



Reedbeds Habitat Action Plan

1. Introduction

Reedbeds are a priority UK BAP habitat. They are an important habitat for several Red Data Book bird and invertebrate species. Wetland habitats in general have been seriously compromised by human activity with many drained to improve the land for agriculture.

2. Current Status

2.1 Ecology and habitat requirements

Reedbeds are wetlands dominated by, but not necessarily composed purely of, stands of the common reed (*Phragmites australis*). It includes areas of reed that are both wet and dry at their base but where the water table is at or above ground level for much of the year. Wet reedbeds have more importance for biodiversity priority species. Ideally wet reedbeds should grade into dry reedbeds, tall fen and then willow scrub.

In the UK four species of birds are highly dependent on reedbeds for their survival: reed warbler (*Acrocephalus scirpaceus*), bearded tit (*Panurus biarmicus*), marsh harrier (*Circus aeruginosus*) and bittern (*Botaurus stellaris*). They also provide roosting and feeding sites for yellowhammer (*Emberiza citrinella*) and corn bunting (*Emberiza calandra*), plus migratory species such as swallow (*Hirundo rustica*) and sand martin (*Riparia riparia*). Several raptor species, such as hen harrier (*Circus cyaneus*), use reedbeds for roost sites in winter. Five Red Data Book invertebrates are closely associated with reedbeds.

2.2 Population and distribution

There are around 5000 ha of reedbed in the UK, but of the 900 or so sites contributing to this total only about 50 are greater than 20 ha, and these make a large contribution to the total area. Reedbeds are not common or extensive in Worcestershire, although they do have a general distribution. Reedbed sites usually have to be looked for rather than providing a characteristic feature of the landscape. They are found throughout the county mainly as narrow fringes of reed along rivers, canals and ditches rather than extensive areas.

Existing knowledge of reedbeds across the county estimates the bulk of the total resource at around 26 ha on over 20 sites. The largest areas are in the order of 5 ha at Hewell Park Lake SSSI and along the Droitwich Canal. Small pockets of reedbed in ponds and fringe habitats probably go undetected and will not be included in this estimate.

2.3 Legislation

Most of the more significant reedbeds in the UK are notified as SSSI/ASSI and many are notified as Wetlands of International Importance under the Ramsar Convention and as Special Protection Areas under the EC Birds Directive.

2.4 Summary of important sites

Hewell Park Lake SSSI lies within a Grade II listed Historic Park and Garden in the grounds of HMP Hewell Grange near Redditch. The lake is a shallow artificial

lake of around 25 acres surrounded by planted ornamental woodland, some of which falls within the SSSI designation. The lake margin has extensive areas of reed, which support one of the largest colonies of reed warbler in Worcestershire and contains vigorous colonies of the locally distributed sweet flag (*Acorus calamus*) and yellow loosestrife (*Lysimachia vulgaris*). The lake and its margins have considerable ornithological importance in a local context, providing breeding habitats for waterfowl that includes the great crested grebe (*Podiceps cristatus*). The lake is also interesting for its amphibians and reptiles.

Worcestershire Wildlife Trust nature reserves

- **Upton Warren SSSI** is a 26 hectare wetland reserve whose pools were formed by underground brine extraction, which caused subsidence and consequent flooding. The reserve is notable in the county for the birdlife it attracts. Sedge warblers (*Acrocephalus schoenobaenus*), lapwing (*Vanellus vanellus*), little ringed plover (*Charadrius dubius*), avocet (*Recurvirostra avosetta*) and common tern (*Sterna hirundo*) all breed here and many more ducks and waders visit on passage. Peregrine (*Falco peregrinus*) often hunt over the pools and bittern are also annual over wintering visitors to the extensive reedbeds on the pool margins.
- **Feckenham Wyldre Moor SSSI** is an 11.5 hectare reserve that comprises the last remnants of an extensive marsh which once lay in the valley of the Brandon Brook. Originally drained for agriculture in around 1850, in more recent times the drainage system became blocked and some of the wetland characteristics of the area were restored. Base-rich clays of Keuper marl underlie the reserve and a surface layer of fen-peat, uncommon in Worcestershire, covers much of this. This reserve has much of the wildlife associated with marshland, peat and wet grassland habitats and is particularly notable for its dragonfly populations.
- **Wilden Marsh and Meadows SSSI** lies just south of Kidderminster alongside the River Stour. It covers an extensive 37.5 hectares of dry and marshy fields with small alder and willow woods, reedbeds and a network of drainage ditches. There are many old willow pollards and several black poplars. Marshland is scarce in Worcestershire and this reserve contains many plants now uncommon elsewhere including southern marsh-orchid (*Dactylorhiza praetermissa*), marsh cinquefoil (*Potentilla palustris*), marsh arrowgrass (*Triglochin palustre*), marsh pennywort (*Hydrocotyle vulgaris*) and lesser water parsnip (*Berula erecta*).

