-intensity farming systems maintain large areas of semi-natural habitat in high quality countryside. Apart from conserving wildlife, these types of farming provide ecosystem services such as carbon storage, clean water and fire prevention, and much of the rich social fabric and character of landscape. Maintaining the farming system and preventing its abandonment or intensification is therefore the priority. The social and economic realities of farming systems are important to conservation strategies. Across the larger areas outside nature reserves conservation of semi-natural habitats is more likely to be effective and meaningful if embedded in the cultural and socio-economic activity of the communities which created and now maintain them.



Why Take Part?

Taking the Farm Wildlife approach won't just help wildlife. Depending on how you choose to implement the advice, you could see much wider benefits across the farm.

Pollination



Pollinating insects, such as bumblebees, solitary bees and hoverflies are vital for both the pollination of crops and wildflowers.

Soil Health



Healthy and productive soil is the most valuable asset on the farm. Soils are home to over a quarter of living species on earth

Pest Control



Supporting beneficial insects improves biodiversity on the farm and forms part of an integrated approach to pest management

Farm Business



Supporting biodiversity on the farm can also open up opportunities for your business, including diversified income streams and new market opportunities



Farm Wildlife is a partnership of 8 leading wildlife organisations, brought together to provide a single source of best-practice management advice for wildlife on farmland.
<https://farmwildlife.info/>

Net Zero and Nature Recovery

The crises of climate and of nature are inextricably linked, and solutions must work for both and be interwoven. The Land Use reports of the Committee on Climate Change [18] recognise ‘co-benefits’ to nature of some of their proposals but do not fully integrate them with nature recovery. Some of the land use scenarios for reaching net zero do not take enough account of the multiple uses of and benefits from land, and the significance for nature of how a main land use (e.g. pasture, arable, forestry) is carried out as well as how much of it there is. The NFU’s plan for agriculture to reach net zero carbon emissions [19] is welcome, but also let down by not integrating nature recovery, and some of the proposals for carbon reduction considered in isolation could be harmful to nature e.g. increased land take for bio-energy.

‘Nature-based solutions’ are applicable to climate change mitigation as well as other issues, but the potential for sequestration is much smaller than the likely demand for offsetting, so they are not an easy substitute for hard cuts in emissions in all sectors. Data on carbon sequestration in different habitat types tends to show quite wide ranges. The table below gives an indication [20]:

Habitat	Carbon stock in soils t/ha	Carbon stock in vegetation t/ha
Dwarf shrub heath	88	2
Acid grassland	87	1
Coniferous woodland	70	70
Broadleaf woodland	63	70
Improved grassland	59	1
Arable & horticulture	43	1

Natural Flood Management and Nature Recovery

Natural Flood Management [21] seeks to ameliorate flooding by using relatively natural methods (as opposed to engineering). This often means working high up in the head of catchments, seeking to ‘slow the flow’ by holding water further up for longer. It is therefore highly relevant to the Shropshire Hills AONB. Natural Flood Management is a great example of the

part of nature recovery which is about restoring ecosystem functioning, but it will also almost always be beneficial to wildlife. Established techniques include:

- Riparian buffer strips and tree planting
- Cross slope tree planting
- Management of existing woodlands and understory planting
- Planting and managing hedgerows
- Leaky barriers and dams
- Ponds and scrapes
- Woodland creation
- River and floodplain restoration
- Blocking upland ditches and gullies



Leaky dam construction on a headwater ditch

Rewilding and Nature Recovery

Rewilding has become a popular concept linked to restoring ecosystems, though more contentious aspects are often to do with the proposals for reintroduction of apex predators. The basic premise however is that land management is based on the reinstatement of natural processes and, where appropriate, reintroducing species to create nature-based communities [22].

Most of the commonly cited examples are large scale, and applying the concept to smaller areas of land or habitat may not work nearly as well. There is also a more casual use of the term rewilding simply to stand in for what we know as traditional nature conservation activity. On land of very low ecological value, simply allowing nature back in or wilding will always have a benefit. On higher quality habitats which are fairly rare and precious, the relevance of rewilding is more complex. There is a legitimate challenge to conservation practice to look more to natural processes and functioning ecosystems and to less resource-intensive ways of managing. However, in the UK the conservation value of many of the best habitats derives from their long history of active management (e.g. hay meadows, grazed heathland) and a complete or even significant reduction in human management is very likely to lead to decline in species diversity or populations of priority species.

Mapping the Nature Recovery Network

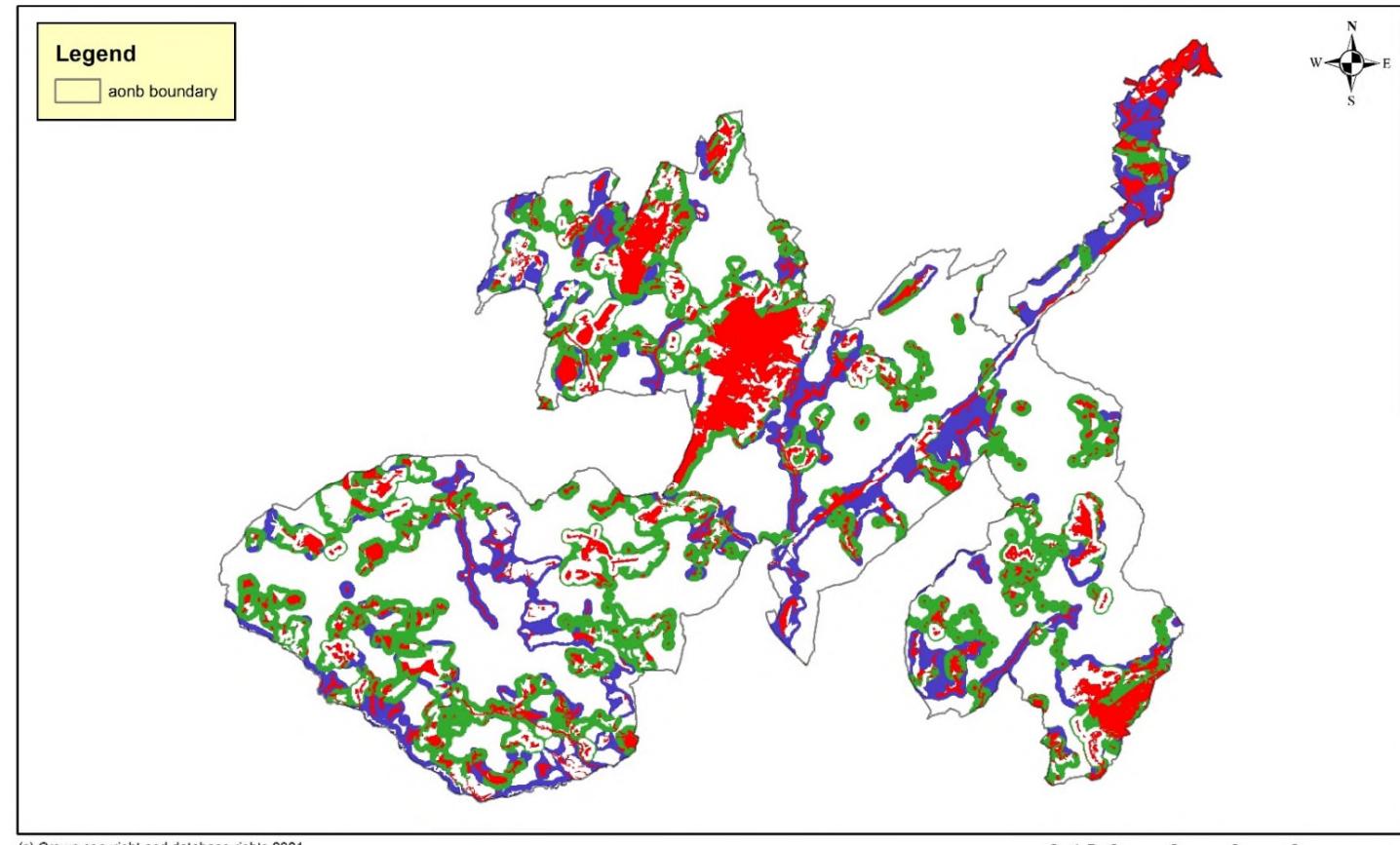
Opportunity mapping works from the existing areas of good habitat, highlighting areas of potential for enlargement by habitat restoration, buffer areas and key links to improve the connectivity of habitats in a network.

