HABITAT MANAGEMENT PLAN

Standing Open Water (lakes and ponds, ditches).

Seething Wells Filter Beds N. Jackman, 2010

CONTENTS

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1.0 Introduction

'Standing open water represents one of the most diverse of all ecological habitats in London. Reservoirs, lakes, ponds and ditches can be seen as habitat stepping stones and corridors for urban biodiversity. In the urban environment and canals provide the linkages for aquatic and terrestrial biodiversity between suitable habitat patches. These habitats will be increasingly important to build species resilience against climate change. To this end, this plan suggests developing a landscape scale approach to conservation of standing water in London', London Mayor's Biodiversity Action Plan, 2008.

Lakes are particularly important for wintering and wildfowl. In the spring and summer they support breeding wildfowl, terns and waders. Within a single large water body there might be several types of micro-habitats, such as deep open water, shallow open water with abundant submerged vegetation, emergent vegetation (i.e. reed, bulrush) as well as carr and wet woodland. Maintaining the presence of each of the above features is a management challenge, but crucial for maintaining the biodiversity value of these water bodies.

Ponds and small lakes are particularly important for amphibians and reptiles such as frogs, toads, newts and grass snakes. These smaller, often sheltered water bodies hold a huge variety of invertebrates. Most spectacular are damselflies, dragonflies and water beetles. Standing water generally support larger variety of insects compared to dry habitats. These insects are important food sources for birds and bats, especially during prolonged dry weather conditions in late spring and summer

The specialist requirement of each species differs, but generally falls into four broad categories.

- Those that spend their entire lives in water or moisture laden soil conditions. Examples are: Fish, ramshorn snails, freshwater mussels.
- Those that must spend part of their life-cycle in water or moisture laden soil conditions. Examples are: dragonflies and damselflies, frogs, toads and newts
- Those dependent upon wetland habitats as a specialist source of food and/or breeding grounds. Examples are: water fowl, reed bunting, water vole and Daubenton's bats.
- Those animals that visit water to bathe or drink. Examples are: deer, foxes and badgers

2.0 The Kingston Angle

Borough Policy
The Executive adopted the first part of the Kingston Biodiversity Action Plan (KBAP) in September 2004 ENVIRONMENT AND NEIGHBOURHOOD OVERVIEW PANEL 10 NOVEMBER 2005. The KBAP has been produced for the following reasons:

- to deliver the UK BAP at a local level;
- to promote, educate and harness the biodiversity theme in the borough; and
- to bring about change in practices that are detrimental to the environment and wildlife.

RB Kingston upon Thames Core Strategy CS 3 The Natural and Green Environment 2012. The Core Strategy outlines the ways in which the Council will protect and improve Kingston's valued natural and green environment, including the following:

- Seeking to ensure that residents have access to an interconnected network of safe, well managed and maintained areas of open space';
- Protecting Kingston's open space network from inappropriate development';
- incorporating appropriate elements of public open space into new developments and/or making a financial contribution to improving existing open spaces'; and
- Promoting the management of biodiversity in light of the threats arising from climate change and future development growth, by working in partnership with a range of organisations on projects to protect and enhance Kingston's Open Space Network.

This will not only provide increased wildlife habitats, but will also link wider parts of Kingston, allowing easier movement and reducing isolation of habitats.'

Despite the above policies, sentiments enshrined in the Core Strategy as well as UK and Regional Priority Habitats, standing water is still under threat in the borough. A recent planning application to open the filter beds at Seething Wells to the main River Thames with a loss of 75% of the resource was unquestioned at every stage of the planning process. This included the subsequent Planning Inquiry where the government inspector was unswayed by arguments to protect the integrity of the site due to its status under Section 41 of the Natural Environment and Rural Communities Act (2006).

3.0. Aims of the KHAP

- To identify the number, type and location of standing water bodies in Kingston;
- To maintain and enhance the biological diversity of existing standing water bodies and ensure that management is appropriate;
- To create new areas of standing open water;
- To raise the council's awareness of the importance of still water habitats and to ensure no net loss of the resource through development;
- Any unavoidable loss should be adequately compensated on a like for like basis;
- To raise the awareness of the public of the importance of the habitat especially garden ponds

It was initially difficult to compile a comprehensive list of water bodies (Kingston Biodiversity Group, 2004) although gradually between us we were able to list outlying ponds, particularly those on greenbelt farmland, where there is little public access.