The wet nature of the site was severely damaged by deep dredging of the River Stour and although it still has wet marshes it has never fully recovered, and is now dry in long, hot summers. The part of the site managed by WWT is primarily wet grazing land and, when possible, cattle are put on to the reserve to keep down the coarser plants and to limit invasive scrub. A programme of wetland restoration is currently underway at the site, led by the Environment Agency.

- Situated on the floodplain of the River Avon near Eckington, prior to its restoration **Gwen Finch** was a 20 hectare agriculturally drained semi-improved ryegrass lay with little or no wildlife value. Restoration works began in 1999 when WWT purchased the site and were completed in

2001. This involved the creation of 4 large scrapes, 3 of which were planted with reeds. A former drainage ditch together with sections of the river were re-profiled to create shallow areas. Water from the Berwick Brook is pumped onto the site via two windpumps with any excess returning to the river. By 2001 otters (*Lutra lutra*) were already using the reserve and redshank, yellow wagtail and reed warbler were breeding.

The **Droitwich Canal** has been abandoned as a commercial waterway since 1939. It supports frequently channel-wide reedbeds of County significance and the value of the canal corridor is enhanced further where it runs close to the River Salwarpe. The reedbeds hold one of the largest colonies of reed warbler in the county and provide breeding habitat for waterfowl, otters and a range of invertebrates including several species of dragonfly and damselfly. The canal fell into disrepair after abandonment but since the 1960s has been subject to various restoration efforts. The Droitwich Canals Trust was formed in 1973 and since that time has been working to gradually reopen both the towpaths and the canal itself to the public and recreational boat traffic. The Droitwich Canals Restoration Partnership, with British Waterways as lead partner, has to date secured over £10 million for the completion of the restoration project by 2008.

Westwood Great Pool SSSI is a man-made lake originally constructed as a major landscape feature. It now represents one of the largest areas of open water in Worcestershire, important for both its plant and bird communities, with peripheral areas of grassland and woodland. The lake and its margins support a wide variety of plants including yellow water lily (*Nuphar lutea*) and two national rarities, the eight-stamened waterwort (*Elatine hydropiper*) and the UK BAP species ribbon-leaved water plantain (*Alisma gramineum*), protected under schedule 8 of the Wildlife and Countryside Act. The latter species was first discovered in Britain at Westwood Great Pool in 1920, and is known from only three other sites in the country.

The northern and eastern margins of the Lake support extensive beds of common reed, great reedmace (*Typha latifolia*) and bulrush (*Schoenoplectus lacustris*). The marginal vegetation provides a valuable ornithological habitat, with breeding birds including reed warbler, great crested grebe, tufted duck (*Aythya fuligula*) and pochard (*Aythya ferina*). Westwood Great Pool is also one of the most important sites for over-wintering waterfowl in Worcestershire.

Oakley Pool SSSI consists of a pool surrounded by reedswamp, fen and grassland. The pool appears to have been formed by subsidence following underground brine extraction and is thought to be still extending due to continued subsidence. Besides common reed the marginal vegetation includes meadowsweet (*Filipendula ulmaria*), great reedmace, great and lesser pond sedge (*Carex riparia* and *C. acutiformis*) and great willow-herb (*Epilobium hirsutum*). The submerged plants include the locally uncommon hornwort (*Ceratophyllum submersum*).