Natural England have produced a National Habitat Network map with various zones for network enhancement, and this can be viewed on the MAGIC mapping website <https://magic.defra.gov.uk/magicmap.aspx>.

The data layer is under Habitats & Species/Habitats/Other/National Habitat Network All Habitats Combined.

A simplified map of the AONB from this data layer is shown opposite, and on the following pages a more detailed version is shown for the four rough quarters of the AONB, with annotations to highlight the broad priorities for developing the habitat network in that area. (Colours are different but the main data layers are the same).

The mapping can on MAGIC be zoomed right in to a small area e.g. a farm holding, but should be thought of as a guide. Local knowledge will be important to apply as well. The Natural England maps are the best that is currently available freely in the public domain and so these are used in this Plan to identify the main priorities. Further work is going on in Shropshire between organisations including the Wildlife Trust, National Trust and the Councils to refine Nature Recovery Network mapping. This will involve adapted modelling including additional local datasets on habitats and species, as well as ground truthing through fieldwork, and so the mapping of the potential nature recovery network will be refined.

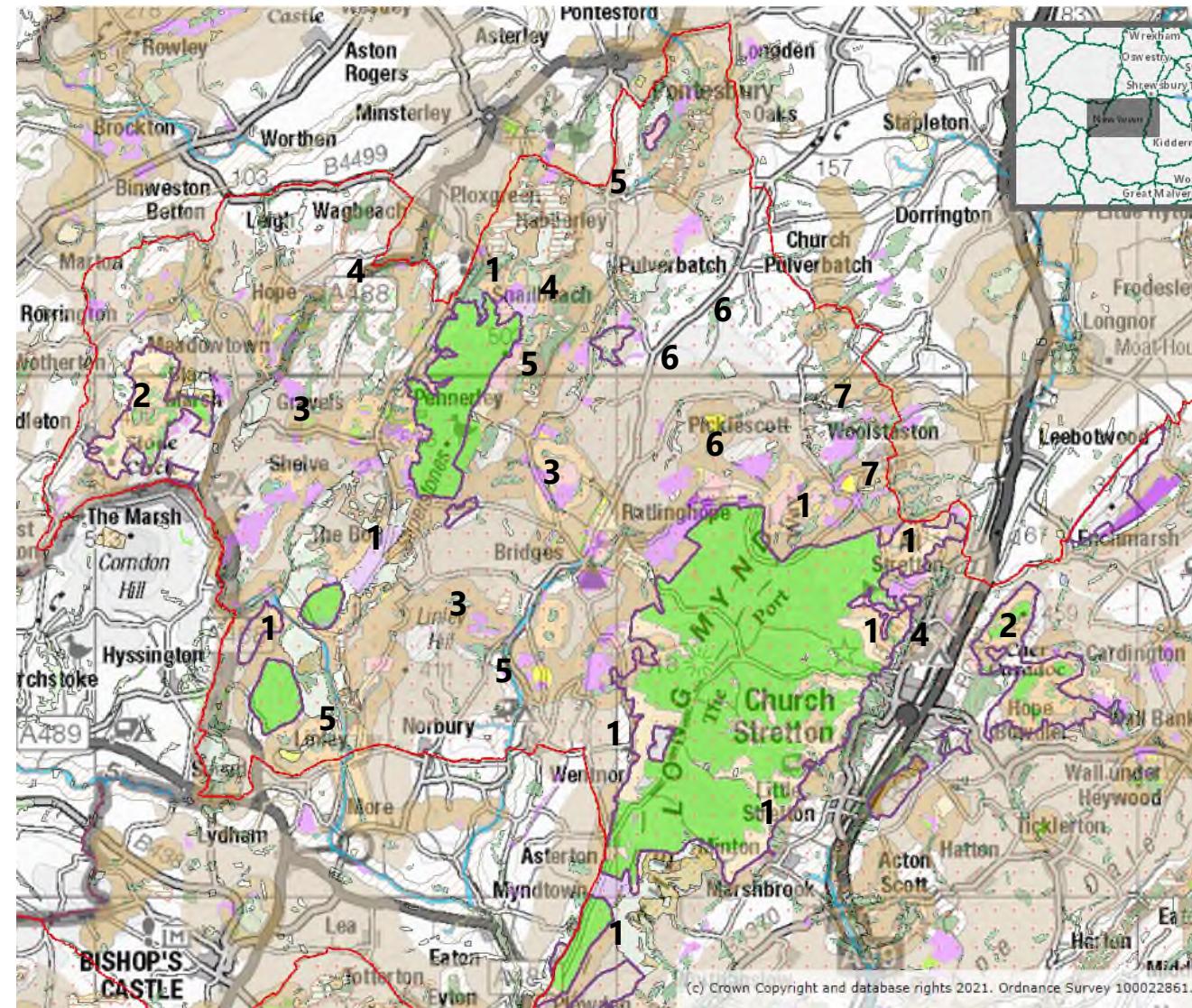


Core habitats in red. Proposed Network Enhancement Zones in green and purple.

