

Habitat Action Plan

Reedbeds



Reedbeds and Bittern © Mike Waite

*“Sweet are the sounds that mingle from afar,
Heard by calm lakes, as peeps the folding star,
Where the duck dabbles 'mid the rustling sedge,
And feeding pike starts from the water's edge,
Or the swan stirs the reeds, his neck and bill
Wetting, that drip upon the water still;
And heron, as resounds the trodden shore,
Shoots upward, darting his long neck before.”*
(William Wordsworth 'An Evening's Walk')

1. Aims

- To ensure the protection and optimal management of reedbeds in Greater London.
- To demonstrate the value of reedbeds to Londoners.
- To promote the creation of reedbeds in the urban environment.

2. Introduction

Reedbeds are areas of shallow water dominated by a tall wetland grass called common reed (*Phragmites australis*). The UK's largest native grass, common reed is a particularly conspicuous species, with cane-like stems that last throughout the winter.

London's reedbeds occur at the margins of all kinds of waterbodies and alongside several other habitats, including wet woodlands and willow-dominated scrub.

Historically, the Thames Estuary and basin would have supported extensive reedbeds. Most of London's natural reedbeds are today confined to a few sites on the Thames and its tidal tributaries, largely in the east. These have been supplemented by many man-made reedbeds in a variety of current and post-industrial structures, including restored gravel workings, reservoirs and flood storage basins. Recently, the demand for alternative water treatment applications has added further small-scale reedbeds, especially within the most built-up sectors of the Capital, to perform multi-functional roles including filtration of nutrients, removal of harmful pollutants, and storage of urban run-off and floodwater.

Although London's reedbeds contain few of the nationally rare and specialised plants associated with the habitat, they remain home to many of our more interesting and regionally uncommon wildlife. Secretive birds such as the water rail, reed and sedge warblers, the rapidly declining water vole, harvest mouse, and a host of invertebrate species, are dependent on the dense cover provided by reedbeds. Relative newcomers to London include the enigmatic bittern and even the otter. The bittern has spent recent winters in reedbeds only a few miles away from Westminster.

3. Current Status

Across the UK, up to 40% of reedbed habitats were lost between the years of 1945 and 1990. Reedbeds are therefore considered a nationally scarce habitat and are a priority habitat for conservation in the UK Biodiversity Action Plan (DOE, 1995). They are an important habitat for several nationally rare breeding birds in the UK, some of which have bred in Greater London (for example Cetti's warbler and bearded tit). In 2000, the Environment Agency assessed that reedbeds covered 228 ha across 79 sites within the Thames catchment.

The habitat in London is estimated at 125.4 ha (GIGL), covering a fraction (0.09%) of the Capital's surface area. The largest continuous areas occur in the Roding Creek (Newham) and the Ingrebourne Valley (Havering). More recently, stands under 0.5 ha have been included in the London audit, as these represent an important additional resource. These include many of the marginal reedbeds recently established in London's Victorian park lakes, aimed at reducing the highly eutrophic conditions of these urban wetlands. Another example includes the small reedbed in Crane Park Island Nature Reserve (Richmond), which despite its size supports a thriving population of water voles. However, there are likely to be a number of smaller reedbeds that have not been accounted for in the audit. Furthermore, the transient nature of reedbeds underlies the importance of regular re-surveys to retain an accurate overview of the habitat resource across London.

To counter their decline, there is growing pressure nationally to plan for the creation of reedbeds wherever this might be appropriate, often backed by financial incentives. Good examples of habitat creation within the region include the London Wetland Centre, Kempton Park Nature Reserve and Lee Valley Regional Park. Further reedbed creation schemes, required in part for bioremediation purposes and Sustainable Urban Drainage

(SUD) schemes, might well reverse the decline of what was a trademark feature of London's landscape. More recently, there has been an increase in the number of reedbed creation projects undertaken throughout the Capital, which have helped not only to negate any past loss, but also have seen a positive change in fortune for this scarce habitat resource.

4. Specific Factors Affecting the Habitat

4.1 Sea level rise

The projected rise in sea level may lead to a net attrition of the remaining reedbeds in the tidal reaches of the River Thames, through physical erosion and changes in salinity. Opportunities for flood defence realignment (and associated reedbed creation) are severely limited on the tidal Thames in most of Greater London.

