



Queen Mary's Gardens, Regent's Park © Nigel Reeve

# Standing Open Water

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## 1.0 Introduction

In Westminster, the Standing Open Water HAP includes lakes, ponds and canals. This refers to open water, which may contain submerged floating-leaved and emergent vegetation as well as associated fauna. This HAP relates to the UK BAP priority habitats 'eutrophic standing water' and 'aquifer-fed naturally fluctuating water bodies'. There may be some overlap where standing open waters occur in association with other BAP habitats such as reedbeds.

## 2.0 Current status

The major aquatic habitats in Westminster – the canals and The Royal Parks lakes are included within Sites of Metropolitan Importance for Nature Conservation and represent some of the most important corridors for biodiversity in the city. Standing water in Westminster attracts various species of dragonfly and damselfly, including the broad-bodied chaser, banded demoiselle and black-tailed skimmer. It also supports the reed warbler and reed bunting and the water rail has become an occasional winter visitor. Kingfisher has also been recorded. The open water and emergent fringes also provide good feeding habitat for bats such as Daubenton's bat, soprano and common pipistrelles.

Nationally, standing waters provide habitat for a variety of threatened flora and fauna. Notable fauna include great-crested newt, water vole, medicinal leech and shining ramshorn snail and although none of these are

currently found in Westminster there may be opportunities to promote the recovery of some.

The lakes in Westminster are entirely located within the Royal Parks and are significant bodies of water covering a total area of 32.8 ha. All are relatively shallow and classified as eutrophic (nutrient enriched). Eutrophic standing waters are over-productive because plant nutrients are plentiful, occurring either naturally or as a result of nutrient inputs from land run-off, wildfowl and diffuse atmospheric nitrogen deposition. These water bodies are characterised by having dense populations of algae in mid-summer, often making the water appear green. Their beds are covered by dark anaerobic mud, rich in organic matter. In their natural state eutrophic waters have high biodiversity but in some cases the Parks' lakes may become extremely nutrient enriched, making aquatic and emergent vegetation limited in distribution and diversity.

The heavy use of publicly accessible water bodies has resulted in the majority of edges being hard and artificial structures with limited aquatic and emergent vegetation. However, good diversity of vegetation occurs where conditions are suitable, where species such as reedmace, common reed, flowering rush, yellow iris, greater pond sedge, meadow sweet and purple loosestrife are present. The water bodies also support roach, rudd, carp and sticklebacks as well as a wide range of native and ornamental waterfowl.

Reedbeds occur at the margins of some of these lakes –

confined to a few sites within St James's Park, Kensington Gardens and Regent's Park. Across the UK, up to 40% of reedbed habitats were lost between 1945-1990 and reedbeds have since become a scarce habitat both nationally and in London.

The canals within Westminster are the Paddington Arm, the remnants of the Grosvenor Canal and the Grand Union Canal. The Grand Union Canal, which passes through Westminster for about 5 miles, is an important wildlife corridor. It enables some interesting and attractive wetland plants such as skullcap and marsh woundwort, to disperse into the city centre; it supports a small range of nesting wildfowl and a reasonable variety of fish, damselflies and dragonflies. One of the most notable stretches is the western section between Formosa Bridge and Ladbrooke Grove. Here several patches of wetland flora grow along the canal bank where a ledge structure provides shallow water in which vegetation such as marsh woundwort, skullcap, sweet-flag, yellow iris, hemlock water-dropwort, gypsywort, reed sweet-grass and hard rush can gain a foothold. However, the canal could be much improved in terms of wetland flora, nesting and brood rearing conditions for wildfowl and habitat for dragonflies.

Finally, there are also many small ponds in Westminster, mostly in garden squares, private gardens and in school grounds. These are likely to provide important marginal habitat for amphibians, particularly if densely planted. Also included in this category are many other smaller ponds and lakes in public and private parks such as

those in Regent's Park (Queen Mary's Gardens), the college grounds in Regent's Park and Buckingham Palace lake.

### 3.0 Current factors affecting the habitat

#### Strengths and opportunities

- The proximity of standing open water to London's human population creates a unique opportunity to provide public access to wildlife.

- The public are attracted to these sites, creating an opportunity to promote the value of the wetlands and change public perception where needed.
- The lakes contribute to the general resource of water bodies in the Thames catchment and are attractive to both resident and migrating water birds.

#### Weaknesses and threats

- **Nutrient enrichment** – can be caused by the use of fertilisers, wildfowl excreta, supplemental feeding of wildfowl, leaf litter and organic debris as well as

the run-off from land drainage. Canals can also be affected by leaking boat engines and spillages, which contribute to the total pollution load. The resulting depletion of oxygen eventually favours species tolerant of such conditions, like planktonic and filamentous algae (blanket-weed), resulting in algal blooms. Sensitive organisms disappear and water bodies may reach a relatively stable but biologically impoverished state.