Shropshire Hills AONB Partnership
Unit 9, Drovers House
The Auction Yard
Craven Arms
SY7 9BZ

Long Mynd – Stiperstones area (north-west part of the AONB)

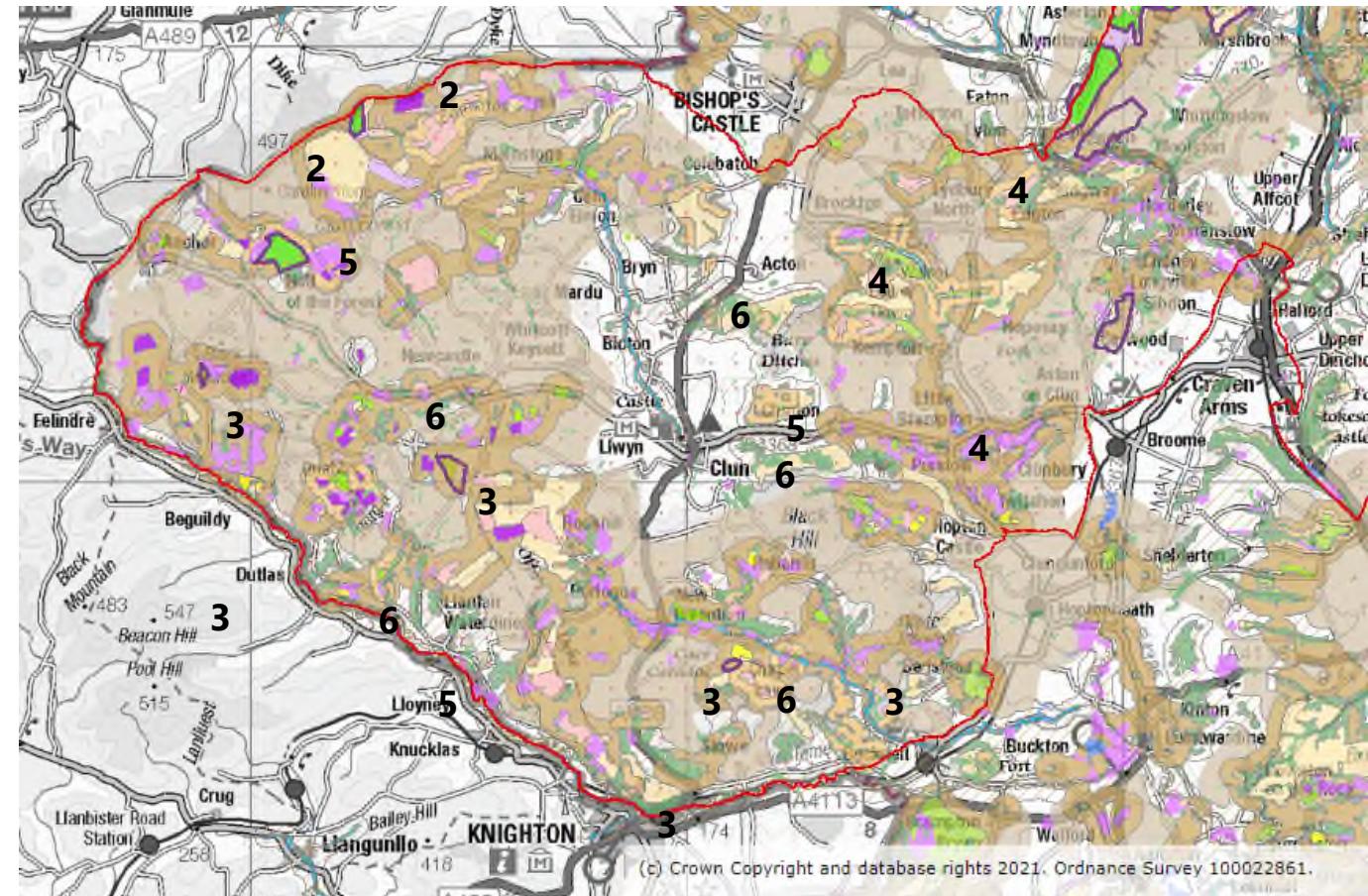
1. The big areas of upland heathland (Long Mynd, Stiperstones) can be enhanced by restoring habitat beyond the margins and creating/restoring heathland on suitable adjacent sites, especially to connect smaller outlying areas of heathland e.g. the ridge south of the Stiperstones NNR.
2. Stapeley Common and the Stretton Hills have fragmentary heathland in amongst grassland, which could be enhanced by less intensive management.
3. The 'bridges' of higher land between Long Mynd and Stiperstones are obvious (around Gatten Hill and Linley/Norbury Hill) to enhance links of better quality habitat, probably more of rough grassland with ffridd and scrub than heathland. There are similar links west from Stiperstones across the high ground around Shelve, towards Stapeley Common.
4. The woods around the Stiperstones and Hope Valley form a strong network to enhance with further planting and connections, similarly the woods of the Stretton valley.
5. The Habberley Brook catchment has strong potential for enhanced habitat networks, starting up at the Stiperstones and leading down to the important area of mixed good habitats around Earl's Hill. The East and West Onny Valleys also have good potential.
6. The potential of connecting better upland habitats along the high ground of the Portway north of the Long Mynd, Cothercott/Wilderley Hill and Paulith Bank is under-represented on the map, as is the potential for enhancing woodland, grassland and scrub/rough habitats in the valley above Pulverbatch.
7. The wooded dingles between All Stretton north to Wilderley are strong features in the network of habitats, which could be enhanced by further woodland planting and connections.



Existing priority habitats are the brighter colours – green is heathland and grassland, purple is good semi-improved grassland. The Moorland Line is edged in purple. The more extensive pale brown areas are zones defined for network enhancement and expansion and action to address fragmentation.

Clun Forest and Valley (south-west part of the AONB)

1. Heathland and good quality grassland habitat is limited in extent and very fragmented across the whole area. There are however extensive areas of high ground with improved grasslands which have potential to link the better patches in good habitat networks.
2. The headwaters of the Folly Brook and the Unk is the strongest area of upland habitat network, from Rhos Fiddle north-east towards the Kerry Ridgeway. Habitat restoration in the connecting areas would be a top priority.
3. The potential network of good upland habitat across high ground south of the River Clun extends for the full length of the valley from around Black Mountain through Llanfair Hill, Stowe Hill above the Teme and Black Hill to Hopton. The high ground and habitat network extends over the border into Wales.
4. A different network of lowland habitats is obvious in the lower Clun valley and the Kemp valley (Walcot to Clunbury). This connects in the north to the Onny Valley around Plowden.
5. This map and modelling undervalues the river corridors – the main River Clun and other tributaries and the River Teme SSSI are all important habitat network corridors, as well as the Redlake and Unk which are shown.
6. The woodland networks along the River Clun, Teme and Redlake are strong (also around Bury Ditches) and should be linked with more woodland creation.

