

Gloucestershire Local **Nature** *Partnership*

**NATURE IMPROVEMENT AREAS
IN GLOUCESTERSHIRE**

MARCH 2015

(with map updated August 2016)

Introduction

In the Natural Environment White Paper, Defra set out our vision for Nature Improvement Areas (NIAs) to be created wherever the opportunities or benefits are greatest, driven by the knowledge and vision of local partners. These landscape-scale initiatives aim to ensure that land is used sustainably to achieve multiple benefits for people, wildlife and the local economy. It is not the intention of NIAs to stifle sustainable development within the area; economic development within an NIA will remain vital, and many development proposals will have no or minimal impacts on the overall integrity or objectives of the NIA.

Defra set out a role for Local Nature Partnerships to establish new, locally determined NIAs in their area and stated that it is for Local Planning Authorities to decide whether and how to recognise an NIA in their local plans. Defra devised criteria to assist Local Nature Partnerships in the identification of locally determined NIAs and the following NIAs were identified by individual partnerships based on those criteria.

The following Locally Determined NIAs have been formally adopted by the Gloucestershire Local Nature Partnership

1. Severn Vale

(a) Area covered by the NIA

The NIA covers the flood plain of the River Severn and the lower reaches of its major tributaries in Gloucestershire.

(b) Ecological opportunities

The floodplain of the River Severn is highly productive agricultural land. As a consequence there are few areas of species-rich grassland remaining, but much of the area is important for over wintering wildfowl and a series of core areas which remain wet in summer support breeding waders, as well as acting as drop in locations for migrating waders. The objectives for the area have been described as part of Gloucestershire Wildlife Trust's Severn Vale Living Landscape Project – based on Nature Map SNAs - which envisages substantial wetland habitat creation to link the remaining core wetland areas. This has already begun around the Coombe Hill Nature Reserve and Walmore Common.

Apart from birds the area is important for other priority species such as great crested newt, otter and brown hare and work to recreate wetlands is also benefitting these species. Considerable opportunities exist to continue habitat restoration work in the Vale, notably in conjunction with sea defence maintenance and canal restoration. Given the size of the area of this proposed NIA opportunities for people to enjoy the wetlands and view the wetland wildlife are limited to as few core areas such as Slimbridge and Coombe Hill. Future wetland creation should be planned to incorporate enhanced visitor facilities. This could include the creation of a major new wetland reserve south of Gloucester which could be designed to become a major attraction for both people and wildlife.

(c) Ecosystem Services

Retaining, extending and managing the wet grassland habitat will restore and strengthen:

Food provision – livestock production

Flood storage and run-off attenuation – especially in conjunction with projects higher up in the catchment

Water quality – appropriate management of the grasslands will improve water quality

Biomass energy – potential to use wet grassland products – this has already been trialled by FWAG & NE

Climate regulation – carbon sequestration by wet woodland and grassland

Pollination – the remaining unimproved grasslands are a source of pollinating insects.

Biodiversity – the Vale supports a wealth of biodiversity, principally; lowland wet grassland, pools, scrapes and ditch network; also orchards on the periphery. Some Arable areas are important for farmland birds

(d) Links to Urban GI

The Vale is in close proximity to the major conurbations of Tewkesbury, Gloucester, Cheltenham and Stroud. A significant area of the NIA has been identified in the JCS as a “Regional Park” where inward investment and new development could enhance the natural environment and provide a visitor infrastructure. Currently much of the Vale has poor accessibility to these areas because of major barriers such as the M5. Strategic Green Infrastructure will aim to improve links and encourage access without detracting from the quiet, rural, flood plain landscape. West of Stonehouse there is considerable opportunity for habitat and access improvements as part of the Cotswold canal Restoration

2. Cotswold Scarp

(a) Area covered by the NIA

The NIA consists of the Cotswold scarp from and including the limestone valleys around Bath, the settled valleys around Stroud up to Ebrington Hill. The NIA also takes in Bredon Hill.

(b) Ecological opportunities

The western edge of the Cotswolds, based on the scarp, has retained its semi-natural character. It is an area rich in unimproved limestone grassland and ancient woodland, often forming a matrix of both habitat types. The scarp itself is dominated by permanent pasture, which if managed appropriately, can become more semi-natural in character and form a link between the existing unimproved grasslands.