4.2 Development and habitat loss

Extensive reeds would have marked every major tributary's floodplain, delta and creek mouth, prior to the widespread land drainage and flood defence schemes essential to the development of the modern city. Reedbeds continue to be threatened by the crucial maintenance of such schemes, requiring the periodic dredging or diversion of watercourses.

4.3 Water quality

Pollution of freshwater affects reedbeds, and can result in amphibian and fish kills, the accumulation of toxins in the food chain, and excessive eutrophication, causing the reeds to die back. The high volume of storm-water run off from the non-absorptive surfaces of the built environment is an additional source of pollutants particularly associated with the urban situation.

4.4 Water quantity

Many London watercourses experience low freshwater flows in summer due to over-abstraction upstream. On the tidal Thames and creeks, this raises salinity levels further upstream, which could damage freshwater plant communities. Low flows can also dry out marginal vegetation, increasing the speed of natural succession with the onset of scrub and woodland colonisation. Similarly, standing waterbodies are also subject to seasonal differences in water levels, which can be extremely variable in certain circumstances (for example, Bedfont Lakes Country Park, Hounslow). The occurrence of water shortages and the securing of abstraction licences are important factors to take into account when planning to create a new reedbed.

4.5 Management issues

The RSPB has identified management neglect as the major contributing factor leading to reedbed losses across the UK in the last 20 years (Hawke & José, 1996). Inappropriate management including lack of intervention in wet woodland colonisation, ill-planned dredging, or the overgrazing of ditch and canal margins by livestock can lead to further losses to linear reedbeds, especially in more rural situations. Furthermore, species

range expansion requires some consideration as factors including climate change might alter the way in which a reedbed is managed (for example, the future increase of breeding Cetti's Warbler in London).

4.6 Problem species

Reedbeds are particularly vulnerable to problems caused by invasive, non-native species. These include overgrazing of recently planted or cut-over reeds by Canada geese, and bank destabilisation by Chinese mitten crabs. Furthermore, colonisation by invasive plants within or adjacent to reedbeds can potentially influence how the habitat is managed longer-term.

4.7 Recreational activities

Water-based recreation is increasing in popularity, including angling and waterborne transport. Unless managed carefully, this can disturb reedbeds and their wildlife, for example by disrupting breeding birds. During summer, increased public access could leave drier reedbeds more vulnerable to deliberate or accidental destruction by fire.

4.8 Public perception

Small, urban reedbeds are likely to be perceived as lacking any substantial biodiversity value, particularly as their associated wildlife is typically elusive. Reedbeds may even be viewed as unsightly (trapping wind-blown or tidal rubbish, and blocking views to open water). Some anglers may forget the importance of reedbeds as fish spawning grounds and view them as a hazard, which entangles fishing line and prevents clear line casting. Furthermore, landowners tend to see no economic benefits for retaining reedbeds within an agricultural context, although the Environmental Stewardship Scheme has subsidised reedbed management in a number of the London boroughs.

4.9 Climate Change

Common reed grows as far south in Europe as the Mediterranean and, in this respect, might be expected to tolerate the initial effects of global warming. However, the long-term prognosis is unclear, as both the quantity and quality of reedbed in London could alter due to climate change as a result of factors discussed above in 4.1, 4.4 and 4.5.

5. Current Action

5.1 Legal status

All of the larger reedbeds identified in the London Biodiversity Audit, as well as most of the smaller examples, are included within Sites of Importance for Nature Conservation (SINC). There will remain some smaller reedbeds that are not protected through the planning system, especially those within wetland creation schemes in recently completed developments.

Some reedbed sites receive statutory protection as Sites of Special Scientific Interest (SSSI) and/or Local Nature Reserves (LNR). SSSIs with important reedbeds include the Inner Thames Marshes and Ingrebourne Marshes (both in Havering), the London Wetland Centre (Richmond), Walthamstow Marshes (Waltham Forest) and Brent

Reservoir (Barnet and Brent). Pen Ponds in Richmond Park lie both within a SSSI and a National Nature Reserve. LNRs include Bedfont Lakes (Hounslow), Lonsdale Road Reservoir (Richmond) and parts of Brent Reservoir and The Chase (Barking and Dagenham). Parts of the Ingrebourne Marshes are also being considered for protection as an LNR. Reedbeds at Kempton Park Nature Reserve and Walthamstow Reservoirs are within Ramsar Sites and Special Protection Areas for wild bird conservation under international and European legislation.