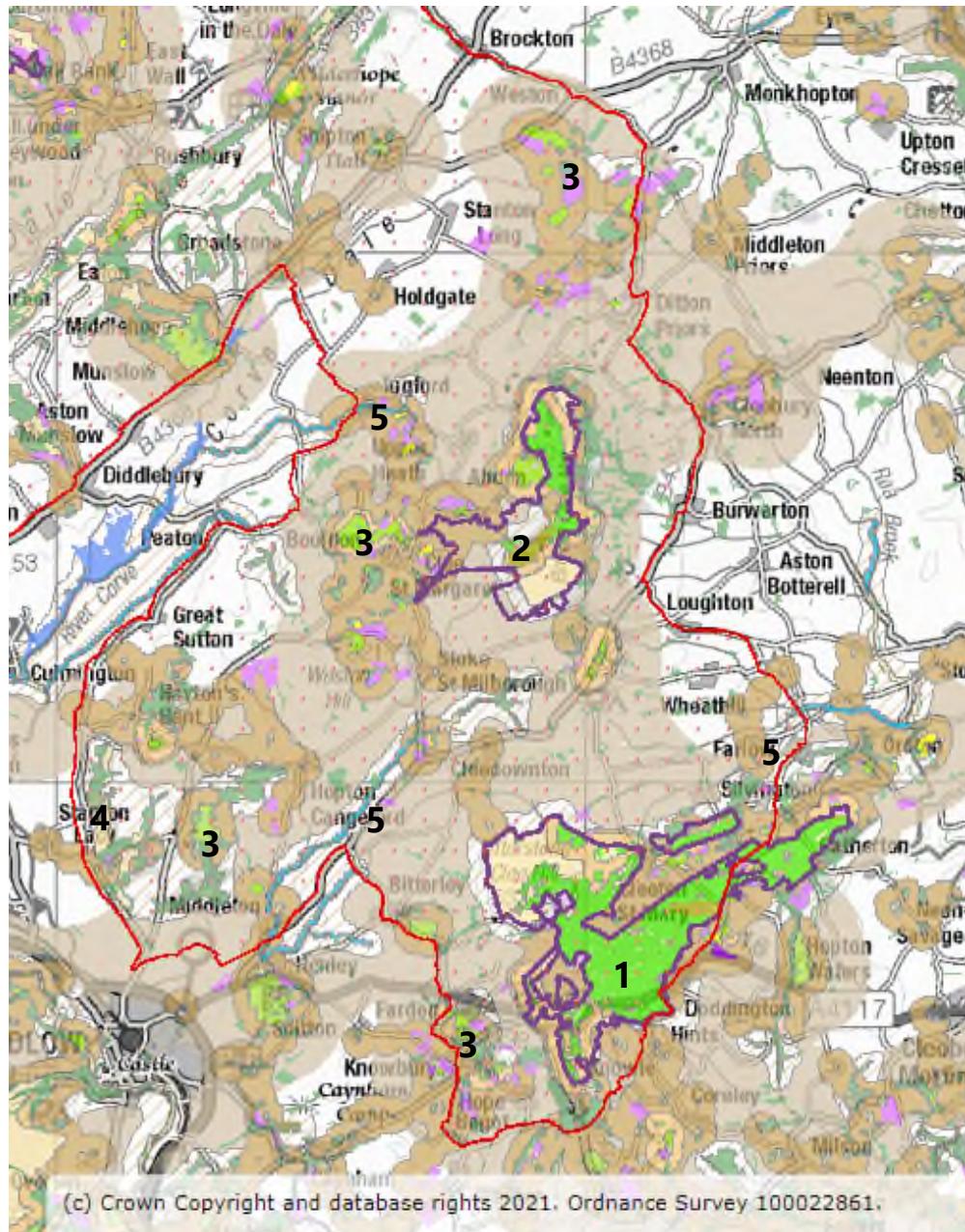


Existing priority habitats are the brighter colours – green is heathland and grassland, purple is good semi-improved grassland. The Moorland Line is edged in purple. The more extensive pale brown areas are zones defined for network enhancement and expansion and action to address fragmentation.

Clee Hills (south-east part of the AONB)

1. The **extensive upland heaths and grasslands of Titterstone Clee/ Clee Hill** are the strongest habitat network, extending east out of the AONB at Catherton Common. Improving condition of the core sites and habitat creation/ restoration around the margins would be a high priority.
2. The **upland heathlands and grasslands at Brown Clee** are also an important network, with similar priorities.
3. Other network potential areas shown are mostly based on good **lowland grassland habitats, and with woodlands interspersed**. Habitat creation in the connecting zones would be the priority, avoiding establishing any new woodland on good grassland habitat. There are further small hay meadows are scattered across this area which do not show at this scale.
4. The **western edge of the Clee plateau** has strong woodland networks which could be enhanced by further connecting planting.
5. The **stream corridors** are always important network elements, though in this part of the AONB they are mostly small headwater streams.