The woodlands, generally on the upper slopes and crest of the scarp, particularly between Wotton-Under-Edge and Cleeve Hill, also need to be managed appropriately and linked by woodland creation.

These two intertwining habitats could create a landscape scale corridor between Bath and Mickleton, taking in the Stroud valleys en-route, of some 80 miles in length. The establishment of these large-scale corridors is vital for enabling wildlife to adapt to climate

change by moving towards a new climate space. This corridor is particularly important for this purpose because of its length and north south axis.

The focus on limestone grassland and native woodland further amplifies the value of the corridor because as broad habitat types they includes a wide array of communities including different swards, scrub, woodland edge and woodland well suited to helping a wide array of species adapt through moving.

The NIA has been identified drawing on the South West Nature Map's Strategic Nature Areas – the areas with the best habitat restoration potential identified using spatial analysis. Local expertise, wildlife site designations, habitat data and the Cotswolds AONB Landscape Character Assessment were also used.

(c) Ecosystem Services

Retaining, extending and managing the grassland and woodland of the scarp will restore and strengthen:

Timber provision – both hardwood and softwood, mostly for local markets

Food provision – livestock production

Water availability – most of the NIA lies on the Oolite, an important aquifer.

Water quality – appropriate management of the grasslands will improve water quality

Biomass energy – from woodland – firewood and woodchip and grassland – feedstock for AD

Climate regulation – carbon sequestration by woodland and grassland

Flood regulation – limited, but the matrix of grassland and woodland can help slow water flow

Pollination – unimproved grasslands are a source of pollinating insects.

Pest regulation – the unimproved grasslands and the woodland edge are a source of pest regulating species

Biodiversity – the scarp supports a wealth of biodiversity, principally; beech yew woodland, lowland mixed deciduous woodland and lowland calcareous grassland. Some Arable areas are important for farmland birds

Geodiversity – the scarp has a number of GCR and RIGS sites.

(d) Links to Urban GI

The Scarp NIA links directly to several urban areas such a Cheltenham, Gloucester, Stroud and its valleys, Cam, Dursley and Wotton-Under-Edge (and Bath) as well as forming a dramatic backdrop. A number of sites such as Crickley Hill, Cleeve Common and Painswick Beacon are popular recreational destinations for residents.

GI links are also provided by watercourses such as the River Chelt, Frome and Stroudwater Canal.

3. Cotswold Valleys

(a) Area covered by the NIA

The NIA consists of the river valley systems of the Evenlode, Windrush, Leach, Coln, Churn and the By Brook. The NIA continues into Oxfordshire, Wiltshire and Bath and NE Somerset.

(b) Ecological opportunities

The rivers represent key examples of oolitic limestone rivers, have high wildlife value and are of national importance. The quality of these rivers is threatened by current land management which causes diffuse water pollution. There are opportunities to improve the management of the existing grasslands and meadows and extending and linking by creation. Changes in farming may limit creation to wide riverside margins.

The watercourses and margins within Gloucestershire are currently the focus for Gloucestershire Wildlife Trust's long term Cotswold Rivers Living Landscapes Project. One of the primary aims of this project is to restore and connect riparian habitat for water voles. Preliminary surveys prior to the commencement of the project identified locations of extant water vole populations. By working with landowners work has been targeted to create viable habitat for water voles based upon minimum viable area (MVA) methodology. Adjoining flood plain areas, such as at Sherbourne Water Meadows, have also been a focus for activity which has benefitted a wide range of plants and animals. There are opportunities to continue this work and replicate the approach further downstream in Oxfordshire.

Whilst grasslands are the primary focus, woodlands exist along some valley heads and rims. Opportunities exist for expansion and linking woodlands

The quality of the rivers is threatened by current land management which causes diffuse water pollution. Improvement in water quality will need to focus on the management of the adjoining valley sides where there is a great opportunity to create wildlife corridors based on a mosaic of woodland, scrub and limestone grassland running north and west from the rivers Thames and Avon to the Cotswolds Scarp NIA.

Improving water quality will greatly benefit species including white clawed crayfish, water vole and otter and a wide range of invertebrates.

(c) Ecosystem Services

Retaining, managing, extending and linking the grasslands and meadows and managing the riparian margins of the rivers will restore and strengthen:

Food production - livestock

Water availability – most of the NIA lies on the Oolite, an important aquifer mostly supplying the south east beyond the Cotswolds.

