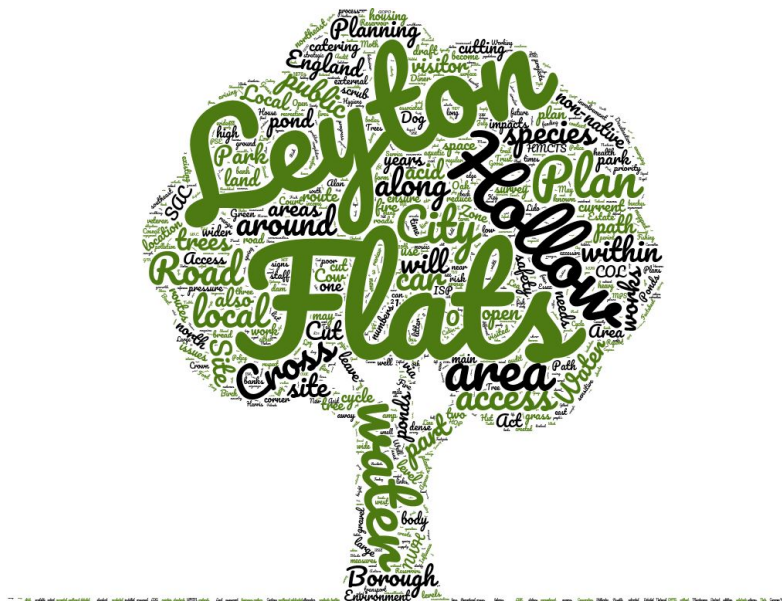


LEYTON FLATS



Individual Site Plan

<i>Date</i>	27 September 2019
<i>Version Number</i>	v11
<i>Review Date</i>	
<i>Author</i>	Fiona Martin/Geoff Sinclair
<i>Land Area</i>	78.03 ha
<i>Compartment Number</i>	36
<i>Designations</i>	<p>Epping Forest Land (1878 Act)</p> <p>Special Area of Conservation (SAC)</p> <p>Site of Special Scientific Interest (SSSI)</p> <p>Site of Importance for Nature Conservation</p> <p>Large Raised Reservoir</p> <p>Locally Important Geological Site</p>

Leyton Flats

INDIVIDUAL SITE PLAN

SUMMARY

Leyton Flats (also known locally as Hollow Ponds) is Epping Forest's most visited location. It is an area of open grassland, woodland and ponds towards the southern end of Epping Forest, owned and managed by the City of London Corporation (COL). The Flats are highly valued by local residents as a natural open space in a heavily built-up area of northeast London and has a high conservation value, as recognised by its statutory protection, with an additional, largely hidden heritage. With predicted local population growth and consequent additional visitor pressure, it is timely to review the current issues faced in the management of this site and plan for the future, to sustain this well cared for and much loved landscape. This Individual Site Plan lists current management considerations but also presents a strategic work programme to ensure a sustainable future for the conservation and heritage interest of Leyton Flats, along with its immense recreational value.

INTRODUCTION

Leyton Flats, covering around 75 hectares, makes up one of 38 management compartments and covers 3% of the surface area of Epping Forest. Epping Forest is one of London's largest and most significant natural Open Spaces, managed in perpetuity by the City of London Corporation, as The Conservators of Epping Forest, under the auspices of the Epping Forest Acts 1878 and 1880.

Individual Site Plans (ISPs) aim to review and collate the City Corporation's property management considerations at specific locations, to give an overview of current practice and outline longer term plans. An important part of the process is to work with key local stakeholders to ensure that the City Corporation captures the management issues impacting each site. Site selection is centered around areas of Epping Forest that have a high number of competing issues and/or high visitor numbers.

The ISPs reflect the current level of activity at each site; however, an important part of each ISP is the identification of any potential improvement and enhancement projects that require additional resources, including support from external operational stakeholders, for example in the form of grant funding or volunteer person-hours. The information gathered in each report will be used by the City Corporation to prioritise work and spending on each site as part of the development of the 2020-30 Management Strategy and 2020-2023 Business Plan for Epping Forest.

Each ISP will aim to follow the same structure, outlined below:

- **Background** – a brief description of the extent of the site covered by the ISP;
- **Legal and Statutory Context** – a list of identified legal and statutory constraints for the site;
- **Management Considerations** – a list of identified management considerations for the site, with respect to ecology, conservation, community, heritage, landscape and any other identified management issues;

- **Potential Enhancement Projects Requiring External Support** – a list of projects that would enhance the quality of one or more aspects of the site, for which additional support would be required;
- **Management Strategy** – a summary of the key overall objectives for managing the site, as identified by the audit;
- **Outline Management Programme** – a summary of the management actions identified for the site as a result of the audit and consultation process, with anticipated timelines for completion;
- **External Operational Stakeholders** – a list of external stakeholders who have an operational input to the site, who have been consulted as part of the compilation of the Individual Site Plan;
- **Bibliography** – a list of existing reports (if available) that have formed part of the audit for the ISP; and
- **Appendices** – including a detailed activity plan.

BACKGROUND

Leyton Flats is an area of open grassland, woodland and ponds bounded by the communities of Leytonstone and Upper Walthamstow to the west and Snaresbrook to the east. The majority of the Flats lies within the London Borough of Waltham Forest, while Eagle Pond, at the northeast corner of the Flats, is within the London Borough of Redbridge. Leyton Flats is part of Epping Forest (Compartment 36).

It is unclear how long the current name has been used, as the nearby Wanstead Flats were named as Lower Forest or Wanstead Heath until the late Victorian period. Locally, the area is known as ‘Hollow Ponds’, referring to the former gravel workings that were changed into a single lake from 1905. Edwardian postcards refer to the area as ‘Hollow Pond(s), Leyton (or Leytonstone)’. On sunny weekends in the summer, the area has an inland resort atmosphere, with row boating, picnics and people walking around the ponds. There is a strong cultural heritage of ‘Hollow Ponds’ as a recreational day trip destination going back more than 100 years. The area was deemed sufficiently important to be illustrated in Rousseau’s 1870s photos of the ‘Forest’, as part of a commemorative album presented after the 1874 legal judgement to save Epping Forest (Rousseau, 1875).

The Hollow Pond is not the only draw to the area, people are also attracted by the two local catering establishments next to Hollow Pond and by the Sir Alfred Hitchcock Public House on the opposite side of Whipps Cross Road – the view across to the Forest from the pub’s forecourt is much appreciated by locals and visitors alike. In the northeast corner of Leyton Flats, Eagle Pond is popular with residents of Snaresbrook, but visitor numbers are fewer than around Hollow Pond. Fewer people venture into the dense woodland to the north of Hollow Pond.

In addition to being a day trip destination, the area around Hollow Pond is very close to a major London hospital - Whipps Cross Hospital - operated by Barts Health NHS Trust. It is likely that visitors to the hospital spend time walking around Leyton Flats, thereby taking advantage of the therapeutic value of open space in difficult times of poor health or bereavement.

Leyton Flats is also an important natural green space for the large number of residents within walking distance of the Flats, many of whom live in accommodation with no outside space. There are roughly 1 million residents within 5 miles of Leyton Flats, of which around 30% of households are classed as social grade DE, with a further 50% of households classed as grade C1 and 2 (Audience Agency, 2016).

The wider Epping Forest connects to Leyton Flats with Gilberts Slade and Walthamstow Forest to the north, and Bush Wood, Wanstead Flats and Wanstead Park to the south. The southern connections are via the Green Man Roundabout, comprising the interchange between the A12 and three other local roads. A permissive shared use trail crosses the junction via an underpass. A new cycle superhighway along Whipps Cross connects the area to the London-wide cycle network.

Taken together, Leyton Flats, Wanstead Flats and Wanstead Park comprise a very significant area of open space (347.31ha/859.22acres – 14% of Epping Forest's total area) less than 6 miles from central London. The southern part of Epping Forest is hugely valued and visited by a great number of Londoners for recreation and access to nature. The 2014 visitor survey found that Leyton Flats is the most visited area within Epping Forest, with a total of 430,000 annual visits recorded.

Anecdotally, it is thought that the majority of visitors arrive at the Flats on foot, either directly if they are local residents or via public transport. A large proportion of visitors are likely to be dog-walkers (Epping Forest Visitor Survey 2017 – Footprint Ecology). Several bus routes use the interchange at the junction of the A104 and A114, and there are five underground or overground stations within three quarters of a mile of the Flats. The Flats also have three dedicated car parks, one off Snaresbrook Road and two off Whipps Cross Road, all of which are heavily used.

Leyton Flats comprises a mosaic of semi-natural acid grassland/heathland (with heather), Gorse and Broom scrub towards the southeast of the Flats, with lapsed wood-pasture and scrub to the northeast, in an area that historically was also open ground. It is one of the most species rich remaining acid grassland sites in North and South Essex (Vice Counties 18 & 19), and only Sunshine Plain in the north of Epping Forest has as good a flora (Adams, *pers.com.*). This assemblage of habitats, along with the presence of a breeding Stag Beetle population, makes Leyton Flats a very important area for wildlife. This importance is recognised by the compartment's inclusion in the Forest's statutorily-protected area for nature conservation. Almost the whole area of the Flats lies within the internationally-important Special Area of Conservation (SAC), which receives heightened protection and requires its management to be agreed with government agencies.