It was hard also to assess the status of smaller water bodies such as garden ponds and small ornamental lakes within private landholdings in the borough. However given the nature of some areas of RBK private gardens are extensive the number of these ponds could number several hundred.

Richmond upon Thames undertook a garden pond survey some years ago in attempt to quantify the resource with a positive response from members of the public. Some of the communal 'garden ponds' at Kingston Hill are sufficiently large to attract kingfisher and heron (the Japanese Water gardens in the case of the later). However they are chiefly managed as ornamental ponds and many are stocked with fish such as Koi carp.

In a Standing Water overview, 2013 Greenspace Information for Greater London found that there was potential for creating or **restoring** 200 hectares of standing water in the borough.

4.0 Standing Open Water in Kingston

Table 1: Standing open water bodies RBK, 2014

NAME	ADDRESS	DESCRIPTION INCLUDING MANAGEMENT PROBLEMS	OWNERS/
'The Pit'	Tolworth Court Farm Fields	New pond in wet flush, planned enlargement 2004	RBK
Moat	Manor Site (TCF)	Pond covered in overhanging vegetation, which was cut back in recent years. Little grebe breed here	RBK
Seething Wells	Portsmouth Rd, Kingston	Old filter beds,	Hydro Properties
Barwell Court	Chessington, Surrey	Created during road building	Land has recently changed ownership
Former Barwell Estate Fields Lot 8	Chessington, Surrey	Dew Pond	
Winey Hill	Winey Hill, Field Chessington	Dew Pond on top of hill, restored in 2002 by LMCMP. Banks poached by horses	RBK
Rushett Farm	Rushett Farm, Chessington	Old pond enlarged and enhanced 2003 (result of planning mitigation)	Bart Woodall (Farmer)
Byhurst Farm	Corner of Princes Covetts and fields	Large pond in wet flush with floating vegetation	Tony Lane (Farmer)
Park Farm		There is also a small pond in Park Farm on the border with Epsom.	
Water Gardens	Warren Rd, Kingston Hill	Ornamental Japanese Gardens on private land	Private
Fishponds	Ewell Rd, Surbiton	Public Open space with island, eutrophic due to excessive feeding of water fowl and use by Thames Water as a storm water drain	RBK
Coombe Spring ponds	The Drive, Kingston	Privately owned. Breeding species include Kingfisher	
Jubilee Wood Meadows	R/O Jubilee Wood, Field 0005	Large stand of canary reed, in need of management (reed bunting)	RBK
Malden Golf Course	Cambridge Ave New Malden	2 ponds, one ornamental, one managed for wildlife	RBK
Plough Pond **Sewage Works**	Church Rd Worcester Park		RBK

Sewage Works	Lower Marsh Lane	New nature reserve	Thames Water
Hogsmill river		Creation of small pond or backwater for amphibians	EA (see links to rivers plan)
Alexandra Millennium Green	**Alexandra Recreation Ground**	Lake/Pond created at the millenium	Millennium Green Trust

Flagship Species

Table 2 These special plants and animals are characteristic of Standing Open water bodies in Kingston

COMMON NAME OF SPECIES	**LATIN NAME OF SPECIES**	**COMMENTS**
Water vole	*Arvicola terrestris*	A UK BAP species and our fastest declining mammal. In Kingston fragmented colonies may still occur along the Hogsmill River and Bonesgate
Common reed	*Phragmites australis*	Native perennial, important for nest and roost sites and as a winter food source for some birds. The pond on Jubilee Meadows once held a roost of 50 reed buntings which was the largest in Surrey until 2009
Kingfisher	*Alcedo atthis*	On the Amber List of Birds of Conservation Concern. Kingfishers are known to breed along the Hogsmill, have been seen at Seething Wells (even though there are reported to be no fish).
Banded demoiselle	*Calopteryx splendens*	A common sight along the Hogsmill (and therefore offline and online ponds in association.
Daubenton's bats	*Myotis daubentonii*	A UK BAP species which has a maternity colony at one of the boroughs SOW sites and is known at four others

5.0 SITE GAZETEER

SEETHING WELLS by *Alison Fure (pictured on front cover).*
Site of Borough Importance Grade 1

The largest area of SOW in the borough is probably Seething Wells at 13 ha. The remains of the redundant Surbiton Water Works consist of seven rain-fed filter beds in a steep-sided basin. Adjacent to the River Thames, these filter beds are important to wintering wildfowl and other birds seeking refuge from the comparatively exposed river. Since Hydro Properties Ltd took over ownership of the land from Thames Water, the habitat value has declined. In both January 2011 and October 2011 Hydro pumped out the standing water in the filter beds. It also removed some of the original substrate of sand, gravel and shells that formed the filtering system, and piled it into corners of the beds. As a result, water levels have remained low for a couple of years only recently regaining former levels.