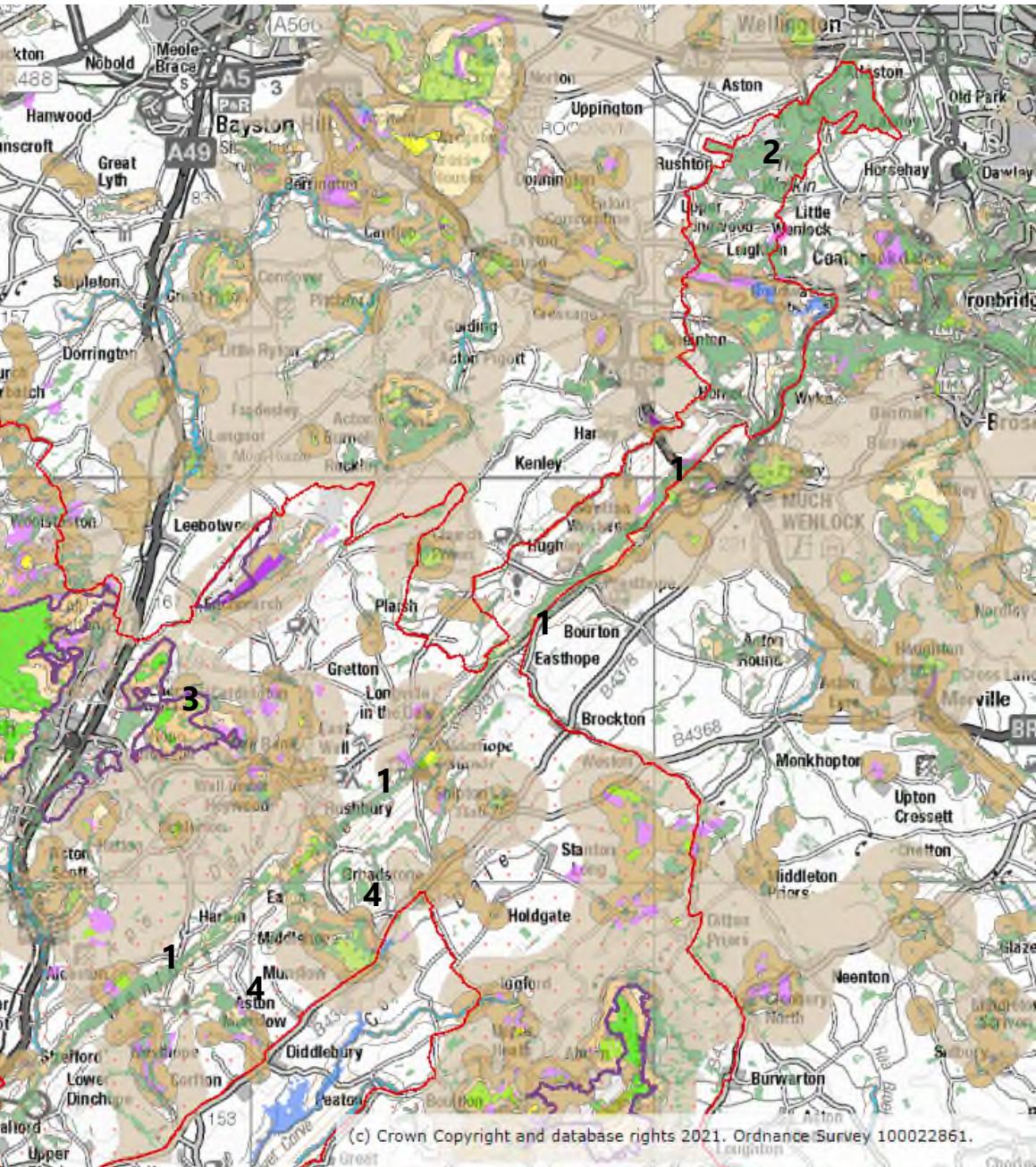
Existing priority habitats are the brighter colours – green is heathland and grassland, purple is good semi-improved grassland. The Moorland Line is edged in purple. The more extensive pale brown areas are zones defined for network enhancement and expansion and action to address fragmentation.



Wenlock Edge and The Wrekin (north-east part of the AONB)

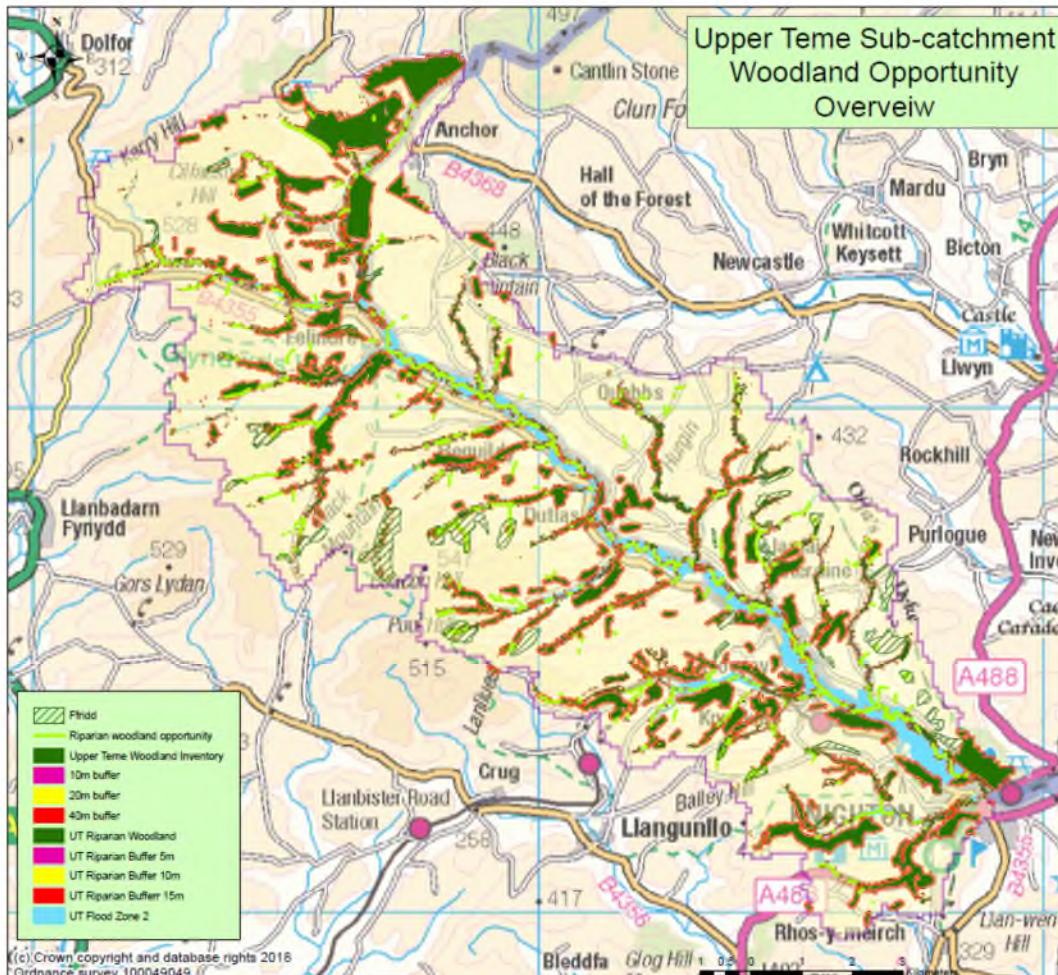
1. The narrow but continuous **woodland along the steep face of Wenlock Edge** is one of the strongest habitat network features. Close around it are some valuable calcareous grasslands, with potential for more of these. New woodland planting should avoid sites with good potential as grassland habitat.
2. The **Wrekin/Ercall** also is a very strong woodland habitat network, linking with the more extensive woods of the Severn Valley.
3. The **Stretton Hills** form the main area of upland habitats, extending south and east into more lowland grassland with woodland network areas.
4. The **south side of Wenlock Edge** has some well developed **wooded dingles** leading down to the Corve Dale, also with pockets of good grassland.