As part of this habitat mosaic there are four ponds on Leyton Flats: Dog Pond, Cow Pond, Eagle Pond and Hollow Pond.

Eagle Pond in the northeast corner of the Flats, is a large and relatively deep waterbody and is classified by the Environment Agency as a Large Raised Reservoir. Eagle Pond is regulated by Her Majesty's Court & Tribunal Service (HMCTS) for public safety under the Reservoirs Act 1975 and the Flood and Water Management Act 2010.

The Hollow Pond is a former gravel pit with seven islands of varying sizes; it has one of the richest remaining aquatic floras in the Vice Counties of North and South Essex (Adams, *pers.com.*). Historically, the water level in the pond would fluctuate along with the underlying gravel aquifer. A small round pond at the north east corner of Hollow Pond is known as Dog Pond; it is connected to Hollow Pond via a ditch and shares its hydrology. Cow Pond is on the western edge of Leyton Flats adjacent to Lea Bridge Road; it is also a former gravel pit which fills from rainwater runoff. The Birch Well, a former chalybeate spring, thought to have supplied drinking water to Wanstead residents, is located near to the boundary fence of Snaresbrook Crown Court.

Separated from Leyton Flats proper by Whipps Cross Road is another area of Forest land, Hospital Wood, within Compartment 36, beside and just to the northeast of Whipps Cross Hospital. Much of this land is secondary woodland, with some small clearings and a few veteran oak pollards, though it was once a much more open area (see Images A and B in Appendix 3). The small area of Forest land separated from the rest of Leyton Flats by the railway cutting, situated between the cutting, the Green Man roundabout complex and Hollybush Hill, comprises an area of trees and scrub adjacent to the railway and scrubby rank grassland by the roads and paths.

Figure 1 (Appendix 4) shows a plan of Leyton Flats, with the locations of the car parks and local public transport connections marked.

LEGAL AND STATUTORY CONTEXT

Statutory Designations

- **Site of Special Scientific Interest and Special Area of Conservation:** The majority of Leyton Flats lies within the designated Epping Forest *Site of Special Scientific Interest* (SSSI) and Epping Forest *Special Area of Conservation* (SAC). As such it forms part of an internationally-important site within an network of such sites across Europe and is specially protected under UK law by the Habitats Regulations 2017. Both the SAC and the SSSI designations are regularly assessed for their “favourable conservation or condition” status to ensure that the wildlife habitats support the range of scarce species for which they were designated. Compartment 136 (‘Leyton Flats and Hollow Pond’) was assessed by Natural England (NE) in January 2010 as ‘unfavourable - no change’ (Natural England, 2010), with poor air quality and the level of recreational pressure being major concerns. Furthermore, there is excessive growth of bramble and grassland areas show excessive growth of grasses compared to broad-leaved flowering species along roadsides and ride edges.
- **Competent authority for the Epping Forest SAC:** Under the Habitats Regulations 2017, competent authorities i.e. any Minister, government department, public body, or person holding public office, have a general duty, in the exercise of any of their functions, to have regard to the EC Habitats Directive and Wild Birds Directive. For the general management of the SAC, The City of London Corporation, as the Conservators of Epping Forest, is the competent authority. For planning, development and highways issues that might impact on the protected area of Leyton Flats the various local authorities covering the site are the competent authorities and must ensure the protection of the SAC from adverse impacts. .
- **Metropolitan Green Belt:** In the 2019 draft Local plan for Waltham Forest development proposals affecting Epping Forest should be sensitive and proportionate, delivering enhancements where possible and must not contribute to adverse impacts on ecological integrity, amenity or visitor enjoyment.
- **Other conservation designations:** Eagle Pond is designated a *Site of Interest for Nature Conservation* (SINC). The parts of the compartment southwest of Whipps Cross Road and east of the underground cutting do not have any ecological conservation designations.
- **Archaeological Priority Areas:** The Whipps Cross roundabout is designated by Historic England as an Archaeological Priority Area within Greater London (Historic England, 2016). This area is described in the Waltham Forest Unitary Development Plan (adopted 2006, currently in the

process of being replaced by a new Local Plan) as ‘Roman finds have been recovered here and roads and land boundaries are recorded from the medieval period’.

- Locally Important Geological Site: The London Geodiversity Partnership has proposed Leyton Flats as a 2017 candidate Locally Important Geological Site (LIGS) on the basis of Boyn Hill Gravel profiles and evidence of periglacial activity, and consultation regarding this proposed designation is currently being undertaken by the London Geodiversity Partnership (2019). Should it be accepted as a LIGS, Leyton Flats will feature in the next version of *London’s Foundations*, which is supplementary guidance to the *London Plan*.

Flood risk and dam infrastructure

- National Flood Risk: Under the Reservoirs Act 1975 as amended 2010, Eagle Pond is classified as a High Risk Large Raised Reservoir,
- There are statutory requirements placed upon HMCTS to monitor and maintain the Eagle Pond dam and associated infrastructure to standards set out in the Act.
- Improvement works: On behalf of HMCTS, Stillwater Associates (Reservoir Safety and Water Consultancy) undertook works in 2013 to increase the capacity of the Eagle Pond spillway, so that it passed the Probable Maximum Flood event, as defined by the Reservoirs Act 1975 as amended

Tree Safety

- Tree Safety: Leyton Flats has four different tree safety zones identified.
 - Red + Zone Trees along main roads which are surveyed annually by specialist external tree safety consultants.
 - Red Zone Trees alongside minor highways, are surveyed every two years by specialist external tree safety consultants.
 - Amber Zone Trees in areas highly frequented by the public and where trees abut properties, are surveyed every three years by specialist external tree safety consultants.
 - Green Zone Trees alongside the ‘Official’ path network as identified on the Epping Forest visitor map are surveyed by City Corporation Forest Keepers on a five-year rotation.

Fire Risk

- Barbeques and fires, although against the byelaws, are a frequent problem in the area and Leyton Flats has a history of periodic and at times large fires.
- Wildfire management at Epping Forest is under review at the time of reporting and additional measures may be identified as part of this review.

Invasive / Alien Species

- Oak Processionary Moth (*Thaumetopoea processionea*): The larvae of the non-native Oak Processionary Moths are a potential risk to human health (GB non-native species secretariat, 2019). There was a heavy infestation of several trees in 2018 and further outbreaks are expected in coming years. Future responses will involve removal of the nests, especially at lower levels, with some pesticide treatment in limited cases.
- New Zealand Pigmyweed (*Crassula helmsii*): There is a heavy infestation of New Zealand Pigmyweed in Dog Pond and it is present on the margins of Hollow Pond. New Zealand

Pygmyweed tends to form dense mats, from 0.5m above water to depths of 3m under water, which shade out other plants and cause oxygen depletion of the underlying water, leading to a decline in invertebrates, frogs, newts and fishes. (GB non-native species secretariat, 2019).

- Signal Crayfish (*Pacifastacus leniusculus*): Signal Crayfish are long-established in Hollow Pond and the population is self-regulating without the need for specific control by City Corporation staff.
- Canada Goose (*Branta canadensis*): Canada Geese, a non-native species, are heavy grazers of aquatic and waterside vegetation, their droppings increase nutrient levels in water bodies and soils and their trampling can exacerbate bankside erosion (GB non-native species secretariat, 2019). Currently, City Corporation carries out the control of non-native geese populations on Hollow Pond 2-3 times/year through humane egg treatment to prevent hatching.
- Terrapins: Terrapins (typically the red-eared slider (*Trachemys scripta elegans*)) have been introduced into and become established in Eagle Pond (City of London Corporation, 2018). Terrapins are not native to the UK and their introduction has led to damaging predation on native species, especially frogs and dragonflies (GB non-native species secretariat, 2019).
- Blue Green Algae: Eagle Pond has had regular episodes of blue-green algae (BGA) colonisation.
- Bulrush: Dog Pond has become significantly overgrown with the native plant Bulrush (*Typha latifolia*), leaving virtually no open water.
- Michaelmas daisies (Asters) – this garden escape has colonised many of the steep banks around Hollow Pond.

Infrastructure

- Inlets/outlets: The outflow from Hollow Pond is culverted under Whipps Cross Road, then via an underground pipe under the original Victorian hospital building at Whipps Cross Hospital. In times of heavy rainfall, the water bursts through the manholes to this underground pipe, and the basement of the Victorian hospital building has been known to flood in the past.
- Revetments: Existing timber revetments around the west bank of Eagle Pond are in a poor state of repair, with erosion of the bank behind the revetments.
- Information boards/signposts:
 - ‘Gateway to Epping Forest’ signs: There are no Epping Forest Gateway signs on any of the major roads that surround Leyton Flats.
 - Small ‘Corporation of London’ signs: Leyton Flats has two ‘Corporation of London’ signs, one at the Snaresbrook Road car park and one towards the southeast end of Whipps Cross Road, almost opposite Chadwick Road.
 - ‘No Fishing’ signs: There are two ‘No Fishing’ signs, one on the southwest shore of Hollow Pond, and one on the western edge of Eagle Pond.
 - ‘Feeding the wildfowl’ information boards: Two new boards are due to be in place at Hollow Pond and Eagle Pond by end of 2019 .
- Forest Furniture:
 - Benches: There are four benches adjacent to the Boathouse and also beside the Lakeside Diner; however, there are low numbers of perches/benches around Hollow Pond. As a guide, the Fieldfare Trust (2005) recommends a perch every 100m along busy paths, indicating around 15 perches or benches might be appropriate around the pond.
 - Waymarker posts: There are a number of wooden waymarker posts around Leyton Flats, marking out bridlepaths and footpaths.

