



The Wildlife Trust for
**Birmingham &
Black Country**

Edgbaston Reservoir Local Nature Reserve

Management Plan

November 2021



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1. Introduction

- Edgbaston Reservoir Local Nature Reserve (LNR), is a large reservoir fed by Tifford Pools, a Site of Local Importance to Nature Conservation (SLINC), and used to provide water to the Birmingham and Wolverhampton canal system. The site itself is dominated by the brick-lined reservoir with semi-natural parkland habitat encompassing its northern, southern, and western edges, The LNR is regularly used for both water sports and terrestrial activities and managed by Birmingham City Council Parks Team.
- In 2020, the Wildlife Trust for Birmingham and the Black Country were approached by Birmingham City Council to revise and update the existing management plan of the LNR produced in 2004.
- Ecological desk study data has been provided by Ecorecord (the Local Ecological Records Centre for Birmingham and the Black Country).
- Phase 1 habitat survey was undertaken in late Autumn 2020 to allow the LNR to be mapping, management opportunities, and all flora species to be identified. All flora species encountered were recorded with full details provided in **Appendix 2**. Habitat data and descriptive notes were captured through the annotation of printed aerial photographs which were subsequently digitised through the use of GIS software, MapInfo.
- The management plan describes the current baseline of the reserve, highlights and evaluates its most important features, details the biodiversity objectives, and prescribes a series of actions, which have been designed to maximise the LNR's biodiversity assets.
- The role of the management plan is to ensure the future protection and enhancement of the ecological, social, and community value of the reserve, through the combination of good ecological habitat and high standards of access, interpretation, and community use.

2. General Information

Grid reference (central)	SP 043 867
Planning Authority	Birmingham City Council
Wards	Ladywood

3. Overview of Edgbaston Reservoir Local Nature Reserve

Edgbaston Reservoir LNR, originally known as Rotton Park Reservoir, covers 29.4ha area approximately 2km west of Birmingham City Centre adjacent to the Icknield Port Road (B4126). This large reservoir forms a significant and sizeable area of open space in the Birmingham inner city area. The reservoir itself, designed by the world famous engineer, Thomas Telford, as part of improving the Birmingham Canal system, was constructed between 1824 – 1829 by enlarging an existing pool (Roach Pool). The reservoir acts as a water storage system (capacity of 1,408,000,000litres) for feeding the Birmingham and Black Country canal system, through discharging into the Icknield Port Loop and Wolverhampton Level via the Winson Green feeder. Due to the active use of the reservoir as a feeder and the fact that it's fed by only a small watercourse, originating from Titford Pools (SLINC) the water levels can vary greatly.

Titford Pools lies directly adjacent to the motorway M5 as such motorway runoff has entered the pool, resulting in a direct impact on the water quality of Edgbaston Reservoir, which is one of the reasons the water is not deemed suitable for swimming. However, Canal and Rivers Trust, in partnership with European Regional Development Fund in 2020, have commenced a 2-year project at Titford Pools to improve water quality through dredging, redesigning of the drainage channels from the M5 motorway, and creation of a large sustainable drainage system. This project will improve the water quality within the LNR over time.

Recreationally, the site is also used both currently and historically for water sports, such as rowing, sailing, and windsurfing, and terrestrial activities such as walking, cycling, and jogging.

While the main feature of the site is the reservoir; the lake and associated stone and brick structures including the dam and walls, there are areas of parkland habitat surrounding the northern, western and southern edge of the reservoir. These areas include grassland (amenity, semi-improved grassland, and species-poor), scattered parkland trees, and broadleaved woodland plantation. Distinct from the parkland habitat and against the varying water's edge lies marginal vegetation, willow scrub, and a small area of wet woodland.

Overall the Local Nature Reserve holds a broad range of habitats with some species and structural diversity. Of particular ecological note are the marginal vegetation and willow scrub habitats, as these are Uncommon habitats across Birmingham and Black Country.

The reservoir's main interest and the key reason for designation as LNR and SINC are ornithological, due to the presence of a large gull roost and a wide range of waterfowl specifically wintering birds. However, the site is also known to hold key foraging habitat for five species of bats (European Protected Species) within the local area.

Within the wider context, the Local Nature Reserve (LNR) lies adjacent to Rotten Park Feeder Valley Potential Site of Importance (PSI) and Selwyn Road Field PSI and in close proximity Summerfield Park PSI, Birmingham Canal Site of Local Importance Nature Conservation (SLINC), Harborne Walkway SINC and two Wildlife Corridors, defined by Birmingham and the Black Country Nature Conservation Strategy. This connectivity to wildlife corridors and the Birmingham Canal highlights Edgbaston Reservoir as a key part of the ecological network within Birmingham.

4. Ecological Context of Edgbaston Reservoir LNR

4.1 Current Habitat status

An 'extended' Phase 1 habitat survey of the site was undertaken on 16th and 23rd October by Samantha Pritchard, an experienced ecologist of 8 years and member of CIEEM. The survey technique was based upon Phase 1 survey methodology (JNCC,2010). The phase 1 habitat classification (and associated field survey technique) is a widely used system for recording semi-natural vegetation in the UK. It presents an assessment of habitat type and potential importance for nature conservation. Each habitat type/ feature is identified by way of a brief description of its defining features. It is then allocated a specific name, an alpha-numeric code, and unique mapping colour. (see **Appendix 1** for illustrative Compartment Photographs)

Habitat Descriptions (Habitat are listed according to Phase 1 Habitat category)

Broadleaved – Semi-natural / Plantation / Orchard

Around the perimeter of the reservoir lies five areas of broadleaved woodland; four of which are plantations while one is wet woodland.

The north-western woodland plantation comprises numerous mature trees making up the canopy with limited understorey coverage, visually represented as occasional scattered individuals. Species include Pedunculate Oak *Quercus robur*, Sycamore *Acer pseudoplatanus*, Beech *Fagus sylvatica*, Ash *Fraxinus excelsior*, Hornbeam *Carpinus betulus*, Hybrid Black Poplar *Populus canadensis*, Horse Chestnut *Aesculus hippocastanum*, Norway Maple *Acer platanoides*, and Elder *Sambucus nigra*. The field layer in the western section is dense with Bramble *Rubus fruticosus* agg., Broadleaved Dock *Rumex obtusifolius*, Creeping Thistle *Cirsium arvense*, Common Nettle *Urtica dioica*, Ivy *Hedera helix*, Cow Parsley *Anthriscus sylvestris*, Foxglove *Digitalis purpurea*, Great Willowherb *Epilobium hirsutum*, Common Bent *Agrostis capillaris*, Cock's Foot *Dactylis glomerata*, Raspberry *Rubus idaeus*. However, within a central gladed area Bramble and Hedge Bindweed *Calystegia sepium* dominates.

In the southern section, the woodland is more open allowing the public to walk throughout. This is due to Bramble being less prevalent within the field layer, however, this has resulted in Ivy becoming more abundant with the occasional presence of Hedge Mustard *Sisymbrium officinale*, Rough Hawkbit *Leontodon hispidus*, Green Alkanet *Pentaglottis sempervirens*, Cleavers *Galium aparine*, Lesser Celandine *Ficaria verna*, Bracken *Pteridium aquilinum*, Foxglove, Meadow Crane's-bill *Geranium pratense*, Creeping Soft-grass *Holcus mollis*, Common Nettle and Cow Parsley. While Yew *Taxus baccata* and Wild Cherry *Prunus avium*, Field Maple and Dogwood *Cornus sanguinea* are now present within the understorey. Within this section, a dry ditch appears to be present running north to south along the western boundary. The ditch is shallow-sided and has been taken over by field layer species, therefore, appears to not have held water in some time.

The woodland present within the south-western corner of the LNR comprises of Pedunculate Oak, Cherry sp *Prunus* sp., Common Lime *Tilia x europaea*, Hawthorn *Crataegus monogyna*, Snowberry *Symphoricarpos albus*, Ash, Sycamore, Sweet Chestnut, *Castanea sativa*, Silver Birch *Betula pendula*, Elder and Beech. While the field layer includes Common Nettle, Yew, Hedge Bindweed, Wood Avens *Geum urbanum*, Ivy, Bramble, Common Hogweed, Green Alkanet, Cock's Foot, Cow Parsley, Raspberry, Foxglove and Common Bent. The northern section is dense with bramble abundant in the field layer, however, in a central position, an open glade area comprising of grassland with scattered individual semi-mature to mature parkland tree is present abounded by a strip of dense Bramble on its northern edge. The southern area is an open area dominated by mature trees with scattered clusters of field layer species listed above.

The southern boundary woodland plantation is Beech dominated with Crack Willow *Salix fragilis*, Horse Chestnut, Ash, Sycamore, and Silver Birch. Within this woodland, the understorey was well established in areas from abundant regeneration and additional species include Wych Elm *Ulmus glabra*, Rowan *Sorbus aucuparia*, Holly *Ilex aquifolium*, and Hazel *Corylus avellana*. The field layer comprises Common Sorrel *Rumex acetosa*, Wood Avens, Broadleaved Dock, Hedge Bindweed, Cow Parsley, Cock's Foot, Perennial Rye-grass *Lolium perenne*, Foxglove, Green Alkanet, and Garlic Mustard *Alliaria petiolata*. One drainage outfall was noted within the woodland leading to the reservoir from offsite, while a single regularly used desire line was noted within the woodland.

The additional woodland in the central section of the south portion of the LNR is a dense narrow strip of woodland comprising of a mixture of native and ornamental species. Species comprise Cotoneaster. *Cotoneaster* spp, Hornbeam, Beech, Wild Cherry, Sycamore, Rose sp. *Rosa* sp., Hawthorn, Cherry Laurel *Prunus laurocerasus*, Wayfaring tree *Viburnum lantana*, and Blackthorn *Prunus spinosa*. The field layer was mostly leaf litter, due to the density and overshadowing of the woodland structure, except along the woodland

edge were Ivy, Dandelion *Taraxacum officinale* agg, Ribwort Plantain *Plantago lanceolata*, Common Ragwort *Senecio jacobaea*, Yarrow *Achillea millefolium*, Common Nettle, Garlic Mustard, Meadow Crane's-bill and Perennial Rye-grass is present. There is a formal surface path that leads off-site which intersects the woodland in the southern end. Management of the woodland appears to be side trimming and mowing along the edges which have resulted in its dense nature but also prevented encroachment into the adjacent amenity grassland.

The wet woodland in the southwestern corner comprises predominantly Crack Willow and occasional Goat Willow *Salix caprea* and Alder *Alnus glutinosa*. Due to the low water levels at the time of the survey, this area was not underwater, allowing an inlet brook to be visible. This inlet brook is an inflow to the reservoir from surface water sewers. At a high water level, this area would be flooded up to a depth of 1m. The field layer is minimal due to the changes in water level however, White Bryony *Bryonia dioica*, Common Chickweed *Stellaria media*, Amphibious Bistort *Persicaria amphibia*, Broadleaved Pondweed *Potamogeton natans*, Great Willowherb, Water Dock *Rumex hydrolapathum*, Bulrush *Typha latifolia*, and Common Nettle were noted to be present.

Finally, within the northern section of the reserve lies two small areas of relatively recently planted orchard comprising immature apple sp. *Malus* sp. trees are situated within species-poor semi-improved grassland.

Within all areas of woodland, trees showed evidence of management designed to maintain the health of the trees.

Parkland & Scattered Tree – Broadleaved

Along the edges of the reservoir lies scattered semi-mature to mature broadleaved trees. In the majority of these are located within areas of scrub and woodland plantation habitat and as such have been detailed within the relevant phase 1 habitat section below.

However, numerous broadleaved trees are found individually within the parkland and grassland. Species include Sycamore, Turkey Oak *Quercus cerris*, Pedunculate Oak, Horse Chestnut, Ash, Wild Cherry, Common Lime, Beech, Hornbeam, Hybrid Black Poplar, Silver Birch, Sessile Oak *Quercus petraea*, Wild Cherry, White Willow, Crack Willow, Sweet Chestnut, Aspen *Populus tremuloides* and Norway Maple *Acer platanoides*.

Within all areas of parkland, trees showed evidence of management designed to maintain the health of the trees.

Bramble and Scrub – dense / continuous / scattered

The scrub based along the reservoir bank edges is linear in nature, and in majority comprises scattered and dense Willow scrub, denoting the high watermark of the reservoir. In these area semi-mature Crack Willow and Goat Willow dominates the habitat with occasional to rare occurrence of Hazel, White Willow, Ash, Hawthorn, and Pedunculate Oak. The field layer is sparse except where marginal vegetation has encroached, however, clusters of Great Willowherb, White Bryony, and Common Nettle can be found. Within the north- eastern corner, the willow scrub habitat becomes more pronounced and wider creating a small extensive area, which includes a section of fallen deadwood.

Along the northern boundary lies a combination of scattered and dense scrub. Scattered scrub is located mainly along with the residential houses and comprises Bramble with Holly, Bay Laurel, Hedge Bindweed, Sycamore, Beech, Yew, Ivy, Hawthorn, Rose sp., Elder, Sycamore, Pedunculate Oak and ornamental garden escapes. This becomes denser around the Orchard and less species diverse with predominantly Bramble present.

Along the western section within the parkland lies areas of scrub adjacent to the scattered trees. These areas include combinations of Raspberry, Bramble, Ivy, semi-mature Horse Chestnut, Silver Birch, Holly, Hawthorn, Elder, Wild Cherry, Common Lime, Yew, and Ash. However, a significant dense area of Raspberry and Bramble scrub with an individual Sycamore and Beech lie against the desire line paths, just north of the south- eastern woodland plantation.

Within the southern area of the reservoir, lies a number of group of scattered scrub associated with parkland, adjacent to the water edges. These clusters of scrub vary in species composition from small groupings of Goat Willow and Crack Willow or Ash with Bramble and Raspberry to a large strip of Silver Birch, Aspen, Beech, Goat Willow, Alder, Sycamore, Pedunculate Oak and Elder scrub. Within the similar area against the site, boundary lies, in addition, a small area of scattered Sycamore regeneration, likely resulting from self- seeding from the adjacent mature Sycamores or tree line. The further eastern parkland area was more formal

and intensively managed this has resulted in limited areas of scrub occurring, however, a single cluster of Garden Privet *Ligustrum ovalifolium* and White Willow is present on the eastern boundary.

While against the southern reservoir walls along the water edges lie scattered to dense Crack Willow with occasional Hawthorn, Holly, Hazel, Wych Elm, Sycamore, Ash, Silver Birch, and Butterfly Bush *Buddleia davidii*.

In addition, along the southern reservoir site boundary lie small linear stretches of Hawthorn with Holly, Hazel, Ivy, Cow Parsley, Garden Privet, Cleavers, and Creeping Cinquefoil *Potentilla reptans* suggesting that a former hedgerow was present.

Separate to the reservoir lies a small area of scrub adjacent to a small car park associated with the tower ballroom. This area comprises dense Blackthorn, Wayfaring tree, Hazel and Beech scrub and with scattered grouping of Rhododendron *Rhododendron ponticum* and Hawthorn with a Bramble field layer.

Semi-improved Neutral Grassland / Species Poor / Amenity Grassland / Ephemeral and Short Perennial

There are distinctive areas of grassland within Edgbaston reservoir denoted by their location but also the changes in sward composition.

Along the northern reservoir, bank edge is a varied semi-improved neutral grassland strip, which sward composition and sparse nature come from the thin gravel substrate and varying water levels of the reservoir. The high water level areas are most likely strimmed rather than mown on an annual basis. Overall the grassland habitat is more dominant at the high watermark, while at the low level the grass species become rare with only short ephemeral/perennial species (early colonisers) occasionally present within a bare earth setting. Species include Salad Burnet *Sanguisorba minor*, Annual Meadow-grass *Poa annua*, Smooth Meadow-grass *Poa pratensis*, Meadow Buttercup *Ranunculus acris*, Daisy *Bellis perennis*, Common Sorrel, Broadleaved Plantain, Great Willowherb, Common Sedge *Carex nigra*, Rush sp. *Juncus sp*, Reed Sweet- grass *Glyceria maxima*, Creeping Cinquefoil, Cleavers, Knot grass *Polygonum aviculare*, White Bryony, Bramble, Creeping Soft-grass *Holcus mollis*, Pineapple weed *Matricaria discoidea*, Cock's Foot, Perennial Rye-grass, Common Bent, Creeping Bent *Agrostis stolonifera* and Water Mint *Mentha aquatica*.