Specially protected species often associated with the habitat in London include not only kingfisher and water vole, but also less frequently grass snake and great crested newt. Bearded tit and Cetti's warbler have occasionally bred in London's reedbeds, while the bittern is becoming a regular wintering species.

5.2 Mechanisms Targeting the Habitat

These current actions are ongoing. They need to be supported and continued in addition to the new action listed under Section 7.

5.2.1 Management, creation and guidance

In most protected sites, there is a clear priority to maintain the integrity of their reedbed habitats by monitoring both water level and quality. None of London's reedbeds are large enough to be harvested traditionally. However, some rotational cutting is undertaken in nature reserves both for the benefit of the reedbed faunal assemblage and to prevent loss of reedbed habitat from encroachment by wet scrub or woodland (for example at the London Wetland Centre, in the Lea Valley and at Bedfont Lakes). There are also examples of organisations putting resources into reedbed restoration projects, for example Pen Ponds reedbed in Richmond Park.

Several ongoing, strategic redevelopment schemes have included reedbeds within their wetland habitat creation commitments. Sites include Thamesmead, the Greenwich peninsula and some of the London Docklands developments. Other large reedbeds are planned for future projects, for example at Beddington Farmlands in Sutton and as part of the Lower Lee Valley regeneration and Olympic Games master plans. Many smaller reedbeds have been planted to improve the biodiversity and water quality of more established urban wetland features, such as in lakes of many of London's formal parks and along restructured watercourses. Others are planned to form part of wider landscape restoration schemes, such as the Thames Landscape Strategy's Arcadia 2000 project in West London.

Boardwalks have been constructed to allow access and improved interpretative opportunities at a number of sites, including the London Wetland Centre and at the Spencer Road Wetland LNR in Sutton.

Several agencies have produced guidance documents to encourage the management and creation of reedbeds, including the RSPB/EN leaflet 'Reedbed Management for Bitterns', EU Life Nature Co-op/RSPB (2006) 'The Bittern in Europe: a Guide to Species and Habitat Management', and the handbooks 'Reedbed Management for Commercial and Wildlife Interests' (Hawke & José, 1996) and London Biodiversity Partnership's (2007) 'Reedbed Conservation in London'.

5.2.2 Bittern Recovery Project

In 1996, English Nature launched its Action for Bittern (Species Recovery) Project, with EU LIFE funding available to landowners and NGOs for reedbed management and restoration. Bitterns are now starting to show signs of recovery in some parts of the UK. There is a priority need to expand reedbed habitat on RSPB reserves and this may be effective at the new Rainham Marshes nature reserve in Havering. Furthermore, the Havering Wildlife Partnership (HWP) has been developing plans for habitat creation both upstream and downstream of the Ingrebourne Marshes SSSI. HWP is also looking at options for establishing ecological continuity (including reedbed expansion and creation) between the Ingrebourne Marshes and Inner Thames Marshes SSSIs, which are only a kilometre away.

Local ornithologists under the direction of a Wintering Bittern Research Project Manager are conducting essential research into bittern movements and behaviour in the Lea Valley Regional Park.

5.2.3 SUD and Bioremediation Schemes

Another driver for reedbed creation is the growing interest in Sustainable Urban Drainage systems and bioremediation schemes. However, their wildlife value can often be compromised by the temporary nature of the schemes. Nevertheless, they remain important steppingstones along wildlife corridors for species strongly associated with the habitat.

Policies requiring SUD schemes within new developments are beginning to feature in planning policy documents and guidance.

5.3 The Mayor's Biodiversity Strategy

The targets and actions in this action plan directly part-implement and/or more broadly align with several of the policies and proposals within *Connecting with Nature, the Mayor's Biodiversity Strategy* (GLA, 2002). These include;

POLICY 2: The Mayor recognizes the unique role of the River Thames in London's history and in the lives of Londoners, and its value for transport, recreation, biodiversity and archaeology. In recognition of their importance, the Mayor has set up the concept of a Blue Ribbon Network for the Thames and London's waterways and the land alongside them. This will establish principles concerning the use and management of the water and land beside it.