Boundaries / Property

- Central Line: The Central Line, part of the Transport for London (TfL) underground network, passes through the southeastern corner of Leyton Flats in a steep-sided cutting around 240m long. The proximity of the Epping Forest boundary to the Central Line requires that the potential fire risk from wildfires (see below) and the potential of tree failure need to be managed.
- Shared ownership of Eagle Pond banks and dam: The Eagle Pond came into Corporation of London ownership in 1881 (Alan Baxter, 2018). Although the waterbody and west bank of Eagle Pond are held in trust by City Corporation, the public highway to the north of Eagle Pond, comprising Snaresbrook Road, the pavement and retaining wall, is owned by the London Borough of Redbridge. The south and east banks of Eagle Pond are in the ownership of HMCTS and there is currently no public access.
- The Log Cabin is a catering establishment on land dedicated as a public highway, to support a tramway which ran between 1906-39, before being replaced by a trolleybus until 1962. The highway dedication remains in the ownership of the City Corporation. The City Corporation is in the process of negotiating with the local authority about the return of this now unused strip of highway dedicated land to Epping Forest.

Highway Verges

- The verges along the roads around Leyton Flats are cut once a year in August/September to prevent encroachment onto the pavements.
- Sightlines on car park entrances and road junctions are cut annually by COL in June/July.

Utilities

- Beckton desalination pipeline: This pipeline transfers drinking water treated at the Thames Water Desalination Plant (also known as the Beckton Desalination Plant) to northeast London for use by local residents. The pipeline crosses Leyton Flats from the southeast to the northwest. Upon completion of the works, Thames Water issued COL with a notice that states: *'After the work is finished, we will send you a plan showing the exact position of the pipe, and the strip of land over the pipe that must be kept clear of structures or trees in case we have to carry out repairs or remedial works'*. COL currently cuts the grass along the pipeline corridor twice a year.

MANAGEMENT CONSIDERATIONS

Ecological

- Climate change and climate heating: this over-arching and increasingly serious problem will need to be factored into future management decisions for the site and, particularly, the protection of its scarce habitats and species. It is likely to increase the susceptibility of the trees and vegetation to diseases and drought.
- Favourable Conservation Status of the SAC – Site Improvement Plan (SIP) and Favourable Condition of the SSSI: management work will need to try to address the two key problems for favourable condition identified by Natural England: air pollution and recreational pressure. To address the former, a close working relationship is required with other stakeholders, particularly the London Borough of Waltham Forest through its updating of its Local Plan and its highways and development proposals. Recreational pressure also needs to be considered under the forthcoming SAC Mitigation Strategy and this current ISP outlines possible management

proposals that may help address the issues of visitor numbers and help to protect habitats like the acid grassland and heather.

- Acid grassland habitat: Acid grasslands are so-called because they are characterised by nutrient-poor (low nitrogen and phosphorus content) and acidic soils (those with a low pH – sandy/gravelly). They are closely associated with and often interleave with dry heathlands where heather and other ericaceous plants are characteristic. The low nutrients, acidic conditions and drought-affected soils favour a wide diversity of specialist native plants that can thrive where the more common, faster-growing grasses cannot easily survive. At Leyton Flats these native plants, that give the Forest landscape its distinctive character, include low-growing vegetations such as sheep's sorrel, tormentil, heath bedstraw and heather alongside fine-leaved grasses and rushes, including scarce species such as mat grass, heath grass, heath rush and sheep's-fescue. Acid grassland is a UK Biodiversity Action Plan habitat and, as such, is a top priority for wildlife conservation nationally. The open areas of acid grassland are currently managed via a mosaic of cuts on a cycle of 3 years. The quality of the acid grassland is being adversely impacted by the following significant issues:
 - Decline in grazing: Prior to the modern era, Leyton Flats was an area of largely open acid grassland within wood-pasture, kept free of scrub by the grazing of commoners' cattle; this practice ceased following the outbreak in 1996 of mad cow disease (Bovine spongiform encephalopathy, BSE). Since then approximately half the former extent of acid grassland has developed into dense secondary woodland and scrub (Adams, 2015).
 - Scrub and tree encroachment: Specialist acid grassland species at Leyton Flats are declining, and many that would be expected to be abundant are sparsely represented (Adams, 2015). For example, Leyton Flats is the London stronghold for Creeping Willow (*Salix repens*) (BSBI, 2019). In 2015 there remained six small dense areas of Creeping Willow (Adams, 2015).
 - Air pollution: Deposition of nitrogen pollutants from the air is causing a rise in soil fertility, allowing more competitive species to dominate the more desirable acid grassland species.
 - Recreational pressure: There is some loss of acid grassland areas through visitor trampling pressure along the extensive informal path network.
- Ancient / veteran trees: There are two ancient Oak (*Quercus robur*) trees on the City Corporation's database of veteran trees, with many additional ancient/veteran trees currently unmapped. Across Whipps Cross Road from the main area of Leyton Flats is an area that, in the 1870s, was noted for being the location of a 'King of the Forest' oak, i.e. a particularly large and fine specimen (as shown in a 1870s sepia photo, see Appendix 3).
- Avenue of Hornbeam: There is an avenue of Fastigate Hornbeam (*Carpinus betulus* var. 'fastigiata') along the western boundary of Leyton Flats, adjacent to Whipps Cross Road, established as part of the 2012 Olympics. The avenue of trees needs ongoing management, with some failures needing to be replaced.
- Open water
 - Hollow and Eagle Pond together form a significant part of Leyton Flats, with Hollow Pond having one of the richest remaining aquatic floras in Epping Forest (Adams, *pers.com.*). Additionally there are two smaller ponds, Dog Pond and Cow Pond. Across all four ponds, the following issues are adversely impacting their habitat quality:
 - Water Quality: Water quality is typically poor as a consequence of eutrophication and atmospheric pollution, in particular nitrogen deposition. Eagle Pond is

- further affected by organic and heavy metal pollution from road run-off, via a storm drain from Snaresbrook Road;
- Blue Green Algae: Eagle Pond has had regular episodes of BGA colonisation;
 - Invasive plants: Dog Pond has become significantly overgrown with the native plant Bulrush (*Typha latifolia*), leaving virtually no open water. The non-native plant *Crassula helmsii* is extensively colonising Dog Pond and it is established in the margins of the adjacent Hollow Pond;
 - Michaelmas daisies (Asters) – this garden escape has colonised many of the steep banks around Hollow Pond;
 - Erosion of banks: High visitor pressure has led the banks of Hollow Pond and Eagle pond to become eroded and poorly able to support marginal vegetation;
 - Plastic waste: Both Eagle Pond and Hollow Pond have a significant plastic litter problem; and,
 - Wildfowl feeding: There is a high level of bird feeding with bread and similar food waste, which adversely impacts water quality and the health of wild birds, as well as increasing opportunities for rats.
- Water supply: Water in the ponds originates from ground water, surface water drainage and direct precipitation. In recent years, groundwater levels have been low, with adverse impacts on habitat quality, angling and boating.
 - Decreasing fish populations: Fish surveys of the main aquatic bodies in Epping Forest are undertaken annually by City Corporation staff. In recent years, there has been a marked reduction in fish numbers and species diversity in Eagle and Hollow Ponds (City of London Corporation, 2018). Bankside erosion of protective and sheltering marginal vegetation (despite some planting up of embayments), low water levels and possibly poorer water quality exposing the more numerous fish species to easier predation by larger fish and birds seem likely to be the main causes of this decline.
 - Amphibians: Hollow Pond-Dog Pond were assessed as being of medium importance for amphibians and medium priority for management. Eagle Pond and Cow Pond were assessed as being of low importance for amphibians and low priority for management. (Cathering Bickmore Associates, 2014). A Cow Pond restoration project led by the Froglife charity will be undertaken from 2020 with the aim of enhancing its amphibian habitats, especially for toads. Further details of the amphibian survey and specific management recommendations are in Appendix 2.

Heritage and Landscape

- Leyton Flats and the Wanstead Park Estate: The whole of Leyton Flats was, in the 18th and 19th century, the source of water for the Wanstead Park Estate, which was drained along an artificial channel known as the River Holt. The system was created by Adam Holt and it fed the water system of what is now Wanstead Park (also within Epping Forest). However, the channel of the River Holt has now been lost and there is scant documentary evidence to indicate its original course (Alan Baxter, 2018).
- Wanstead Park Estate: The Wanstead Park Estate is a nationally (potentially internationally) important historic designed landscape, created around Wanstead House during the 17th to 19th centuries (LDA Design, 2019 *in draft*). It is Grade II* on Historic England's *Register of Parks and Gardens of Historic Interest* (Historic England, 1986).