Overall the bank edge is often quite sparse with Common Bent, Annual Meadow-grass, Cock's Foot dominating the dense area of grass. However, due to the stress of the varying water levels, there is a high forb composition within the mixture creating a sward of moderate diversity. When surveying the western and southern reservoir bank edge, a similar sward was noted however, the sward was more limited in terms of species and structural density. This may be resultant of thinner soil and greater disturbance from public and waterfowl, however, this has resulted in a less species diverse sward, which is now becoming a more ephemeral/short perennial habitat.

Small sections and strips of disturbed grassland can be found along the perimeter of the pedestrian footpaths and car parks in the northern and southern areas. Within these areas species diversity is low, however as tall ruderal habitat has colonised to some degree, disturbance tolerant forbs have managed to gain high abundance in a localised area. In these areas, sward height can reach up to 40cm in height and is likely managed through biannual cutting to retain aesthetics and access. Species include dominant Perennial Rye- grass with Creeping Thistle, White Clover *Trifolium repens*, False Oat-Grass *Arrhenatherum elatius*, Common Bent, Broadleaved Dock, Red Clover *Trifolium pratense*, Ground Elder *Aegopodium podagraria*, White Goose- foot *Chenopodium album*, Common Cat's ear *Hypochaeris radicata*, Ribwort Plantain, Meadow Buttercup, Dogwood saplings, Yorkshire Fog *Holcus lanatus*, Common Nettle, Common Sorrel, Red Fescue *Festuca rubra*, Wall Barley *Hordeum murinum*, Common Spurge *Euphorbia peplus*, Wood avens, Herb Robert *Geranium robertianum*, Smooth Meadow-grass, Bristly Sow-thistle *Sonchus arvensis*, Cock's Foot, Green Alkanet, Dove's Foot Cranesbill *Geranium molle* and Foxglove. Due to the presence of Wall Barley it can be noted that this area likely contains a high nutrient content.

The parkland areas are denoted in one area within the northern, western, and southern edges of the reservoir. In these areas, the grassland is regularly managed as parkland and kept to a height of 10cm. This management has resulted in a grassland more dominated by grassland species with less forb diversity and composition. Overall these areas are dominated by Perennial Rye-grass with abundant Creeping Bent, Meadow Buttercup, Broadleaved Dock, Cock's Foot, and Daisy.

This is most apparent within the southern parkland area which held the lowest species composition as such has been identified as amenity grassland. While the others of greater diversity have been identified as species-poor semi-improved grassland.

The final area of semi-improved neutral grassland lies by the overflow weir at the south-eastern corner of the reservoir, which is managed only through the changing of reservoir water level. Due to the thin gravelly soil and ever-changing water level this grassland sward is dominated by forbs. Species include Rough Hawkbit, Salad Burnet, Mugwort *Artemisia vulgaris*, Broadleaved Dock, Shepherd's Purse *Capsella bursa-pastoris*, Scentless Mayweed *Tripleurospermum inodorum*, Great Willowherb, Common Hemp-nettle *Galeopsis tetrahit*, Water Dock, Common Ragwort, False Oat-grass, Yellow Iris *Iris pseudacorus*, Common Sorrel, Bristly Sow-thistle, Cock's Foot, Broadleaved Pondweed, Common Bent, Cock's Foot and Sedge sp. Former surveys recorded this area as acidic grassland. Due to the seasonal time frame of the survey and limited access to the area, this identification could not be confirmed.

In a small patch based on southern reservoir shoreline lies an area of ephemeral and short perennial habitat. This area has been created, due to the regular occurrence of flooding. The area could not be accessed directly, however, could be seen from the adjacent footpath. The habitat like much of the shore line was dominated by forbs species found within the semi-improved neutral grassland, however, due to the more common occurrence of flooding than other patches of the shore line, no grass species could be found, with low growing forbs species now predominantly present.

Tall Ruderal / Bracken

Within the site lie numerous small localised patches of tall herb vegetation, usually associated with scrub and individual mature trees, these patches are of low species diversity usually dominated by one or two species. Overall these areas likely denote disturbed areas with high nutrient content, where management has become reduced. Clusters are usually dominated by a combination of Great Willowherb, Common Nettle, Ivy, Hedge Bindweed, Large Bindweed *Calystegia silvatica*, Bramble, and Broadleaved Dock, however, Foxglove, Common Hogweed, Green Alkanet, Meadow Buttercup, Field Poppy *Papaver rhoeas*, Wood Avens and Ground Elder are occasionally present.

Separately to these small clusters, there is a large area of tall ruderal habitat noted in the northern parkland area bordering the reserve. Within this area, Common Nettle, Common Hogweed, Broadleaved Dock with Bramble dominates the species mix. The abundance of this habitat suggests that management has been reduced allowing encroachment from the tree line to establish itself. In the north-eastern corner of this habitat, an area of localised dominance of Bracken was noted.

Finally, along the western boundary within dense scrub lies another localised cluster of Bracken, which appears to be encroaching into the adjacent scrub habitat.

Introduced Shrub

Introduced shrub in the form of ornamental planting can be found in three areas across the site. The main area is the wide linear strip of shrub planting associated with the access road to the Tower Ballroom. This comprises Cotoneaster, Beech and Ash, and Sycamore. In addition, there is an individual Bamboo *Bambusa sp.* shrub planted within the scattered parkland trees on the western side of the reservoir.

Finally, within the derelict building in the south-western corner lies an associated garden with overgrown planting. This area could not be surveyed as the garden was walled off from the public open space.

Standing Water

The LNR encompasses a large working reservoir fed by surrounding culverted rivers and feeder channels. The reservoir acts as a water storage system (capacity of 1,408,000,000litres) for feeding the Birmingham and Black Country canal system and water is regularly drawn off to undertake this. As a result, the water levels of the reserve can vary greatly. At the time of the survey, the water levels were low.

In addition, to a water storage system, the reservoir is used regularly for water sports activity with sports clubs based along its edge.

The reservoir is irregular in shape with the bank edge varying between manmade structure and semi-natural habitat throughout.

Along the eastern edge of the reservoir, the edge is dominated by a large stone and brick dam with little-to-no vegetation present. However, small self-set Elder and Butterfly Bush were present embedded in the wall. At the southern point of the dam lies an overflow weir, in this area of the bank edge lies a small patch of grassland, which include a high composition of competitive species. Species include Rough Hawkbit, Salad Burnet, Mugwort, Broadleaved Dock, Shepherd's Purse, Scentless Mayweed, Great Willowherb, Common Hemp-nettle, Water Dock, Common Ragwort, False Oat-grass, Yellow Iris, Common Sorrell, Bristly Sow-thistle, Common Bent, Cock's Foot and Sedge sp.

Along the north-eastern bank edge lies the West Midland Sailing Club and its associated hardstanding including ramps and dock area which dominates the section.

Along the southern bank, the eastern and central portion is dominated by brick and stone wall structures, which borders the adjacent pedestrian walkway. However, the surface and bank edge could be seen at the time of the survey, due to low water level, in the majority, this held linear strips of scrub comprising Silver Birch, Crack Willow, Sycamore and Butterfly Bush.

Within the south-western corner of the reservoir lies a wet woodland dominated by Willow species with occasional Alder. Due to the low water levels, an inlet to the reservoir could be noted. This channel is an inflow from a surface water sewer to the reservoir. At high water levels, the area can be flooded up to a depth of 1m.

Other than the above the reservoir edge is a low gradient slope with thin gravelly soil. This edge holds a sparse grassland with a mixture of ephemeral/short perennial species. Grassland species dominate the areas further from low water level, however, the closer to the water edges the more minimal the habitat becomes, with short ephemeral species dominating the sward at its lowest. The water level seems to remain high for much of the year as within the main area of grassland lies marginal habitat including Soft Rush *Juncus effusus*, Common Sedge, Water Mint, Reed Sweet-grass, and Willow scrub habitat.

There is no evidence, historic or present, of submerged macrophytes. Planktonic algae are often present in the summer including blue-green algae. The only floating vegetation record is amphibious bistort however, this was localised.

Running Water

In the north-western section of the reserve, an open brook feeding the Reservoir. The brook is culverted outside the reserve, however, within the reserve, it has been de-culverted, and lies within an open manmade structure.

Due to the concrete structure, surrounding the brook, vegetation was limited within the field layer to the occasional Broadleaved Dock *Rumex obtusifolius*, Common Nettle *Urtica dioica*, Ivy, Common Bent *Agrostis capillaris* and Cock's Foot *Dactylis glomerata* which has colonised the structure.

Intact Hedgerow with tree/line of trees

Two hedgerows were noted within the reserve along the north and western boundary. These are described below:

Along the northern boundary lies a defunct Hawthorn dominant hedgerow which runs along the reserve boundary against residential gardens, while the western section after a gap resultant of the intersection with the public footpath, leaves the site boundary and runs centrally within the northern parkland.

Where the hedgerow lies adjacent to the residential dwellings, it has lost much of its linear nature and appears to be in majority scattered shrubs and semi-mature trees, which are managed by side cutting to stop it encroaching on the footpath. In the western section the hedgerow becomes denser, however, the field layer has become heavily encroached by the adjacent dense tall herb and scrub habitat.

Shrub species include Hawthorn with Ash, Yew, Holly, Elder, Hornbeam, Laurel and Blackthorn with the field layer comprising Common Nettle, Foxglove, Lesser Celandine, Cow Parsley, Broadleaved Plantain, White Clover, Goose Foot, Green Alkanet, Earthstar Mushroom *Geastrum triplex*, Cock's Foot, Raspberry, Bramble, and White Dead Nettle.

On the western reserve boundary lies a hedgerow with trees, which borders an offsite meadow grassland field. This linear feature is side managed through trimming which has resulted in it slowly becoming a tree line. The hedgerow itself comprises Pedunculate Oak, Silver Birch, Sycamore, Hawthorn, and Sweet Chestnut. While the field layer in the majority is dominated by species from the adjacent grassland, due to the narrow nature of this linear feature, however, Common Nettle, Wood Avens, Broadleaved Dock, Meadow Buttercup, Foxglove, Lesser Celandine, and Common Hogweed was noted.

Two tree lines are present within the site; along the northern boundary where it encompasses a relatively recent orchard, lies a mature tree line comprising Pedunculate Oak, Common Lime, and Sycamore and a single Scot's Pine *Pinus sylvestris*. The field layer underneath the tree line is dominated by the adjacent tall herb and scrub habitat comprising predominantly Bramble, Raspberry, and Common Nettle.

Along the southern reserve boundary lies a tree line, fenced off from the reserve. The tree line is comprised of semi-mature to mature Sycamore in the majority with occasional Goat Willow, Yew, and Rowan.

The field layer is predominantly leaf litter and bare earth, likely due to the overshadowing of the semi-mature and mature tree, however, Bramble, Common Nettle, Cherry Laurel, Ivy, Ground Elder, Raspberry, Cow Parsley, and Great Willowherb were noted sporadically.

Marginal vegetation

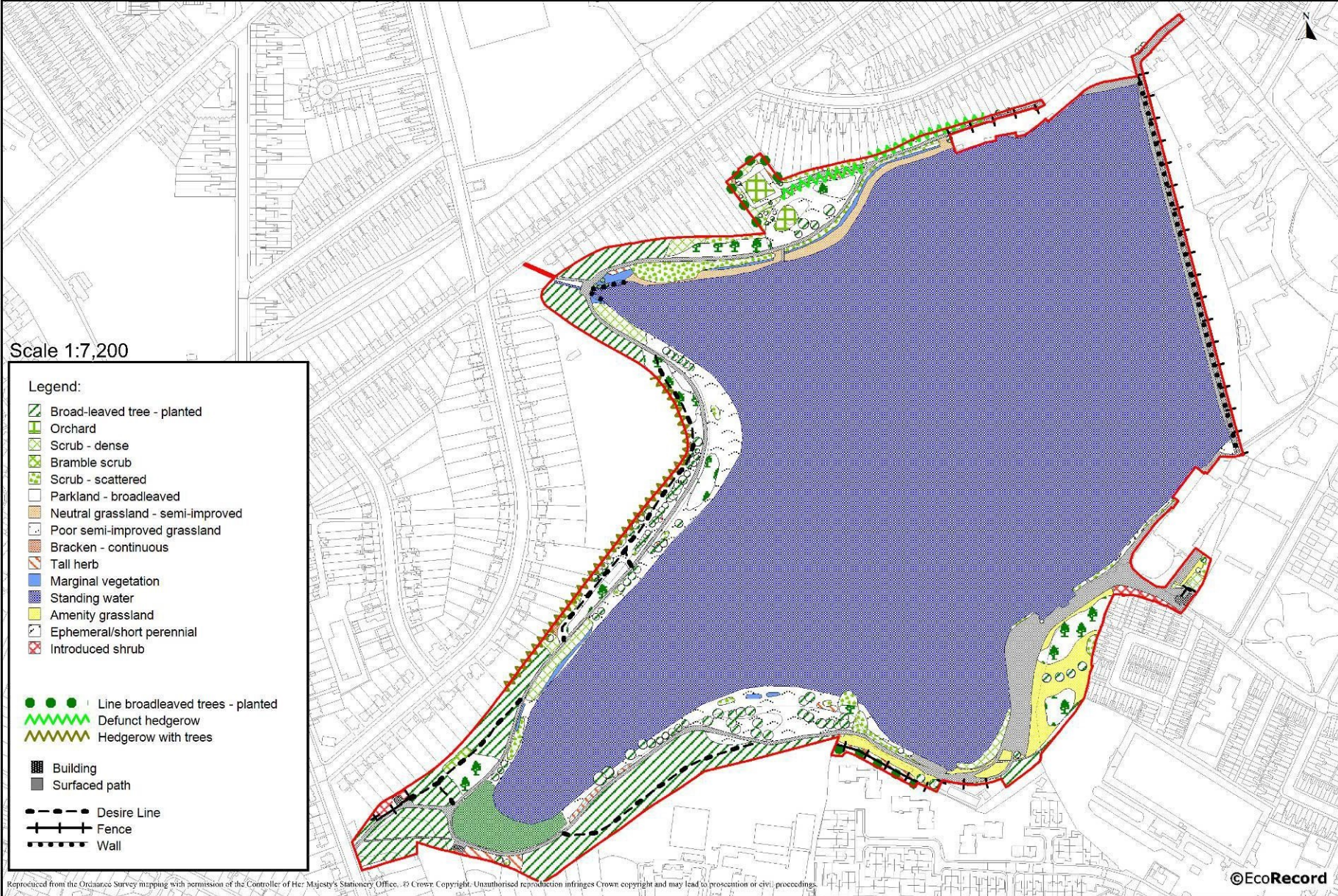
Along the bankside of the reservoir at the high water level mark along the northern edge lies large stretches of marginal vegetation. This in the majority borders the willow scrub habitat, however, small clusters of marginal vegetation lie in distinct small clusters within the southern parkland.

This habitat comprises Reed Sweet-grass, Common Sedge, Sedge sp., Common Reed *Phragmites australis*, Common Nettle, Broadleaved Dock, Water Dock, Soft Rush, Yellow Flag, Great Willowherb, Gypsywort *Lycopus europaeus*, and Bur Marigold *Bidens tripartita*.

It is noted that additional smaller clusters lie within the southern parkland with an overall lower diversity, usually dominated by Soft Rush, Common Sedge, Reed Sweet-grass, and Common Hemp-nettle.



