Reedbed Habitat Action Plan

1. Introduction

Reedbeds were listed as a priority UK BAP habitat and subsequently in Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. 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 Description of habitat

Reedbeds are wetlands dominated by, but not necessarily composed purely of, stands of the common reed (*Phragmites australis*). The habitat 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 generally have more importance for biodiversity priority species. Ideally wet reedbeds should grade into dry reedbeds, tall fen and then willow scrub.

Three National Vegetation Classification (NVC) communities of reedbed, reedmace and other emergent swamp occur in Worcestershire. These are described in the table below. Of the three, S4 is the most frequent in the county.

NVC Code	Community Description
S4	***Phragmites australis*** swamp and reed-beds Dominated by dense stands of common reed, generally with few other species present. Sometimes willow invasion.
S13	***Typha angustifoliua*** swamp This is dominated by lesser reedmace which prefers more basic water around pools with silty substrate.
S26	***Phragmites australis-Urtica dioica*** tall-herb fen Common reed and nettle are normally dominant on relatively dry soil conditions. Other tall species can be dominant in patches. Goosegrass often common.

Reedbeds are very important habitats for birds in the UK. They support a distinctive breeding bird assemblage including six species which are largely, or totally, restricted to this habitat during the breeding season: bittern (*Botaurus stellaris*), marsh harrier (*Circus aeruginosus*), crane (*Grus grus*), Cetti's warbler (*Cettia cetti*), Savi's Warbler (*Locustella luscinioides*) and bearded tit (*Panurus biarmicus*). In Worcestershire reedbeds are used by bittern, Cetti's warbler and marsh harrier at various times of year as well as providing important roosting opportunities for migratory species such as swallow (*Hirundo rustica*) and sand martin (*Riparia riparia*). Five Red Data Book invertebrates are closely associated with reedbeds.

2.2 Distribution and extent

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 (Natural England and RSPB, 2014). Reedbeds

are not common or extensive in Worcestershire, although they do have a county-wide distribution. Reedbeds usually have to be looked for rather than providing a characteristic feature of the landscape. In Worcestershire they are mainly found as narrow fringes 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 Protection of the habitat

Legal protection can be granted through the designation of a Site of Special Scientific Interest (SSSI) under the Wildlife and Countryside Act 1981 (as amended). Most of the more significant reedbeds in the UK are notified as SSSI and many are notified as Wetlands of International Importance under the Ramsar Convention and as Special Protection Areas (SPA) under the EC Birds Directive.

Reedbeds are listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

Sites not meriting SSSI status can be listed as a Local Wildlife Site (LWS). Although not a statutory designation LWS status does confer some protection through the planning system.

2.4 Summary of important sites

Hewell Park Lake SSSI lies within 93 ha of Grade II listed Historic Park and Garden in what is now the grounds of HMP Hewell Grange near Redditch. The SSSI is owned and managed by HM Prison Service. A shallow artificial lake of around 10ha is surrounded by ornamental woodland, some of which falls within the SSSI designation. The lake margin has extensive areas of reed, which host a large colony of reed warblers, support other breeding species such as great crested grebe (*Podiceps cristatus*) and contain vigorous colonies of sweet flag (*Acorus calamus*) and yellow loosestrife (*Lysimachia vulgaris*). Bittern have been recorded here and the lake is also interesting for its amphibians and reptiles.

Worcestershire Wildlife Trust nature reserves

- **Upton Warren SSSI** is a 26 ha wetland reserve whose pools were formed by subsidence and flooding following underground brine extraction. The reserve is notable in the county for the birdlife it attracts, including breeding lapwing (*Vanellus vanellus*), little ringed plover (*Charadrius dubius*), avocet (*Recurvirostra avosetta*) and common tern (*Sterna hirundo*). Bittern are now regular over wintering visitors to the extensive reedbeds on the pool margins. Management of the reedbeds is balanced with maintaining the open saltmarsh habitat.

- **Feckenham Wylde Moor SSSI** is an 11.5 ha reserve which comprises the last remnants of an extensive marsh that 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. The reserve has much of the wildlife associated with marshland, peat and wet grassland habitats and is particularly notable for its dragonfly fauna.

- The **Gwen Finch Wetland Reserve**, in a loop of the River Avon near Eckington, was created by Worcestershire Wildlife Trust in 2001 from former agricultural fields. The 20 ha site contains wet woodland, wet grassland, four large scrapes, reedbed and a flooded former drainage channel fringed with reed. Water from the Berwick Brook is pumped onto the site via two windpumps with any excess returning to the river. The site is important for otters (*Lutra lutra*) and birds including redshank (*Tringa totanus*), yellow wagtail (*Motacilla flava*) and reed warbler.

- **Wilden Marsh and Meadows SSSI** lies alongside the River Stour and is the richest and most diverse wetland habitat in Worcestershire. It includes fen, damp meadow, marshy grassland, small alder and willow woods and patches of linear reedbed along a network of drainage ditches. There are many old willow pollards and several black poplars. The tall fen vegetation in the centre of the site is botanically rich with large colonies of lesser reedmace (*Typha angustifolia),* southern marsh-orchid (*Dactylorhiza praetermissa*), marsh cinquefoil (*Potentilla palustris*), marsh arrowgrass (*Triglochin palustre*), marsh pennywort (*Hydrocotyle vulgaris*) lesser waterparsnip *(Berula erecta)* and water dock *(Rumex hydrolapathum).*

The **Droitwich Canal**, both Barge and Junction sections, was abandoned as a commercial waterway in 1939 and it went on to develop frequently channel-wide reedbeds of some significance. These held one of the largest colonies of reed warbler in the county and provided breeding habitat for waterfowl, otters and a range of invertebrates including several species of dragonfly and damselfly. The Droitwich Canals Trust was formed in 1973 and began to seek support and funding for the restoration and reopening of the navigation. The Droitwich Canals Restoration Partnership, with British Waterways as lead partner, completed the restoration in 2011. Although significant areas of the reedbed fringe habitat were removed during the restoration other areas were created in compensation, including the 2.5 ha Coney Meadow reedbed now managed as a nature reserve by the Canal & River Trust. The value of the canal corridor is enhanced further due to its proximity to the River Salwarpe. Great crested newts (*Triturus cristatus*) were present in the disused arm of the canal and a series of ponds were created as mitigation for this species when the canal was restored.