- Eagle Pond:
 - Eagle Pond: The Eagle Pond Conservation Management Plan (Alan Baxter, 2018) references a 1746 survey of London which shows Eagle Pond as being part of the Wanstead Park Estate, connected via an avenue of trees to the mansion house. Earlier maps of the area are either insufficiently detailed to show the pond, or comprise both actual and aspirational landscape elements. As such, the pond may have been in existence prior to being incorporated within the Wanstead Park Estate, or may have been created specifically (Alan Baxter, 2018).
 - Historical significance of Eagle Pond: As Eagle Pond was once part of the wider landscaping of the Wanstead Park Estate in the 18th Century, the pond is deemed to be of national historical significance (Alan Baxter, 2018).
 - Infant Orphan Asylum: In the 19th Century, the Eagle Pond became part of the landscaping of the Infant Orphan Asylum, a vast institution designed by the celebrated architects Sir George Gilbert and William Bonython Moffatt. It is now Snaresbrook Crown Court.
- History of Hollow Pond: Hollow Pond was originally created by the extraction of gravel in the 19th century. This left pits in the naturally marshy land and, in 1905, the Distress Committee recruited the unemployed to expand the pond to create a place of beauty and recreation; a tradition of row boating was established at this time. Row boating is still a popular attraction at Hollow Pond, with the current boathouse and layout very similar to over a 100 years ago, as evidenced by postcards (e.g. <http://www.45spaces.com/topographical-postcards/r.php?r=6402-xe>, see also Appendix 3 of this report, which is an image of a postcard dating from 1909). ‘Hollow Ponds’ also features in popular culture – it is the title of Damon Albarn’s third single, released in 2014, from the album ‘Everyday Robots’ (https://en.wikipedia.org/wiki/Hollow_Ponds).
- Birch Well: The Birch Well is located near to the boundary fence of Snaresbrook Crown Court. It is a stone-edged pool about 1.5m long and somewhat oval in shape. The well was once perhaps the most important of the public wells that supplied Wanstead with its drinking water (Eastment, 1969).
- Post-war pre-fabricated housing: The London 1:1,250 Ordnance Survey maps from 1947-64 show the presence of 117 pre-fabricated housing on Leyton Flats, on land alongside Whipps Cross Road, between Lakeside car park and Chadwick Road. These were erected at the end of the Second World War; in January 1945, the Epping Forest Committee agreed to the construction of these huts by Leyton Council.
- Whipps Cross Lido: The Whipps Cross Lido was built in 1905 and was at one time Great Britain’s largest open air swimming pool until it closed in 1982. The former pool was backfilled for some years using soil from operations such as pond desilting and organic material arising from Forest operations. The original footprint of the lido is now difficult to locate as it has been reclaimed by the Forest. The Lido is still alive in local people’s memories and there is a strong oral tradition of swimming in the Lido, either on summer weekends as a family day out, or of school swimming lessons in freezing water during term time (Bayliss, 2013).

Access

- Pedestrian access:
 - Leyton Flats is easily accessible on foot by local people and those visiting Whipps Cross Hospital (opposite the Flats), as well as by public transport. There are five over/underground rail stations within three quarters of a mile of Leyton Flats. The access

by bus services and cycling has been significantly enhanced by the mini-Holland scheme recently completed by the London Borough of Waltham Forest. This has improved the bus interchange at the junction of Whipps Cross Road and Lea Bridge Road, in the northwest corner of Leyton Flats. This presents significant opportunities to provide better access into the Forest from the bus interchange and associated cycle paths and encourage visitors to arrive by these modes of transport rather than by private car.

- Access from north of Leyton Flats is through dense woodland on narrow paths, through an area with anti-social behaviour concerns.
- Shared use trail: there is an historic route (a “desire line” in effect) across the centre of the main grassland along with other wide and well-used paths around the more wooded periphery of Leyton Flats. These can be used to link to areas of the Forest to the north (Gilbert’s Slade) and south (Bush Wood and Wanstead Flats via an underpass) and may be used as part of the unofficial long-distance footpath known as The Centenary Walk..
- Waymarked trail: A 3.5 mile circular path, the Hornbeam Trail, links Leyton Flats with Gilbert Slade to the north, which is way-marked with posts at regular intervals. The route is signposted from Snaresbrook Road and Whipps Cross Road car parks. As the most visited location in Epping Forest, there is the potential to provide a wider variety of waymarked trails to cater for the wide range of access needs of visitors to Leyton Flats whilst better protecting the grassland and woodland soils of the SAC/SSSI from compaction and erosion. Waymarking could include more route information to better connect Leyton Flats to nearby Wanstead Flats and Wanstead Park, both also within Access via cycle routes:
- Lea Bridge Cycle Route: As part of Transport for London (TfL)’s cycle superhighways project (TfL, 2019), the London Borough of Waltham Forest has installed dedicated cycle lanes in both directions along this road from the borough boundary to Whipps Cross roundabout, at the northwest corner of Leyton Flats. The cycle lanes along Lea Bridge Road connect with several other schemes, including Leyton to Chingford and Leyton to Blackhorse Road Station, and onwards to other cycle schemes. Overall, London’s cycle superhighway project may increase the number of visitors arriving at Leyton Flats by bike, and potentially increase the overall number of visitors to the Flats.
- There is an opportunity to link Leyton Flats and the wider Epping Forest with this extended London cycle route for recreation and commuting north through the Forest.
- Vehicular access and car parking:
 - There are three car parks serving Leyton Flats, one off Snaresbrook Road to the north, and two car parks accessed from Whipps Cross Road to the south (Boat House car park and Lakeside car park).
 - Hours of opening: Snaresbrook Road car park is gated opening times are broadly between dawn and dusk. Currently, there is no gate preventing access to the Boathouse and Lakeside car parks. Lakeside car park is used throughout the night by people visiting the Log Cabin, a 24 hour café.
 - Car park capacity: Lakeside car park and Boat House car park experience very high levels of use. The unbonded, MOT Type 1 car park surface is not suited to the current level of use these car parks face and they quickly become deeply potholed after repairs. Epping Forest car parks are subject to a wider strategy determining grading of surfacing, gating and signage, which is in progress. As the most visited car parks in Epping Forest, the

highest grading will be appropriate and will determine the level of works required to upgrade these car parks.

- Use of car parks by non-Forest users: The demand for spaces at the Leyton Flats car parks by different categories of users needs to be set within a wider context and car parking strategy for the whole of Epping Forest. Car parks are provided for legitimate visitors to Epping Forest. At Leyton Flats, in addition to Forest visitors, there is use by commuters and those visiting the catering establishments and Whipps Cross Hospital.
- Epping Forest signage and branding: Gateway and site branding is limited at present and, at the main Lakeside and Boat House car parks, the City Corporation identity and messaging currently loses visibility because of the range of different businesses present there. There is a significant opportunity to provide enhanced interpretation of the heritage and natural environment around the site, as well as improved directional signage, mapping and branding.

Community

- Catering facilities and public conveniences
 - The Lakeside Diner
 - The Lakeside Diner is a refreshment kiosk near to Hollow Pond, licensed by the Corporation of London. A Food Hygiene and H&S audit was conducted of this catering establishment in May 2008 (Stewart Harris Agnew, 2008a). At that time, the Lakeside Diner was deemed to have limited space in the unit, with a cramped cooking area, no specific staff amenities, and no W.C. facilities on site for staff or visitors.
 - Boathouse Tea Hut
 - A Food Hygiene and H&S audit was conducted of this catering establishment in May 2008 (Stewart Harris Agnew, 2008b). At that time, half of the Boathouse was in the final stages of being converted to a 'Tea Hut', which the auditors noted had been fitted to a very high standard, though without W.C. provision.
 - The Boathouse Tea Hut does good business serving customers who visit Hollow Pond to hire rowing boats. However, the owners have expressed concern at the lack of W.C. facilities at Hollow Pond / Leyton Flats, following complaints made by boathouse customers (James Maestri *pers. comm.*).
 - The Log Cabin
 - The Log Cabin is a 24-hour refreshment kiosk a little to the southeast of the Lakeside Diner, located on a thin strip of London Borough of Waltham Forest land.
 - The return of the redundant tramway to Epping Forest will enable the City Corporation to review the current range of catering facilities at this location.
 - Lack of public conveniences: Leyton Flats is Epping Forest's most visited location, with two catering facilities, a play area and a boat hire facility, but the nearest public toilets are at Whipps Cross hospital, around 400m from Lakeside car park.
 - Reviewing the long term catering offer for the site, to include provision of public conveniences and identifying a potential financing strategy to fund any possible changes, is a key development activity for Leyton Flats.