The secluded nature of the area provides a valuable breeding site for a number of birds including the reed warbler, which has a large breeding colony in the reedswamp. The margins of the pool also provide secure breeding areas for little grebe (*Tachybaptus ruficollis*), tufted duck, pochard and ruddy duck (*Oxyura jamaicensis*). Grasshopper warbler (*Locustella naevia*) breed in the tall

vegetation at the north end of the pool. The site is regularly used for bird ringing and other ornithological research, which adds to its scientific importance.

3. Current factors affecting the habitat

- The small total area of habitat and small population sizes of several key species dependent on the habitat.
- The lack of or inappropriate management of existing reedbeds leading to drying out, scrub encroachment and succession to woodland.
- The invasion by alien species such as Himalayan balsam (*Impatiens glandulifera*) is causing devastating degradation and losses of wetland sites both in Worcestershire and the UK as a whole. Even sites that are nominally protected and / or under conservation management will not retain their wetland integrity without eradicating balsam. Invasion by balsam also prevents optimum grazing, which further damages the wet grassland element of sites.
- Excessive water abstraction leading to drying out.
- Pollution by road or agricultural runoff leading to damage by chemicals or silt build-up.
- Destruction due to recreational and development pressure and land use change.
- The isolation of sites leaving populations of species within them vulnerable with limited colonisation potential.
- The restoration work to the Droitwich Canal will involve major changes to the canal environment and surrounding habitats, including the near total loss of an extensive existing reedbed. It must be ensured that the biodiversity value of the canal corridor is maintained and that all losses of and damage to existing habitat are appropriately mitigated for.

4. Current Action

4.1 Local protection

About 16% of the reedbed sites in Worcestershire, covering about 30% of our reedbed resource, are notified as Sites of Special Scientific Interest, the largest being Hewell Park Lake. Other reedbeds are County Special Wildlife Sites.

4.2 Site management and programmes of action

Hewell Park Lake SSSI, sitting within 230 acres of neglected garden and parkland surrounding Hewell Grange mansion, became the property of HM Prison Service in 1946. Since that time both the Prison Service and the Hereford and Worcester Gardens Trust have worked to restore some of the original landscape features of the site. A new management plan was drawn up in 2006 that outlines conservation objectives for each of the discrete landscape feature / habitat 'parcels' identified within the park. A key challenge for HMPS in managing the site with regards to its biodiversity value is to integrate the demands of the various land-use pressures within the park, bearing in mind its modern-day function as an open prison and as a prison farm, with the aspirations of interested conservation bodies in restoring the historic features of the gardens and parkland, as well as fulfilling their legal obligations with regards to the SSSI.

The management plan contains a commitment to conserve the ecological interest of the lake, reedbeds and surrounding wet woodland. One of the key restoration projects due to take place at Hewell Grange is to restore (re-open) the Repton-

designed views across the lake which will involve the removal of willow (*Salix* sp.) and alder (*Alnus glutinosa*) scrub, rhododendron (*Rhododendron ponticum*) and some standard trees on the lake fringes. This will have the added effect of removing scrub encroachment from the reedbed. Hewell Park Lake has suffered in the past from over-abstraction of groundwater in the area and HMPS are working with Natural England and Severn Trent Water to ensure water levels are maintained.

There are a large number of **mineral extraction sites** within the county that have restoration plans involving the large-scale creation of areas of habitat for nature conservation gain. These sites are making a valuable contribution to increasing the reedbed habitat within Worcestershire and will to continue to do so as extraction phases end and restoration plans are implemented.

Worcestershire Wildlife Trust own and manage several of the county's most important sites for reedbed. The reserve at Hill Court Farm is being restored to incorporate extensive areas of wetland including wet grassland and reedbed.