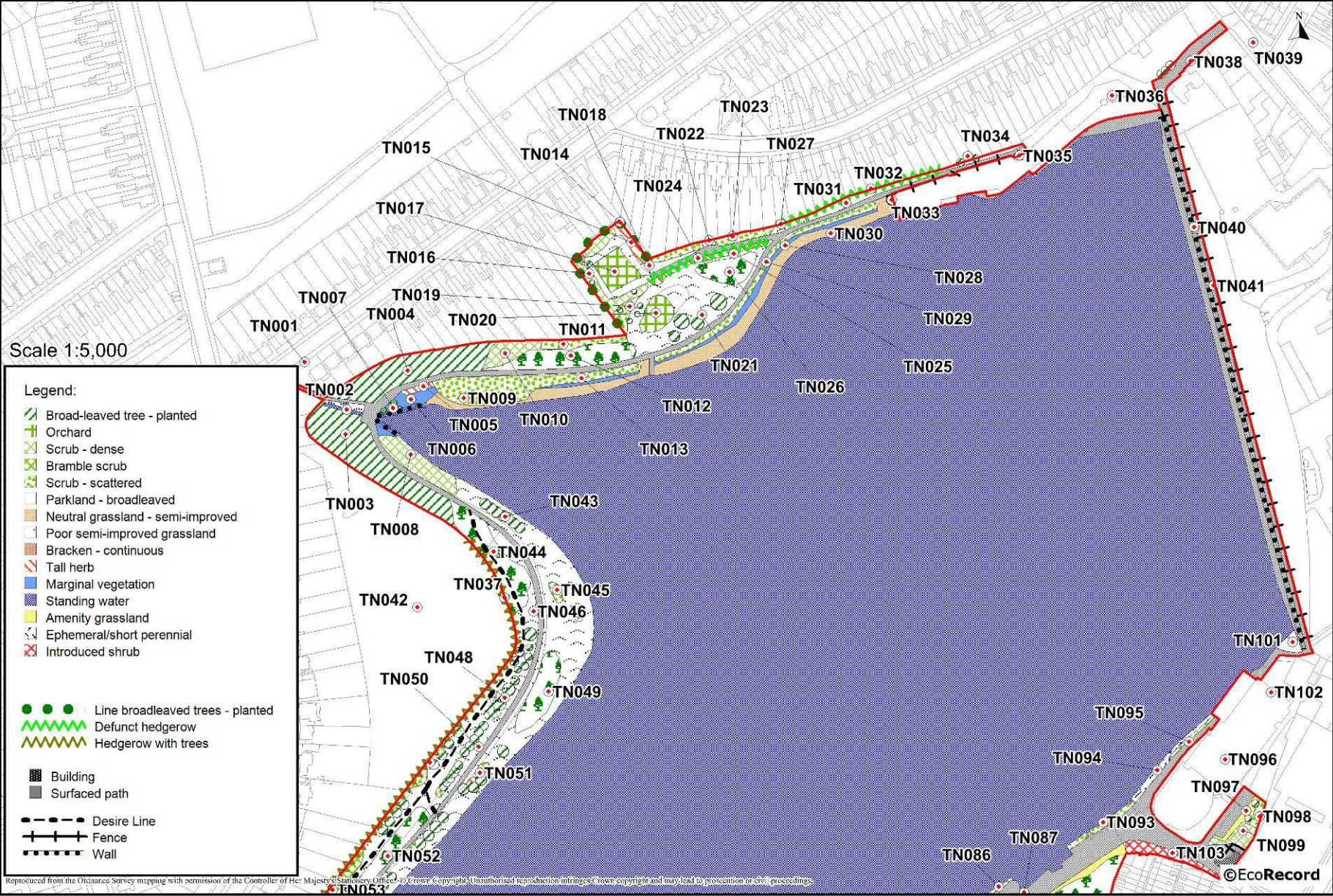
Edgbaston Reservoir Local Nature Reserve Phase 1 Habitat Map



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Edgbaston Reservoir Local Nature Reserve Phase 1 Habitat Map: Detailed Map (North)



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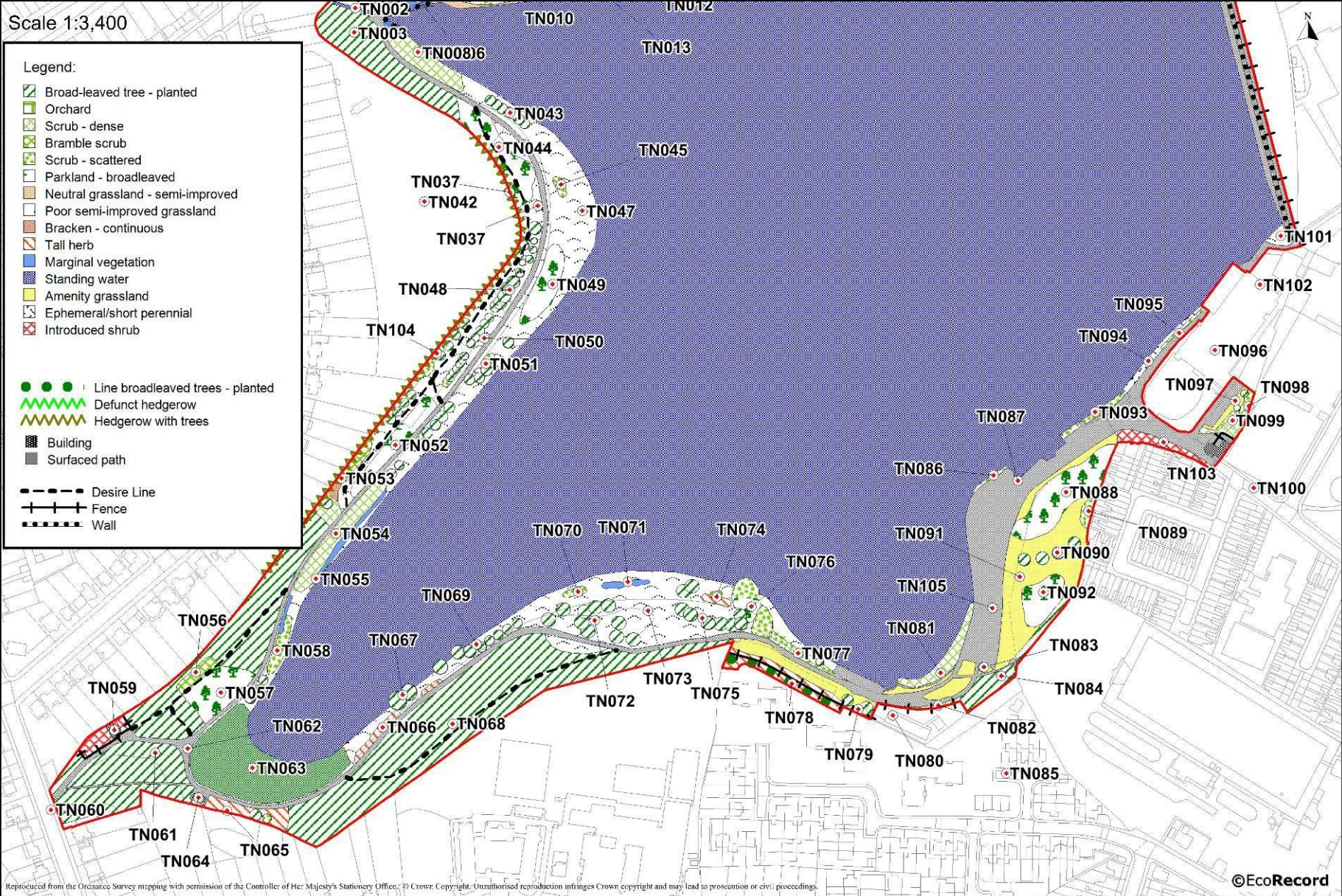
© EcoRecord



Edgbaston Reservoir Local Nature Reserve Phase 1 Habitat Map: Detailed Map (South)

Scale 1:3,400

- Legend:
- Broad-leaved tree - planted
 - Orchard
 - Scrub - dense
 - Bramble scrub
 - Scrub - scattered
 - Parkland - broadleaved
 - Neutral grassland - semi-improved
 - Poor semi-improved grassland
 - Bracken - continuous
 - Tall herb
 - Marginal vegetation
 - Standing water
 - Amenity grassland
 - Ephemeral/short perennial
 - Introduced shrub
-
- Line broadleaved trees - planted
 - Defunct hedgerow
 - Hedgerow with trees
-
- Building
 - Surfaced path
-
- Desire Line
 - Fence
 - Wall



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Target Note Ref.	Target Note Description
TN001	Gillott Road
TN002	The reservoir feeder. The channel is encompassed by an extensive manmade structure with limited to no bankside vegetation.
TN003	Veteran Horse Chestnut tree with suitably roosting features for bats
TN004	Plantation woodland comprising Pedunculate Oak, Sycamore, Beech, Ash, Hornbeam, Hybrid Black Poplar, Horse Chestnut and Norway Maple
TN005	Area with high nutrient content resulting in Common Nettle dominance
TN006	Extensive area of marginal vegetation comprising Reed Sweet-grass, Common Sedge, Great Willowherb, Bur-Marigold and Gypsywort
TN007	Group of White Willow, Ash and Pedunculate Oak
TN008	Extensive area of Willow scrub
TN009	Area of Willow scrub with no marginal vegetation likely due to the high water levels that occur in this area.
TN010	Dense Bramble and Raspberry scrub
TN011	Scattered Sycamore, Beech and Pedunculate Oak bordering the residential boundary with patches of Yew, Holly and Ivy surrounding.
TN012	Scattered Semi-mature to mature Beech, Pedunculate Oak and Hornbeam
TN013	Extensive Willow scrub with occasional Hazel, Hawthorn and Ash
TN014	Mature boundary tree line comprising Pedunculate Oak, Lime sp. and Sycamore
TN015	Area dominated by Common Nettle, Common Hogweed and Broadleaved Dock with occasional Foxglove, Ivy and Cow Parsley
TN016	Area of succession dominated by Bramble, Common Hogweed and Broadleaved Dock with small area of Bracken.
TN017	Small orchard comprising eleven immature apple trees
TN018	Pedunculate Oak
TN019	Six immature Sycamore trees
TN020	Small Orchard comprising nine immature Apple trees
TN021	Group of semi-mature to mature Sycamore and Pedunculate Oak
TN022	Small Area dominated by Common Nettle
TN023	Scattered boundary scrub comprising Bay Laurel, Hedge Bindweed, Hawthorn, Rose sp., Elder, Sycamore, Pedunculate Oak and Holly
TN024	Separate section of the northern boundary defunct hedgerow. This portion of the hedgerow is predominantly Hawthorn.
TN025	Area dominated by Common Nettle
TN026	Scattered semi-mature to mature Beech, Common Lime and Ash
TN027	Informal access from residential gardens was noted along the northern boundary
TN028	Marginal vegetation comprising Reed Sweet-grass, Common Sedge, Common Reed, Water Dock, Yellow Flag and Gypsywort
TN029	Narrow line of dense Willow scrub including occasional Hazel, Ash, Hawthorn and Pedunculate Oak.
TN030	Grassland with high forb diversity include Salad Burnet, common Sedge, Daisy, Common Sorrel, creeping Cinquefoil, Common Bent and Creeping Bent
TN031	Species poor heavily disturbed grassland comprising perennial Rye-grass, Broadleaved Dock, Red Clover, Ground Elder, White Goosefoot, Common Cat's ear and Ribwort Plantain
TN032	Defunct hawthorn dominated hedgerow including occasional Ash, Yew, Holly, Elder, Hornbeam and Blackthorn.
TN033	Immature Sycamore
TN034	Scattered semi-mature Sycamore
TN035	Two Semi-mature Oaks
TN036	Midland Sailing Club
TN037	Intact hedgerow comprising Pedunculate Oak, Silver Birch, Sycamore, Hawthorn and Sweet Chestnut
TN038	Surfaced vehicle access to the Reservoir
TN039	Icknield Port Road

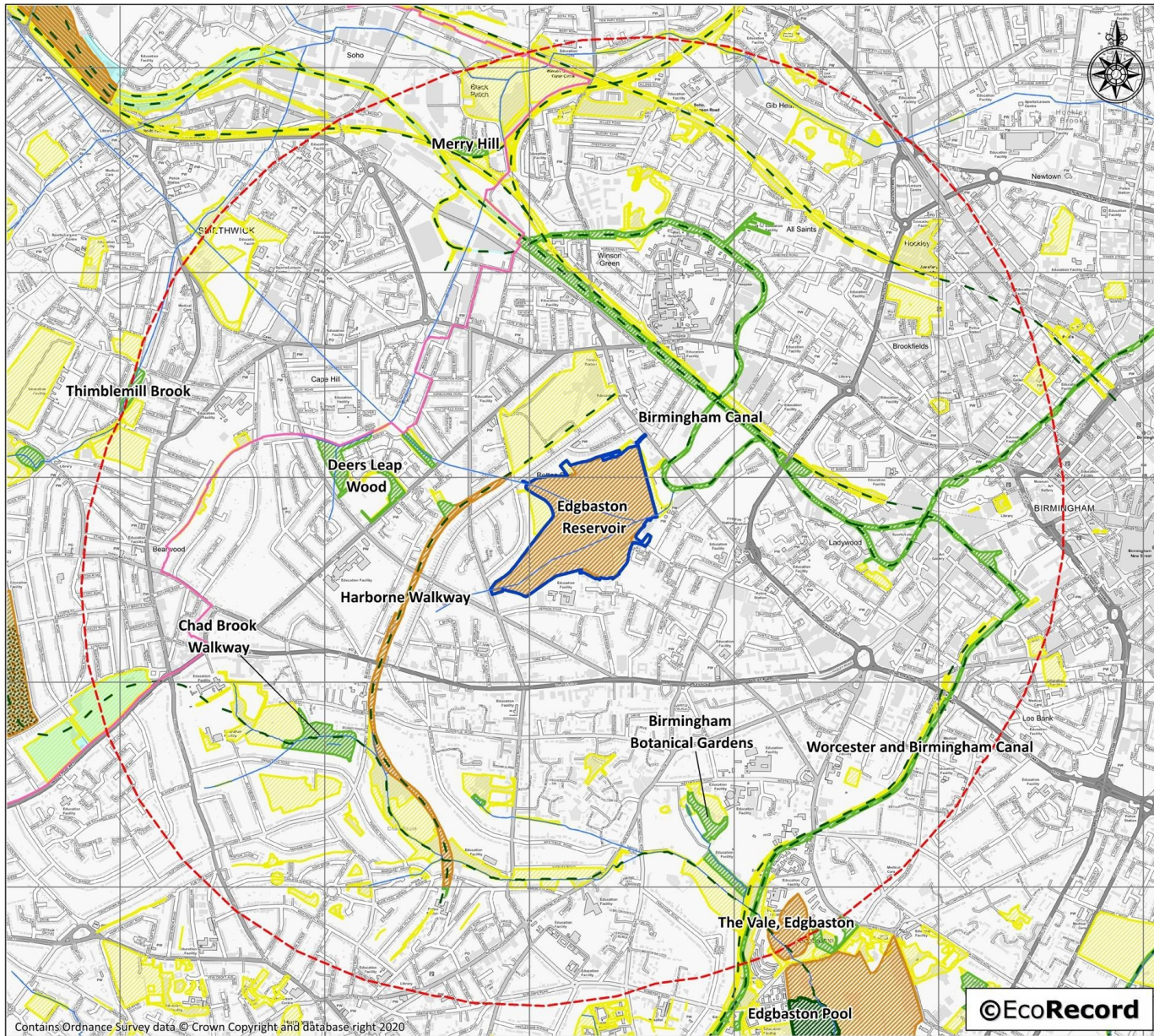
TN040	Reservoir dam wall
TN041	Surfaced Pedestrian walkway
TN042	Birmingham Settlement area to be developed into a community and education hub for engagement with nature
TN043	Group of Silver Birch and Poplar sp. trees
TN044	Scattered semi-mature Silver Birch, Cherry sp., Pedunculate Oak and Sycamore trees
TN045	Area of Goat Willow, Ash, Hybrid Black Poplar and Great Willowherb scrub
TN046	Grassland with low species diversity dominated by Perennial Rye-grass with abundant Creeping Bent, Meadow Buttercup, Broadleaved Dock, Cock's Foot and Daisy
TN047	Grassland coverage along the shoreline becomes increasingly sparse, with the shingle nature of the beech becoming increasingly dominant.
TN048	Linear line of Beech, Sycamore, Ash, Bay Laurel, Pedunculate Oak, Cherry sp., Hawthorn and Holly and Hornbeam.
TN049	Scattered semi-mature White Willow, Pedunculate Oak and Goat Willow
TN050	Bamboo
TN051	Scattered Pedunculate Oak and White Willow with small patches of Bramble and Great Willowherb denoting the shore line of the reservoir
TN052	Scattered semi-mature Sycamore, Sessile Oak, Hawthorn, Hybrid Black Poplar, Beech and Common Lime
TN053	Area of dense Bramble scrub with Elder and Holly. Small area of Bracken lies centrally within the scrub habitat.
TN054	Dense Willow Scrub
TN055	Marginal vegetation comprising Great Willowherb, Reed Sweet-grass, Soft Rush, Common Nettle and Common Reed.
TN056	Bramble scrub with Apple and Ash
TN057	Open parkland area within the woodland comprising of standard Beech and Common Lime trees
TN058	Willow scrub
TN059	Old building with associated garden, currently not in use
TN060	Rotton Park Road
TN061	Plantation woodland comprising Pedunculate Oak, Cherry sp., Common lime, Hawthorn, Snowberry, Ash, Sycamore, Sweet Chestnut, Silver Birch, Elder and Beech.
TN062	Surfaced path circling the Reservoir
TN063	Wet woodland predominantly Crack Willow with occasional Goat Willow and Alder. Field layer species include White Bryony, Common Chickweed, Amphibious Bistort, Broadleaved Pondweed, Great Willowherb and Water Dock.
TN064	Sheltered structure
TN065	Area dominated by Common Nettle with immature Sycamore and Ash and occasional Foxglove
TN066	Area abundant with Creeping Thistle, Common Nettle and Great Willowherb
TN067	Two Crack Willows
TN068	Woodland plantation dominated by Beech with Crack Willow, Horse Chestnut, Ash, Sycamore and Silver Birch. With a regularly informal path running central within the woodland.
TN069	Linear line of Willow sp., Hornbeam, Ash, Sycamore, Silver Birch and White Willow
TN070	Scattered Silver Birch, Goat Willow, Soft Rush, Common Hemp nettle, Common Reed and Broadleaved Dock
TN071	Marginal Vegetation dominated by Soft Rush
TN072	Cluster of semi-mature to mature Sycamore and Beech
TN073	Grassland comprising Perennial Rye-grass, Creeping Bent, Cock's Foot, Broadleaved Dock and Daisy
TN074	Area of Great Willowherb encompassing an immature Silver Birch
TN075	Cluster of Pedunculate Oak, Beech and Sycamore
TN076	Dense cluster of mature White Willow and Aspen surrounding by immature Aspen, Hazel, Goat Willow, Alder scrub
TN077	Scattered Hawthorn, White Willow, Common Nettle, alder, Creeping Thistle, Sycamore

