

Richmond upon Thames

Habitat Action Plan

Reedbeds



Reedbeds and Bittern © Mike Waite

“Over most of this century the Pen Ponds and its associated reedbed has been a focal point for naturalists, particularly ornithologists. The reedbed, a formerly totally enclosed area, often called the Sanctuary or reserve, has or should have the widest diversity of wildlife anywhere in the Park.”

(Barry Marsh, 'The Pen Ponds Reedbed', *The Richmond Park Magazine*, Autumn 1998)

Aims

- To ensure the protection and optimal management of reedbeds in LB Richmond.
- To demonstrate the value of reedbeds and to promote their creation and restoration in the Borough's environment.

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. Reedbeds in LB Richmond occur at the margins of all kinds of water bodies 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 LB Richmond's natural reedbeds are today confined to a few principal sites, with most owing their existence to planting and restoration programmes undertaken during the course of the 20th Century. These man-made reedbeds are associated with a variety of current and post-industrial structures, including restored gravel workings (e.g. M82 Richmond Park's Pen Ponds: from gravel extraction in the 1600s) and redundant reservoirs (e.g. BI 2 Lonsdale Road Reservoir (or Leg o' Mutton) LNR and M87 London Wetland Centre / Barnes Waterside Pond). Recently, the demand from 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. This type of reedbed could become part of the matrix of LB Richmond's reedbeds, if the local authorities see a demand for these structures over the course of the 21st Century.

Despite the small size of LB Richmond's reedbeds, they remain home to many of London's more interesting and regionally uncommon wildlife. Secretive birds such as the water rail, reed and sedge warblers, the rapidly declining water vole, and a host of both drab and colourful invertebrate species, are dependent on the dense cover provided by reedbeds. Historically, London rarities such as the harvest mouse would have undoubtedly utilised this habitat. The current status of this

small mammal in the borough is now uncertain and quite possibly has become extinct; however, some of LB Richmond's larger reedbed sites (e.g. London Wetland Centre) might provide opportunities for introduction programmes for the species. Relative newcomers to LB Richmond include the enigmatic bittern and Cetti's warbler. The bittern has spent recent winters in reedbeds (e.g. Richmond Park's Pen Ponds, Lonsdale Road Reservoir LNR and London Wetland Centre) only a few miles away from Westminster.

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). Within the Thames catchment, reedbeds were assessed by the Environment Agency in 2000 to cover 228 ha across 79 sites.

The habitat in London is estimated at 43.5 ha, covering a fraction (0.03%) of the Capital's surface area. The largest continuous areas occur in the Roding Creek (LB Newham) and the Ingrebourne Valley (LB Havering). LB Richmond has three principal sites, notably London Wetland Centre (2 ha), Lonsdale Road Reservoir LNR (0.5 ha) and Richmond Park's Pen Ponds (0.5 ha). LB Richmond reedbeds thereby form almost 7% of the Greater London reedbed audit. Stands under 0.5 ha were not included in the original LB Richmond reedbeds audit, and such areas represent an important additional resource (estimated at forming a further 1 ha of reed cover). These include many of the marginal reedbeds recently established in London's large Victorian ponds, aimed at reducing the highly eutrophic conditions of these urban wetlands (e.g. L11 Kew Pond and L12 Barnes Green Pond). Other examples include the small reedbeds in M76 Crane Park Island LNR and M87 Barnes Waterside Pond (used to be part of the Barn Elms Reservoir site), which despite their sizes respectively support a thriving population of water voles and reed warblers. The transient nature of reedbeds underlies the importance of regular re-surveys to retain an accurate overview of the habitat resource across the borough; for example, newly discovered reedbeds from the GLA audit in 2001 (e.g. damp pastures east of M84 Hampton Court Park and an abandoned filter bed in the Hampton Treatment Waterworks close to M85 Stain Hill Reservoirs), as well as drying out reedbeds that run the risk of being lost (e.g. on M83 Ham Lands LNR).

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 borough include the London Wetland Centre, at Lonsdale Road Reservoir LNR and Crane Park Island LNR. Future planned reedbed restoration (e.g. Richmond Park's Pen Ponds) and creation schemes (e.g. M31 River Thames and BII 9 Beverley Brook) might well reverse the decline of what was a trademark feature of both the borough's and London's landscape.