PROPOSAL 19: The Mayor will and boroughs should protect and enhance the biodiversity of the Blue Ribbon Network (River Thames corridor).

PROPOSAL 20: The Mayor will work with others and particularly the Environment Agency to establish a restoration strategy for the tributary rivers of the BRN.

POLICY 3: The Mayor will encourage and promote the management, enhancement and creation of green space for biodiversity, and promote public access and appreciation of nature

PROPOSAL 21: The Mayor will encourage land managers, including London borough councils and other public bodies, schools, faith groups and commercial organisations, to take biodiversity into account in the management of their land. This should include managing important habitats to protect and enhance their nature conservation value, providing safe access for all, involving the local community and creating new wildlife habitats where appropriate.

POLICY 8: London’s many species, and the landscapes where they are found, should be celebrated and promoted.

PROPOSAL 43: The Mayor will promote news about biodiversity and events where biodiversity can be enjoyed, and will help to promote better understanding about wildlife.

PROPOSAL 65: The Mayor will work with local authorities and leading conservation organisations in London to seek to establish a strategic programme of funding for site acquisition and long-term management, to conserve strategically important land for biodiversity and for the enjoyment of nature by people.

POLICY 14: Progress in conserving London’s biodiversity should be measured with particular reference to the status of important species and habitats, and progress on proposed actions or targets.

PROPOSAL 72: The Mayor will develop, with other partners, methods for monitoring the progress of actions contained in the London Biodiversity Action Plan and the biodiversity action plans adopted by individual London borough partnerships, in order that such data can be readily combined to provide information for London as a whole.

6. Priority Species

These special plants and animals can be found in London’s reedbeds, for which there is no current London Species Action Plan and for which further action might be necessary.

Harvest Mouse	<i>Micromys minutus</i>	The harvest mouse is not legally protected in the UK, but is categorised as Lower Risk by the IUCN Red List. Changes in habitat management and agricultural methods are thought to have caused a reduction in abundance, although there have been few studies to quantify this change. The species inhabits dry reedbeds in addition to a range of other terrestrial habitats comprising tall grasses, hedgerows and dense vegetation. In London, populations are largely confined to the outer London boroughs.
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Bittern	<i>Botaurus stellaris</i>	An enigmatic wetland bird of extensive reedbeds, the bittern's catastrophic decline as a breeding species in the UK appears to have finally been arrested through a concerted conservation campaign. Nationally, numbers of breeding pairs have risen steadily at traditional and some new sites, in response to reedbed creation and restoration. An influx of continental birds increases our wintering population, and several sites in London have become regular and significant shelters for these birds. Sites include the London Wetland Centre and Richmond Park in LB Richmond, and Bedfont Lakes Country Park in LB Hounslow.
Reed Bunting	<i>Emberiza schorniclus</i>	The reed bunting declined substantially across its UK range during the 1970s and 1980s, but it is now apparently nationally stable. The decrease most likely affected birds that colonised marginal farmland habitats in the 1960s. However, declines at wetland strongholds are likely to have had a more long-term effect on the species, and it is here that a renewed downturn in status is currently suspected, possibly due to habitat neglect. Wetland habitats support most of London's reed buntings and pairs may quickly colonise created wetlands containing reedbeds even in inner boroughs. Important breeding concentrations are found at Rainham Marshes and Ingrebourne Valley (LB Havering), the Lee and Colne Valleys, Beddington Farmlands (LB Sutton) and the London Wetland Centre (LB Richmond).
European Eel	<i>Anguilla anguilla</i>	Eels are an important food source for many animals, in particular herons and bitterns. Eels are one of a number of fish for which reedbeds provide important shelter on the edge of the open water. They breed in the sea and the young migrate up rivers and streams and overland to colonise freshwater bodies where they grow for at least 15 years before maturing.
The Crescent	<i>Celaena leucostigma</i>	This nationally local moth inhabits wetland habitats including reedbeds, and is attracted to flowers including those of common reed. It is found on the wing from late July to September, laying eggs on yellow iris. It overwinters as an egg. The larva feeds inside the leaves, stems and roots of irises from March to July – pupating in a flimsy cocoon in leaf litter. In London, it is a very local resident, though often common where it is found – with strongholds in the Lee and Colne valleys, and along the River Thames east of the Thames barrier. Other sites including wetlands at some of the Royal Parks, the London Wetland Centre (LB Richmond) and Mitcham Common (LB Sutton) also contain good populations. Nationally the species has been found to be in decline and has become a new UK priority species.
Scarce Emerald Damselfly	<i>Lestes dryas</i>	This nationally rare damselfly has a stronghold in the Thames estuary and is locally abundant at several sites in the London Boroughs of Barking & Dagenham and Havering. Its current UK range is confined to parts of East Anglia and North Kent. Most known London colonies occur in well-vegetated, brackish ditches in grazing marsh sites, for example at Rainham Marshes and in the Ingrebourne Valley (both SSSI). Although there have been major habitat losses on Barking levels, the damselfly still occurs at The Ripple Local Nature Reserve. A further site is the Mudlands Nature Reserve in Hornchurch. All sites have protection as Sites of Importance for Nature Conservation.
Marsh Sow-thistle	<i>Sonchus palustris</i>	A tall perennial of riverside vegetation on damp, silty soils rich in nitrogen. It is moderately tolerant of brackish conditions and can grow near tidal river mouths. Its national distribution is concentrated in the Broads of East Anglia. Elsewhere however, and especially in the Thames Valley, urban development has caused a catastrophic decline in the plant. In Greater London one small population (6 plants in 2003) survives in a reedbed fringing the tidal Darent estuary near Crayford (LB Bexley). This population is highly vulnerable and has contracted, and may be threatened by leachate from an adjacent restored landfill site. (Note: the plant may have been lost to habitat destruction in 2005).