	and Elder scrub.
TN078	Mature Sycamore tree line with a ruderal habitat field layer comprising Ivy, Common Nettle, Wood Avens, Raspberry, Bramble, Cow Parsley and Bracken.
TN079	Semi-mature Sycamore
TN080	Birmingham Rowing Club
TN081	Dense White Willow scrub along the shoreline
TN082	Scattered scrub bordering the boundary fencing comprising Hawthorn, Sycamore, Garden Privet, Holly, hazel, Cleavers and Creeping Cinquefoil
TN083	Blackthorn
TN084	Woodland plantation comprising Hornbeam, beech, Wild Cherry, Sycamore, Cherry Laurel, Cotoneaster, Wayfaring tree and Blackthorn. With a surfaced path running centrally through the woodland leading outside the LNR
TN085	Clipper View Road
TN086	Scattered Goat Willow and Buddleia
TN087	Silver Birch
TN088	Cluster of semi-mature to mature Beech and Sycamore
TN089	Scattered Garden Privet along the boundary
TN090	Line of mature Sycamore and Pedunculate Oak
TN091	Intensively managed grassland dominated Perennial Rye-grass with abundant Daisy and Broadleaved Plantain
TN092	Scattered Beech and Sycamore trees
TN093	Scattered Wych Elm, Sycamore, Ash and Silver Birch scrub
TN094	Shingly surface with light coverage of the forbs species found with the semi-neutral grassland habitat
TN095	Linear line of immature Silver Birch, Sycamore and Willow sp.
TN096	Tower Ballroom
TN097	Heavily disturbed amenity grassland dominated by Perennial Rye-grass and Daisy
TN098	Semi-mature Beech encompassed by scattered Bramble, Rhododendron and Hawthorn scrub
TN099	Dense Blackthorn, Wayfaring tree, Hazel and Beech scrub
TN100	Reservoir Road
TN101	Grassland dominated by forbs, due to the change in water levels. Species include Rough Hawk-bit, Salad Burnet, Mugwort, Broadleaved Dock, Shepherd's Purse, Scentless Mayweed, Great Willowherb, Common Hemp-nettle, Water Dock, False Oat-grass and Bristly Sow Thistle
TN102	TS Vernon Building
TN103	Ornamental Planting including Beech, Cotoneaster, Ash and Sycamore
TN104	Immature Silver Birch and semi-mature Cherry and Pedunculate Oak bordering the boundary hedgerow
TN105	Reservoir Carpark

4.1 Nature Conservation Designations

(See **Designated Sites within 500m buffer of Edgbaston Reservoir map** below).

Edgbaston Reservoir carries both statutory and non-statutory designation, which are respectively Local Nature Reservoir and Site of Importance for Nature Conservation. While several protected sites and sites identified as being of ecological importance lies within 500m of the site such as Rotten Park Feeder Valley Potential Site of Importance (PSI), Selwyn Road Field PSI, Summerfield Park PSI, Birmingham Canal Site of Local Importance Nature Conservation (SLINC) and Harborne Walkway SINC.



Legend

Statutory Sites

Sites of Special Scientific Interest (SSSIs):

- SSSI - Wildlife
- Local Nature Reserves (LNRs)

Local Wildlife Sites

Sites of Importance for Nature Conservation (SINCs)

- SINC - Wildlife

Sites of Local Importance for Nature Conservation (SLINCs)

- SLINC - Wildlife

Other sites

Potential Sites of Importance (PSIs)

- PSI
- PSI - Hedgerow
- Wildlife Corridors (Policy NCS - Sandwell MBC)
- Ancient Woodland Inventory Sites
- Wildlife Corridors (Birmingham and the Black Country Nature Conservation Strategy)

Watercourses

- Rivers and streams
- Rivers and streams (culverted sections)

Drawing Title

Designated Sites within 2km of Edgbaston Reservoir

Scale	Date
1:25,000 @ A4	01/12/2020

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Definitions

Local Nature Reserve (LNR)

Local Nature Reserve is a statutory designation made by principal local authorities under section 21 of the National Parks and Access to the Countryside Act 1949, and amended by Schedule 11 of the Natural Environment and Rural Communities Act 2006. To establish an LNR, the declaring local authority must first have a legal interest in the land concerned. This means owning the freehold, leasing the land or having a nature reserve agreement with the owner. The land need not lie within the area which the declaring authority controls, but if it does not then the authority within whose jurisdiction the land falls must be in agreement. Natural England must be formally notified of the declaration of a Local Nature Reserve or of changes to existing LNR boundaries.

Local Wildlife Sites

Local Sites systems operate throughout England for the purpose of conferring a level of protection to those sites of substantive nature conservation value that are not otherwise covered by national or international designations (such as Site of Special Scientific Importance or Local Nature Reserve). The first Local Sites schedule for Birmingham and the Black Country was introduced in 1977, and sites have been protected ever since by a succession of local planning policy, in particular Birmingham Development Plan Policy TP8 Biodiversity and Geodiversity, and nature conservation strategies. This non-statutory system is intended to be comprehensive (i.e. all sites should be selected which meet the criteria), whereas statutory designation systems such as Special Protection Areas, Special Areas of Conservation, Ramsar sites, and Sites of Special Scientific Interest are intended to provide a representative suite of sites.

In Birmingham & The Black Country, Local Sites encompass what are termed Sites of Importance for Nature Conservation (SINCs) and Sites of Local Importance for Nature Conservation (SLINCs). This two-tier system aims to ensure that all sites of substantive local nature conservation value are selected by assessing sites in both a sub-regional (i.e. Birmingham & The Black Country) and metropolitan borough context (either Birmingham, Dudley, Sandwell, Walsall, or Wolverhampton):

- **Sites of Importance for Nature Conservation (SINCs)** - Sites of substantive nature conservation value in the context of Birmingham & The Black Country

- **Sites of Local Importance for Nature Conservation (SLINCs)** - Sites of substantive nature conservation value in the context of a metropolitan borough.

- **Potential Sites of Importance (PSIs)** – A suite of sites compiled through a desk-based exercise undertaken by EcoRecord that are not designated. These are sites that potentially contain areas of important semi-natural habitat but currently fall outside of the Local Site system. These sites potentially contribute to the overall cohesion and resilience of the wider ecological network by providing a buffer to, or direct link / 'stepping-stone' between other existing important areas. Many of these sites were identified through a combination of aerial photo interpretation, historic maps, and species data (and therefore may not reflect later site survey work). For some sites, recent survey information exists, and they may meet the Local Site criteria, but are yet to be evaluated against the Local Site Criteria and/or are yet to complete the formal adoption process.

4.2 Protected Flora and Fauna Records

The table below details the protected species record held for Bournville Village Trust, by EcoRecord and obtained during Phase 1 habitat surveys undertaken in 2020. Details are provided below

Species of Note [1]							
Flora							
Species	Statutory	NERC	LBAP	RDL	Rarity	Axiophyte	Year
<i>Agrostis vinealis</i> - Brown Bent					R	Y	1987
<i>Allium ursinum</i> - Ramsons					F	Y	2020
<i>Betula x aurata</i> - Hybrid Birch					R		2002
<i>Bidens tripartite</i> - Trifid Bur-marigold					R	Y	2020
<i>Butomus umbellatus</i> - Flowering Rush					F	Y	1987
<i>Carex nigra</i> - Common Sedge					U	Y	2020
<i>Eleocharis palustris</i> - Common Spike-rush					U	Y	2002

<i>Filago vulgaris</i> – Common Cudweed				RLGB. Lr(NT)	R		2003
<i>Humulus lupulus</i> - Hop					U		2002
<i>Geranium pratense</i> – Meadow Crane's-bill					U		2020
<i>Hyacinthoides non-scripta</i> – bluebell	WCA8		Y		C		2020
<i>Juncus acutiflorus</i> – Sharp-flowered Rush					U	Y	1990
<i>Moehringia trinervia</i> – Three nerved Sandwort					R	Y	2002
<i>Poa humilis</i> – Spreading Meadow-grass					U		2000
<i>Potamogeton natans</i> – Broadleaved Pondweed					U		2020
<i>Phragmites australis</i> – Common Reed					U		2020
<i>Rorippa amphibian</i> – Great Yellow-cress					U		2002
<i>Thalictrum flavum</i> – Common Meadow-rue					VR	Y	1986
<i>Tilia platyphyllos</i> – Large-leaved Lime					R		1986
<i>Viola odorata</i> – Sweet Violet					R		2002
Fauna							
Species	Statutory	NERC	LBAP	RDL	Concern	Rarity	Year
<i>Alcedo atthis</i> - Kingfisher	WCA1i			BAmb		F	2019
<i>Anas Crecca</i> - Teal				BAmb		F	1990
<i>Anas Platyrhynchos</i> - Mallard				BAmb		C	2020
<i>Apus apus</i> – Swift				BAmb		C	2007
<i>Aythya farina</i> – Pochard				Bred		R	2001
<i>Branta leucopsis</i> – Barnacle Goose				BAmb		U	2003
<i>Bucephala clangula</i> – Goldeneye	WCA1iii			BAmb		U	2000
<i>Chiroptera</i> –sp Unidentified Bat	HabRegs WCA5/9.4 b, WCA5/9.5 a	Y	Y			-	2002
<i>Chroicocephalus ridibundus</i> - Black-headed Gull				BAmb		C	2020
<i>Columba oenas</i> – Stock Dove				BAmb		F	2019
<i>Cygnus atratus</i> – Black Swan						VR	2005
<i>Cygnus olor</i> – Mute Swan				BAmb		C	2019
<i>Delichon urbicum</i> – House Martin				BAmb		F	2019
<i>Haematopus ostralegus</i> – Oystercatcher				BAmb		U	2003
<i>Larus argentatus</i> – Herring Gull		Y		Bred		C	2019
<i>Larus canus</i> – Common Gull				BAmb		F	2019
<i>Larus fuscus</i> – Lesser Black-backed Gull				BAmb		C	2019
<i>Larus marinus</i> – Great Black-backed Gull				BAmb		F	1990
<i>Larus michahellis</i> – Yellow-legged Gull				BAmb		NRR	2019
<i>Motacilla cinerea</i> – Grey				BRed		F	1985

Wagtail							
<i>Myotis</i> – Unidentified Bat	HabRegs 2, WCA5/9.4 b, WCA5/9.4 c,	Y	Y			-	2015
<i>Myotis Daubentonii</i> – Daubenton's Bat	HabRegs 2, WCA5/9.4 b, WCA5/9.4 c,	Y	Y			U	2010
<i>Nyctalus noctula</i> – Noctule Bat	HabRegs 2, WCA5/9.4 b, WCA5/9.5 a	Y	Y			F	2015
<i>Passer domesticus</i> – House Sparrow		Y		BRed		VC	2019
<i>Pipistrellus pipistrellus</i> – Common Pipistrelle	HabRegs 2, WCA5/9.4 b, WCA5/9.5 a	Y	Y			F	2019
<i>Pipistrellis pygmaeus</i> – Soprano Pipistrelle	HabRegs 2, WCA5/9.4 b, WCA5/9.5 a	Y	Y			F	2017
<i>Plecotus auritus</i> – Brown Long-eared Bat	HabRegs 2, WCA5/9.4 b, WCA5/9.5 a	Y	Y			U	2011
<i>Podiceps cristatus</i> – Great Crested Grebe						U	2020
<i>Prunella modularis</i> – Dunnock				BAmb		VC	2019
<i>Sterna Paradisaea</i> – Artic Tern				BAmb		U	2019
<i>Sturnus vulgaris</i> – Starling		Y		BRed		VC	1990
<i>Turdus iliacus</i> – Redwing	WCA1i			BRed		C	2019
<i>Turdus philomelos</i> – Song Thrush			Y	BRed		C	2019
<i>Turdus pilaris</i> – Fieldfare	WCA1i			BRed		F	2019
<i>Turdus viscivorus</i> – Mistle Thrush				Bred		C	2019

The following Species of Note have been recorded within 500m of the assessment site boundary.

<i>Sterna hirundo</i> – Common Tern				BAmb		F	1998
<i>Erinaceus europaeus</i> – West European Hedgehog		Y				C	2007
<i>Rana temporaria</i> – Common Frog	WCA5/9.5 a		Y			F	1997
<i>Bufo bufo</i> – Common Toad	HabRegs 2, WCA5/9.5 a	Y	Y			F	2004

<i>Delichon urbicum</i> – House Martin		Y				F	2008
<i>Meles meles</i> – Eurasian Badger	PBA		Y			C	2009
<i>Pyrrhula pyrrhula</i> – Bullfinch				BAmb		C	2015
<i>Turdus iliacus</i> – Redwing	WCA1i			BRed		C	2015
<i>Turdus pilaris</i> – Fieldfare	WCA1i			BRed		F	2005

Table 4.2.1: Protected Species recorded within Bournville Village Trust, by EcoRecord and obtained during Phase 1 habitat surveys undertaken in 2020.

[1] Habitats/Species of Note Tables – Attribute Definitions

STATUTORY (PROTECTED) - **EHD** = EU Habitats Directive (plus where relevant the Annex II or IV) | **WCA S1** = Wildlife & Countryside Act Schedule 1 (birds protected at all times) | **WCA S5** = Wildlife & Countryside Act Schedule 5 (animals with various levels of protection) | **WCA S8** = Wildlife & Countryside Act Schedule 8 (higher and lower plants with various levels of protection) | **PBA** = Protection of Badgers Act 1992 | **HabRegs2** = The Conservation (Natural Habitats, &c.) Regulations 2010 (Schedule 2) | **HabRegs4** = The Conservation (Natural Habitats, &c.) Regulations 2010 (Schedule 4).

NERC – **Y** = Habitats/Species included on the current list of Principal Importance in England under Section 41 of the NERC Act (2006 or amended).

LBAP – **Y** = Habitats/Species included on the latest B&BC LBAP list of Priority Habitats/Species.

RDL - Species included on Global IUCN & British Red Data Lists: **BRed** = Bird Population Status – red | **BAmb** = Bird Population Status - amber | **RLGB.EN** = IUCN (2001) – Endangered | **RLGB.VU** = IUCN (2001) – Vulnerable | **RDBGB.R** = IUCN (pre 1994) – Rare | **RLGB.Lr(NT)** = IUCN (2001) - Lower risk - near threatened | **RDBGB.IK** = RDB - Insufficient known | **RLGB.DD** = IUCN (2001) - Data Deficient

RARITY (HABITATS) - BIRMINGHAM & BLACK COUNTRY - **Y** = Habitats included on the B&BC list of locally rare habitats (administered by EcoRecord).

RARITY (FLORA SPECIES) - BIRMINGHAM & BLACK COUNTRY - (based on data held and managed by EcoRecord): **VR** = Very Rare - a species present in less than 1.0% of 1Km squares, tetrads, or 5Km squares in B&BC | **R** = Rare - a species present in 1.0% - 4.3% of 1Km squares, tetrads, or 5Km squares in B&BC | **U** = Uncommon - a species present in 4.3% - 12% of 1Km squares, tetrads or 5Km squares in B&BC | **NRR** = no recent B&BC records.