The Environment Agency is leading on the restoration of **Wilden Marsh** nature reserve, with support from Worcestershire Wildlife Trust and Natural England. The proposal is to install a natural rock weir at the south end of the reserve and this is awaiting approval. Restoration of the ditch network will allow ongoing management of water levels and so will enable standing winter water to be reduced. Worcestershire Wildlife Trust has reintroduced grazing on their part of the reserve and is controlling the invasive Himalayan balsam.

Many of the county's reedbeds, in particular those of SSSI status, will be subject to **water level management plans**. The Defra Water Level Management Plan (WLMP) initiative provides a means by which the water-level requirements for a range of activities in SSSIs and Natura 2000 sites, including conservation, agriculture and flood defence, can be balanced and integrated. Water-level management is a key part of achieving favourable condition on many designated sites. WLMPs are developed with landowners in order to deliver sustainable water level management and environmental improvements.

The **Higher Level Environmental Stewardship Scheme** contains options for the maintenance, restoration and creation of reedbeds and capital grants are available for water level control and distribution structures.

The increasing use of **Sustainable Drainage Systems (SuDS)** has resulted in the creation of a number of small new reedbed sites as part of village sewage treatment works and other developments.

- The Environment Agency has a policy to promote SuDS as a technique for the sustainable management of surface and groundwater and they have published several guides and good practice notes for incorporating SuDS features into the design of developments.
- CIRIA (Construction Industry Research and Information Association) are running an initiative to promote good practice in the implementation of sustainable drainage systems, providing advice, information and training events on the use of SuDS.
- During the redevelopment of farm buildings during 2004 Worcestershire Wildlife Trust installed a reedbed filtration system to take all grey water

produced at their offices and education centre. The Trust also uses training events for local planning authorities and developers to recommend the use of SuDS and soft engineering solutions.

The RSPB, English Nature, Broads Authority and the Reedbed Growers Association have published a leaflet on 'Reedbed Management for Bitterns' and the management guide 'Reedbed Management for Commercial and Wildlife Interests Handbook' to encourage the management and creation of reedbeds.

Natural England, FWAG, Worcestershire Wildlife Trust and RSPB staff can provide advice on appropriate management, rehabilitation, extension and creation of reedbeds.

4.3 Survey, research and monitoring

In 1998 **Worcestershire Wildlife Trust** conducted an Environment Agency-funded wetland survey of 84 sites: 54 that had previously been surveyed in 1978 and an additional 30 sites some of which had been discovered in the intervening years. Each site was divided into its compartmental homogenous stands of a single NVC community type and a full species list collected for each. In 1998, sites ranked as containing proportionately the highest amount of either wet (S26) or dry (S4) reedbed were Northwick Marsh, Wilden Marsh and Meadows, Feckenham Wylde Moor, Grimley Brick Pits, Podmore Pool, Oakley Pool, Hurcott Pool and Shrawley Brick Pits and Marsh. The survey found a total of 8.56 ha of S4 and S26 across all the sites surveyed, with the largest single stand of S4 at Oakley Pool and S26 at Feckenham Wylde Moor. The report emphasises that as rivers, canals and standing open water bodies were not included within the survey, this total probably represented only around one third of the reedbed and reedswamp present in the county (Liley, 1999).

In 1999 English Nature, the Environment Agency and the RSPB commissioned a report "The Re-creation options for the River Severn/Avon floodplain wetlands" (Ecoscope, 1999) in response to widespread concern over the dramatic loss of floodplain habitats and key species of flora and fauna, especially breeding waders such as lapwing, snipe, curlew (*Numenius arquata*) and redshank, within the river catchment. The study evaluated the potential for restoring UK Biodiversity Action Plan (BAP) habitats and target species on eighteen floodplain areas within the Severn and Avon Vales Natural Area. The report provided a basis for strategic planning and targeting of resources and in 2000 the **Severn and Avon Vales Wetlands Partnership** (SAVWP) was established. Key objectives include the creation and sustainable management of a mosaic of floodplain habitats such as wet grassland, reedbed and wet woodland and the protection of the wildlife that these habitats support.