Existing priority habitats are the brighter colours – green is heathland and grassland, purple is good semi-improved grassland. The Moorland Line is edged in purple. The more extensive pale brown areas are zones defined for network enhancement and expansion and action to address fragmentation.



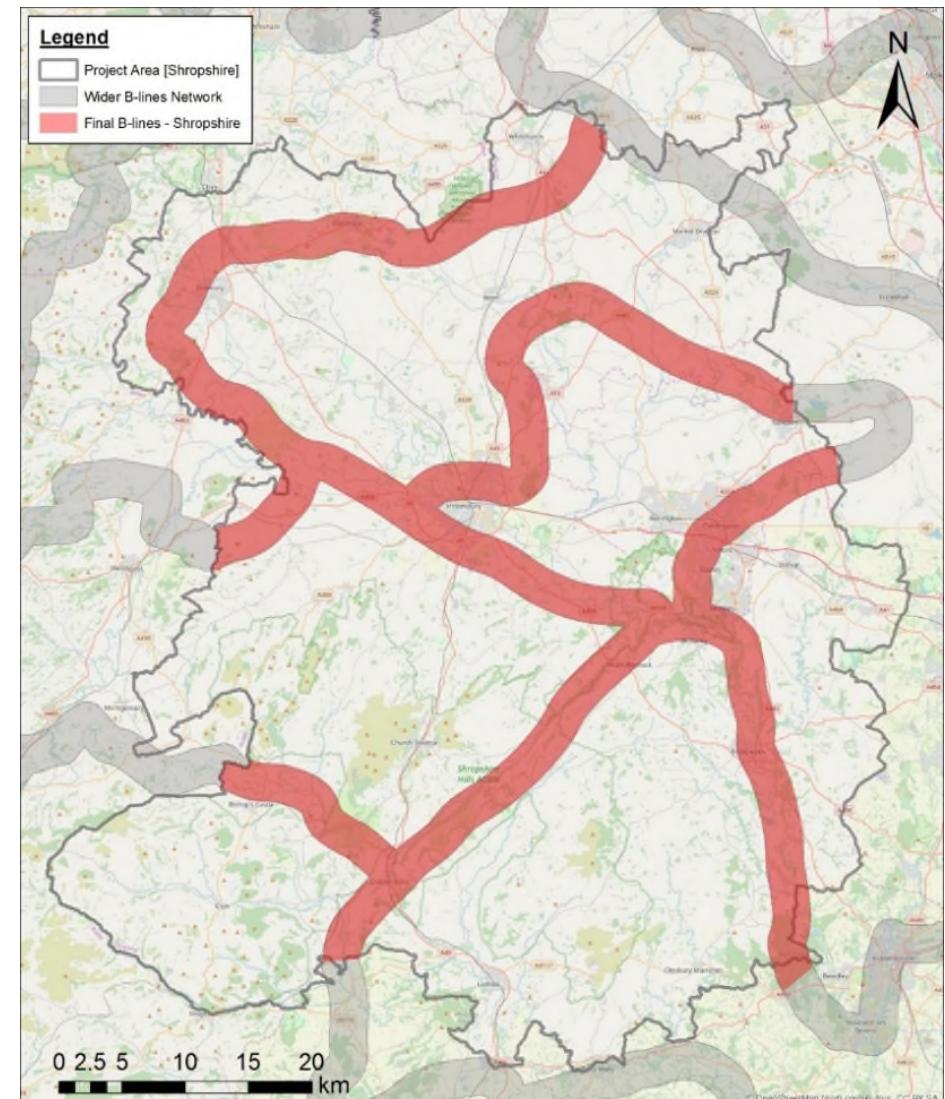
Woodland opportunity mapping

Some opportunity mapping has been carried out specifically for woodlands. The Forestry Commission maps show the AONB as 'sensitive', but this should be taken to mean that planting should be carefully planned, and not that there should be no planting. The [RSPB's recent mapping](#) [23] highlights that 'nature must be at the heart of woodland expansion', and takes account of peat soils where unwooded wet peat may well be better for carbon and nature than trees. The AONB Partnership has carried out some detailed mapping of the Upper Teme, shown below:



Buglife B-lines

The charity Buglife has defined corridors across the country [24] which are significant for invertebrates and those for Shropshire are shown below. In relation to the AONB, Wenlock Edge and the River Severn corridor are picked out, along with the Onny Valley linking to the Camlad over the Welsh border.



Delivery

This Plan is a guide for a range of organisations across the AONB and does not determine any particular programme or budget.

Natural England propose a number of strands for delivery of Nature Recovery Networks and these are all relevant to our area [12]:

1. Building nature recovery into existing and planned policies;
2. Forging strong national and local partnerships, building on what is already in place;
3. Working with private and public landowners to improve, expand and connect wildlife-rich habitats;
4. Broadening the funding base for nature;
5. Developing mapping, data and other support tools;
6. Developing monitoring and reporting on progress

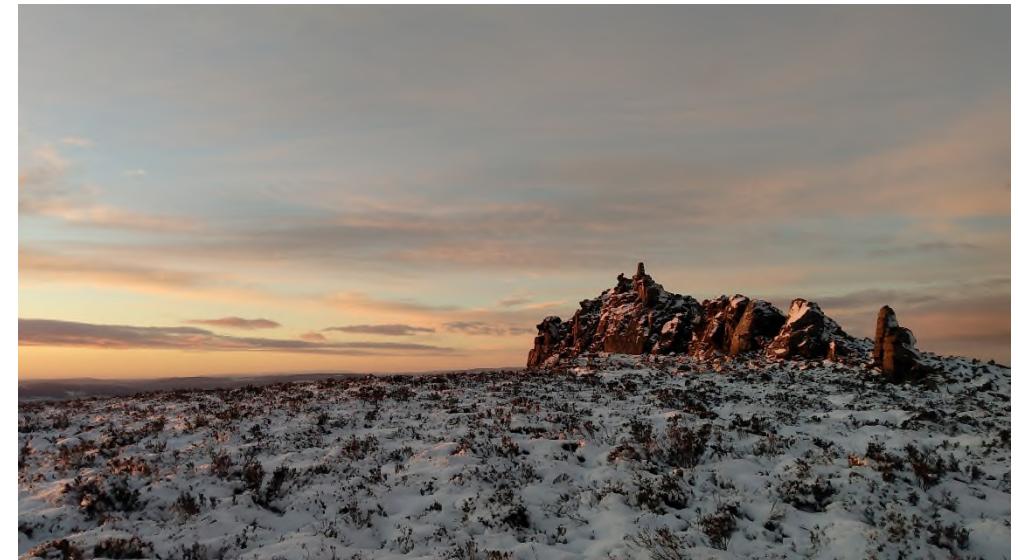
This section sets out what we see as the main mechanisms for delivering nature recovery in the Shropshire Hills:

- Conservation ownership of the best sites
- Agri-environment schemes and Environmental Land Management
- Farming in Protected Landscapes programme
- Agro-ecological farming
- Targeted conservation and ecological projects
- Expanding and accessing wider sources of funding
- Protected sites and regulation
- Local Wildlife Sites and advice
- Protection and benefits through the planning system
- Action by communities and individuals

Some indicative costs of habitat creation / restoration establishment are given.