7. Targets and Actions

Please note that the partners identified in the tables are those that have been involved in the process of forming the plan. It is not an exclusive list and new partners are both welcomed and needed. The leads identified are responsible for co-ordinating the actions – but are not necessarily implementers.

Target 1 Increase the combined current area of large and small (<0.5ha) reedbeds in London by 12.5ha by 2015 and a further 7.5ha by 2020

Action	Target Date	Lead	Other Partners
1.1 Conduct questionnaire-based survey of London's small reedbeds (under 0.25ha)	Achieved	Working Group	Site managers, LA, LWT, LNHS
1.2 Promote use of reedbeds to developers and planning authorities as part of a London SUDs conference	Achieved EA / CIWEM conferences	GLA	Landowners, developers, LA, EA, WWT
R1.1 Implement at least 4 reedbed creation projects each of 2ha or larger	2015	NE	Landowners, developers, LA, EA, HWP, RSPB, TW, WWT
R1.2 Establish 10 new small reedbeds where opportunities occur	2015	TRP, TLS	Site managers, landowners, developers, BW, EA, LA, TLS
R1.3 Ensure at least 2 best practice reedbed SUDs are created through appropriate development processes	2015	LVPRA, EA	LWT
R1.4 Collate data and map distribution of London's reedbeds, identifying losses, gains and areas of deficiency	Annual	GIGL	Working Group
R1.5 Produce distribution maps of reedbeds across London by 2010, 2015 and 2020	2020	GIGL	Working Group

Target 2 Ensure all reedbeds of 0.5ha and above to be under appropriate management by 2015

Action	Target Date	Lead	Other Partners
2.1 Produce best practice habitat management guidelines	Achieved	Working Group	Site managers, landowners, BW, HWP, LA, LWT, TW

2.2 Distribute best practice guidelines to all appropriate reedbed managers	Achieved	Working Group	Site managers, landowners, BW, HWP, LA, LWT, TW
R2.1 Establish and populate a Greater London database of operatives and agents in key sectors (owners, managers, contractors, etc)	2010	GIGL	Working Group
R2.2 'Managing reedbed workshops' to be held at 5 London sites	2015	Working Group	Site managers, landowners, LA
R2.3 Restore 5 existing reedbed sites in poor condition to a favourable status	2015	ZSL	EA, LVRPA, LRT, LWT, HWP, LA

Target 3 **Increase public awareness, knowledge and understanding of reedbeds through the provision of cultural and ecological interpretation at key locations by 2015**