AXIOPHYTE - BBCF_Ax = included on the Birmingham & the Black Country list of axiophytes (administered by EcoRecord).

YEAR - The most recent year the species has been recorded.

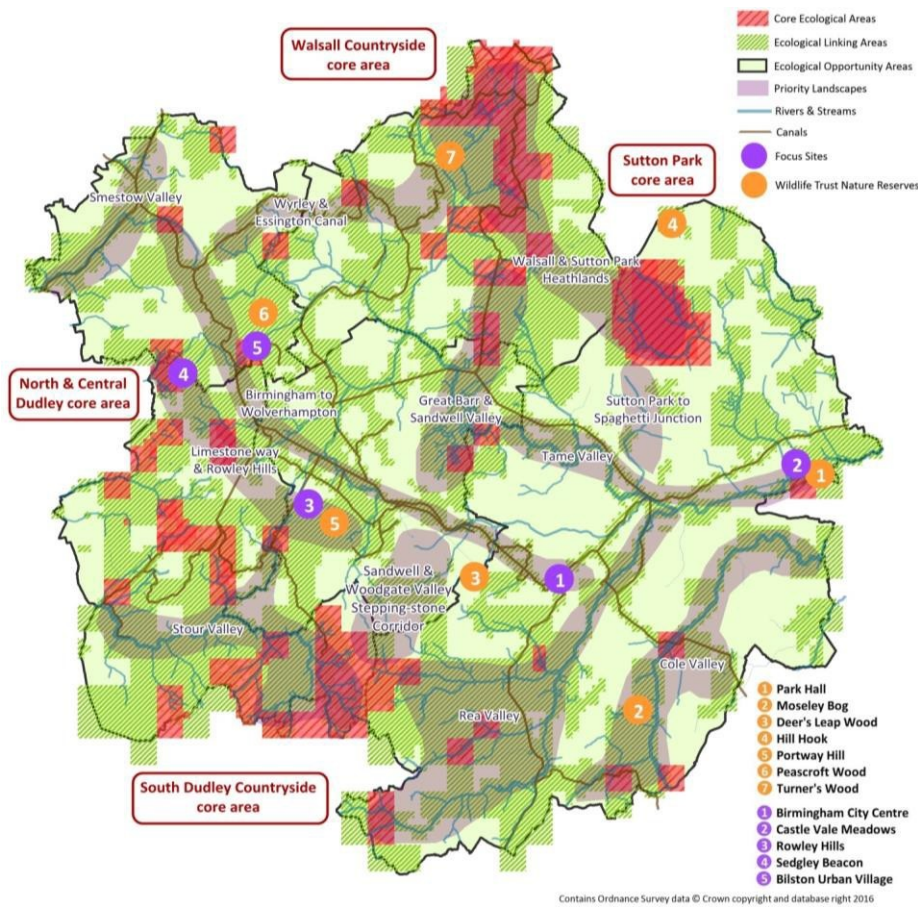
[3] Species listed on Schedule 9 part 1 (animals) and part 2 (plants) of the Wildlife and Countryside Act 1981 as amended - this lists animals which may not be released or allowed to escape into the wild and plants which may not be planted or otherwise caused to grow in the wild.

4.3 Position in the Birmingham and Black Country Nature Improvement Area Ecological Network

Birmingham and the Black Country was declared a Nature Improvement Area (NIA) by Defra in 2012. NIAs form part of the UK Government’s response to Sir John Lawton’s 2010 report “Making Space for Nature”. They were brought into law via the Nature Environment White Paper, the first natural environment government White Paper in 20 years. In October 2011 a competition was launched by DEFRA to select twelve pilot sites for NIAs, and in response, seventy-six entries were made. On 27 February 2012, the final list of 12 Nature Improvement Areas was announced.

As lead partner of the NIA, The Wildlife Trust for Birmingham and the Black Country (with support from EcoRecord) produced and published the Birmingham and Black Country Nature Improvement Area Ecological Strategy for 2017 – 2022 in late 2016. The ecological strategy identifies Edgbaston Reservoir LNR as being within an ‘Ecological Linking Area’. The following map and definitions have been extracted from the ecological strategy which can be viewed in full at <https://www.bbcwildlife.org.uk/nia> and <http://www.ecorecord.org.uk/index.php?q=content/local-sites-supporting-documents> .

Fig 1. Birmingham and the Black Country NIA ecological strategy map



Describing the ecological network of Birmingham and the Black Country*

The ecological network of Birmingham and the Black Country has been mapped and all parts of the landscape have been assigned to one of three broad categories:

- The **'Core Ecological Areas'** are the areas of the conurbation that are richest in wildlife. As might be expected these include the parts of our landscape least affected by urban development – such as Sutton Park and the countryside in the south of the borough of Dudley – but it also includes areas where wildlife has reclaimed sites that were once at the heart of the industrial Black Country.
- Joining the Core Areas and the wider landscape together are **'Ecological Linking Areas'**. These include the majority of our remaining 'natural' open spaces where many of the more frequently encountered species and habitats exist – often in very close proximity to dense human populations. Much of this part of the network is concentrated around key wildlife corridors including the extensive system of rivers, streams, and canals.
- Outside of the Core Ecological Areas and Ecological Linking Areas are the **'Ecological Opportunity Areas'**. These are the most intensively used parts of the landscape where the green space is dominated by formal parks, public open spaces, gardens, road verges, and the most productive farmland.

Using the ecological network mapping to prioritise action that benefits biodiversity

For each of the three broad categories a priority for targeting biodiversity action has been identified:

1. **Protect** Core Ecological Areas through pro-active engagement with the planning of development, advocacy, supporting land-owners to manage land sympathetically, and encouraging sustainable land-use.
2. **Enhance** Ecological Linking Areas by restoring habitats and improving existing sites.
3. **Create** new sites in Ecological Opportunity Areas that together form networks of sites that allow wildlife to move through the most developed parts of the conurbation.

* Technical summary of how the Core Ecological Areas, Ecological Linking Areas and Ecological Opportunity Areas were identified

The ecological network of Birmingham and the Black Country is based on a coincidence map of 279 axiophyte species (see below) - i.e. a map in which each 1km² (monad) is represented by the number of these plant species which it contains. Monads or parts of monads containing sites designated for their nature conservation value, or where significant landscape features continue from adjacent core areas, are also variously included in the Core Ecological Areas and Ecological Linking Areas at a 250m x 250m square resolution. The Ecological Strategy map is thus a surrogate for habitat richness across the conurbation.

Core Ecological Areas:

- All monads that contain 28 or more axiophytes.
- Parts of monads (250m x 250m square units) containing Special Areas of Conservation (SACs) and Sites of Special Scientific Interest (SSSIs).

Ecological Linking Areas:

- All monads that contain 9-27 axiophytes.
- Parts of monads (250m x 250m square units) containing Local Nature Reserves (LNRs), Sites of Importance for Nature Conservation (SINCs) and Sites of Local Importance for Nature Conservation (SLINCs).

Ecological Opportunity Areas:

- All monads and parts of monads that contain fewer than 9 axiophytes and that do not contain sites designated for their nature conservation value.

Definition of Axiophytes

Axiophytes are indicators of habitat that is considered important for conservation, such as ancient woodlands, clear water and species-rich meadows. The Botanical Society of Britain and Ireland (BSBI) has attempted to define axiophytes as follows:

- Species 90% restricted to habitats of nature conservation importance
- Species recorded in fewer than 25% of tetrads in a vice-county
- Very rare species should be considered for omission as chance occurrences

See <http://bsbi.org/axiophytes> for more information.

5. Management Responsibilities

Since 1957, the reservoir and surrounding amenity area has been owned by Birmingham City Council, with the Parks Team, formerly ranger service, taking responsibility of the management of the site. At the current time there is no designated ranger to the site. This has varied over the years within maximum of two full time rangers being based on site at one time. Due to this variation, capacity to undertake habitat works has also changed over time, however, essential works designed to improve biodiversity and amenity value have been continued.

The management plan will ultimately sit with the Birmingham City Council parks team, while the LNR committee would monitor the actions and the effectiveness of the plan. This monitoring of actions would be a standing agenda item at the LNR committee meetings.

Edgbaston Reservoir Local Nature Reserve Committee comprises of numerous stakeholders including:

- Birmingham City Council;
- Birmingham City Council Parks Team;
- Birmingham Rowing Club;
- Birmingham Settlement.
- Canal and Rivers Trust;
- Friends of Edgbaston Reservoir;
- Midlands Sailing Club;
- North Edgbaston Ward Councillor; and
- The Wildlife Trust for Birmingham and the Black Country;

The committee meets 4 times a year to deal with issues relating to the management of the nature conservation, policy changes impacting the LNR and the recreational aspects of the Reservoir.

It is noted that Canal and Rivers Trust retain the use of the volume of water for maintenance of water levels within the canal system.

Adjoining the LNR boundary there are a number of additional parcels of land which are designated or identified as being ecological important. These are in various ownership of Birmingham City Council, Canal Rivers Trust and Birmingham Settlement.

6. Current Access and Infrastructure

There are five main public access routes to the reservoir; the main access to the reservoir is through on-site car park and tower ballroom off Reservoir road while additional entrances are found off the housing development off Mariner avenue, from Gillott road, Rotton Park road and Icknield Port road. The latter also provides vehicular access to the reservoir for the midland Sailing Club. In addition, to the above there is gated private access from the TS Vernon Building, which is currently used by the Sea cadets.

Informal gated access from a number of residential gardens were also found to be present along the northern boundary.

All access points link to a circular surfaced path that runs around the reservoir.

In terms of infrastructure numerous buildings are found within the reservoir. Within the north eastern corner of Edgbaston Reservoir although not within the LNR boundary lies the Midlands Sailing Club, while to the southern area either within the boundary or adjacent, respectively, lies the Tower Ballroom, not currently in use, and the Birmingham Rowing Club building.

In the southern western corner lies old building with an associated garden. This is currently not in use.

Plans are ongoing to install interpretation boards, this will include way markers and interpretation boards based on the biodiversity and the history of the site.

7. Community and commercial Use/ Involvement

Edgbaston Reservoir LNR is a hub of recreational activity within Birmingham area and has been used for water sports as well as more informal activities, such as dog walking, jogging, bird watching, and fishing from its creation in the 1820s.

The reservoir holds two commercial business Midlands Sailing Club and Birmingham Rowing Club which runs water sports, including sailing, rowing, and windsurfing on the reservoir, while Sea cadets also use the reserve for educational purposes.

Community involvement and interest in the LNR is high within the local area with Friends of Edgbaston Reservoir group, set up in 1990, and Summerfield Residents Association running walks and litter picks, and West Midlands Bird Group and Brumbats undertaking wildlife surveys regularly. In addition, organised walking groups make use of the reservoir area to hold their events.

While swimming was historically undertaken on the reservoir this is now prohibited, due to water quality and water undercurrents.

To the west of the site lies Selwyn Road Field, this is owned by Birmingham Settlement and is currently in the progressing of constructing a community and education facility focused on nature and wildlife. Through vehicular access will be possible off Selwyn Road the main visitor access for the facility will be through the reservoir once complete.

It is noted that although the facility will be separate from the LNR and the LNR committee, in terms of running and management responsibilities, it will provide a key community hub and facilities for local groups to use when holding events at the LNR.

8. Biodiversity Objectives

The following five overarching biodiversity objectives have been identified to ensure the future protection and enhancement of the ecological, social, and community value of the reserve, and unify the outlined and future management prescriptions for Edgbaston Reservoir LNR while providing clear aims for their undertaking.

Objective 1 – Maintain and enhance the Local Nature Reserve and Site of Importance for Nature Conservation status and protection

Edgbaston Reservoir is currently designated as LNR and SINC, providing both statutory and non-statutory protection to the site. The area covered by each designation can be seen within the **Designated Sites within 500m buffer of Edgbaston Reservoir map**.

Both designations were endorsed on the current status of the Reservoir at the time of the historic assessment, which in conjunction with the assessment undertaken for this management plan, in 2020, provides a baseline on which to monitor the habitat and the designation extent within Edgbaston Reservoir. This monitoring should be undertaken regularly to assess and ensure that:

- residential gardens do not encroachment within the designated area;
- management activities proposed or undertaken are beneficial;
- policy documents and planning applications on or within close vicinity of the site are reviewed for their potential direct/indirect impact; and
- to identify potential opportunities to extend the LNR or funding to undertake larger project works.

These potential impacts or opportunities cover not only the biodiversity but also the landscape, recreational and educational aspects of the Reserve.

Responsibility of this objective would lie with Birmingham City Council and Edgbaston Local Nature Reservoir Committee and involve regular consultation meetings, which would include an annual review and monitoring of the management plan activities, and ascertain future impacts, priorities, and opportunities in regards to funding.

Objective 2 – Maintain and enhance the ecological habitats on-site to maximise biodiversity

Edgbaston Reserve LNR holds a broad range of habitats including parkland habitat comprised of grassland (amenity, semi-improved grassland, and species-poor), scattered parkland trees, and broadleaved woodland plantation surrounding a large manmade waterbody. Along the edges of the waterbody lies water associated habitats including marginal vegetation, willow scrub, and wet woodland.

These habitats in their current state hold both structural and species diversity creating a biodiverse designated site in a predominantly built-up area. Its location also adds importance to the site as it lies in close proximity to two wildlife corridors, defined by Birmingham and the Black Country Nature Conservation Strategy, making Edgbaston Reserve a key component and stepping stone within Birmingham.

This objective looks to achieve for each habitat, based on the current known baseline, maintenance and enhancement of each habitat, as an individual and as a piece of a habitat mosaic, to improve habitat quality, species composition, and diversity while recognising the amenity and parkland setting of the LNR.

The management prescriptions outlined within the management plan are designed to achieve this objective, and includes actions to be taken on a varied regular basis and opportunities such as habitat creation, which could be undertaken should funding and resources become available.

To evaluate the efficacy of the works undertaken more comprehensive surveys on specific habitats will be undertaken as part of a rolling monitoring programme. The monitoring programme will determine the potential positive or negative impacts of management practices allowing the revising the management plan, where seen fit, and in more specific terms monitor changes in water quality within the Reservoir.

Responsibility of the management works would lie with Birmingham City Council parks team, volunteering groups, and specified contractors.

Objective 3 - Maintain and enhance the site for known and potential wildlife populations

Edgbaston Reservoir is well recorded through fauna and flora records provided by West Midlands Birds Group, Eco Record (Local Biological Record Centre), BrumBats (Local Bat volunteer group), and individual members of the public. Of particular note are the numerous records of overwintering birds, waterfowl, and bats (5 species have been recorded on-site). As a result of the number of birds using the site, Edgbaston Reservoir is well known and designated as a key wetland habitat for overwintering birds.

Therefore, it is deemed that the LNR's key role for wildlife as a component of the ecological network within Birmingham is to provide foraging, commuting, and sheltering habitat for the local wildlife population. This role, objective 3 aims to achieve this through maintenance, enhancement, and provision of foraging and nesting resources, such as creating species-rich grassland and sheltering habitat.

To evaluate the efficacy of the reserve as a role for wildlife, undertaken of more comprehensive surveys on specific species group will be completed as part of a rolling monitoring programme. The monitoring programme will determine the potential positive or negative impacts of management practices, fluctuations in local wildlife populations and provide a comprehensive species list of the fauna using the site.

The management prescriptions outlined within the management plan are designed to achieve this objective and include actions to be taken on a varied regular basis, such as monitoring surveys on wildlife present on the site, and opportunities, which could be undertaken should funding and resources become available.

Responsibility of the management works would lie at the current time with Birmingham City Council, volunteering groups, and specified contractors.

Objective 4 - Retain and maximise connectivity of Edgbaston Reservoir LNR to the wider landscape

Edgbaston Reservoir LNR sits adjacent to Rotten Park Feeder Valley PSI and Selwyn Road Field PSI and in close proximity to Summerfield Park PSI, Birmingham Canal Site of Local Importance Nature Conservation (SLINC), Harborne Walkway SINC, and two Wildlife Corridors, defined by Birmingham and the Black Country Nature Conservation Strategy. As such the LNR can be deemed a component and stepping stone of a key ecological network within Birmingham.

As a key foraging and stopping off area for wildlife along the ecological network, based in a predominantly built-up environment, the site's importance is not just of site value but within the wider landscape. The main connections lie on the eastern edge towards Birmingham Canal SLINC and in the north-west through its connection to Harborne Walkway SINC.

Objective 4 aims to retain and enhance the ecological connections to the nearby designation sites through habitat creation and maintenance along the boundary edges and to seek where possible biodiversity improvement and opportunities within adjacent land.