Conservation ownership of the best sites

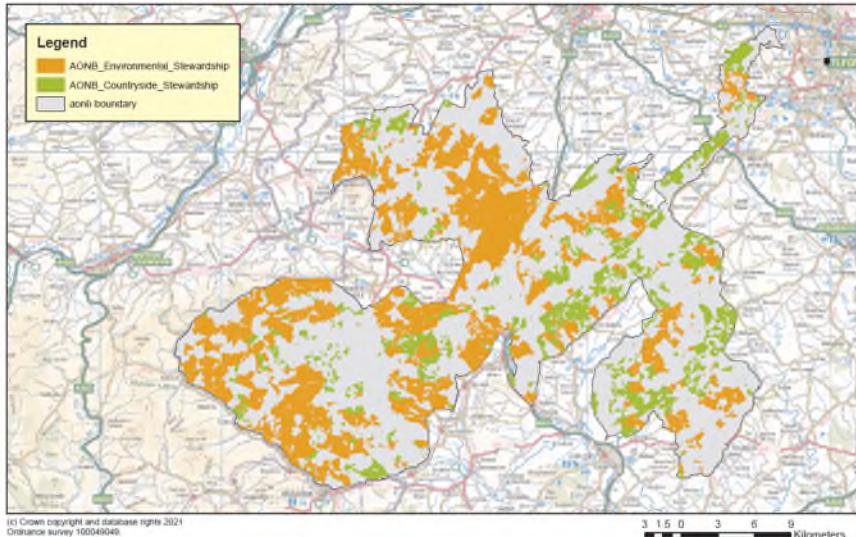
This makes up a small proportion of the AONB, but is a powerful mechanism for the most important sites, including the Long Mynd, Stiperstones and parts of Wenlock Edge. Ownership gives a high degree of control but there can be other legal interests in the land to take account of such as commoners rights. The main organisations owning land for conservation are the National Trust, Shropshire Wildlife Trust and Natural England, though the Middle Marches Community Land Trust has recently been formed and has purchased a number of sites after successful public appeals. While most of the organisations involved are interested in further acquisition especially to enlarge and consolidate existing holdings, the scale of ownership for conservation is likely to remain modest in the AONB.



The Stiperstones National Nature Reserve

Agri-environment schemes and Environmental Land Management (ELM)

In terms of scale and reach, this is probably the most important mechanism. Uptake of schemes in the AONB has been very high over several decades but has reduced slightly in recent years, especially due to the end of Entry Level agreements.



Current agri-environment coverage in the AONB

The new start offered by the launch of the Environmental Land Management (ELM) scheme in 2024 offers great new opportunities. Five Tests & Trials for ELM have been operating in the AONB and there has been local sharing of experience. From 2021-24 there are several strands of pilot scheme of ELM - Sustainable Farming Incentive, Local Nature Recovery and Landscape Recovery. Expectations of ELM are running high but much of the crucial detail of the scheme remains to emerge.

Farming in Protected Landscapes programme

A new programme from 2021-24 operating in AONBs and National Parks was announced in the Agricultural Transition Plan in November 2020. This will provide a further mechanism for giving grants to farmers for habitat creation and restoration works. This Plan will be a significant guide for the allocation of grants and spending, to be made by the AONB Partnership.

Agro-ecological farming

Agroecological farming focuses on creating stable and resilient food production systems that make the best use of nature's goods and services without damaging these resources. This means going beyond thinking of farms as linear systems in which inputs lead to output of food yield, and treating farmland as complex webs of ecological interactions. This can be applicable to conventional and larger farms and not just small alternative farms [25].

Priorities would include improving soil health and organic matter content, reduced pesticide use, increasing tree cover including through agro-forestry. In livestock the focus would be on lower intensity systems, reducing preventative use of antibiotics and reducing reliance on feed crops.



Herbal ley



These techniques are supported and spread by farmer-led innovation and knowledge sharing along with research. Farmer networks and peer to peer learning are among the most effective methods, alongside independent advice that is not tied to input sales.

Making connections to improving health and awareness of where food comes from creates opportunities to embed nature recovery in public consciousness and across the food and farming sector.

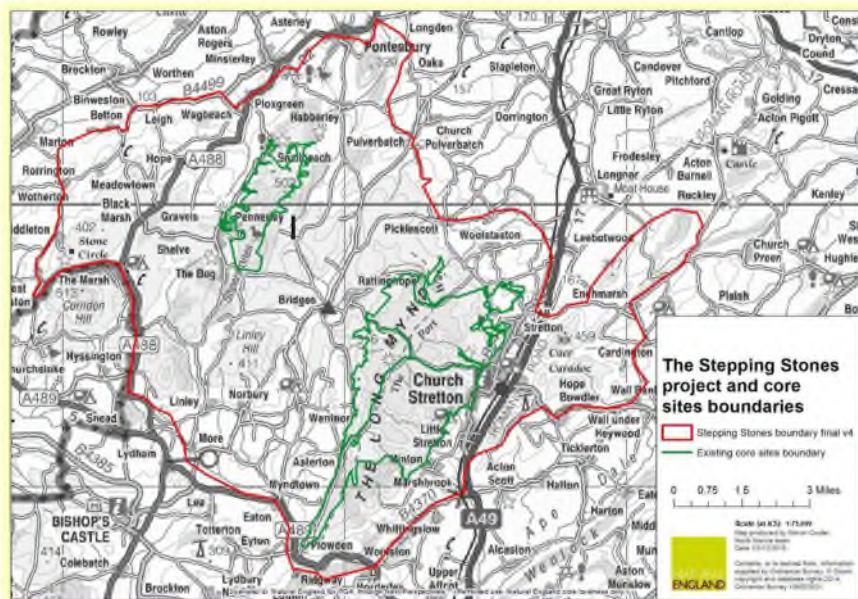
Targeted conservation projects

There are a wide variety of existing and recent conservation projects in the AONB, but there is a need to step up the level of activity significantly.