Water quality – appropriate management of the grasslands will improve water quality

Biomass energy – woodfuel from woodlands and grasslands can provide feedstock for AD

Climate regulation – carbon sequestration by woodland and grassland. Potential for some tree planting to cool rivers

Flood regulation – limited, but the matrix of grassland and woodland can help slow water flow. Natural Flood Management practices could be used along the floodplains

Pollination – unimproved grasslands and river margins are a source of pollinating insects.

Pest regulation – the unimproved grasslands and the woodland edge are a source of pest regulating species

Biodiversity – The valleys sides and rims and riverside margins, Lowland Meadows and watercourses support a wealth of biodiversity

Geodiversity – the river valleys contain a number of RIGS sites

(d) Links to urban GI

Direct links to urban areas are limited from this NIA. It is essentially remote from urban areas although there are numerous small towns and villages within and adjacent to the NIA.

The area is, however, popular with visitors from major urban centres such as Gloucester, Birmingham and Swindon.

The Cotswold Rivers are tributaries of the Thames and form part of a wider, cross-regional GI linking the High Wolds of the Cotswolds to the Thames estuary passing through Oxford, Reading and London.

4. Cotswold Water Park

(a) Area covered by NIA

The NIA covers a total of 19,500 hectares within Gloucestershire, Wiltshire and Swindon Borough.

(b) Ecological opportunities

The Cotswold Water Park lies in the Upper Thames catchment, straddling the county boundaries of Wiltshire, Swindon Borough, Gloucestershire and Oxfordshire. For nearly 100 years sand and gravel have been extracted and due to the high ground water levels, the gravel and sand pits soon become inundated with water (if not in filled). Extraction is still ongoing and is likely to continue for at least another 25 years. The CWP is therefore a complex and increasingly biodiverse environment – to date more than 150 lakes have been formed, along with a range of other habitats such as reedbed and wet woodland, which complement the historic habitats of lowland neutral grassland, woodland and rivers.

By 2070 the Cotswold Water Park will be one of the largest man-made freshwater wetland complexes in Europe. It will be a unique landscape lying at the head of the Thames between Cirencester and Swindon and linking the Cotswolds to the North Wessex Downs. Due to ongoing mineral extraction, the Cotswold Water Park is one of the most rapidly changing landscapes in England.

Significant improvements to the ecological network can be achieved by progressing towards the CWP Biodiversity Vision this will:

1. Ensure that the CWP is a rich source of biodiversity, as well as a landscape-scale corridor for wildlife by linking up existing wildlife sites along 14 miles of the River Thames and its tributaries through habitat creation, enhancement and environmentally-sensitive land management.
2. Maximise opportunities for biodiversity afforded through gravel extraction, both within the life of this project but also to leave a long term legacy embedded in plans and

olicies for example minerals restoration plans, local plans, catchment management plans etc.

Physical improvements will include:

1. Habitat creation and enhancement works, to improve CWP core wildlife sites
2. Habitat creation and enhancement works to create better corridors and stepping stones to link our CWP core sites together.

Working with land owners and farmers to manage their land in ways that benefit wildlife, improve connections between and buffers around core sites. (This will have the additional benefit of enhancing Ecosystem Services – increasing flood storage and reducing diffuse pollution.)

(c) Ecosystem Services

The following ecosystem services will be supported by the CWP NIA:

1. Food production – livestock
2. Water availability –the NIA lies over an important aquifer,
3. Water quality – appropriate management of farmland present within the NIA will improve water quality
4. Biomass energy – e.g. wood fuel from woodlands and grasslands can provide feedstock for renewable technologies
5. Climate regulation – carbon sequestration by woodlands, wetlands and grassland.
6. Flood regulation – appropriate management of farmland and watercourses, habitat creation following mineral extraction.
7. Cultural services – recreation, tourism, science, education and sport – there is a contribution from recreation and sport to the health agenda.

(d) Links to Urban GI

The Cotswold Water Park links to several urban areas including Swindon via the Cricklade Country Way and Cirencester, there is potential to improve these links and also to improving access within the CWP through developing a recreational / green infrastructure network as set out in the Cotswold Water Park Master Plan 2008. (A major new residential extension to Cirencester is proposed and it is hoped that this will lead to improved links between Cirencester and the CWP, with additional links to the train station at Kemble.)

GI links are also provided by Thames and its tributaries flowing through the area.

Gloucestershire Nature Improvement Areas
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