- Natural Play Area: The London Borough of Waltham Forest (LBWF) funded the installation of a play area that was installed in 2015. These structures were erected by Hollow Pond and are maintained by the LBWF under a care and maintenance agreement.
- Fishing: Fishing is permitted in Hollow Pond for people holding the appropriate Environment Agency licences. Angling was banned from Eagle Pond in 1991-92, due to water fowl becoming tangled in fishing lines.
- Rowing boat hire
 - Boating location: Hollow Pond is currently the only location in Epping Forest where row boats can be hired by the public. It is a very popular venue and attracts large numbers of visitors in the summer months.
 - Hollow Pond water level: In dry years, the water level in Hollow Pond can become very low, impacting both boating and fishing. With climate heating the frequency and length of low water levels is likely to significantly increase.
 - The boating wharf at times of high water can become submerged. Works to improve the wharf, including improved disabled user provision, are being developed by staff from Epping Forest and the City of London Engineers.
- Wild swimming: There is a strong and constituted pressure group in the local area lobbying to create open water swimming in Hollow Pond or to reinstate the lido. They are undertaking a feasibility study on the understanding that there would be no funding from either the City of London Corporation or London Borough of Waltham Forest.
- Community engagement: In contrast to similarly popular Forest locations with nearby communities, there is a relatively low level of local community involvement in the management of Leyton Flats. Local community and voluntary organisations currently engaged in the location include:
 - OWL Group: Important support is provided by the OWL group (<http://www.owl snaresbrook.org.uk>), who undertake litter collection and dissemination of sexual health and personal safety messages in the north of Leyton Flats; and,
 - Froglife: Froglife are working to acquire co-funding for a Heritage Lottery Fund (HLF) project called TOAD, to undertake works on Cow Pond to restore the waterbody and make it suitable for toads and other amphibians. City Corporation have given permission for the works to be carried out on Cow Pond should Froglife be successful in obtaining funding. Furthermore, City Corporation have agreed to undertake any required maintenance for a period of 10 years, which is likely to be undertaken by the Epping Forest Conservation Volunteers, who carry out practical management tasks on the Forest.
- Stronger local community involvement in the management of Leyton Flats will improve representation of the interests of local residents and user groups. Potential groups to consider more engagement with include:
 - Forest Residents Association (FORA, <https://forestresidents.org/>): This association is based in and around the Leytonstone Conservation Area, which includes City Corporation land southeast of James Lane.
 - Wanstead Society (<https://wansteadsociety.org.uk/>): This society is based around Wanstead, to the east of Leyton Flats, but the Society have recently liaised with City Corporation regarding litter and excessive feeding of bread to wildfowl in Eagle Pond.

Anti-social Behaviour

- Leyton Flats is substantially adversely impacted by many anti-social behaviour problems. These include:
 - Rubbish bins and litter: There is a daily collection of litter bins across Leyton Flats and five litter picks undertaken by Epping Forest staff each week. During busy periods, bin capacity can be overwhelmed in some areas, especially near the catering establishments.
 - Dumping of waste bread from local bakeries: There is a particular problem with local bakeries dumping their surplus bread at close of business by the Boat Hut. Feeding bread to wildfowl causes them health problems and the dumping of bread in the water impacts the water quality.
 - Public Sex Environment: The dense scrub woodland in the north of Leyton Flats facilitates a public sex environment (PSE). The impacts of the PSE is managed by City Corporation and Metropolitan Police Service (MPS) to NPCC (formerly ACPO) guidance. The Police service is mindful that PSEs can become a focus for prostitution, muggings and hate crime
 - Rough sleeping: There is a significant amount of rough sleeping among areas of dense scrub in the south of Leyton Flats, near to the Central Line. Staff work actively with a range of government and local services to help vulnerable people rough sleeping on the Forest to find a better outcome;
 - Wildfires: there have been a number of large wildfires during drought periods over the latter part of the 20th and early 21st Century. Such fires present a number of hazards to public safety and also to the wildlife of the area. Fire hazard reduction and management measures, including access and habitat management, are being enhanced and are included in this ISP.

Local Plans

- Local Plans: The Local Plans for both the London Borough of Waltham Forest and the adjacent Local Authorities are being revised and all are planning a significant increase in housing and employment space. The LBWF is currently committed to provide for 27,000 additional housing units by 2035, with 18000 of these by 2030 (London Borough of Waltham Forest Local Plan Regulation 18 Consultation July 2019).
- Recreational Zone of Influence: Natural England, the statutory body responsible for Special Areas of Conservation (SACs), has issued an interim advice relating to the emerging strategic approach for the Epping Forest SAC Mitigation Strategy (Natural England, 2019). This advice defines the recreational Zone of Influence (ZoI) around the boundary of Epping Forest SAC as being 6.2km, being the distance upto which more than $\frac{3}{4}$ of visitors will travel to visit Epping Forest SAC (see also the Epping Forest Visitor Survey 2017, Liley et al, Footprint Ecology).
- LBWF emerging Local Plan: The vast majority of the additional housing planned within the London Borough of Waltham Forest will be within 6.2km of Leyton Flats, so well within the SAC recreational Zone of Influence, as defined by Natural England. The furthest (northern) boundary of the LBWF from Leyton Flats is just over 7km away.
- Open space provision in the LBWF: Open space in the London Borough of Waltham Forest covers an area of 1205ha (London Borough of Waltham Forest, *in draft*), of which 426ha (35%) is Epping Forest Land. Of this, Leyton Flats covers 78ha of Forest Land within the London Borough of Waltham Forest, which represents around 6.5% of the public open space in the

Borough. As such, Leyton Flats is a significant contributor of natural green space within the LBWF that will be heavily impacted by the increase in housing units proposed in the emerging Local Plan.

- Current carrying capacity of Leyton Flats: The current carrying capacity of visitors to Leyton Flats is at or exceeding sustainable management levels and is adversely impacting on the SSSI and SAC. This is evidenced in the soil erosion visible around the site, particularly the lakeside and nearby grassland, from excessive numbers of visitors, as well as anti-social behaviours such as littering and dog-fouling
- Epping Forest SAC Mitigation Strategy: There is an interim Strategy which includes costed Strategic (visitor) Access Management Measures (SAMMs) prepared by the City of London Conservators of Epping Forest. This interim Strategy was prepared by and approved by Epping Forest District Council in consultation with the wider MoU Oversight Group, which includes the LBWF. However, it awaits formal approval by the London Boroughs and a final SAC Mitigation Strategy incorporating other mitigation measures for the SAC is still required to be completed. The interim Strategy tariffs, for housing developments for which planning permission is sought prior to the completion of the relevant Local Plan, are likely to change once the final Mitigation Strategy has been completed and costed to address outstanding matters such as air pollution impacts (Natural England, 2019).

LEYTON FLATS MANAGEMENT STRATEGY

‘London’s Great Forest’, a strategy and management plan for Epping Forest 2020-2030 sets out five key strategic priorities for Epping Forest, these being:

1. A welcoming destination for all;
2. A beautiful Forest, sustaining internationally and nationally important wildlife habitats in an ancient wood-pasture mosaic;
3. An inspiring space for people’s health, recreation and enjoyment;
4. A range of special heritage landscapes which are protected and celebrated; and,
5. A resilient environment, where challenges are embraced, and opportunities explored.

Within the context of the overarching strategy and management plan for the whole of Epping Forest (above), this ISP identifies a series of local management strategy objectives for Leyton Flats, to be implemented over the next 5-10 years (Table 1). The City of London Corporation will also discharge its obligations with respect to property management issues, as identified in this ISP.

Table 1: Management Strategy Objectives for Leyton Flats

Leyton Flats Management Strategy Objectives		Epping Forest Management Strategy Objectives
A	To identify a programme of conservation measures that will contribute towards improving the condition status of the Leyton Flats SAC/SSSI and Eagle Pond SINC.	2, 5
B	To ensure that COL offers a visitor experience to Leyton Flats that meets the needs of the communities today and into the future, in a sustainable and welcoming way.	1, 3, 4, 5
C	To finance an Infrastructure Improvement Programme from increased income generation originating from Leyton Flats.	5
D	To encourage local community involvement in the management and enhancement of the environment of Leyton Flats.	1, 3, 4
E	To seek to mitigate the impact of additional visits from new developments within Epping Forest SAC’s Zone of Influence, through a range of measures including improved landscaping, alternative routes and destinations alongside more and improved interpretation.	1, 2, 5

OUTLINE MANAGEMENT PROGRAMME FOR LEYTON FLATS

Leyton Flats Objectives	Action	Timing ¹ (ongoing/years/subject to funding)
City Corporation obligations, A, B	<i>Site safety and legal work</i>	
	<ul style="list-style-type: none"> Continue to undertake COL statutory requirements with respect to site safety and legal work. This includes: <ul style="list-style-type: none"> Work with HMCTS to inspect and monitor Eagle Pond and associated infrastructure to standards set out in the Reservoirs Act 1975 (as amended by the Flood and Water Management Act 2010); 	Annually/Quinquennially
	<ul style="list-style-type: none"> Resolve statutory undertaker responsibilities for Eagle Pond with HMCTS and LBR; 	Annually
	<ul style="list-style-type: none"> Managing tree safety to COL Tree Policy through regular inspections and remedial works; 	Annually
	<ul style="list-style-type: none"> Managing path safety to COL Trails Policy through regular inspections and remedial works; 	Annually
	<ul style="list-style-type: none"> Implement the 2019 wildfire management plan; 	Annually
	<ul style="list-style-type: none"> Maintain dissolved oxygen monitoring of water bodies and surveillance for hypoxia events and Harmful Algal Blooms (HABs). 	Annually
A, D, E	<i>Habitat Management</i>	
	<ul style="list-style-type: none"> Seek to improve Leyton Flats SSSI Compartment 136, altering the trajectory from 'Unfavorable – No Change' to 'Unfavourable – recovering'. Key targets for the conservation programme will include: 	Ongoing
	<ul style="list-style-type: none"> No further net-loss of the acid grassland area; 	Ongoing
	<ul style="list-style-type: none"> Controlling coarse grass, brush and scrub growth through cutting interventions; 	2022
	<ul style="list-style-type: none"> Developing an aquatic habitat management strategy and plan; 	Subject to funding
	<ul style="list-style-type: none"> Improving water quality and catchment management to Hollow Pond, associated ponds and ditch water supply; 	2020-2021
	<ul style="list-style-type: none"> Working with Froglife to restore Cow Pond; 	Ongoing
	<ul style="list-style-type: none"> Protecting and managing old trees including increasing opportunities to secure the conservation of Stag Beetles on site; 	Ongoing
	<ul style="list-style-type: none"> Supporting the LIGS designation for the Boyn Valley Gravel exposure by 	