Other pond sites in the borough, which have been identified as containing small reedbeds would include M82 Richmond Park's Dan's Pond and Holly Lodge Pond, M82 Palewell Common, M84 Bushy Park, BI 1 Royal Botanic Gardens Kew, L3 Pensford Field and L13 Ham Pond. Furthermore, there are a few schools in the borough with ponds containing reeds including Sheen Common Vineyard School, Collis School and Hampton Wick School.

Specific Factors Affecting the Habitat

4.1 Sea level rise

The projected rise in sea level may lead to a net attrition of created reedbeds proposed for the Arcadia project along 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, although in LB Richmond there have been past proposals for such a scheme in part of Ham Lands.

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. The majority of LB Richmond's reedbeds are afforded some protection as part of London SINCs and under the borough's UDP. Although development is unlikely to directly have an impact on reedbeds, one or two have had developments occur in close proximity to them e.g. Barnes Waterside Pond.

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. This could not only have an impact on any newly created reedbeds on the River Thames as part of the Arcadia project, but also on reedbeds in water bodies that take top-up water directly from the River Thames e.g. Kew Pond, Lonsdale Road Reservoir LNR and London Wetland Centre.

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 (e.g. any reedbed creation on the Thames as part of the Arcadia project). Low flows can also dry out marginal vegetation, increasing the speed of natural succession with the onset of scrub and woodland colonisation (e.g. the dry reedbed on Ham Lands LNR).

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 includes lack of intervention in wet woodland colonisation. For example, the cause of the diminishing area of reedbed at Pen Ponds and along the River Crane has been identified in part due to encroachment into the reeds of alder / willow carr.

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 (which have been found in a number of water bodies located adjacent to the River Thames).

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 Countryside Stewardship Scheme has subsidised reedbed management in a number of the London boroughs.

Current Action

5.1 Legal status

All of the larger reedbeds identified in the LB Richmond 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 London Wetland Centre and Pen Ponds in Richmond Park, with the latter location also lying within a National Nature Reserve. Meanwhile, Lonsdale Road Reservoir, Ham Lands and Crane Park Island have been notified as LNRs.

Specially protected species often associated with the habitat in LB Richmond include not only kingfisher and water vole, but also less frequently grass snake and great crested newt. Both the bittern and Cetti's warbler are now regular wintering species at the London Wetland Centre, with occasional records of bearded tit also being made at the same site in the past few winters.

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 LB Richmond'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, Lonsdale Road Reservoir and Crane Park Island Nature Reserve). There are also examples of organisations putting resources into reedbed restoration projects, for example Pen Ponds reedbed in Richmond Park.

Many smaller reedbeds have been planted to improve the biodiversity and water quality of more established urban wetland features, such as in ponds of some of the borough's formal greens (e.g. Barnes and Kew Greens). Future creation schemes might also include restructured watercourses (e.g. Beverley Brook). Others are planned to form part of wider landscape restoration schemes alongside the River Thames, such as the Thames Landscape Strategy's Arcadia project.

Boardwalks have been constructed to allow access and improved interpretative opportunities at a number of sites e.g. the London Wetland Centre.

Several agencies have produced guidance documents to encourage the management and creation of reedbeds, including the RSPB/EN leaflet 'Reedbed Management for Bitterns' and the handbook 'Reedbed Management for Commercial and Wildlife Interests' (Hawke & José, 1996).

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. They have regularly over-wintered in LB Richmond's reedbeds for the past 4-5 winters (e.g. Richmond Park's Pen Ponds and the London Wetland Centre), and creation of new reedbeds elsewhere in the borough would serve to enhance habitat continuity.

5.2.3 SuD and Bioremediation Schemes

Another driver for reedbed creation is the growing interest in Sustainable urban Drainage systems (SuDs) 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.

Flagship Species

These special plants and animals are characteristic of reedbeds in LB Richmond.