Stepping Stones project

This is the most ambitious partnership nature recovery initiative in the Shropshire Hills and has been building momentum over recent years. It is led by the National Trust but also has a variety of active partners. A key focus recently has been on a Defra Test & Trial for Environmental Land Management (ELM) working with farmers in the Upper Onny. This is focussing on the role of Whole Farm Plans in ELM.

Through the Stepping Stones project, support has also been given to community groups working on conservation in the area. Stepping Stones has been supported by the National Trust at a national level as a high priority ongoing initiative and is looking to continue upscaling activity. It may become a Lottery funded project for a number of years, but is envisaged to be more than that, in both scope and duration. It is a potential model for delivery of nature recovery more widely in the AONB



Other current projects which will contribute to nature recovery include:

- Clun catchment project work – especially by the Environment Agency and the AONB Partnership. A key driver is water and habitat quality for the Freshwater Pearl Mussel, a catchment-wide approach is taken. Some successful work has been done with Highways drainage, creating new swales and wetlands to minimise the impacts of highways run-off
- Water Environment Grant projects including for the Teme – Onny – Clun and the Rea catchment
- Catchment Partnerships – Clun, Teme, Severn
- Natural Flood Management ‘Slow the Flow’ activity, especially by Shropshire Wildlife Trust
- Woodland Trust MOREWoods scheme
- Curlew Country project led by the Game & Wildlife Conservation Trust
- Butterfly Conservation project work including on Wood White, partly on Forestry England land
- ‘Our Common Cause’ project working on the Long Mynd, Stiperstones and Clee Liberty commons in the AONB and with partners nationally. Includes projects on whinchat and wheatear
- Marches Crayfish Partnership working on the White-Clawed Crayfish
- Restoring Shropshire’s Verges project and Marches Meadows Group

Future priorities for targeted project work include:

- An area project for Wenlock Edge, a very important limestone escarpment with woodland and calcareous grassland
- An area project for the Clee Hills, an important upland area
- Peatlands – rewetting especially of upland shallow peatlands
- New woodland establishment and Trees Outside Woods
- Restoration of Plantations on Ancient Woodland Sites (PAWS)
- Headwater and river re-naturalising
- Area projects in the Rea and Habberley Brook sub-catchments
- Lowland farmland project

Protected sites and regulation

Legal regulation mechanisms supporting nature recovery include:

- the consent and protection regimes for SSSIs
- Environmental Impact Assessment (EIA) regulations especially governing the ploughing of long established grasslands
- Hedgerow Regulations
- Wildlife crime laws
- Water and air pollution laws and regulations for modifying watercourses
- Cross compliance for agri-environment schemes

Enforcement and regulation should be used proportionately and after other approaches such as advice and support have been tried. However, legal mechanisms need to be used in order to have credibility. Appropriate enforcement in the most significant cases can go a long way towards creating a wide incentive for compliance.

Local Wildlife Sites and advice

Often adjoining other sites of value, these are important links in the landscape. They are a voluntary arrangement and rely on capacity for advice to landowners. If this can be made available, they are a very useful mechanism.



Expanding and accessing wider sources of funding

The funding landscape is complex, despite still being inadequate for the challenge. New government schemes are arising at short notice and often with short preparation and delivery periods, which makes planning difficult. Some biodiversity funds have closed (e.g. WREN) and the National Lottery Heritage Fund are focussing currently on Covid recovery.

There is growing interest in alternative sources of funding such as driving private sector investment. Defra's Natural Environment Investment Readiness Fund was announced in February 2021 [26]. While there are legitimate concerns that businesses seeking to offset their carbon emissions will detract from proper action to reduce emissions, these funds do offer opportunities for nature.

The range of funding and grants for tree planting and establishment in particular is fairly complex, and project managers need to look carefully at the best options for their proposal.



Shropshire Hills AONB Conservation Fund

Through the Shropshire Hills AONB Trust small grants are distributed to conservation projects, mainly those carried out by community groups [27]. There is great potential to upscale this fund as it does not meet current

demand, and with further promotion the number of potential projects is high.



Whinchat project supported by Conservation Fund

Protection and benefits through the planning system

The planning system has an important role to play in protecting important habitats. Screening for environmental designations and interest is normally good so generally problems are avoided at early stages, but planning consents may need to be refused occasionally on biodiversity grounds or conditions applied.

Shropshire Council are interested in work that might be taken forward through Biodiversity Net Gain. Telford & Wrekin Council are developing Green Infrastructure work, in which the NE part of the AONB is very important.

Planning will be a less significant mechanism for nature than in many parts of the county and the country as levels of development in the AONB are relatively low. Its potential should however be used to best advantage.

Action by communities and individuals

Community groups and individuals may be small actors compared to some of the mechanisms above, but collectively they can have a big impact. Action at this level is also very good for engagement, awareness raising and strengthening people's connection to nature, which is shown to be linked to further pro-environment and pro-nature behaviours [13].

Private nature reserves are an unofficial category of land which is managed by individuals or owners for the benefit of nature with or without particular designations or external funding. Land holdings of a few acres are relatively common in the AONB and so this mechanism is probably significant.

Many small community groups in the AONB voluntarily look after areas of community land, though in some places people would like to do more and do not have land or need more support and guidance.

There is a strong network of citizen science survey and recording of wildlife, linking to national schemes including ornithological and botanical societies, community wildlife groups and recording groups. These play a vital role in the detailed local understanding of wildlife. There is less voluntary activity on wider ecological factors, and scope to expand this. The Environment Agency have done some work with volunteers on monitoring water quality.

The area of private gardens in the UK exceeds that of nature reserves and there is a boom of interest in wildlife gardening.

Indicative costs of habitat creation / restoration establishment

Some typical current costs are shown here for some of the types of work suggested. Note that these are materials and practical labour costs and exclude the cost of people's time for planning, obtaining consents, liaising, managing contractors, etc.

Riparian buffer strips: 100m long x 10m wide buffer strip fenced with a gate and planted with trees and shrubs at 1,600/ha with robust individual protection - £1,650.

Possible additional costs for site preparation, tree pollarding and/or coppicing.



Woodland creation: 1 ha of woodland planting at 1,600/ha with canes and spiral guards - £3,440 (excluding fencing)

Broadleaved trees with stake and tube: £3-4 per tree.



Wetland creation – example of de-culverting a section of c100m of a small watercourse, 0.2ha of wetland created - £1,200 excluding fencing



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Working together to conserve and sustain the landscape