Action	Target Date	Lead	Other Partners
R3.1 Develop an annual programme of reedbed-focused events and activities across London	Annual	Working Group	BW, LA, LWT, TW
3.2 Publish a promotional leaflet on London's key or accessible reedbeds	Achieved	Working Group	BW, HWP, LA, LWT, TLS, TW
R3.2 Produce a display stand for fairs, workshops, conferences, etc	2009	Working Group	
R3.3 Produce an educational resource pack on reedbeds in London	2010	LRT	LVRPA
R3.4 Produce a website map of reedbed locations in London and incorporate on GLA Wildspace / London Biodiversity Partnership websites with downloadable information on 15 key reedbed locations	2012	GLA	Working Group
R3.5 Ensure a minimum of 4 accessible, large (over 2 ha) reedbeds across London	2015	Working Group	BW, HWP, LA, LWT, TW

Target 4 Monitor populations of associated priority species (named) at London's larger reedbed sites by 2015

Action	Target Date	Lead	Other Partners
R4.1 Collate historic and current survey information of all priority species occurring at reedbed sites in London	2009	GIGL	Working Group
R4.2 Identify reedbed sites that contain some or all of the priority species, which can be regularly monitored	2010	Working Group	GIGL, site managers, land owners, LA
R4.3 Establish and monitor Marsh Sow-thistle populations in at least 3 reedbed sites in London	2015	NHM	Working Group

COSTING:

Action	Approximate cost (GBP Sterling)	Notes
R1.1	£400,000	£100,000 per project
R1.2	£250,000	£25,000 per project
R1.3	£100,000	£50,000 per project
R1.4/R1.5	£1,500	5 days @ £300 per day
R2.1	£2,500	(of a consultant researcher)
R2.2	£1,500	£300 per workshop (expenses, room hire, etc.)
R2.3	£25,000	£1,000 per annum for 5 years for large reedbeds; £500 per annum for 5 years for small reedbeds (based on cutting management only)
R3.1	£800	£100 per annum: advertise on LBP website; potential website management cost
R3.2	£2,000	Develop, design, print / produce
R3.3	£3,000	Develop, design, print / produce
R3.4	£2,300	Develop, design, produce: £1,500. £100 per annum: advertise on GLA website; potential website management cost
R3.5	£40,000	See R1.1 for reedbed creation costs for new reedbeds; otherwise costs incurred include access (e.g. boardwalks), interpretation (signage, etc.), bird hides, etc. – e.g. up to £10,000 per reedbed.
R4.1	£1,500	5 days @£300 per day; see R1.4/R1.5
R4.2	£600 (£1,000) [£10,000]	Communication with reedbed managers / owners / surveyors (expenses, room hire, postal costs, etc); (volunteer time monitoring – travel expenses, etc.); [specialist monitoring (e.g. harvest mouse)]
R4.3	£2,000	Horticultural expenses, transport, monitoring

Relevant Action Plans

London Plans

Canals; The Tidal Thames; Rivers & Streams; Bats; Water Vole; Grey Heron; Sand Martin; Reptiles; Grazing Marsh & Floodplain Grassland Audit; Marshland Audit; Ponds Audit; Standing Water Audit.

National Plans

Built Environment & Gardens; Canals; Coastal & Floodplain Grazing Marsh; Estuaries; Fens, Carr, Marsh, Swamp & Reedbed (also separate Reedbed HAP costed plan); Rivers & Streams; Standing Open Water

Key References

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Abbreviations

BW – British Waterways	NE – Natural England
CIP – CiP Hounslow	RSPB – Royal Society for the Protection of Birds
EA – Environment Agency	TLS – Thames Landscape Strategy
GIGL – Greenspace Information for Greater London	TRP – The Royal Parks
GLA – Greater London Authority	TW – Thames Water
HWP – Havering Wildlife Partnership	WWT – Wildfowl & Wetlands Trust
LRT – Lea Rivers Trust	ZSL – Zoological Society of London
LVRPA – Lee Valley Regional Park Authority	
LA – Local Authorities, including LB Richmond, LB Wandsworth	Working Group – includes the majority of organisations listed above.
LNHS – London Natural History Society	
LWT – London Wildlife Trust	

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