Plants: There is considerable botanical interest on the site's chalk grassland, which is a UK and London BAP priority habitat. The Biodiversity Action Plan identified at least 16 species that are unique to the Borough. The London Ecology Unit Handbook for Kingston states: "Several wildflowers normally associated with the dry calcareous grasslands further south have gained a northern outpost on this unusual site". The secret of the species-rich grassland is that for 160 years, from the construction of the reservoirs to the present day, no pesticides or fertilisers have been used for fear of contaminating the drinking water. This has promoted a nutrient poor, fine sward that favours wild flowers.

Plant species recorded here in 2011 included:

- Wild Scabious, Trefoils and Clovers;
- Small Scabious, Reflexed Stonecrop, Dropwort, Restharrow, Fern Grass and Broomrape;
- Spanish Broom (which acts as shelter for birds including Sparrowhawk and Kestrel), and
- Other yellow plants of note including Ladies Bedstraw, Birdsfoot Trefoil, Bulbous Buttercup, Black Medick, and Mouse Eared Hawkweed.

Bat species: It is home to a notable number of different species of bat, including three separate species of pipistrelle bat. The recent survey indicates that 10 bat species are present at the site and adjacent riverside, more species than any other site in the borough – most others have half that number. It has more Noctule bats foraging across the site at any one time than at the London Wetland Centre and a rare Brandt's bat was recorded along the river wall, which is a first for the borough. Better known is the maternity roost, which recorded around 30 female Daubenton's bats. The filter beds provide a feeding site for this breeding colony. Unlike other bats, the Daubenton's needs calm conditions to feed over the river, and requires the still, standing water, to forage and for the nursery flights of the juveniles. In addition, there is the only known Pipistrelle bat hibernaculum (winter hibernation roost) in the borough, at the small Pumping Station on the wharf. Daubenton's bats, are still present although much reduced in numbers since recent draining of the filter beds, compared with earlier years. The barge tunnel roost fell from 30 to 3-6 bats in 2012, with the indicative emerging of bats from tunnels at dusk significantly diminished. During more recent bat surveys (2014) only one bat has been found regularly light sampling at dusk.

Birds species: Records collected by Surbiton & District Bird Watching Society record 75 species of bird have visited or roosted at Seething Wells. It is the only site in the borough for significant numbers of species that are on the Joint Nature Conservation Council's Red or Amber lists for birds which are threatened or in significant decline.
Examples include:

- It being the only site in the borough where Little Grebes (up to 16) have nested successfully. This is a bird in decline nationally and on the Amber list;
- Winter roosting Lapwings (up to 200 as recently as 2009), which then feed at the Paddocks in Home Park. These are on the Red list, as they are in severe decline;
- Gadwall duck have often been seen, and Teal, Pochard and Shoveler ducks have been present within the last few years. It is the only site in the borough that Gadwall visits and it could breed here. It is Amber listed and one of two subject species for the SW London Water Bodies Special Protection Area;
- Sand Martins have occasionally bred on the site and they feed here. They are Amber listed and a Priority Species for the London Biodiversity Action Plan;
- Swifts and House Martins both feed over the filter beds. Their number has declined markedly in the local area. In 1981 around 600 Swifts were recorded annually, but that number fell dramatically after the development of the Long Ditton filter beds. By 2008 only 35 were recorded over the remaining filter beds.

Invertebrates: Less is known about these. A Thames Water Environmental Impact Assessment assessed some of the ecological communities as of High Regional Value, in part due to the invertebrate fauna in the standing water. Four water beetles were described as Nationally Notable B species, two of which were described as 'rare inland'.

