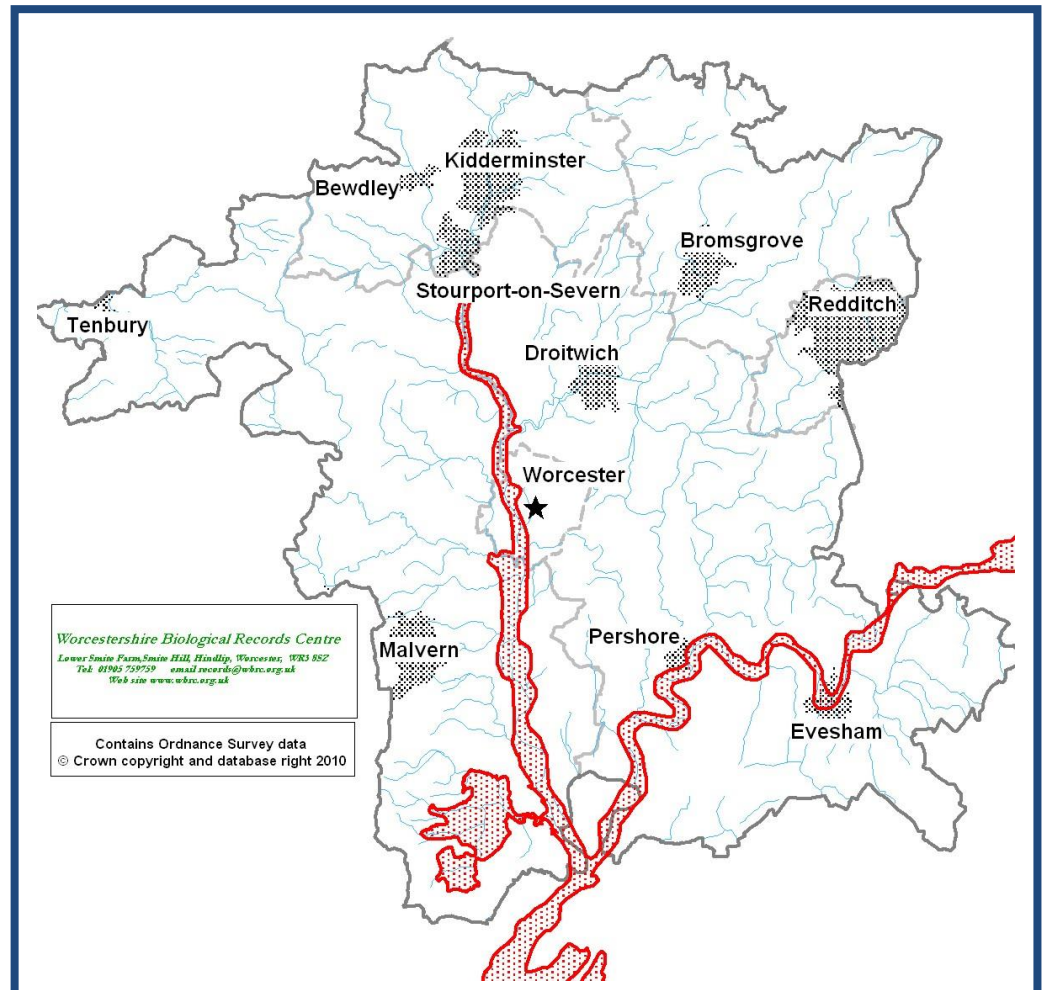


The Biodiversity Delivery Areas were agreed by the Worcestershire Biodiversity Partnership in 2009 and endorsed by the Local Nature Partnership in 2016 to indicate, spatially and strategically, where according to current knowledge and resource, priority areas for the delivery of the Worcestershire Biodiversity Action Plan.



Why is the Severn and Avon Vales a biodiversity priority?

The Severn and Avon Vales priority area encompasses the two river systems with their associated floodplains. Wetland features found along their lengths include wet pasture meadows, reedbed, wet woodland, ditches and old pollards. Much of the landscape is intensively farmed: water quality issues must be addressed along the length of the two rivers and currently fragmented riparian habitat restored or newly created. A significant policy and legislative background exists to drive work - the European Water Framework Directive and the development of the Environment Agency's River Basin Management Plans.