¹ Ongoing = task is ongoing on cyclical basis in current management of the site, 2019 = first year of new task, subject to funding = additional funding required for task / project to be progressed

Leyton Flats Objectives	Action	Timing ¹ (ongoing/years/subject to funding)
	supporting maintenance and interpretation of the feature; and, <ul style="list-style-type: none"> ○ In partnership with LBWF, replacing fastigate Hornbeam avenue alongside Olympic cycleway. 	Subject to funding
City Corporation obligations, A, D	<i>Invasive species management</i> <ul style="list-style-type: none"> ● Monitor and control invasive species to ensure the City Corporation meet statutory obligations and agreed policies and guidelines, including: <ul style="list-style-type: none"> ○ Reducing the risk to Hollow Ponds of being colonised by <i>Crassula helmsii</i> through manual removal and herbicide spot treatment; Annually ○ Managing the numbers of roosting Canada Goose through humane egg control; to reduce the impacts of overgrazing on waterside vegetation and faecal water enrichment; Annually ○ Working with partners to manage the numbers of visiting Canada Goose, to reduce the impacts of overgrazing on waterside vegetation and faecal water enrichment; Annually ○ Oak Processionary Moth management, including nest removal and awareness raising with visitors through signage and other communication methods. . Annually 	
B, C, D	<i>Access Management</i> <ul style="list-style-type: none"> ● Develop an Access Management Plan for Leyton Flats. Key aspects of this plan include: <ul style="list-style-type: none"> ○ Establishing ‘welcoming’ access Gateways to Leyton Flats through habitat management and minor infrastructure works; ○ Deflect visitor pressure away from sensitive acid grassland by promoting access to less sensitive areas (e.g. woodland areas) by making the latter more attractive to visitors; ○ Enhancing the accessibility of Leyton Flats to ensure it meets future visitor needs (including those of local schools) identified in LB of Waltham Forest; and ○ Defining clear routes to other parts of the Forest including local links to Wanstead Park and Wanstead Flats alongside the creation of circular waymarked trails for those wishing to explore Leyton Flats. ○ Work in partnership with LBWF & TFL to manage Epping Forest Olympic Cycleway. 	2021

Leyton Flats Objectives	Action	Timing ¹ (ongoing/years/subject to funding)
	<ul style="list-style-type: none"> Enhance the access through the non-SAC areas of Hospital and Houblon Woods west of Whipps Cross Road 	
City Corporation obligations, B, E	<p><i>Enforcement</i></p> <ul style="list-style-type: none"> Continue to address enforcement issues at Leyton Flats, including: <ul style="list-style-type: none"> Working with visitors to manage issues around littering, dog control, dog-fouling, fires and alcohol consumption displaced from Town Centre Alcohol Restriction Zones; Providing interpretation on positive wildfowl feeding to reduce negative impacts and encouraging tenants to sell floating wildfowl food; Working with MPS, LBWF and St Mungo's Trust on No Second Night Out (NSNO) ambitions for rough sleepers; Working with MPS, LBWF & LGBT Groups to monitor the use of the Public Sex Environment (PSE). 	<p>Ongoing</p> <p>2021</p> <p>2022</p> <p>Ongoing</p>
A, B, C, D, E	<p><i>Resourcing</i></p> <ul style="list-style-type: none"> Develop an Investment Resourcing Plan for Leyton Flats. To achieve the required site investment, key aspects of the Plan will include: <ul style="list-style-type: none"> Identifying investment needs; Developing an Asset Management Strategy to review, through public consultation, existing catering outlets and visitor preferences. Identifying opportunities for further on-site income generation; Seeking external grant funding, e.g. Countryside Stewardship to part-fund habitat management works; Identifying and encouraging potential community support opportunities. 	2021
B, D, E	<p><i>Community</i></p> <ul style="list-style-type: none"> Develop a Community Engagement Plan for Leyton Flats (or potentially the wider Leyton Flats, Wanstead Park and Wanstead Flats area), in line with the Community Planning Toolkit (https://www.communityplanningtoolkit.org/). Key aspects of the Plan will include: <ul style="list-style-type: none"> Facilitating local community involvement in the management and development of Leyton Flats; Identifying community measures to reduce anti-social behaviour on parts of Leyton 	2021

Leyton Flats Objectives	Action	Timing ¹ (ongoing/years/subject to funding)
B, D	<p data-bbox="331 327 443 356"><i>Heritage</i></p> <ul style="list-style-type: none"> <li data-bbox="384 365 1066 777"> • Develop a Heritage Statement for Leyton Flats to highlight its historical and cultural legacy. Key aspects of this plan will include: <ul style="list-style-type: none"> <li data-bbox="480 472 1066 575">○ Developing interpretation information on the history and cultural heritage of Leyton Flats; <li data-bbox="480 577 1066 680">○ Ensuring that heritage information is linked with information on the natural aspect of Leyton Flats; and <li data-bbox="480 683 1066 777">○ Facilitating local community involvement in disseminating heritage information to visitors. 	2024

POTENTIAL ENHANCEMENT PROJECTS REQUIRING ADDITIONAL EXTERNAL SUPPORT & RESOURCES

Additional support needs to be sought from local businesses and community partners to take forward the following projects:

- Visitor access infrastructure: Unquantified at present is the long term development of the visitor access infrastructure to meet changing community needs, linked to future substantial development in the area. Works arising from such developments does not form part of the current site expenditure and additional funding will need to be identified to progress any changes and also to develop plans and mitigation proposals.
- Circular path: Access to the Crown Court Gardens to create a circular walk around Eagle Pond.
- Water quality management: The successful management of the waterbodies on Leyton Flats will require increased investment, including submerged pump aeration units to counter hypoxia events; the diversification and protection of the marginal vegetation through purchasing and planting appropriate plants and the management of accumulated silt.
- Water conservation strategy for Hollow Pond: The increasing number of drought years and the lowering of gravel groundwater levels due to abstraction elsewhere require a water conservation strategy for Hollow Pond, including the repair of the current impounding dam, improved bridging of the outflow and the potential pumped recirculation of water leaving Hollow Pond for the sewerage system. Borehole abstraction for additional water resources would be subject to licensing by the Environment Agency and investment in borehold and pump infrastructure.
- Ancient tree management: A survey of ancient / veteran trees on the Flats could be undertaken by a community partner.
- Species recovery: The Creeping Willow and amphibian conservation projects are potential community-based projects, the latter is already in hand with *Froglife*.
- Birch Well: The renovation of the Birch Well and associated area is a potential community-based project.
- Cycle facilities: Visitor cycle parking and cycle hire could be provided in association with the mini-Holland scheme.
- Public Toilets provision: Public toilets could be provided at Leyton Flats through the renovation / expansion of one of the existing catering facilities.

EXTERNAL OPERATIONAL STAKEHOLDERS

To be completed

GLOSSARY OF TERMS AND ACRONYMS

Term / Acronym	Definition
Acid grassland	Nutrient poor acidic soils and grassy-mossy vegetation, including sheep's sorrel, tormentil, heath bedstraw, wavy hair-grass and sheep's-fescue. Heathers, such as ling, bellheather and cross-leaved heather, may also be present, and the grassland may be a mosaic of herbs and shrubs.
ACPO	Association of Chief Policier Officers (replaced in 2015 by NPCC)
APA	Archaeological Priority Area
Barts Health NHS Trust	A NHS Trust responsible for five hospitals, including Whipps Cross University Hospital in Leytonstone
BGA	Blue-green algae
BSE	Bovine Spongiform Encelopathy
Chalybeat spring	Also known as a ferruginous spring, is a mineral spring containing salts of iron
COL	City of London Corporation
EA	Environment Agency
EF	Epping Forest
Flats	An area of land with a relatively level surface compared to the surrounding, more undulating or hilly areas.
FORA	Forest Residents Association
Gravel workings	An area using for the extraction of gravel, often in a river valley where the water table is hgih, so that they may naturally fill with water to form ponds or lakes
High risk	In the context of the Flood and Water Management Act 2010, the Environment Agency classifies water bodies as being 'high risk' if an uncontrolled release of water could result in loss of life.
HLF	Heritage Lottery Fund
HMCTS	Her Majesty's Court and Tribunal Service
ISP	Individual Site Plan
Large raised reservoir	In the context of the Reservoirs Act 1975, a water body is classified as a large raised reservoir if it impounds more than 25,000 cubic metres of water
LBR	London Borough of Redbridge
LBWF	London Borough of Waltham Forest
LGBT	Lesbian, Gay, Bi and Transgender
LIGS	Locally Important Geological Site
MPS	Metropolitan Police Service
NE	Natural England
NPCC	National Police Chiefs' Council (replaced ACPO in 2015)
NSNO	'No Second Night Out' (Mayor London initiative)
OPM	Oak Processionary Moth
PSE	Public Sex Environment
SAC	Special Area of Conservation (European designation)