BARWELL ESTATE LAKE *by Alison Fure*
Designation: Site of Borough Importance Grade 1


Photos: Views across Barwell Estate Lake

This eight hectare lake was part of the Barwell Estate (until recently) which is a large farm to the immediate west of Chessington. It was originally part of the Merton College property and was bought by Lord Foley around 1750. The Baker family purchased the site as a 250 acre farm around 1914, although it was split into seventeen lots and sold during 2013 with a guideline price of £325,000 for the lake, including a restrictive covenant not to be sold to the Chessington World of Adventures.

The main lake was only created between 1977 and 1981 at the same time as the building of the Esher By-pass, which now runs along its north-western boundary. It receives some of the run-off from the road and acts as a balancing pond, cleansed by natural emergent vegetation. However the lake is situated on the site of a former pond which is still visible on a wooded island. This has aided colonisation of aquatic flora and fauna, which includes carp as it was leased to an angling club (CALPAC) although more recently a short lease has been granted to a small local club.

Plant and tree species: The margins of the lake are colonised by large patches of emergent vegetation. Clumps of great typha, yellow flag, galingale and hard rush line the water's edge, with patches of trifid burr marigold, water mint and gypsy-wort. The water is very clear allowing extensive growths of submerged plants over much of the lake bottom and Nuttal's pond weed predominates. Trees to the north of the lake form a small woodland where sweet chestnut, lime Scot's pine and oak are found. White willow, oak, aspen ash, rowan, rose and hawthorn exist around the margins, where roe deer are frequently seen as well as occasional mink. Common spotted orchids are still recorded at the margins although centaury and red bartsia was not found this year (2014).

Bird Species: Common sandpiper once frequented the lake and the reed bed used to have several reed bunting territories with common terns occasionally seen. The habitat has changed due to the maturing of the tree and it is now more popular with a large flock of Canada geese, great crested grebe, heron, nesting moorhen, little grebe and coot as well as other water birds. Swifts and swallows (the latter nest every year at the stables situated on another part of the farm) are frequently seen feeding over the water. This may be the only site in the borough where willow warbler is still recorded and there were three territories (2014).

Fish: Large common and mirror carp as well as eels are fished from the lake. There appear to be few additional species which may explain the lack of common terns.

Invertebrate Species: On summer days, damselflies and dragonflies can be seen patrolling the lake and bankside vegetation. Broad bodied chaser and many blue damsels were noted during 2014. This is either a good year for ringlets butterflies (found mating along the grassy borders) or this is an exceptional site for them as this is not a commonly found in the borough.

HOGSMILL SEWAGE WORKS, LAGOON AND ONLINE POND ALONG THE HOGSMILL
(by *Elliot Newton and Kristine Boudreau*).
Designation: Site of Borough Importance Grade 1


Photos: Newly created sandmartin bank and view north from the new bird hide dedicated to Mike Schickner, former recorder of the Surbiton and District Birdwatching Society.

Owned by Thames Water, this relatively large site covers 55 hectares, once two separate sewage plants the site amalgamated into one larger plant in 1959 bissected by the Hogsmill River. This area contains a range of different habitats: ditches, hilly meadows, small areas of woodland and most notably Surbiton Lagoon which opened to the public in 2014 with controlled access. A wealth of birdlife, particularly migrants is to be found here.

Bird Species: This site has great value for birdlife throughout the year, with the range of habitats showing seasonal variation. In the summer months Swallows, Swifts and Martins can be seen swooping over the water feeding on the emerging midges. While in the winter months the lagoons are frequented by Snipe and the occasional Jack Snipe, as well as a variety of wading birds, including Lapwings and Green Sandpipers.
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Reedmace stands tall within the lagoon alongside dense patches of great hairy willow-herb, this provides valuable cover for several bird species to breed, including whitethroat and sometimes reed bunting. Recently swans have colonised one of the floating rafts and produced four Little Grebes have produced young but predator levels are high. The Hogsmill River that flows through the site also provides breeding sites along its banks, Sandmartins, Moorhens, Grey Wagtails and Kingfishers have all be reported to breed in and around this site.

The Mike Schickner hide provides a great location for bird watchers to record the bird activity within the lagoon. During the first three month period since the nature reserve opened, an impressive fifty four bird species have been recorded. Species include both Little and Great Crested Grebe, Shelduck, Shoveler**,** Green Sandpiper, Swifts, Sparrowhawk, Buzzard, Kestrel and Peregrine.