5. Associated Plans

Canals, Fen and Marsh, Rivers and Streams, Ponds and Lakes, Wet Grassland, Wet woodland.

6. Vision Statement

To exploit all opportunities for the creation of reedbed habitat, both for nature conservation value alone and for the valuable role that this habitat can play in sustainable water and waste management.

7. Targets

Target Type	Target text	Baseline value	Target value	Target Timescale
Expand	Create 100 ha of reedbed	26 ha	126 ha	2017

8. Actions

Action code	Action Category	Action Text	Location	Action Timescale	Lead organisation	Support organisation
WRC RED CA 01	2.11	Through the development control system, where appropriate recommend the use of Sustainable Drainage Systems and the inclusion of reedbeds as a component of this.	Worcestershire	2017	WWT	WCC
WRC RED HC 01	7.4	Review mineral extraction site restoration plans that have not yet been completed or begun and seek to secure where possible any changes to these plans to maximise reedbed creation.	Worcestershire	2009	WCC	
WRC RED HS 01	6.12	Ensure that all future restoration plans drawn up for mineral extraction sites are designed to maximise reedbed creation.	Worcestershire	2017	WCC	
WRC RED HC 02	7.4	Where appropriate demand the inclusion of Sustainable Drainage Systems within development plans that incorporate reedbeds as a component.	Wychavon District	2017	WDC	
WRC RED HC 03	7.4	Where appropriate demand the inclusion of Sustainable Drainage Systems within development plans that incorporate reedbeds as a component.	Worcester City	2017	WorcsCC	
WRC RED HC 04	7.4	Where appropriate demand the inclusion of Sustainable Drainage Systems within development plans that incorporate reedbeds as a component.	Malvern Hills District	2017	MHDC	
WRC RED HC 05	7.4	Where appropriate demand the inclusion of Sustainable Drainage Systems within development plans that incorporate reedbeds as	Wyre Forest District	2017	WFDC	

		a component.				
WRC RED HC 06	7.4	Where appropriate demand the inclusion of Sustainable Drainage Systems within development plans that incorporate reedbeds as a component.	Bromsgrove District	2017	BDC	
WRC RED HC 07	7.4	Where appropriate demand the inclusion of Sustainable Drainage Systems within development plans that incorporate reedbeds as a component.	Redditch District	2017	RBC	
WRC RED SU 01	13.2	Establish accurate baseline value of the total reedbed resource in Worcestershire using Worcestershire Habitat Inventory	Worcestershire	2008	WCC	
WRC RED CA 02	2.12	Work with Droitwich Canals Partnership to secure best possible biodiversity outcomes for restoration works, including creation of the mitigation reedbed at Salwarpe.	Droitwich Canals	2010	BW	WWT WCC
WRC RED CA 03	2.13	Maintain communication and liaison with Droitwich Canals Trust post completion of restoration works to ensure continuation of appropriate nature conservation management.	Droitwich Canals	2017	BW	WWT WCC WDC
WRC RED CA 04	2.11	Input into development of Biodiversity Action Plan document for HMP Hewell Grange grounds to ensure biodiversity value of the lake and reedbed is maintained.	Hewell Grange	2010	WCC	

WCC – Worcestershire County Council	WWT – Worcestershire Wildlife Trust	BW – British Waterways
WDC – Wychavon District Council	WorcsCC – Worcester City Council	BDC – Bromsgrove District Council
MHDC – Malvern Hills District Council	WFDC – Wyre Forest District Council	RBC – Redditch Borough Council

References and further information

Liley, M (1999). *Worcestershire's Wetlands: report of 1998 botanical survey*.
Worcestershire Wildlife Trust.

www.severnwetlands.org.uk - website of the Severn and Avon Vales Wetlands Partnership.

www.ciria.org.uk - Construction Industry Research and Information Association

www.naturalengland.org.uk - Natural England

www.worcswildlifetrust.co.uk - Worcestershire Wildlife Trust

www.environment-agency.gov.uk - Environment Agency

www.britishwaterways.co.uk - British Waterways

www.worcs.com/dct/ - Droitwich Canals Trust