Water Vole	<i>Arvicola terrestris</i>	The “water rat” of the literary classic “The Wind in the Willows” is often mistaken for the brown rat. However, the water vole has a blunt nose, a shorter hairy tail and a pair of small ears tucked away within its fur. It is Britain’s fastest declining mammal, yet some of its UK strongholds are associated with London reedbeds. Good populations occur in reedbeds at Crane Park Island LNR, London Wetland Centre and on the Longford River in Bushy Park.
Bittern	<i>Botaurus stellaris</i>	A secretive and rare bird that breeds in large, secluded reedbeds. However, smaller reedbeds, including Pen Ponds and London Wetland Centre, can provide important refuges for over-wintering bitterns from both the UK and the continent. They feed on fish, amphibians, small mammals and large insects, especially among the reedbed margins.
Reed warbler	<i>Acrocephalus scirpaceus</i>	Although they can be hard to spot among the reeds, the noisy chattering song of these summer visitors can be heard in the borough’s larger reedbeds e.g. Pen Ponds, Lonsdale Road Reservoir and London Wetland Centre. Although they are attracted to quite small reedbeds, they do need undisturbed areas of dense vegetation in which to build their nests. They feed on the abundant insect life of the wetland edge habitat.
Common 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 the Thames and streams and overland to colonise Richmond’s freshwater bodies where they grow for at least 15 years before maturing.
Ruddy darter	<i>Sympetrum sanguineum</i>	A beautiful dragonfly with bright crimson-red males. It is scarcer than the closely-related common darter, but occurs in some of Richmond’s wetlands inhabiting shallow, still water where there is an abundance of bulrushes amidst reeds and other emergent plants.
*Twin-spotted wainscot	<i>Archanara geminipuncta</i>	This species is representative of a large community of resident reed-feeding wainscot moths. It spends the winter as an egg. The caterpillar then feeds (head upwards) and pupates within reed stems. Adults fly from August to mid-September and have a distinctive pair of white spots on their forewings.

Common reed	<i>Phragmites australis</i>	The key species of the reedbed habitat - tall stands of reeds, with large purplish flower-heads, which rustle in the slightest breeze. Reedbeds provide shelter, nest-sites and food for a very wide range of wildlife.
--------------------	-----------------------------	---

*Some additional notes:

Other moths partly or wholly dependent on common reed in the London area that would also benefit from the action plan would include: the macro-moths southern wainscot, large wainscot, fen wainscot, silky wainscot and brown-veined wainscot, and the micro-moths *Schoenobius gigantella* (Nationally Notable) and *Chilo phragmitella*. There are also a number of moths that would benefit from the presence of bulrushes, yellow iris, and other emergent plants that grow within and around reedbeds. These would include: the bulrush wainscot, Webb's wainscot and the small rufous. The inclusion of willow would benefit the cream-bordered green pea and lunar hornet clearwing.

7. Objectives, Actions and Targets

Most of these actions are specific to this habitat. 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.

Objective 1: To increase LB Richmond's overall reedbed habitat resource

Target: Increase the combined current area (4 ha) of large and small reedbeds in Richmond by 25% (1ha) by 2010

Action	Target Date	Lead	Other Partners
1.1 Conduct questionnaire-based survey of Richmond's reedbeds	2006	Working Group	Site managers, LNHS
1.2 Promote use of reedbeds to developers and planning authorities as part of a London SuDs (Sustainable Urban Drainage Systems) conference	2006	GLA	Landowners, developers, LA, EA, WWT
1.3 Implement at least 2 reedbed creation projects each of 20m ² or larger	2010	TLS	LA, EA, BTCV
1.4 Establish 5 new small reedbeds where opportunities occur and in areas of known deficiency	2010	LA	Site managers, landowners, developers, EA, TRP, RPWG, BPWG, TLS, FBC, BTCV, RBG Kew, Schools
1.5 Ensure that reedbed restoration management in Richmond Park's Pen Ponds establishes an overall increase in total reedbed area	2010	TRP	EN, RPWG

Objective 2: Ensure appropriate management and enhancement of all reedbeds within Richmond

Target: All reedbeds of 10m² and larger to be under appropriate management by 2009

Action	Target Date	Lead	Other Partners
2.1 Produce best practice habitat management guidelines	2008	Working Group	Site managers, landowners, LA, RPWG, BPWG, FBC, LRMG, RBG Kew
2.2 Distribute best practice guidelines to all appropriate reedbed managers	2009	Working Group	Site managers, landowners, LRMG, RBG Kew, Schools
2.3 Ensure management plans are produced for all newly created reedbeds	2012	TLS	Site managers, landowners, developers, LA, EA, TRP, BTCV, RBG Kew