Invertebrate Species: Wych Elm can be found within the reserve, this provides the preferred larval food for the rare White–Letter Hairstreak Butterfly, this species has been recorded within the area. There are plans to incorporate Wyche elm into the native tree planting scheme in the future, improving the habitat for the White-Letter Hairstreak, hopefully resulting in a population recovery. Other invertebrates recorded on this sight include the Stag Beetle and the Vapourer Moth.

Plant and tree species: The sight predominantly features course grassland and dense riverbank vegetation along the Hogsmill, however many wild flowers grow across the reserve, some of which include common mallow, cow parsley, red dead nettle, yarrow and creeping cinquefoil. Spotted around the works are a few large oak trees, elder, ash and crack willows, along the lagoon lies a scrub composed of mainly hawthorns and birches. As the lagoons begin to dry out during the summer, annual plants colonise the area, with species including orache and marsh yellow-cress.

Amphibian and Reptile Species: Grass Snakes have been recoded swimming across the lagoon, and Slow Worms have also been sighted in the area.

Mammal Species: In previous years there have been Water Vole sightings along the banks of the Hogsmill. Bat specialists such as Noctule use the lagoon for foraging as they commute along the river corridor. Foxes are also commonly seen across the site.

FISHPONDS, EWELL ROAD, SURBITON *by Elliot Newton*
Designation: Borough Grade 2

Photo: Corky-fruited water dropwort and top pond below outfall

The Fishponds is a 5.15 hectare municipal park which contains three ponds, a stream, areas of grassland as well as more formal grounds. The largest of the three ponds is located at the southern end of the park, it lies within a depression and is naturally fed by groundwater and run off from the surrounding land. The two upper ponds are more artificial, having been lined with plastic sheeting to retain water. Previous data has shown that these bodies of water have provided habitat for a range of different species, however in recent years a planning application was passed to use the ponds as a runoff for storm water. This work has significantly degraded the habitat resulting in the loss and decline of important species.

Plant and tree species: A belt of hawthorn, sycamore, oak, horse chestnut, laburnum, hornbeam and elms surround the ponds. Reed beds are to found in the largest pond, a habitat scarce within Greater London. Bittersweet with its purple flowers and scarlet berries, a common associate of reed, is present. Other aquatic vegetation is limited to a few clumps of yellow flag and duckweed. The meadow is only partly cultivated, and consists of a variety of grasses and wildflowers. Common knapweed and yarrow abound here, as well as an important colony of the regionally scarce plant corky-fruited water dropwort.

Amphibian Species: Recent surveys (May, 2014) have identified a population of ~100 smooth newts inhabiting the area, with the greatest concentration found in the upper pond, individuals were also found within the stream and the largest southern pond, though in lower numbers. Other amphibians to be recorded within this area include the Common Frog and Common Toad.

Mammal Species: The Park hosts an active roost of Soprano Pipistrelle bats and common pipistrelles roost nearby. Natterer's bat were recorded (2003-05) however, since the recent engineering work to accommodate storm water runoff, trees once used for roosting purposes are no longer present. Typical of the area, the urban fox and grey squirrel offer regular sightings.

Bird Species: Waterfowl are surprisingly scarce with moorhens and mallards being recorded. Swans do attempt nesting but newspaper reports annual killing of cygnets due to dog attacks. There are occasional records of Kingfisher and Nuthatches breed in mature beech trees.

Invertebrate Species: On summer days, various damselflies and dragonflies can be seen patrolling the waters. Stag Beetles have also been recorded, though in recent years since the engineering works and loss of standing and lying dead beech wood, these have become less common. Lesser stags are also known to be present within the area. Water scorpion has been recorded within the connecting streams, whose water quality may be better than that of the ponds. Diving beetles and pond skaters can also be observed.

Fish Species: There is limited data with regard to fish species with the Fishponds; however previous records suggest there are populations of three-spined sticklebacks found within all three of the ponds. Though, a current survey should be employed to confirm their existence, especially with the recent decline in water quality.

ALEXANDRA MILLENNIUM GREEN LAKE *by A. Fure*

Photos: Millennium Green lake showing reed bed and invasive *C. helmsii* (yellow patches).