Westwood Great Pool SSSI is a man-made lake originally constructed as a major landscape feature. It is 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, eight-stamened waterwort (*Elatine hydropiper*) and ribbon-leaved water plantain (*Alisma gramineum*), both protected under schedule 8 of the Wildlife and Countryside Act 1981 (as amended). Westwood Great Pool was the first British record for the latter in 1920 and it 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 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 open water surrounded by reedswamp, fen and grassland. The pool appears to have been formed by subsidence following brine extraction and is thought to be still extending due to continued subsidence. The marginal vegetation includes common reed, meadowsweet (*Filipendula ulmaria*), great reedmace, greater and lesser pond sedge (*Carex riparia and C. acutiformis*) and great willow-herb (*Epilobium hirsutum*). Submerged plants include the locally uncommon soft hornwort (*Ceratophyllum submersum*). The reedswamp provides habitat for a large breeding colony of reed warbler. The margins of the pool also provide secure breeding areas for little grebe (*Tachybaptus ruficollis*), tufted duck, and pochard. Grasshopper warbler (*Locustella naevia*) breeds 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.

Turnmill Pond, part of the Bournes Dingle and Turnmill Pond Local Wildlife Site complex, is a damned, ornamental fish pool that contains one of the county's largest single stands of reedswamp dominated by common reed and reedmace. This supports a sizeable colony of reed warbler and notable migratory visitors include bittern and hobby (*Falco subbuteo*).

The historic **Longdon Marsh** area contains an extensive network of linear reedbeds along stream corridors and drainage ditches.

3. Current factors affecting the habitat

- The small size of individual habitat blocks, 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.

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 SSSI, the largest being Hewell Park Lake.

Many other reedbeds are listed as LWS, which gives some protection within the planning system.

4.2 Site management and programmes of action

Hewell Park Lake SSSI became the property of HM Prison Service in 1946. Since that time the Prison Service has worked with the Hereford and Worcester Gardens Trust and other partners to restore some of the original landscape features of the site. The Ministry of Justice (MoJ) undertook a Phase 1 habitat survey of the entire Hewell Park estate in July 2018 and this recommended the instigation of rotational cutting of the reedbed as well as further species-specific surveys. HMP Hewell has its own Reedbed and Fen Habitat Action Plan and Ponds and Lakes Habitat Action Plan prepared by the MoJ.

Planning permission was granted in 2017 for works to alter the dam and the height of the embankment along part of Hewell Park Lake to satisfy flood risk assessments under the Reservoirs Act 1975. This work will result in the removal of or damage to some of the marginal vegetation at the south east corner of the lake but there are opportunities for habitat creation and enhancement as part of the restoration and landscaping.

A restoration-led approach to the identification and working of minerals extraction sites within the forthcoming county **Minerals Local Plan** should allow for the large-scale creation of areas of habitat including reedbed for nature conservation gain.

Worcestershire Wildlife Trust own and manage several of the county's most important reedbed sites. In addition to the management of those mentioned in 2.4 the reserve at Hill Court Farm, situated within the historic Longdon Marsh, is being restored to incorporate extensive areas of wetland including wet grassland and reedbed.

Agri-environment Schemes have offered options for the maintenance, restoration and creation of reedbeds and capital grants for water level control and distribution structures such as at the John Bennett wetland reserve alongside the River Avon at Birlingham.

The increasing use of **Sustainable Drainage Schemes (SuDS)** has resulted in the creation of a number of new reedbeds, often as part of a larger complex of wetland and grassland habitat. Significant examples in Worcestershire include:

- The SuDS at Hopwood Park motorway services on the M42, constructed in 1999. The performance and cost-effectiveness of this installation has been demonstrated by researchers (Heal *et al*, 2009).

- The Offerton Lane Local Nature Reserve in Worcester includes two areas of SuDS wetland created to receive rainwater run-off from the adjacent industrial estate.

4.3 Survey, research and monitoring

In 1998 **Worcestershire Wildlife Trust** conducted a survey of 84 wetland sites across the county: 54 that had previously been surveyed in 1978 and an additional 30 sites some of which had been discovered in the intervening years. Sites with the greatest 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, Turnmill Pool, Hurcott Pool and Shrawley Brick Pits and Marsh (Liley, 1999).

5. Associated Plans

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

6. Conservation Aim

The total area of reedbed within the county has been increased and all significant areas of managed reedbed (in a local county context) are in good condition.

7. Conservation Objectives

- Maximise the incorporation of reedbed within the design for SuDS schemes where appropriate

- Promote the creation of on-farm reedbeds for filtration of surface water run-off and the capture of silt

- Where possible and appropriate expand the size of existing high value reedbeds in order to increase suitability of the sites for species such as bittern

- Deliver an event and disseminate best practice guidance on methods of managing reedbed to prevent succession to carr woodland

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