Term / Acronym	Definition
SINC	Site of Importance for Nature Conservation (local designation)
SSSI	Site of Special Scientific Interest (UK designation)
TfL	Transport for London
Wood pasture	An area that has been management by a long-established tradition of grazing, allowing the survival of multiple generations of trees, characteristically with some veteran/ancient trees

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APPENDICES

1. Detailed Activity Plan
2. Amphibian survey results and management recommendations
3. Photographic evidence
4. Figures

APPENDIX 1: Detailed Activity Plan

Operational Activity	CMPT	Location	Month	Year	Area (Ha)	Cycle	Description	Zone	Team
SL – Fire Safety Management	36	Leyton Flats: fire access route.	July	2020		1	Cut and leave: Path cut along the fire access routes to ensure they are clearly identifiable on the ground and have a minimum clearance of 3m width and 6m in height.	S	G
SL – Wayleave management	36	Leyton Flats	Aug	2020		1	Cut and leave: Cut the route of the Becton Desalination water main at Leyton Flats to prevent the establishment of woody plants along it.	S	G
AW - Pedestrian access maintenance	36	Leyton Flats	Dec	2020		0	Path management: Initial cut back of vegetation to define an open access route from Lea Bridge road to Hollow ponds. (Possible link with the route coming from the entrance at the junction of Snaresbrook Road and Lea Bridge Road)	S	A
SL - Grass cutting	36	Leyton Flats: Whipps Cross by bus stop	Jul	2020	0.43	1	Cut and leave the grass in the mapped area. Strim the pedestrian path verges and alongside the Whipps crossroad.	S	G/M
AW - Pedestrian access maintenance	36	Leyton Flats	July	2020		1	Path Management: Cut a 3m wide path along mapped routes.	S	C
SL – Fire Safety Management	36	Leyton Flats: fire breaks.	Jun	2020		1	Cut and leave mainly grass vegetation along fire breaks (See Map 1 and 2). Red cutting Zone: Total of 1943m by 8m, Blue cutting zone: Total of 573m by 6m wide.	S	G
SL – Wayleave management	36	Leyton Flats	June	2020		1	Cut and leave: Cut the route of the Becton Desalination water main at Leyton Flats to prevent the establishment of woody plants along it.	S	G

Operational Activity	CMPT	Location	Month	Year	Area (Ha)	Cycle	Description	Zone	Team
AW - Pedestrian access infrastructure	36	Leyton Flats	Mar	2020		0	Path construction: Cost proposal to create new N-S path linking Snaresbrook Car Park with the Green Man Roundabout using existing substrate but supplementing where necessary with granite MOT Type 1 substrate to cover wet patches / dips. Investigate opportunity to extend path construction needs to provide surfaced links through Gilberts Slade to Waterworks Corner	S	HOP
AW - Pedestrian access maintenance	36	Leyton Flats	May	2020		1	Path Management: Cut a 3m wide path along mapped routes.	S	C
SL – Fire Safety Management	36	Leyton Flats: fire access route.	May	2020		1	Cut and leave: Path cut along the fire access routes to ensure they are clearly identifiable on the ground and have a minimum clearance of 3m width and 6m in height.	S	G
SL - Grass cutting	36	Leyton Flats: Whipps Cross by bus stop	May	2020	0.43	1	Cut and leave the grass in the mapped area. Strim the pedestrian path verges and alongside the Whipps crossroad.	S	G/M
SL – Fire Safety Management	36	Leyton Flats	Nov	2020		3	Cut and leave: Three yearly programme to cut or mulch mature gorse to reduce the fuel available for fires. Arisings to be chipped and left on site on coarse vegetation areas and away from acid grassland.	S	G/A
AW - Pedestrian access maintenance	36	Leyton Flats	Sept	2020		1	Path Management: Optional, cut a 3m wide path along mapped routes.	S	C
SL – Fire Safety Management	36	Leyton Flats: fire access route.	Sept	2020		1	Cut and leave: Optional path cut along the fire access routes to ensure they are clearly identifiable on the ground and have a minimum clearance of 3m width and 6m in height.	S	G
SL - Reservoir Management	36	Leyton Flats: Eagle Pond	Sept	2020		1	Dam management: Undertake works recommended by the inspecting reservoir engineer.	S	M/DBE
LAW - Avenues	36	Leyton Flats		2020		0	Tree Avenue: Audit the condition of the Hornbeam (<i>Carpinus betula</i>) avenue and identify improvement needs and the mechanism to progress these.	S	HOP

Leyton Flats

Operational Activity	CMPT	Location	Month	Year	Area (Ha)	Cycle	Description	Zone	Team
NWH - Initial restoration work	36	Leyton Flats		2021		0	Grassland Restoration: Extend the area of acid grassland through widening priority access routes and extending and linking existing grassland areas. Leave worked areas in a state suitable for acid grassland to regenerate, by removing arisings to an alternative suitable location within Leyton Flats, such as by infilling Dog Pond (as per Ken Adams' recommendation).	S	A
NWH - Maintenance work	36	Leyton Flats		2020		3	Grassland Management: Three yearly works to reduce competition on the Creeping Willow stands and to facilitate their consolidation and spread, e.g. removing over shading trees and shrubs and thinning out competitive species.	S	A/Vol
NWH - Maintenance work	36	Leyton Flats		2020		1	Grassland Management: On three-year rotation cut and remove coarse grass areas and broom clumps.	S	G
OC-Internal Advisory	36	Leyton Flats		2020		0	Planning - Access Management Plan: Enhance the accessibility of Leyton Flats to contribute towards addressing future visitor needs in a sustainable manner		HOP/HVS
OC-Internal Advisory	36	Leyton Flats		2020		0	Planning - Access Management Plan: Establish 'welcoming' access Gateways to Leyton Flats through habitat management and minor infrastructure works		HOP/HVS
OC-Internal Advisory	36	Leyton Flats		2020		0	Planning - Resourcing Plan: Explore opportunities for external grant funding, e.g. Countryside Stewardship to part-fund habitat management works		HOP/HVS
OC-Internal Advisory	36	Leyton Flats		2020		0	Planning - Resourcing Plan: Identify investment needs	S	HOP/HVS
OC-Internal Advisory	36	Leyton Flats		2020		0	Planning - Resourcing Plan: Identify potential on-site income generation		HOP/HVS
SL - Grass cutting	36	Leyton Flats: Forest Glade behind church		2020	0.3	1	Cut and leave grass.	S	G

Operational Activity	CMPT	Location	Month	Year	Area (Ha)	Cycle	Description	Zone	Team
SL - Grass cutting	36	Leyton Flats: pipeline area behind Whipps		2020	0.07	1	Cut and leave grass.	S	G
WMM - Pest and disease management	36	Leyton Flats		2020		1	Invasive non-native species management: Monitoring and control of Oak Processionary Moth (OPM) in line with Forestry Commission guidance.	S	A/C
AW - Pedestrian access infrastructure	36	Leyton Flats	Aug	2021		0	Path construction: Develop path construction funding proposals in association with local stakeholders and progress as required.	S	HOP
SL - Reservoir Management	36	Leyton Flats: Eagle Pond							
NWH - Water body management	36	Leyton Flats: Cow Pond		2021		0	Waterbody Management: Implementation of Froglife proposals to restore the Cow Pond.	S	Vol
OC-Internal Advisory	36	Leyton Flats		2021		0	Planning - Access Management Plan: Deflect visitor pressure away from sensitive acid grassland by promoting access to less sensitive areas		HOP/HVS
OC-Internal Advisory	36	Leyton Flats		2021		0	Planning - Community Engagement Plan: Develop a Community Engagement Plan for Leyton Flats as part of a wider Southern EF Community Engagement Plan.	S	HOP/HVS
OC-Internal Advisory	36	Leyton Flats		2021		0	Planning - Resourcing Plan: Identify income opportunities arising from the Epping Forest Mitigation Strategy resulting from the emerging Local Authority Local Plans		HOP/HVS
NWH - Water body management	36	Leyton Flats: Dog Pond		2022		0	Invasive non-native species management: Agree a plan to reduce/remove the risk of <i>Crassula helmsii</i> being able to spread to Hollow Pond from the Dog Pond. E.g. filling in Dog Pond, possibly through a new pond being dug in its place.	S	HOP
NWH - Water body management	36	Leyton Flats: Hollow Pond		2022		0	Waterbody Management: Prepare a sustainable water management strategy for Hollow Pond. To include water quality and quantity, water supply options, habitat/aquatic species management	S	C/HOC