The Millennium Green is managed by a registered charity which formed prior to 2000, in order to create the park in its current form. It contains one of the most productive reed beds for birds in the borough, which includes reed warblers, quite surprising in a residential area. A healthy population of house sparrows relies on the reed bed for bathing, food gathering etc. Some of them nest in the eaves of the small toilet building in the adjacent recreation ground. Good numbers of greenfinches sing from boundary vegetation and these seedeaters will certainly

benefit from the creation of the water body, although this has been at the expense of declining species such as Whitethroat and may also include Kestrel. Unfortunately the lake has been overtaken by invasive species such as Goat's Rue and *Crassula helmsii*. The latter is a serious problem which could easily be spread to other areas of standing water by water birds.

JUBILEE MEADOWS PONDS *Alison Fure*
Designation: Grade 1 Site


Photos: Jubilee meadows ponds, the reed bed and at sunset.

The meadow ponds at Jubilee Meadows in Chessington have been important for dragonflies and bats and birds in the past. In former years the reed beds have been used by reed bunting as a night roost. Almost 50 were counted arriving in the early evening (2002) which made it the largest roost site for this species in Surrey (per Surrey Bird Report). Alas this is no longer the case and a survey undertaken this year in February, 2013 produced no sign of reed buntings.

Instead noise and light pollution from a nearby circus was noted, as well as an increase in the tenacity of the mowing regime, which has decreased the area under conservation management. This area is important for white-letter hairstreak butterfly recorded on several occasions. Although the eggs of this butterfly are recorded along the Hogsmill River, this is the only site in the borough where the adult is seen annually. Recently cabling works have led to the sowing of non-native species during the restoration and the species composition of the meadow has suffered. The brakes need to be applied to the rapid decline in some of the features at this borough outpost.


Photos: Dew Pond and Winey Hill Pond.

MALDEN POND AKA PLOUGH POND *(Chris Cockel/Linda Pryke)*
Designation: Site of Local Importance.

This site has historical and cultural value, and local people have defended this site, campaigning for better and more frequent management. The Environment Trust has recently cleared litter and surplus plant growth and carried out condition surveys. The water quality was tested by Lancrop Laboratories in response to concerns by the public in 2013 and was found to be good.

Plants species: includes emergent vegetation such as common and branched burr reed as well as curled pondweed and rigid hornwort.

Mammal species A bat survey undertaken during 2014 found two species of pipistrelle arriving within their emergence period, to feed around the pond as well as the oaks on the nearby green. Rats are a problem from time to time.

Bird species: moorhen and coot breed here.

Amphibian species: despite its isolation there is a healthy population of smooth newt (surveyed 2014) and common frog.

Invertebrate species: the pond contains a healthy population of great rams horns snail and is good for species such dragonflies and water beetles.

TOLWORTH COURT FARM MOATED MANOR POND

This site has great potential as it is closed to the public. Little grebe's nest on the pond most years, which also has amphibian and plant interest. The site has occasionally been managed by the Lower Mole Project, which includes the erection of a barn owl box in the barn.

MANOR PARK
An ephemeral pond situated next to the Manor Park recreation ground. When surveyed by L. Pryke during 2014 was found to contain a very large number of tadpoles.

6.0 Factors affecting the habitat

In order to know what the Actions should be it is important to know what the problems are
Factors affecting the habitat in the borough

- Industrial development;
- in-filling and agricultural intensification;
- Lowering of water table;
- Litter and invasive species;
- Artificial light pollution
- Loss of sunlight due to vegetation overshadowing is a problem on many smaller ponds?
- Isolation from surrounding habitat;
- Introduction of fish;
- Decline of water quality due to eutrophication; and
- Lack of appropriate management.

1. Industrial development:
   Development proposals have always hung over the largest site in the borough even though it has some of the highest designations to protect it (MOL, SNCI etc.). Despite the Core Strategy stating that 'the site is 'unsuitable for housing', there have been four major planning applications to develop Seething Wells, the borough's flagship SOW site for housing since 1992.

2. In-filling and agricultural intensification
   In November 2002 planning permission was granted under ref: 02/10035/FUL for: 'Implementation of drainage scheme including infilling of pond and re-contouring of land in part of southern area of a farm'. During 2004 the South of the Borough Planning Committee received a report relating to various breaches of planning control, which have unauthorised change of use of an area of land adjoining the planning application site from agriculture to use for agriculture and for the depositing of waste material. In other words a pond on farmland was being used as a landfill site. Where ponds are connected to shooting interests then there may be an incentive to retain diversity for wildlife. However some ponds have been damaged by livestock poaching the sides.