Severn and Avon Vales: meeting the local criteria for a Biodiversity Delivery Area

<p>Delivering Local Biodiversity Action Plan targets</p> <p>.. ability to deliver significantly towards achieving the targets and actions for multiple BAP habitats and species</p>	<p>Priority LBAP habitats: rivers and streams; fen and marsh; wet grassland; wet woodland; reedbed; lowland meadows</p> <p>Priority LBAP species: otter; water vole; common club-tailed dragonfly; farmland birds</p>
<p>Addressing socio-economic factors</p> <p>.. links to delivery of health, tourism, economic, rural regeneration, flood alleviation or other sector agenda</p>	<p>Significant potential for linking to health, tourism and recreation agendas; flood risk management and alleviation is a major driver for habitat creation and restoration</p>
<p>Practical delivery opportunities</p> <p>.. landowner and community support, projects already in preparation or existence, delivery partnership identified</p>	<p>A strong partnership exists for taking forward delivery and a significant level of landowner and community engagement has already taken place</p>
<p>Availability of resources</p> <p>.. policy or legislative drivers, existing funding streams, commitment of time and resources from partners</p>	<p>Strong policy and legislative background exists to drive delivery; Wetland Vision support; Higher Level Stewardship targeting for Severn and Avon Vales; the project area is situated within the Wye, Severn and Avon Vales Integrated Biodiversity Delivery Area</p>

What needs to be achieved within this Biodiversity Delivery Area?

<ul style="list-style-type: none"> Restore the functionality and biodiversity value of the wetland/floodplain ecosystem and demonstrate cost effective delivery of Water Framework Directive objectives through targeting: reversion of arable land to wet grassland; creation of new wetland habitat including reedbed, fen, marsh and ditch networks; promoting and supporting low-intensity grazing systems. 	<p>Meeting objectives for:</p> <p>Biodiversity ✓</p> <p>Economy ✓</p> <p>Green infrastructure ✓</p>
<ul style="list-style-type: none"> Build delivery capacity of the existing partnership, securing resources for a continued project officer post to deliver a programme of landowner liaison, engagement and advice and training activities. 	<p>Community Partnership working ✓</p>
<ul style="list-style-type: none"> Maintain multi-sector representation and community and landowner involvement in project delivery around long-term vision shared by partners in Worcestershire, Gloucestershire and Warwickshire. 	<p>Partnership working ✓</p>
<ul style="list-style-type: none"> Incorporate adaptation for climate change into project planning, so that the threats associated with climate change are reduced or eliminated through the creation of a resilient ecological network. 	<p>Climate change adaptation ✓</p>
<ul style="list-style-type: none"> Demonstrate innovation in the use of new or alternative funding sources through the delivery of multi-sector objectives. For example, delivering ecological benefits through flood defence and alleviation projects and better design of SUDs. 	<p>Biodiversity ✓</p> <p>Economy ✓</p> <p>Health ✓</p>
<ul style="list-style-type: none"> Manage and promote key nature reserves or appropriate Local Sites as 'flagships' to demonstrate best practice to other landowners and encourage recreation and volunteering and secure funding for the acquisition of further sites in key areas 	<p>Access & recreation ✓</p> <p>Biodiversity ✓</p> <p>Community ✓</p>
<ul style="list-style-type: none"> Secure funding to maintain hydrological and ecological data capture and research into restoration of soil invertebrates in lowland wet grassland 	<p>Biodiversity ✓</p>

BAP Targets for key habitats within the Severn and Avon Vales Biodiversity Delivery Area		Target Type	Worcestershire Habitat Targets 2017	West Mids Habitat Targets 2015	Proportion of West Mids target to be delivered in Worcs
Fen and Marsh	Longdon Marsh was once the most extensive area of marshland in the county prior to repeated phases of drainage. Restoration of this area is a high priority.	Maintain extent	112ha	250ha	44%
		Restore	8ha	38ha	15%
		Create	0	0	n/a
Lowland wet grassland	Huge potential exists for restoration of this habitat. Many projects are already in existence or underway and joining up these sites must be a key element of delivery.	Maintain extent	860ha	7342ha	11%
		Restore	112ha	800ha	9%
		Create	22ha	100ha	15%
Rivers and streams	The Rivers Severn and Avon and their floodplains are the core of this project area. Re-connecting river and floodplain and restoring bankside habitat is a high priority.	Maintain extent	2007km	12500km	16%
		Restore	10km	63km	11%
		Create	0	0	n/a
Neutral grassland (lowland meadow)	Found throughout the area as small scattered and isolated fragments.	Maintain extent	1225ha	2926ha	41%
		Restore	300ha	469ha	45%
		Create	66ha	202ha	23%
Wet woodland	Found throughout the area along the rivers and their tributaries.	Maintain extent	224ha	Included in Woodland target	
		Restore	112ha		
		Create	5ha		
Reedbed	Found in fringes along many sections of river and tributary channel and as a key part of wetland sites within the floodplain.	Maintain extent	30ha	154ha	19%
		Restore	n/a	n/a	n/a
		Create	100ha	73ha	73%

NB. An essential element of a biodiverse, functioning floodplain is the standing, fluctuating and seasonal water body habitats found in ditches, ponds, scrapes and main channel backwaters. Apart from ponds these do not fit easily into a single BAP habitat definition but their creation should be incorporated into any wetland project.