Responsibilities lie with the Stakeholders within the LNR Committee.

Objective 5 – Work towards further community engagement and education in regards to the Local Nature Reserve, its designation, and biodiversity

Edgbaston Reservoir is an area of public open space, with the reservoir used commercially for water sports, as such has a high volume of the public using the site on a daily basis, this provides opportunities to engage members of the public with nature. In addition, two volunteer groups, Friends of Edgbaston Reservoir group and Summerfield Residents Association, hold activities within the reserve, which include talks, walks, and practical activities, and West Midlands Bird Group and Brumbats (Local Bat Group) which regularly undertake bird surveys within the area.

Objective 5 aims to maintain and support the current communities value and use of the site while providing a further commitment to spreading awareness of the local wildlife and habitat present.

At the current time, it is known that the management on site is restricted, due to the allocation of time possible by Birmingham City Council to manage the site, as such the one of the main roles of objective 5

will be to support and promote the creation of a volunteer base, this could be undertaken through the current Friends of Edgbaston Reservoir group, which would assist in undertaken management works and species surveys, this would be run in conjunction with the other existing volunteer groups and advised by the LNR committee.

Responsibilities of this objective would lie with the Edgbaston Reservoir LNR committee and volunteer groups with the assistance of the Wildlife Trust of the Birmingham and the Black Country.

9. Maps & Enhancement and Management Proposals

9.1 About the Enhance and Management Proposals Tables

Under each biodiversity objective, enhancement and management proposals have been outlined below designed to achieved each objective's goals. For each proposal the following information is given:

- **Action** – a descriptive name of the action.
- **Objective & Rationale** – the reasons why the action will benefit the wildlife and/or users of the site.
- **Method** – outline description of how the action can best be achieved.
- **Timings** – time of year most appropriate to undertake the action.

To indicate management tasks that are of higher priority, these tasks have been labelled with an '**' in the action column.

For Objective two and three, an additional proposals map is provided, showing a view of how the reserve could develop if the proposals are implemented and to provide further details on the locations of the management proposals.

10. Maps and Management Proposals

10.1 Objective 1 – Maintain and enhance the Local Nature Reserve and Site of Importance for Nature conservation status and protection

Action		Objective & Rationale	Method	Timings
1*	Monitoring of management actions and their impact	As management prescriptions are undertaken, it is important to monitor the completion of those actions and the results to ensure the desired impact/outcome has occurred. This should be regularly done as part of an update to the LNR committee, while a fully comprehensive assessment of the management plan and its resultant actions should be undertaken after five years.	Birmingham City Council and community groups should report completion of management actions and future proposals at regular Edgbaston Reservoir LNR committee meetings to ensure that no duplications or opportunities are missed. In addition, to any issues caused by habitat or maintenance works.	Ongoing as management activities are undertaken.
2*	5yr review of the management plan		After a five-year period, an assessment should be undertaken to confirm all actions undertaken within the period and include a review and update on the Edgbaston LNR Management Plan.	Spring 2025
3*	Regular consultations between Birmingham City Council and Edgbaston Reservoir LNR Committee	Regular consultation meetings should be scheduled between Birmingham City Council and Edgbaston Reservoir LNR Committee to discuss management operations and provide Local Planning Policy and Supplementary Policy Guidance inputs where relevant to the Reserve. In particular note is the draft Edgbaston Reservoir Supplementary Planning Document.	As above in Action 1, these consultations can be incorporated within the Edgbaston Reserve LNR committee as an agenda item, as Birmingham City Council are represented on the committee. However, should follow up meetings be required or a small group needed to take forward actions, this can be undertaken as small working groups separately, although co-ordinated by the committee.	Ongoing
4*	The LNR committee agenda should include the following standing agenda items; funding, planning, and engagement	To ensure that there is a chance to raise potential opportunities and risks for the LNR based on ecological, social, and community value, standing agenda items should be placed within the regular committee meeting agenda.	The standing agenda for the LNR committee should include funding and planning, engagement opportunities.	Ongoing
5	Annual review of LNR committee stakeholder representation	To ensure that the LNR committee represents all stakeholders invested in LNR, a review should be undertaken annually on committee members.	Review of the LNR committee members should be undertaken annually to ensure full stakeholder representation.	Annually

Action	Objective & Rationale	Method	Timings
6* Planning applications that could result in a	To ensure that the committee has the opportunity to comment on planning applications which could directly	Birmingham City Council should inform the committee during LNR committee meetings of any planning	Ongoing

Action	Objective & Rationale	Method	Timings
	<p>or indirectly affect the LNR. Birmingham City Council should inform the committee regularly in terms of planning applications submitted within the vicinity of the LNR</p>	<p>application submitted within the vicinity of the LNR.</p> <p>In addition, the secretariat for the meeting should be signed up to receive automatic alerts from BCC planning office on local planning applications within the surrounding area.</p>	
7*	<p>Create a direct line of communication between friends of Edgbaston Reservoir group, Birmingham Settlements, and BCC Parks team for the undertaking management tasks</p> <p>As numerous groups will be working within the LNR to undertake management tasks, outlined in the management plan, it will be crucial that a co-ordinated approach is taking to ensure essential tasks are completed and opportunities are found for funded projects.</p> <p>Therefore, a direct line of communication, via a working group and or email group should be put in place to ensure coordination of the community works and events and management tasks.</p>	<p>Creation of a direct communication line as a working group meeting and or email group to include Birmingham Settlement, BCC parks team, and Friends of Edgbaston Reservoir group.</p>	Ongoing
8	<p>Update Local Site Assessment</p> <p>This survey and assessment would reassess the site against the Birmingham and Black Country Local Site Assessment Criteria. This would evaluate whether further areas of the site should be designated as a local wildlife site and whether the existing designations are still accurate. The most recent assessment took place in 1990.</p>	<p>LNR area and adjacent accessible areas should be subject to an assessment against the Birmingham and Black Country Local Site Assessment Criteria by a suitably qualified ecologist. To be undertaken every five years</p>	April - September
9	<p>Visitor monitoring and survey</p> <p>Biannual visitor surveys should be undertaken to monitor the increased visitor usage of the LNR. It should be designed to monitoring the potential impact of increased usage of the LNR and the investment requirement needed to maintain the quality of the LNR.</p>	<p>Visitor surveys, including counts and survey forms, should be undertaken every two years.</p>	Every two years.

10.2 Objective 2 – Maintain and enhance the ecological habitats on-site to maximise biodiversity

Due to the broad range of habitats within the Reservoir, habitat subheadings have been used within the Management Prescription tables to provide clarification.

Action	Objective & Rationale	Method	Timings
Reservoir			
1*	Water quality testing	<p>Monitoring of the water quality of the reservoir would determine its current status in terms of eutrophication, contamination and mineral build-up. This is important as build-up could result in health and biodiversity implications in terms of users of the lake and the wildlife and habitats surrounding.</p>	<p>Water sampling should be undertaken regularly by an experienced consultant to monitor any possible health and biodiversity impacts. Any issues raised should be dealt with in a timely and appropriate manner.</p> <p>Sample points, quantity and locations would be determined in consultation with Canal Rivers Trust and Contractors.</p>
2	Reduce fluctuation in water levels	<p>Currently, the fluctuations within the reservoir can vary greatly and have been noted to be an issue for recreational use and reducing nesting success of waterfowl and biodiversity along the bank edges.</p> <p>As such the potential to reduce the extent of this discharge to canal systems or to undertake the discharge over a longer period of time should be investigated.</p> <p>It is understood that Canal Rivers Trust has a legal obligation which will limit their ability to avoid taking water from the reservoir. However, consultation with Canal Rivers Trust has begun in regards to the potential to avoid water outtake at specific times of the year.</p> <p>Therefore, monitoring surveys should be undertaken to identify what species are affected and what level of water reduction in the threshold to causing impact and at what time of the year and what's benefiting from the different levels through the year.</p>	<p>Water sampling should be undertaken regularly by an experienced consultant to monitor any possible health and biodiversity impacts. Any issues raised should be dealt with in a timely and appropriate manner.</p> <p>Sample points, quantity and locations would be determined in consultation with Canal Rivers Trust and Contractors.</p>
		<p>Monitoring surveys should be undertaken to monitoring habitats and priority species against fluctuating water levels over a 5-year period.</p> <p>These monitoring surveys should feed into ongoing consultation with the Edgbaston LNR committee, Birmingham City Council and Canal and Rivers Trust.</p>	<p>Monthly / Bi-monthly – Timing based on Consultants and Canal Rivers Trust guidance</p> <p>Monthly monitoring surveys</p> <p>Ongoing</p>

Action	Objective & Rationale	Method	Timings
3	<p>Installation of floating vegetation beds</p> <p>Provision of three floating vegetation islands along the western end of the reservoir, away from the water sports. These would be created using an anchor weight which would hold the island in place, rather than constructing into the reservoir itself. The anchorage would be stainless steel and weighted proportionally to the size/fetch of the island. This habitat creation would assist in improving water quality while providing undisturbed platforms for nesting birds.</p> <p>The design of the islands would be reviewed and signed off by a reservoir engineer, to ensure the issue of health and safety, safety during flooding and potential to block the water discharge point from the reservoir has been addressed.</p>	<p>Review options of installing three floating vegetation island along the western bank edge, to be approved by a reservoir engineer.</p> <p>Annual maintenance would be required to repair any impact from wave and geese damage.</p>	<p>Opportunity - When resources available.</p> <p>Design and costing can be reviewed ready for when resources become available for enhancement.</p>
4*	<p>Identification of Blue-green algae within the Reservoir.</p> <p>Blue-green algae have been identified within the reservoir in previous years. As the blue-green algae can be harmful to members of the public, pets and wildlife, it is important to identify whether this is present within the reservoir and undertake management solutions to prevent the algae bloom.</p> <p>The water quality testing should be undertaken to identify the specific algae present and bespoke management solution should be put in place to prevent algae growth.</p>	<p>Water sampling should be undertaken regularly by an experienced consultant to monitor any possible health and biodiversity impacts. Any issues raised should be dealt with in a timely and appropriate manner.</p> <p>Sample points, quantity and locations would be determined in consultations with Canal Rivers Trust and Contractors.</p> <p>The results from the water quality testing should be used to determine the necessary preventative solution which could include aeration within the reservoir through floating fountains and or algae treatments.</p>	Ongoing
Running stream			
5	<p>Open up the banksides of the northern feeder brook to create natural banks edges</p> <p>There is potential to re-naturalise the northern brook by opening up the manmade structure to a natural substrate and installing marginal planting. This would create a valuable open water habitat for birds such as Grey Wagtail. However, as this</p>	<p>Undertake an investigation on whether the reservoir feeder can be re-naturalised.</p>	Opportunity

Action		Objective & Rationale	Method	Timings
	and marginal planting.	is the feeder for the reservoir there is likely engineering and safety issues which would be needed to be investigated first.		
Hedgerows				
6*	Infill northern and western hedgerow with species-rich native species	The northern and western boundary hedgerows although linear in nature, have gaps within their structure which have formed through current management practices. These gaps should be infilled to reinstate dense and intact linear features, with sympathetic management undertaken. By doing so it will encourage regeneration and enhance foraging and nesting resources of the hedgerow for local bird and invertebrate populations.	Where large gaps have formed, locally sourced native species should be planted. Once the infilled species have become established, the hedgerows should be subject to sympathetic management.	Autumn – Winter 2021
7	Create two former boundary hedgerows	Along two portions of the northern boundary lies areas of boundary scrub which appears to be remnants of a former hedgerow. To recreate this valuable linear structure, it is recommended that native species are planted along the boundary between the existing gaps in the scattered scrub. Once the species have become established, the hedgerow should be placed under sympathetic management designed to retain a wide linear structure	Native species to be planted along the specific portion of the northern boundary to recreate a former hedgerow. Once tree species are established, the features should be subject to sympathetic management.	Opportunity
Grassland				
8*	Creation flower-rich 'meadow' type grassland areas	Currently, much of the parkland is mown regularly for amenity use. While some floristic diversity is found within the grassland, the current management restricts structural and floral composition. Therefore, to enhance grassland sward diversity, strips and boundary scallops, away from the main areas used by the public, should be placed under	Areas of the grassland should be identified and subject to the below management practice. Following ground preparation, a species-rich grassland mix should be added to the sward in either August to September or March to April. The following management method should then be followed:	Spring 2022

Action		Objective & Rationale	Method	Timings
		<p>a traditional hay meadow management.</p> <p>This action will not only improve habitat quality but provide increased foraging habitat for invertebrates.</p>	<p>I. Leave area uncut from November – August.</p> <p>II. Cut & remove arisings in the first week of August.</p> <p>III. Gang mow & remove arisings August – October.</p>	
9	Installation of 'Insect Friendly' wildflower strips	<p>To enhance areas for wildlife, where grassland through its amenity use and management are species-poor, strips of wildflower planting with nectar and pollen-rich plant species can be selectively placed within the formal areas to provide season-long foraging.</p>	<p>Two strips would be installed within the amenity grassland areas in the southern portion of the LNR with native species known to be nectar and pollen source.</p> <p>There is opportunity to use raised bed currently holding ornamental planting adjacent to Reservoir road, which holds limited ecological value, and transformed it into a wildflower strip.</p> <p>The strips would need to be maintained regularly to prevent competitive species from dominating the sward.</p>	Opportunity
10	Installation of edible formal plant beds	<p>To enhance areas for wildlife that are used regularly by the public, while also providing community involvement, there is an option to install formal plant beds that can be planted within edible plant species, such as Wild mint and Wild strawberry to provide season-long foraging for bird species, but allows the community to use the flower beds.</p> <p>A number of flower beds should also be raised to allow easy access for wheelchair users or other members of the public that may have limited movement.</p>	<p>Two planters should be installed along the western and southern park area, respectively, to include edible plant species.</p> <p>The planters would need to be maintained regularly to prevent competitive species from dominating the sward.</p>	Opportunity
Willow scrub / marginal vegetation				
11*	Regularly coppicing of Willow scrub and individual trees	<p>The regular coppice of willow scrub would promote the health and growth of the willow.</p> <p>The cut material can be used for educational events within Edgbaston Reservoir and the</p>	<p>The hazel and willow trees onsite should be rotational coppiced every 5 years.</p>	Autumn – Winter 2021

Action		Objective & Rationale	Method	Timings
12*	Scrub planting (including Willow, Hazel, Alder, Hawthorn, Blackthorn and Rowan)	potential Birmingham Settlement community area. Additional planting of scrub trees should be Undertaken along the shoreline in the north western corner and western side of the Reservoir to create undisturbed areas of habitat, through dense vegetation restricting access for public and dogs.	Installation of scrub trees on the north-western corner and western side of the reserve to create a dense barrier to undisturbed areas.	Autumn – winter 2021
13	Reed bed creation	To increase the potential for nesting and foraging for waterfowl, such as Great Crested Grebe's and Reed Buntings, while also creating increased semi-natural habitat around the reservoir, block areas of Common Reed should be planted along the shoreline.	20m blocks of Common Reed should be planted along the north-western and southern boundaries of the reservoir. These would need to be maintained to ensure against the impact of Geese and water fluctuations.	Spring 2022
		This would also increase vegetation along the bank without impeding aesthetic views across the reservoir.		
14*	Wet Woodland management	The wet woodland present within the south-eastern section of the reservoir requires limited management intervention, however, woodland thinning should be undertaken every five years to a small extent to open up the habitat and create structural variation, age diversity and natural regeneration.	Thinning should be undertaken to a small extent to open up the habitat and create structural variation, age diversity, and natural regeneration every five years.	Every five years Opportunity
		To further enhance species diversity marginal species such as Common Reed	Common reed and other marginal plantings to be installed within the wet woodland.	
		could be planted within the habitat to increase species diversity.		
Woodland / Orchard / scrub				
15*	Selective thinning of the broadleaved woodland	The woodland plantations are over shaded by semi-mature to mature trees which are restricting understorey and ground flora species growth in numerous areas.	Selective thinning of the canopy can be undertaken in conjunction with the tree management processes and tree safety inspections.	Autumn-winter
		To increase the light levels to allow for the diversification of the understorey and field layer,	Where light levels are increased, planting of native species such as Hawthorn, Blackthorn,	