3. Lowering of the water table
   Abstraction may have affected all the boroughs water bodies.
   Seething Wells suffered two events where the Filter Beds were drained.

4. Litter and invasive or non-native species
   Litter is a problem at Seething Wells, Plough Pond;
   Invasive species such as *Crassula helmsii* is recorded at Alexander Recreation Ground. Japanese knotweed is a problem along the Hogsmill.
   Plough Pond: pet goldfish have been introduced, which eat freshwater invertebrates and the amphibians.

5. Artificial Light pollution
   Light pollution from streetlights and nearby business is having an effect on the filter beds at Seething Wells

6. Isolation from surrounding habitat
   This is a problem for Plough Pond as the pond is situated alongside a busy road.

7. Lack of appropriate management
   The Surbiton Fishponds are now designed to take stormwater run-off from the local road network. Kingston Council allowed them to do this to alleviate flooding of the sewage works. The arrangement was that the ponds would be planted with phragmites reeds to cleanse the water although this and other remedial works was never carried out leaving the ponds in a poor state.

8. Decline of water quality due to eutrophication.
   This could apply to all water bodies but particularly Plough Pond, Alexander Recreation Ground and those on farmland.

7.0 Objectives and Actions

The Standing Open Water HAP as part of the Kingston Biodiversity Management Plan could have broad generic actions and objectives, which apply to all the habitats and species in our plan. These actions could be *Site Management, Habitat Protection, Species Protection, Ecological Monitoring, Biological Records, Communications and Funding* as follows:

Objective 1: Implementation of the SOW HAP as part of the Green Spaces and other Strategies

A Biodiversity Management Plan for SOW HAP to be completed		September. 2014	
Additional HAP actions: the details to be decided		Year 1	
To present the BMP to planning officers and others involved in the implementation of biodiversity legislation in the form of seminars.			
To ensure the incorporation of the plan into the Green Spaces Strategy		Sept, 2014	
To ensure gains for SOW within the planning documents including 'No Net Loss' of the resource for biodiversity.			

Objective 2: Site Management

Actions			
		ongoing	
Ensure that at least one pond attracts management improvements each year		Plough Pond 2013	
Ascertain how much the borough spends on (Plough) pond management and offer to increase the service using volunteers			
Encourage council obligations to stop the spread of invasive species such as C. helmsii, 'Argentinian Grass'.		Sept, 2014	

Objective 3: Habitat Protection

Actions			
Object to any increases in activities which will may affect the environment of standing open water such as:			
Encroachment by development			
Light pollution especially from floodlit sports facilities, neon signs etc.			

Objective 4: Ecological Monitoring

Actions			
Collate existing records but be aware of the wealth of existing information so that efforts are not duplicated. Water quality testing where required Some targeted species monitoring might be appropriate along some areas such as water vole. Encourage use of GIGL by council officers			

Generic Management

Non- native species	Removal of invasive and non –native species such as Japanese knotweed Monitoring for species such as *Crassula helmsii and 'Argentinian-type invasive grasses'*
Poaching	*Ensure that animals cannot cause damage to the margins (Winey Hill)*
Abstraction	*Liaise with Environment Agency*
Sequestering water for industrial purposes	*Liaise with Environment Agency/Thames Water/ RBK*
Eutrophication	*Macrophyte planting. Barley straw could be added to Plough Pond*
Litter	*Work parties*
Artificial Light Pollution	No new lighting new SOW see separate submission on Light Pollution
Other pollution	*Liaise with South East Rivers Trust*

Site Specific

SITE	MANAGEMENT HISTORY	MANAGEMENT
Plough Pond	Lower Mole Project, 1996 (Borough contract Red Kite services but no records) Environment Trust 2013 4 lorry loads of duckweed, branches and litter cleared 1996. Two vegetation bays constructed and planted up with macrophytes	Macrophyte planting Barley straw bales may be necessary
Moated Manor	September 1994 restoration of the moat included coppicing/pollarding bankside trees and scrub clearance throughout the arms of the moat. Main area of the moat dredged using an excavator and tracked dumper to remove spoil, which was deposited on the concrete floor of the old farm buildings as agreed with RBK. All work agreed with archaeologists before starting. Two skips filed with rubbish.	
Alexander Millennium Green Lake	*Created in 2000, unknown*	Urgent: Drain down pond due to *Crassula helmsii* *Also remove Goat's Rue*

8 .0 Contact

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