- **Climate change** – a substantial change in water supply and through-put would alter the character of



water bodies and a rise in temperature would produce wide-ranging effects such as changes in the water quality, macrophyte, algal and invertebrate communities.

- **Water level maintenance** – can be a problem with water bodies that have a negative water balance; that is when evaporation and leakage exceeds the rate of replenishment.
- **Colonisation** – by certain plants and animals species causes problems for native species and can degrade the habitat and reduce overall biodiversity. For example, New Zealand pigmyweed, Canada geese, feral greylag geese and non-native crayfish.
- **Disease** – anaerobic conditions resulting from nutrient-loading of water bodies can encourage the development of the bacterial spores *Clostridium botulinum*. The toxins of the bacteria can be ingested by waterfowl and may cause the death of significant numbers of birds.
- **Recreational activity** – disturbance can negatively affect bird populations and trampling can degrade marginal vegetation. The passage of powered boats along the canal can cause physical damage to macrophytes, create wave wash and resuspend sediments which increase turbidity, all of which affects the capacity to support plants and animals.
- **Habitat loss** – the widening of paths and increased hard surfacing results in the loss of waterside

grassland and bank habitat. Developments beside water bodies can cause increased disturbance to wildlife. The activities of nocturnal wildlife, particularly bats may be inhibited through increased lighting along paths and from building developments and events.

- **Public perception** – open water with artificial banks can be perceived as lacking any substantial biodiversity value, as may small areas of reedbed and other marginal vegetation, particularly as their associated wildlife is typically elusive.

#### 4.0 Current action

- All major water bodies in Westminster are themselves Sites of Importance for Nature Conservation (SINC) or within a SINC, and so must be considered in planning policies. The Grand Union Canal is a Site of Metropolitan Importance for Nature Conservation and has Green Corridor status and the major water bodies within The Royal Parks are within Sites of Metropolitan Importance for Nature Conservation.
- The EC Water Framework Directive requires that ecological and chemical 'status' objectives are set for surface waters (including lakes with an area greater than 0.5 sq. km and all canals) by 2009 and achieved by 2015.
- British Waterways carry out monthly water quality checks and are improving water quality by

tightening up discharge conditions.

- The Royal Parks has been monitoring water quality biannually in its lakes for several years and holds detailed ecological data. The species records included in this data will be transferred to Greenspace Information for Greater London (GiGL) during 2007/8.
- Management plans are to be developed for all main Royal Parks water bodies in the borough – 4 of 5 were achieved in 2006 and a plan will be produced for the Serpentine by the end of 2008.
- Policy 4C.3 of the Mayor's London Plan on the Natural Value of the Blue Ribbon Network states that: 'the Mayor will, and boroughs should, protect and enhance the biodiversity of the Blue Ribbon Network ...'
- Bodies such as the London Wildlife Trust and Froglife make advice on pond management available on websites and produce literature on the subject.
- The Royal Parks organise guided walks throughout the year on a variety of subjects including trees, managing the Royal Parks for wildlife, seasonal changes, sustainable gardening, birds and bats.
- British Waterways are considering possible locations for marginal vegetation enhancements.

## 5.0 Flagship species

Mammals:	Daubenton's bat
Birds:	grey heron, reed warbler
Amphibians:	common frog
Invertebrates:	dragonflies and damselflies
Higher Plants:	common reed, skullcap, purple loosestrife, marsh marigold, flowering rush
Trees:	willow, alder
Fish:	roach

## 6.0 Action Plan Aims

- To protect and enhance biodiversity in open standing water and apply appropriate methods of management to improve the condition of water bodies;
- To realise the potential of the standing water bodies and their biodiversity as an accessible resource for public education and recreation;
- To increase the abundance of standing open water habitats where appropriate, particularly wildlife-friendly ponds;
- To combat the potential effects of climate change by adopting sustainable strategies for water conservation including leakage control and SUDS.

## 7.0 Links with other Action Plans

- Westminster Species Action Plan for bats
- London Habitat Action Plans for Canals; Reedbeds
- London Species Action Plans for bats; grey heron
- UK Habitat Action Plans for Eutrophic Standing Water; Reedbeds.

## 8.0 Lead partner organisation and working group members

The lead partner for this Plan is The Royal Parks (TRP).

Working group members also include representatives from British Waterways (BW), The Royal Parks, Westminster City Council (WCC) and Zoological Society of London (ZSL).

# action plan: Standing Open Water

NB For a full list of acronyms see page 64 of the 'Westminster Biodiversity Action Plan'.

**Target 1:** Continue ongoing programme of monitoring water quality and implement water body management plans in order to benefit relevant priority species associated with standing waters and undertake targeted surveys and monitoring of key species.