Action	Objective & Rationale	Method	Timings	
	thinning of the canopy would be recommended.	Hazel and Elder will improve the structure and species composition of the understory. While field-layer planting of woodland species will provide greater available habitat for invertebrates.		
16*	<p>Sympathetic management of the Orchard</p>	<p>Within the northern area of the reserve lies two small orchard area with young apple trees. Both areas provide an opportunity to create shared wildlife and public area.</p> <p>The apple trees should be managed through annual checks to ensure their health with works undertaken, if necessary.</p> <p>Windfall fruit should be left in situ as a wildlife foraging resource, however, fruit should be available for the public to pick.</p> <p>The grassland surrounding the orchard should be managed as a traditional hay meadow orchard creating an ideal habitat for invertebrate, mammals and birds and an aesthetic beautiful habitat for the public to interact with.</p>	<p>Tree works to be carried out by a qualified arboricultural consultant. Any recommendations specified by the consultant to be undertaken by Birmingham City Council.</p> <p>Windfall fruit to be left in situ.</p> <p>The grassland to be managed using a traditional hay meadow management method:</p> <ol style="list-style-type: none"> I. Leave area uncut from November – August. II. Cut & remove arisings in the first week of August. <p>Gang mow & remove arisings August – October.</p>	Annually
17*	<p>Retain and enhance a diverse woodland edge habitat</p>	<p>Currently, there is little variation along the plantation woodland edges, where the woodland suddenly becomes grassland. Woodland edges have the capacity to be of high ecological value due to the light levels and the high variation in age structure and species diversity that can be present.</p> <p>As such, it would be recommended, where possible, management works should be designed to retain the edge habitat providing structural and species diversity and further foraging and nesting habitat for local bird populations.</p>	<p>The woodland edge habitat should be cut annually for maintenance, through the implementation of a rotational cut of the immature scrub along the woodland boundary to ensure a variation of immature to semi-mature species. Annual cut should remove between 20 and 30% each year to create a mosaic varying in age and structure.</p>	Autumn-winter 2021-2022.
18*	<p>Restrict further growth of scrub habitat to retain</p>	<p>Surrounding the northern orchard area lies a large extension area of scrub and tall ruderal habitat adjacent to the boundary hedgerows and within</p>	<p>Dense areas of scrub should be cut back to a specified level. Once the level has been achieved, it would be placed in check through</p>	Annually, late July to early August

Action	Objective & Rationale	Method	Timings
	<p>grassland habitat</p> <p>an area on the western boundary. These habitats are beginning to encroach within the open space areas.</p> <p>It should be noted that this habitat does provide important foraging and nesting habitat from nesting birds. However, retaining a diverse habitat mosaic with a variety of habitat is of key importance.</p> <p>To retain and control spread the scrub habitat the habitat should be undertaken to selectively cut back to an identified area and then managed by an annual cut.</p>	<p>an annual cut.</p>	
19*	<p>Reduce and maintain bracken growth</p>	<p>The bracken habitat within the open space does provide an additional habitat within the LNR. However, Bracken can easily out-compete other species and spread throughout the habitat as such there is a need to control its spread.</p>	<p>Bracken should be annually cut which can be undertaken in conjunction with scrub management.</p> <p>Annually</p>
20	<p>Remove Snowberry and Cotoneaster</p>	<p>The non-native species Snowberry and Cotoneaster which tends to spread within a habitat was found to be present on-site on the southern woodland plantation, respectively. It is recommended that both species are removed from the site.</p>	<p>A suitably trained and experienced individual should remove or treat the individuals with an appropriate herbicide.</p> <p>Spring and late summer 2022</p>
21	<p>Remove Cherry Laurel from the southern woodland understory</p>	<p>The tree species Cherry Laurel is present occasional within the southern central woodland plantation. This species can be detrimental to the ecological value of woodlands through the outcompeting of other understory species and the shading out of native flora. Therefore, management should be undertaken to monitor and restrict the growth of these species.</p>	<p>Where possible, works should be undertaken to remove Cherry Laurel within the woodland, following the below methodology.</p> <p>Selectively remove (killing stumps with stump grinders or with herbicide) as many individuals (of all ages) as is reasonable (i.e. retain a full canopy and retain aesthetic quality). Remove all regeneration and young trees annually.</p> <p>Where management cannot be undertaken to remove the competitive species, management should be undertaken to restrict the spread of these species. This can be undertaken through</p> <p>Autumn-winter 2021-2022 (to aid identification it may be necessary to mark the trees earlier in the growing season). Regeneration & young trees can be removed all year.</p>

Action		Objective & Rationale	Method	Timings
			the continual process of removal of saplings and immature specimens within the surrounding areas of the competitive species.	
Parkland				
22	Planting native fruit and nut-bearing trees	To increase species diversity within the reservoir, native fruit trees can be planted within the LNR This has the additional benefit of providing additional amenity value for users of the park.	Install native fruit and nut-bearing tree within the open parkland areas.	Opportunity
23	Plant areas of dense Hawthorn, Blackthorn and Rowan scrub	In addition to the planting of tree standards, area of immature scrub clusters could be planted within open space areas. To create variation within the parkland setting and increase habitat diversity, while also creating additional nesting and foraging resources for wildlife.	Install areas of scrub within the open areas as identified within the management plan.	Autumn-winter, when resources allow.
Site				
24	Update Phase 1 Habitat Survey	To monitor to the efficacy of the management practices, a comprehensive habitat survey should be undertaken to evaluate the habitat structure and species composition.	After a five-year period, a Phase 1 habitat survey should be undertaken to confirm the efficacy of the management actions undertaken and assess future management options and opportunity. This should be fed directly into the 5yr review of the management plan	2027
25*	Carry out tree safety inspections	It is a legal requirement that tree safety inspections are undertaken on areas of public open space	To be carried out by a qualified arboricultural consultant. Any recommendations specified by the consultant to be undertaken by Birmingham City Council	Annual inspection for hazard trees, with works undertaken every five years

10.3 Objective 3 – Maintain and enhance the site for known and potential wildlife populations

Due to the broad range of management prescriptions, subheadings have been used within the Management Prescription tables to provide clarification.

It should be noted that there a significant cross over between the management prescriptions from both Objective 2 and 3 as management works to improve habitat would be undertaken with respect to the species present. As such to prevent large amounts of duplication only significant management prescription for species have been noted in the table below.

Action	Objective & Rationale	Method	Timings
Specific Species Habitat Works			
1	<p>Reed bed creation</p> <p>To increase the potential for nesting and foraging for waterfowl such as Great Crested Grebe's and Reed Buntings, while also creating further semi-natural habitat around the reservoir, block areas of Common Reed should be planted along the shoreline.</p> <p>This would also increase vegetation along the bank without impeding aesthetic views across the reservoir.</p>	<p>20m blocks of Common Reed should be planted along the north-eastern and southern boundaries of the reservoir. These would need to be annually maintained against the impact of Geese and water fluctuations.</p>	Opportunity
2	<p>Installation of 'Insect Friendly' wildflower strips</p> <p>To enhance areas for wildlife, where grassland through its amenity use and management are low in species diversity, strips of wildflower planting with nectar and pollen-rich plant species can be selectively placed within the formal areas to provide season-long foraging.</p> <p>A species mix should be chosen that would provide a wide variety of nectar and pollen sources for invertebrates throughout the year.</p>	<p>Two strips would be installed within the amenity grassland areas in the southern portion of the reserve and one strip within the northern grassland area with native species known to be nectar and pollen source.</p> <p>The strips would need to be maintained regularly to prevent competitive species from dominating the sward.</p>	Opportunity
3	<p>Creating closed-off areas of from public for nesting birds</p> <p>To increase undisturbed areas for nesting birds along the Reservoir banks, scrub planting should be planted in specified areas to reduce public disturbance. This aims to increase the nesting success of birds within the Reservoir and create wildlife only areas.</p>	<p>Areas along the reservoir bank should be identified and planted within scrub species already present within the reserve such as Hawthorn, Blackthorn and Willow sp. These areas will be selected based on current nesting areas chosen by waterfowl and amenity and viewing use of the Reservoir</p>	Autumn – winter 2022

Action	Objective & Rationale	Method	Timings
4	<p>Infill northern and western hedgerow with species-rich native species</p>	<p>The northern and western boundary hedgerows although linear in nature, have gaps within its structure which have formed through current management practices. These gaps should be infilled to reinstate dense and complete linear features, with sympathetic management undertaken. By doing so it will encourage regeneration and enhance foraging and nesting resources of the hedgerow for local bird and invertebrate populations.</p>	<p>Where large gaps have formed, locally source native species should be planted.</p> <p>Two specified hedgerows, once the infill species have become established, should be subject to sympathetic management.</p> <p>Autumn - Winter</p>
5	<p>Willow scrub management and planting</p>	<p>The willow scrub along the edge of the reservoir shoreline provide nesting and sheltering habitat for nesting birds and wildfowler. As such management should be undertaken to enhance this habitat for these species. Regular coppicing of willow trees would promote the health and growth of the trees. The onsite hazel trees should be included within the management action.</p> <p>Additional planting of willow trees would increase the extent of the habitat and if placed well may assist in blocking small known areas of nesting from the public and dog walkers, which will increase nesting success.</p> <p>Further planting of scrub species such as Blackthorn and Hawthorn which can already be found in some areas of the willow scrub may also assist in deterring dogs from these areas.</p>	<p>The Willow and hazel onsite should be rotational coppiced every 5 years.</p> <p>Installation of willow trees on the north-western corner and western side of the reserve to create a dense barrier to undisturbed areas.</p> <p>Additional planting of Blackthorn and Hawthorn may be required to assist in creating undisturbed areas.</p> <p>Autumn – winter 2021</p>
6	<p>Installation of floating vegetation beds</p>	<p>Provision of three floating vegetation islands along the western end of the reservoir, away from the water sports. These would be created using an anchor weight which would hold the island in place, rather than constructing into the reservoir itself. The anchorage would be stainless steel and weighted proportionally to the size/fetch of the island. This habitat creation would assist in improving water quality while providing</p>	<p>Review options of the installation of three floating vegetation island along the western bank edge, to be approved by a reservoir engineer.</p> <p>Annual maintenance would be required to repair any impact from wave and geese damage.</p> <p>Opportunity - When resources available.</p> <p>Design and costing can be reviewed ready for when resources become available for enhancement.</p>

Action		Objective & Rationale	Method	Timings
		<p>undisturbed platforms for nesting birds.</p> <p>In addition, the introduction of planting within the reservoir will assist in improving water quality and habitat for fish species.</p> <p>The design of the islands would be reviewed and signed off by a reservoir engineer, to ensure the issue of health and safety, safety during flooding and potential to block the water discharge point from the reservoir have been addressed.</p>		
7	Plant areas of dense Hawthorn, Blackthorn and Rowan scrub and fruit trees	In addition to the planting of tree standards, area of immature scrub clusters could be planted within open space areas. To create variation within the parkland setting will create additional nesting and foraging resources for wildlife.	Install areas of scrub within the open areas as identified within the management plan.	Autumn-winter, when resources allow.
8	Water quality testing	<p>Monitoring of the water quality of the reservoir would determine the current status of the reservoir in terms of eutrophication, contamination and mineral build-up. As build-up could result in health and biodiversity implications in terms of users of the lake and the wildlife and habitats surrounding.</p> <p>These results can be used to determine the actions required to improve water quality and habitat for fish and waterfowl populations.</p>	<p>Water sampling should be undertaken regularly by an experienced consultant to monitor any possible health and biodiversity impacts. Any issues raised should be dealt with in a timely and appropriate manner.</p> <p>Sample points, quantity and locations would be determined in consultations with Canal Rivers Trust and Contractors.</p>	Monthly / Bi-monthly – Timing based on Consultants and Canal Rivers Trust guidance
Presence / Absence and Monitoring Surveys				
9*	Amphibians Surveys	A full comprehensive amphibian survey should be undertaken at Edgbaston Reservoir to ascertain amphibian population and distribution and determine any additional management practices to conserve and increase the population within the LNR.	<p>Amphibians surveys should be undertaken on the reservoir using Great Crested Newt survey methodology which will include terrestrial habitat survey and torch surveys. Four surveys would be undertaken to determine the presence of amphibian species.</p> <p>The survey results would be feed into the management plan to ensure appropriate habitat</p>	This survey should be undertaken between April and June. This survey should be undertaken every five years.

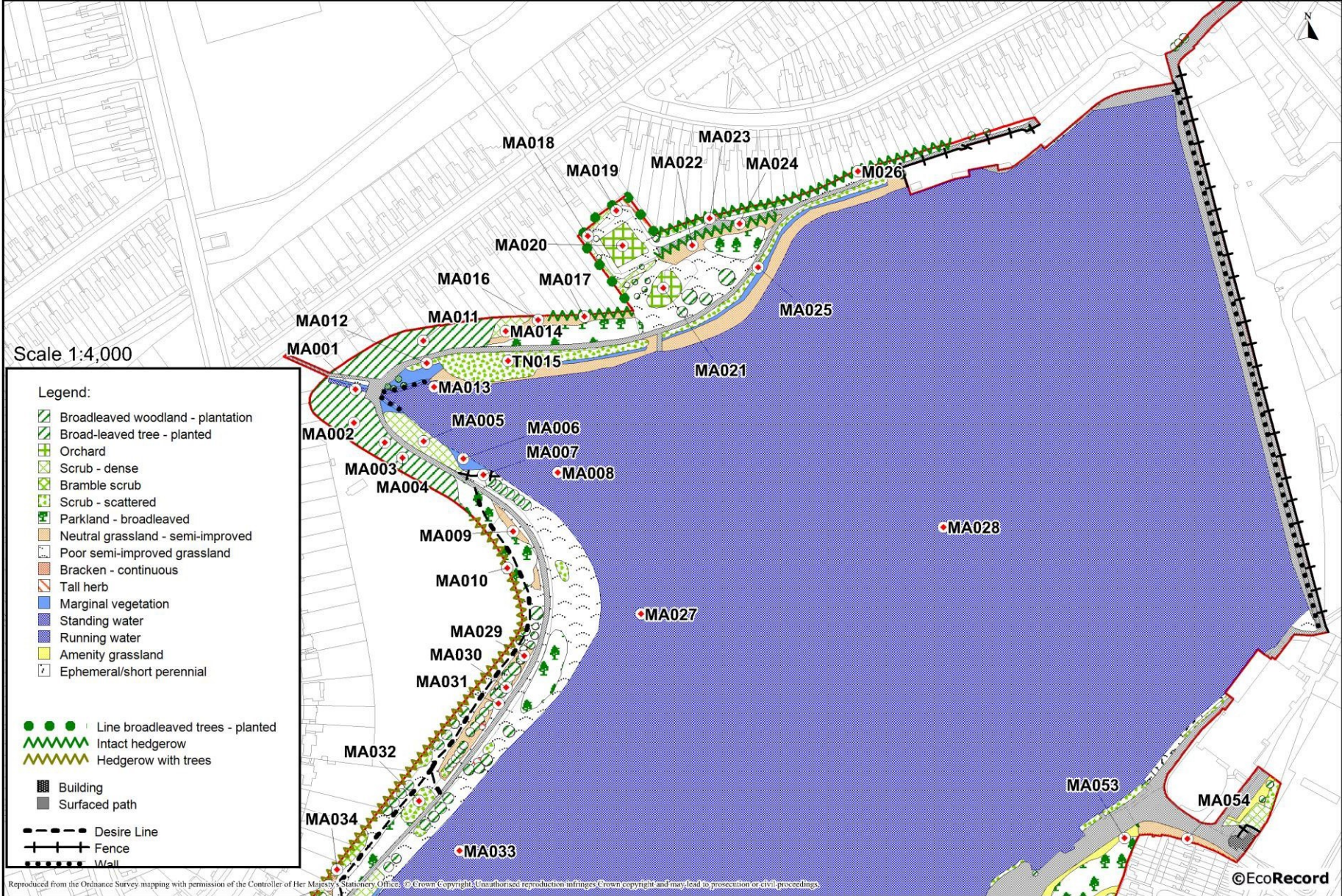
Action	Objective & Rationale	Method	Timings	
		enhancement and creation is undertaken in respect of present species.		
10	Invertebrate Surveys	<p>A full comprehensive invertebrate survey should be undertaken at Edgbaston Reservoir to ascertain invertebrate populations and determine additional management practices to conserve and increase the population within the LNR.</p>	<p>The comprehensive survey should be undertaken by a suitably qualified person, outlining local invertebrate population and recommend management prescriptions.</p> <p>By undertaking an invertebrate survey, population trends could be further monitored to ascertain the impact of habitat management on invertebrate populations.</p>	<p>The survey should be undertaken every five years between June – August.</p>
11*	Breeding Bird Surveys and overwintering bird surveys	<p>To further ascertain local bird population usage and fluctuations of the site, further species records, distribution and confirm the species on-site, a comprehensive survey should be undertaken.</p> <p>Breeding Bird Surveys would involve the undertaking of three early morning survey visits in April, May and June.</p> <p>Wintering Bird Surveys would involve up to four early morning surveys, one a month over November, December, January and February.</p>	<p>Breeding Bird and Wintering Bird Surveys should be undertaken following the British Trust for Ornithology (BTO) Breeding Bird methodology.</p>	<p>Three morning site visits between April to June and November to February undertaken, respectively. This should be undertaken annually.</p>
12*	Bat activity surveys	<p>Bat activity surveys would obtain a clear picture of the species using the site and their distribution throughout the year. These surveys could identify key commuting corridors for bats which would feed into the lighting design scheme and identify bat roosts.</p> <p>For comprehensive activity surveys, it is recommended to follow the methodology by the Bat Conservation Trust. However, this survey can also be run as an event/walk being led by an expert or undertaken by a group of volunteers with the correct equipment as a regular event.</p>	<p>Bat activity survey should be undertaken following a methodology based on the guidance in Bat surveys for Professional Ecologists: Good Practice Guidelines 3rd Edition (Bat Conservation Trust, 2016).</p> <p>For a comprehensive survey effort in terms of habitat suitability but also take into account time constraints, it would be recommended that the surveys follow the methodology of a low suitability habitat site and follow the same route.</p>	<p>Three activity transect routes should be undertaken every two years, one survey per season (Spring – April/May, Summer – June/July/August, Autumn – September/October).</p>