Objective 3: Increase public awareness, knowledge and understanding of reedbeds

Target: Provision of cultural and ecological interpretation at all key locations by 2010

Action	Target Date	Lead	Other Partners
3.1 Develop an annual programme of reedbed-focused events and activities across LB Richmond	2006	Working Group	RBG Kew, Schools
3.2 Publish a promotional leaflet on LB Richmond's key or accessible reedbeds	2008	Working Group	RPWG, BPWG, FBC, LRMG, RBG Kew
3.3 Promote the potential for introduction / recovery programmes for future flagship species, which utilise larger reedbeds, but are now rare or extinct in LB Richmond e.g. Harvest Mouse.	2011	WWT	EN, EA, GLA, LA, LWT, TRP, TLS

Relevant Action Plans

Local Plans

Water Vole; Tidal Thames, Amphibians (including Great Crested Newts), Bats

London Plans

Canals; Reedbeds; Rivers & Streams; The Tidal Thames; Bats; Water Vole; Grey Heron; Sand Martin; Reptiles; Grazing Marsh & Floodplain Grassland Audit; Marshland Audit; Ponds, Lakes & Reservoirs 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

- Andrews, J. & Ward, D. (1991). The management and creation of reedbeds – especially for rare birds. *British Wildlife*, 3: 81-91.
- Black, D. A. (1998). An Investigation into the Causes of Reedbed Retreat in Upper Pen Pond, Richmond Park, to identify Management Solutions to reinstate the Area's Ecological Value. MSc Special Report, Wye College, University of London.
- Clymer, O. (2001). *Thames Catchment Reedbed Study*. The RSPB and Environment Agency Report.
- Construction Industry Research & Information Association. (2000). *Sustainable Urban Drainage Systems – Design Manual for England & Wales*. CIRIA C522. Environment Agency Report W230. CIRIA, London.
- Harris, A. J. (2003). Radio-tagged Rare Bird returns to the Lee Valley Regional Park. News release report. Lee Valley Regional Park Authority.
- Hawke, C. J. & José, P. V. (1996). *Reedbed Management for Commercial and Wildlife Interests*. The RSPB, Sandy.
- Jongh, I. (2003). Reedbeds – an ecological solution for failing CSO's. Institute of Ecology & Environmental Management. *In Practice*, 40: 6-7.
- Merritt, A. (1994). *Wetlands, Industry & Wildlife – a Manual of Principles & Practices*. The Wildfowl & Wetlands Trust, Gloucester.
- Newman, J. (1995). *Reedbeds*. Centre for Aquatic Plant Management: Information Sheet 36. CAPM, Sonning-on-Thames.
- Peberdy, K. J. (1998). The making of a wetland. *Wildfowl & Wetlands Magazine*, 11: 16-19.
- White, G. J. & Gilbert, J. C. (2003). *Habitat Creation Handbook for the Minerals Industry*. The RSPB, Sandy.
- Worrall, P., Peberdy, K. J. & Millett, M. C. (1997). Constructed wetlands and nature conservation. *Water Science & Technology*, 35: 205-213.

Abbreviations

BPWG – Bushy Park Wildlife Group	RPWG – Richmond Park Wildlife Group
EA – Environment Agency	RBG Kew – Royal Botanic Gardens Kew
EN – English Nature	TLS – Thames Landscape Strategy
FBA – Friends of Barnes Common	TRP – The Royal Parks
GLA – Greater London Authority	TW – Thames Water
LA – Local Authority (LB Richmond)	WWT – Wildfowl & Wetlands Trust
LNHS – London Natural History Society	Working Group – BTCV, EA, GLA, LA,
LRMG – Lonsdale Road Management Group	LWT, TRP, TLS (Arcadia), WWT
LWT – London Wildlife Trust	

Contact

The Lead for this Habitat Action Plan is London's Arcadia Project

Name: Tasha Hunter
Address: London's Arcadia Project
C/o London Borough of Richmond upon Thames
Room 225, Civic Centre
44 York Street
Twickenham TW1 3BZ

Tel: 020 8891 7309
Email: T.Hunter@richmond.gov.uk