Leyton Flats

Operational Activity	CMPT	Location	Month	Year	Area (Ha)	Cycle	Description	Zone	Team
NWH - Water body management	37	Leyton Flats: Cow Pond		2022		1	Waterbody Management: Ten-year maintenance program (TBC) arising from Froglife funded Cow Pond works.	S	A/Vol
WMM - Ancient tree management	36	Leyton Flats		2022		0	Survey and monitoring: Audit of the veteran trees present on Leyton Flats, including GPS location and condition assessment and inclusion in the COL Veteran Tree Database	S	Vol
NWH - Water body management	37	Leyton Flats: Hollow Pond		2020		1	Waterbody management: Undertake dissolved oxygen and Blue green Algae monitoring.	S	K/Vol
NWH - Water body management	36	Leyton Flats: Eagle Pond		2024		0	Waterbody Management: Improve habitat quality for amphibians (Common/Palmate Newt, Frog) through tree management to ensure suitable conditions for the pond edge vegetation.	S	A/Vol
NWH - Water body management	36	Leyton Flats: Eagle Pond		2025		0	Waterbody Management: Improve habitat quality for amphibians (Common/Palmate Newt, Frog) on the west bank of the pond through establishing emergent vegetation along the pond edge.	S	A/Vol
OC-Internal Advisory	36	Leyton Flats		2024-25		0	Planning - Heritage Statement: Develop interpretation information on the history and cultural heritage of Leyton Flats	S	HVS
OC-Internal Advisory	36	Leyton Flats		2024-25		0	Planning - Heritage Statement: Ensure that heritage information is linked with information on the natural aspect of Leyton Flats	S	HVS
OC-Internal Advisory	36	Leyton Flats		2024-25		0	Planning - Heritage Statement: Facilitate local community involvement in disseminating heritage information to visitors		HVS
OC-Internal Advisory	36	Leyton Flats		2024-25		0	Planning - Resourcing Plan: Identify potential community support opportunities	S	HOP/HVS
OC-Internal Advisory	36	Leyton Flats		2020		0	Planning - Access Management Plan: Define clearly the strategic N/S Forest access route and local links to Wanstead Park and Wanstead Flats		HOP/HVS
SL – Fire Safety Management	36	Leyton Flats	Mar	2020		0	Fire Management Plan: Revise work in line with the Wildfire fire management plan	S	HOP/HOC

Operational Activity	CMPT	Location	Month	Year	Area (Ha)	Cycle	Description	Zone	Team
WMM - Pest and disease management	36	Leyton Flats		2020		1	Invasive non-native species management: Canada Goose control through humane egg control.	S	K/Vol
AW - Pedestrian access maintenance	36	Leyton Flats: Hospital Wood	Sept	2022		0	Path Management: Vegetation management and minor infrastructure works undertaken to make entrances more welcoming.	S	A/M
AW - Pedestrian access maintenance	36	Leyton Flats: Hospital Wood	Sept	2022		0	Path Management: Vegetation management to open up paths through the wood to improve their accessibility and welcoming feel.	S	A
AW – Anti-social Behaviour Management	36	Leyton Flats		2020		1	Visitor management: Collaborative working with Public Sex Environment stakeholders on the management of PSE issues	S	K
AW – Anti-social Behaviour Management	36	Leyton Flats		2020		1	Visitor management: Collaborative working with rough sleeping stakeholders on the management of rough sleeping issues	S	K

APPENDIX 2: Amphibian survey results and management recommendations

Catherine Bickmore Associates was commissioned on behalf of City Corporation to undertake an amphibian survey of the ponds and lakes of Epping Forest (Catherine Bickmore Associates, 2014). The first objective of the study was to categorise the ponds in terms of importance for amphibians with particular reference to great crested newt. The second was to categorise the ponds according to management priority, with recommendations for management actions for amphibians.

Table D/1: Summary of results of pond survey for amphibians and management recommendations

Waterbody name	HIS (Habitat Suitability Index)	Invasive non-native species	Fish present (in 2013) (Y/N)	Other factors affecting suitability	Designation	Amphibians recorded	Importance for amphibians	Priority for management	Management recommendations (Catherine Bickmore Associates, 2014)
Hollow Pond-Dog Pond	0.30	<i>Crassula helmsii</i>	Y	None	Y (SSSI and SAC)	Common Toad, Smooth Newt, Palmate Newt, Common Frog	Medium	Medium	Reduce shade, protect areas from waterfowl to enable macrophyte establishment, implement management to eradicate <i>Crassula helmsii</i> .
Eagle Pond	0.28	Possible Parrot's Feather (<i>Myriophyllum aquaticum</i>)	Y	Vertical concrete banks by road and rubbish in pond	Y (SINC)	Palmate Newt, Smooth Newt	Low	Low	Cut back trees and establish emergent vegetation along west bank, address rubbish/littering from road.
Cow Pond	0.73	Possibly <i>Crassula helmsii</i>	Y		Y (SSSI and SAC)	Smooth Newt	Low	Low	Cut back scrub, perhaps consider removal of fish if possible, confirm presence of <i>Crassula helmsii</i> and implement management to eradicate from pond if required.

Appendix 3: Photographic evidence

Image A: An image of ‘James Lane, Forest Side’, taken from Forest paintings held at the Guildhall



Image B: An image of ‘Forest Side, near St Andrews Church, Leytonstone’, taken from Forest paintings held at the Guildhall



Image C: A 'King of the Forest' oak at Leyton Flats, photographed in the 1870s, and referenced in Rousseau (1875).



A KING OF THE FOREST.

When strolling along a lovely shady and solitary little bye-way road which, across bushes and old forest trees, skirts Forest House, leading to Leyton, you suddenly meet with our magnificent "King Tree".

We regret that there is no legend, no date, no name attached to it, for although the beauty and the immensity of its proportions—the vigour and richness of its branches and foliage are sufficient titles to make the passer by stop and admire, yet a little genealogy would bring more visitors to it.

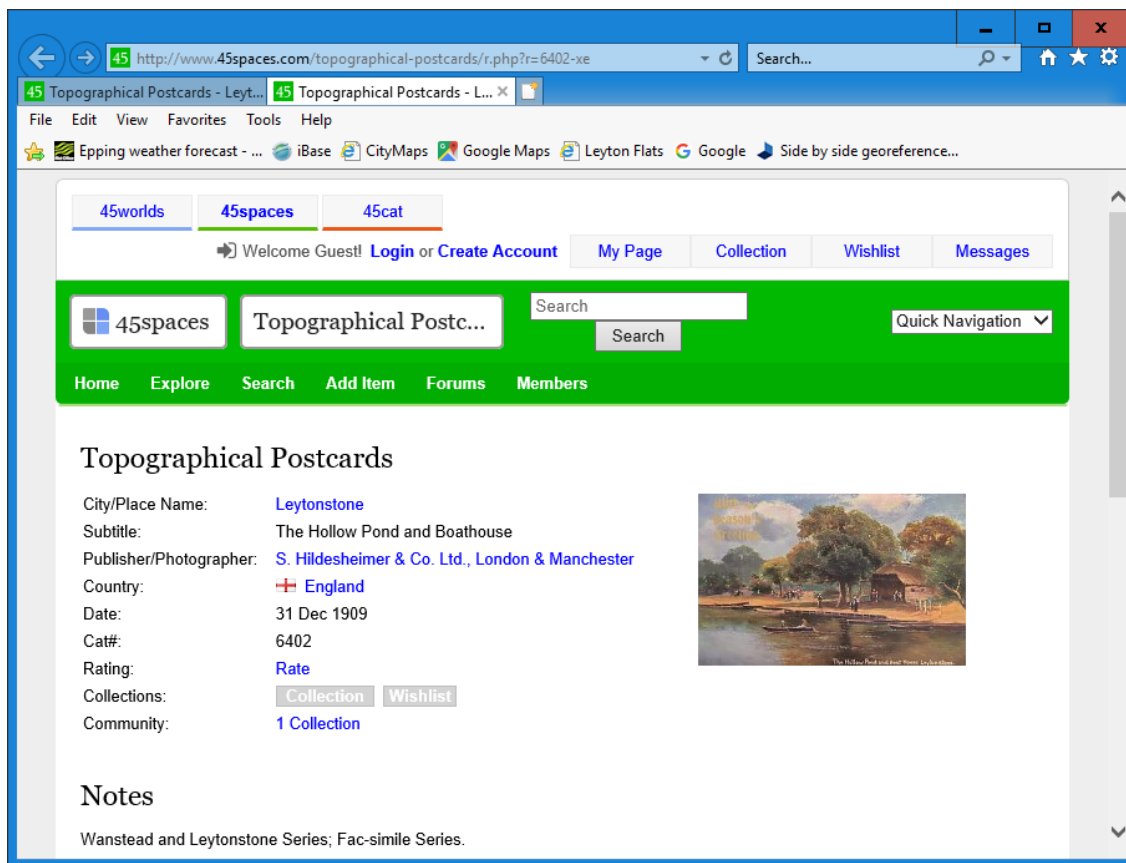
It covers a circumference of about ninety feet of ground and the height of its uppermost branches is some forty or fifty feet.

LEPPING FOREST AND ADJACENT COUNTRY ILLUSTRATED.

Image D: Postcard of Hollow Pond Boathouse, dated 1909



Image E: Catalogue reference for Image D (above) of Hollow Pond Boathouse



Appendix 4: Figures

Figure 1: Leyton Flats transport connections

Figure 2: Leyton Flats (Hollow Pond) Summary Management Proposals