Action number	Action	Lead partner	Contributing partners	Start date	End date	Cost
1	Continue regular water quality monitoring.	TRP	BW	Ongoing	Ongoing	£19k pa (TRP's costs)
2	Implement and further develop water body management plans.	TRP, BW				-
3	Develop management plan for the Serpentine and Long Water.	TRP		05/07	2008	-
4	Survey lepidoptera and other invertebrates associated with water bodies in St James's Park.	TRP			2008	-
5	Continue ongoing surveys of dragonflies and damselflies in The Regent's Park.	TRP		Ongoing	Ongoing	-

**Target 2:** Ensure all suitable water bodies have improved marginal vegetation and macrophyte communities of suitable native species and effect a range of habitat improvements including bank enhancements and wildlife refuges.

Action number	Action	Lead partner	Contributing partners	Start date	End date	Cost
6	Carry out targeted planting of marginal vegetation on the Regent's Canal.	BW	ZSL	04/07	Ongoing	
7	Incorporate plans for reedbed creation and marginal planting as part of Westbourne Green Masterplan.	WCC	BW	04/07	2008	£25k
8	Fund and carry out targeted planting of marginal vegetation in The Regent's Park boating lake.	TRP	WCC	Funding secured		£36k
9	Secure funding and carry out work to extend the wetland area of the boating lake in The Regent's Park.	TRP	WCC			£16k
10	Carry out targeted improvements to marginal vegetation/macrophyte communities in the Serpentine and Long Water.	TRP	WCC	2007	2009	£50k
11	Monitor the use of the tern raft on the boating lake in The Regent's Park and act accordingly to encourage the presence of common terns.	TRP		Ongoing	Ongoing	-
12	Add a tern raft to the Long Water.	TRP		2007	2008	£0.5k
13	Construct three fish refuges in the Serpentine and Long Water.	TRP		2007	2009	£2k

**Target 3:** Continue to improve water quality of standing waters by minimising nutrient inputs and increasing aeration (where appropriate).

Action number	Action	Lead partner	Contributing partners	Start date	End date	Cost
14	Control the numbers of wildfowl (for e.g. Canada geese) in and around all water bodies in the Royal Parks.	TRP		Ongoing	Ongoing	-

Action number	Action	Lead partner	Contributing partners	Start date	End date	Cost
15	Control algal growth and increase oxygen concentrations in the major Royal Parks' water bodies. (NB: This is a long-term management objective – specific methods and costs still to be determined)	TRP		2007	2010	-

**Target 4:** Undertake humane control of invasive species and introduce species in situations where conditions are suitable.

Action number	Action	Lead partner	Contributing partners	Start date	End date	Cost
16	Removal of terrapins from the Round Pond in Kensington Gardens.	TRP		2007	2008	£2k
17	Continue to remove terrapins from Queen Mary's pond and the boating lake in The Regent's Park.	TRP		Ongoing	Ongoing	-
18	Significantly reduce the population of Turkish crayfish in the Serpentine in Hyde Park . (NB: This is a long-term management objective – specific methods and costs still to be determined)	TRP		2007	2010	-

**Target 5:** Improve public interpretation of watercourses to increase knowledge and understanding of standing water and associated habitats.

Action number	Action	Lead partner	Contributing partners	Start date	End date	Cost
19	Secure funds required to build an ecology study centre and implement an environmental education programme in an 'environmental area' at Paddington Recreation Ground.	WCC		04/07	03/08	£150k
20	Continue TRP education programmes in Hyde & Kensington and 'Wild in The Parks' activities in Regent's Park.	TRP	RSPB	Ongoing	Ongoing	-
21	Engage local communities in the development of a Masterplan for Westbourne Green and canal section.	WCC	BW		2007	-
22	Provide a programme of public education to reduce supplementary feeding of waterfowl in the form of a leaflet on responsible feeding.	TRP		06/07	11/07	-
23	Build a bird hide overlooking the Regent's Canal and develop interpretation.	ZSL		03/08	12/08	-

**Target 6:** Increase the abundance of standing open water habitats where appropriate, particularly wildlife-friendly ponds.

Action number	Action	Lead partner	Contributing partners	Start date	End date	Cost
24	Secure funds required to create a wildlife-friendly pond and wetland area as part of a larger environmental area planned for Paddington Recreation Ground.	WCC		04/07	03/08	£25k
25	Pond creation at London Zoo.	ZSL	Pond Conservation Trust	04/07	Ongoing	£5k

**Target 7:** Combat the potential effects of climate change by adopting sustainable strategies for water conservation including leakage control and SUDS.

Action number	Action	Lead partner	Contributing partners	Start date	End date	Cost
26	Investigate borehole and alternative water sources, water storage and water conservation opportunities to maximise sustainable water use.	WCC	BW, TRP		03/08	-