Contributing Projects

Worcestershire Wildlife Trust's Flagship Reserves project where key sites will be used to develop, apply and demonstrate best practice conservation methods and promote community involvement and access. Includes the Gwen Finch wetland reserve on the Avon and Hill Court Farm on Longdon Marsh.

The Severn and Avon Vales Higher Level Stewardship target area overlaps significantly with the Biodiversity Delivery Area boundary.

Worcestershire Wildlife Trust's Living Landscapes project of which the Severn and Avon Vales is a key focus.

Feeder brooks and streams of the Severn and Avon also have a significant role to play in delivering WFD objectives that will benefit the main rivers. Examples include the Bow Brook (itself a Worcestershire Biodiversity Delivery Area) and the Carrant Brook

Vale of Evesham landscape partnership project; a series of projects focussing on the unique landscape of the Vale, restoring wetland and orchard habitats and water quality improvements through Love Your River Evesham.

Delivery of green infrastructure through the South Worcestershire Development Plan housing and employment sites including the Worcester urban extensions and the Worcester Six employment site.

Avon Meadows Community Wetlands; creation of 24 ha of floodplain grassland in the valley of the river Avon to improve water quality and increase flood resilience.

Restoration of Tarmac operated Ball Mill Quarry to wetland and grassland including 1.6ha of species rich grassland.

Taking a multi-sector approach: linking biodiversity to other agendas

Access and recreation	The creation or restoration of wetland sites holds enormous potential for allowing public access or increasing existing access, contributing to the provision of economic benefits through green tourism.
Biodiversity	Significant potential to deliver county Biodiversity Action Plan targets for wet grassland/grazing marsh, wet woodland and reedbed. Research is needed into soil invertebrate abundance and levels of organic matter and into the impacts of predation on wetland species, particularly nesting birds, to fully understand the limiting extent of this factor in the successful return of species to suitable habitat.

Climate change adaptation	Restoring functionality to the floodplains of the two largest rivers in the county will deliver a continuous expanse of habitat running both north-south and east-west through Worcestershire. This will have important benefits for wetland species in adapting to climate change.
Community	Existing projects within the BDA have already successfully engaged local communities in volunteering activity. The restoration of sites and dedicated public access provides excellent opportunities for community involvement and ownership. A crucial element of success is effective landowner engagement and being able to offer and facilitate or deliver advice, training opportunities and habitat restoration and creation.
Economy	Restoration of wetland habitats and a return to ecosystem functionality within the floodplain will have potentially enormous long-term benefits in reducing flood risk and severity. Increased access and development of green tourism links will directly benefit the local economy.
Green Infrastructure	Much of the Severn and Avon river corridors have been identified as being of High GI value. Existing sites in conservation ownership already promote access to the river floodplain and where these coincide with centres of population there are strong links to flood attenuation.
Health	Activity to promote access to the countryside and volunteering can make a major contribution to the health and well being agenda.
Partnership working	A cross-border delivery partnership, Wetlands West, has been established for a number of years within this BDA, with a strong commitment amongst partners to securing continued funding for delivery.

Integrating habitat and species needs

Key Worcestershire LBAP species whose needs must be integrated into habitat management and conservation within the Severn and Avon Vales Biodiversity Delivery Area are:

- Otter: evidence of their presence is now found along the whole length of both main rivers and all of their major tributaries throughout the project area. In addition to water quality and prey availability, suitable wet woodland bankside habitat should be maintained, restored and created wherever possible.
- Water vole: this species is not believed to be currently present along the Worcestershire lengths of the Severn and Avon rivers or their tributaries. However, populations are found on these rivers in neighbouring counties and priority must be given to extending available habitat and eliminating any threats, including that posed by American mink.

Supporting information for the Severn and Avon Vales Biodiversity Delivery Area.
Statement produced October, 2016 by the Worcestershire Local Nature Partnership.

- Common club-tailed dragonfly: survey work in Worcestershire has confirmed this species breeding along the entire length of both the Severn and the Avon within the county boundary.
- Wetland birds: a key target group for Higher Level Stewardship and an essential indicator of the success of wetland restoration and creation schemes.

Further sources of information

Earth Heritage Trust www.earthheritagetrust.org

Worcestershire Biodiversity Action Plan www.worcestershire.gov.uk/biodiversity

Worcestershire Landscape Character Assessment www.worcestershire.gov.uk/landscape

Worcestershire Biological Records Centre www.wbrc.org.uk

Worcestershire Habitat Inventory - see Worcestershire Biological Records Centre

Worcestershire Historic Environment Record www.worcestershire.gov.uk/archaeology

Severn and Avon Vales National Character Area objectives - www.naturalengland.org.uk

English Nature Research Report 692: Re-creation options for River Severn/ Avon floodplain

Wetlands. www.naturalengland.org.uk