Action		Objective & Rationale	Method	Timings
		There is also potential to engage with local groups such as the Wildlife Trust or Brum Bats, the local Bat group to undertake surveys or run walks.		
13	Ground-level tree assessment for roosting bats	This survey would ascertain the presence of trees with suitability for roosting bats such as Woodpecker holes, cracks/splits in major limbs and cavities.	Ground-level tree assessment survey should be undertaken following a methodology based on the guidance in Bat Surveys for Professional Ecologists: Good Practice Guidelines 3 rd Edition (bat Conservation Trust, 2016).	Optimal time of the survey is Autumn.
14*	Fish survey	This survey would ascertain the fish species present within the reservoir. This would be reviewed in conjunction with water quality testing to determine whether water quality is having a detrimental effect on fish stock.	An eDNA survey would be undertaken at specific points around the reservoir by surveyors, which would be submitted for Laboratory analysis to determine the fish species present.	The survey should be undertaken every 5 years
15	Footprint Tunnel Surveys	To ascertain the presence of mammal species within the LNR. Footprint tunnel surveys should be undertaken throughout a year, quarterly. This survey can easily be undertaken by volunteer and engagement groups.	The surveys can be designed by suitably qualified ecologist outlining the methodology. However, the surveys can be undertaken by a community group as events or working group using low-cost equipment.	Seasonal surveys should be undertaken (Spring – April/May, Summer – June/July/August, Autumn – September/October).
Infrastructure				
16	Installation of bird watching screen	There is an opportunity to create closed-off areas of the reservoir shore using not only vegetation but also willow screening with viewing gaps. This would provide undisturbed blocked off areas but allow for bird watchers and the general public to watch waterfowl.	A willow screen can be placed along the western shoreline in an area which would not block the viewing but would provide viewing of one of the area to be closed off to the public.	Opportunity
17	Installation of bat and bird boxes	To increase nesting and roosting features for local bird and bat populations, bird and bat boxes should be installed throughout Edgbaston Reserve LNR.	5 bird and bat boxes should be placed throughout the site in suitable locations. The bat boxes should be of similar design to the 2F Schwegler Bat Box, while bird boxes should comprise of bird boxes with a range of hole sizes to ensure the provision of nesting habitat for a wide range of bird species.	2022

Action		Objective & Rationale	Method	Timings
18	Install insect and bee hotels	To increase potential habitat for local invertebrate species within the Edgbaston Reservoir, two insect and bee hotels can be installed along the edges of the parkland adjacent to regularly used footpaths. This could be undertaken in conjunction with volunteer group activities.	Two insect houses should be placed along the peripheries of the Reservoir in suitable locations.	2022
19	Installation of hedgehog boxes	To increase sheltering habitat for local European Hedgehog <i>Erinaceus europaeus</i> populations hedgehog boxes should be placed in less disturbed areas of the reservoir.	Hedgehog boxes could be placed within the northern and southern areas in suitable locations. These should be located in less disturbed areas.	In late 2021
Site Overview				
20*	Consideration of the lighting used within Edgbaston Reservoir	Current and future lighting placed within the reservoir should have consideration for bats commuting and foraging route, as increased lighting levels can restrict or reduce bats use of the reservoir as foraging resource and corridor.	Consideration of bats and the impact of the lighting should be given when reviewing current and future lighting within the reservoir. Guidance can be found within Bat Conservation Trust Bats and Artificial Lighting in the UK, not 08/18 document.	Ongoing
21	Policy on general public behaviour in respect to wildlife	Consideration should be given to engagement with the general public using the LNR and their interaction with wildlife. There is an opportunity to improve understanding of the need for wildlife such as having dogs on leads within areas birds and nesting, picking up litter and suitable food to feed waterfowl.	LNR committee to look into avenues to interact with the general public to provide a positive way to engage with the general public using the LNR and improve understanding of co-existing with wildlife.	Opportunity



Edgbaston Reservoir Local Nature Reserve: Objectives 2 and 3 management proposals (North)





Edgbaston Reservoir Local Nature Reserve: Objectives 2 and 3 management proposals (South)

Scale 1:4,000

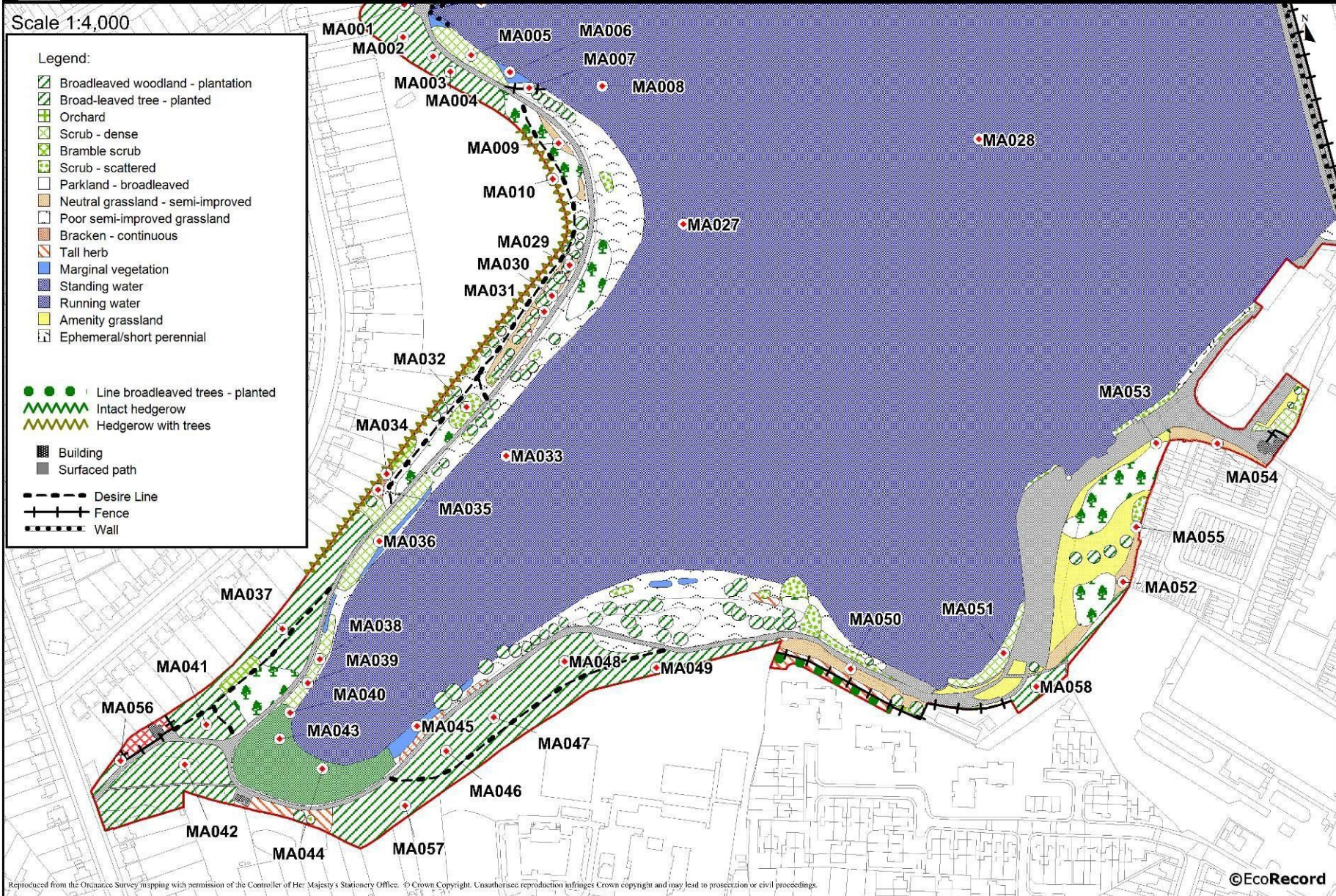
Legend:

- Broadleaved woodland - plantation
- Broad-leaved tree - planted
- Orchard
- Scrub - dense
- Bramble scrub
- Scrub - scattered
- Parkland - broadleaved
- Neutral grassland - semi-improved
- Poor semi-improved grassland
- Bracken - continuous
- Tall herb
- Marginal vegetation
- Standing water
- Running water
- Amenity grassland
- Ephemeral/short perennial

- Line broadleaved trees - planted
- Intact hedgerow
- Hedgerow with trees

- Building
- Surfaced path

- Desire Line
- Fence
- Wall



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Management Action Ref.	Target Note Description
MA001	Re-naturalise the feeder channel bankside and install marginal planting
MA002	Selective thinning of the Broadleaved woodland
MA003	Install 2 bird and bat boxes within the woodland
MA004	Install a hedgehog box
MA005	Willow scrub to subject to rotational coppice every five years
MA006	Reed bed creation
MA007	Installation of bird watching screen
MA008	Installation of floating vegetation bed
MA009	Grassland to be subject to 'traditional' hay meadow management
MA010	Infill any existing gaps within the hedgerow with native species and place under sympathetic management
MA011	Native understorey and field layer planting to be undertaken within the woodland
MA012	Area subject to planting of Hawthorn, Blackthorn, Alder and White Willow, to block easy access to the shoreline by the general public and create a bird refuge
MA013	Bird refuge area closed off to the general public
MA014	Retain and enhance woodland edge habitat, while restricting further encroachment of scrub into the grassland
MA015	Willow scrub to subject to rotational coppice every five years
MA016	Grassland to be subject to 'traditional' hay meadow management
MA017	Plant native tree species along the boundary fence between the existing semi-mature trees to recreate a former boundary hedgerow
MA018	Bracken should be annually cut to control the spread
MA019	Cut back scrub to the specified level and restrict further encroachment into the parkland
MA020	Pruning of apple trees should be undertaken to promote health and fruiting, while the grassland should be subject to 'traditional' meadow management
MA021	Pruning of apple trees should be undertaken to promote health and fruiting, while the grassland should be subject to 'traditional' meadow management
MA022	Installation of 'insect-friendly' wildflower strip
MA023	Plant native tree species along the boundary fence between the existing semi-mature trees to recreate a former boundary hedgerow
MA024	Infill defunct hedgerow with native species and place under sympathetic management
MA025	Willow scrub to subject to rotational coppice every five years
MA026	Infill defunct hedgerow with native species and place under sympathetic management
MA027	Installation of floating vegetation bed
MA028	Water quality testing of the Reservoir
MA029	Grassland to be subject to 'traditional' hay meadow management
MA030	Install insect and bee hotels
MA031	Install flower beds (some of which can be raised for wheelchair access) to planted with edible plants for community involvement
MA032	Plant immature scrub species, such as Hawthorn, Blackthorn and Rowan, between the semi-mature trees, to increase nesting and foraging resources for nesting birds
MA033	Installation of floating vegetation bed
MA034	Retain and enhance woodland edge habitat, while restricting further encroachment of scrub into the grassland
MA035	Bracken should be annual cut to control spread
MA036	Willow scrub to subject to rotational coppice every five years
MA037	Native understorey and field layer planting to be undertaken within the woodland
MA038	Planting of White Willow, Hawthorn and Alder to create a dense scrub area, deterring the general public while creating bird refuge
MA039	Area should be subject to rotational coppice every five years

MA040	Bird refuge area closed off to the general public
MA041	Install a bird and bat box within the woodland
MA042	Selective thinning of the Broadleaved woodland
MA043	Area should be subject to rotational coppice every five years
MA044	There is an opportunity to enhance species diversity by planting additional marginal species within the woodland such as Common Reed
MA045	Planted extension of the existing reed bed within the adjacent wet woodland
MA046	Install 2 bird and bat boxes within the woodland
MA047	Native field layer planting to be undertaken within the woodland
MA048	Selective thinning of the Broadleaved woodland
MA049	Install a hedgehog box
MA050	Grassland to be subject to 'traditional' hay meadow management
MA051	Willow scrub to subject to rotational coppice every five years
MA052	'Insect Friendly Wildflower strip creation
MA053	Install flower beds (some of which can be raised for wheelchair access) to planted with edible plants for community involvement
MA054	'Insect Friendly Wildflower strip creation
MA055	Install insect and bee hotel
MA056	Remove Snowberry
MA057	Native understorey planting to be undertaken within the woodland
MA058	Remove Cotoneaster and Cherry Laurel from understorey

10.4 Objective 4 – Retain and maximise connectivity of Edgbaston Reservoir LNR to the wider landscape

Action	Objective & Rationale	Method	Timings
<p>1</p> <p>Edgbaston Reservoir should be considered in term of the local and national planning policy</p>	<p>Edgbaston LNR Committee should continue to meet regularly, with attendance from the main stakeholders to the Reserve and local area.</p> <p>The Committee should include consideration to National and Local Policy and be consulted, where relevant.</p> <p>In particular note is made to the Edgbaston Reservoir Supplementary Planning Document current in review and the national Environment Bill. Consideration should be given to whether the LNR could be considered as an offsite compensation area in regards to the future net gain policy currently in draft.</p>	<p>These discussions can be incorporated within the Edgbaston Reserve LNR committee as agenda items.</p> <p>However, should follow up meetings be required or a small group needed to take forward actions this can be undertaken as small working groups separate from the committee meeting.</p>	<p>Ongoing</p>
<p>2</p> <p>Improve boundary hedgerow and tree line</p>	<p>The northern boundary hedgerows are current defunct, while two boundary hedgerows have become an area of scattered scrub. These linear features can be reinstated or enhancement by plant native species within the gaps and along the boundary fencing and the undertake of sympathetic management to encourage regeneration and density.</p> <p>By doing so it will improve ecological connections across the site to the surrounding areas.</p>	<p>Where large gaps have formed, locally source native species should be planted. Once established the hedgerow should be subject to sympathetic management.</p>	<p>Autumn - Winter</p>
<p>3</p> <p>Consideration should be given to assess the Rotten Park Feeder Valley PSI against the Local Site assessment criteria, a separate unit or as an</p>	<p>This survey and assessment would assess Rotten Park Feeder Valley against the Birmingham and Black Country Local Site Assessment and determine whether the PSI meets the criteria to be deemed a SINC or SLINC.</p> <p>Consideration should be given whether Rotten Park Feeder Valley should be considered as a</p>	<p>Rotten Park Feeder Valley PSI should be subject to an assessment against the Birmingham and Black Country Local Site Assessment by a suitably qualified ecologist.</p>	<p>April – September</p>

Action	Objective & Rationale	Method	Timings	
	extension of the Edgbaston Reservoir SINC.	separate unit or as an extension of the Edgbaston Reservoir SINC as part of the assessment.		
4	Engagement with residents in terms of providing advice for creating habitat for wildlife	<p>Residential gardens play a component part of the ecological network within the local and wider landscape.</p> <p>Consideration should be given to engagement with local residents to improve their gardens for wildlife. This could be undertaken through engagement events and the Birmingham Settlement Community development adjacent to the Edgbaston Reservoir.</p>	LNR committee to look into avenues to interact with the local residents to promote wildlife-friendly gardens. This would likely be in the form of engagement events through community groups.	Opportunity

10.5 Objective 5 – Works towards further community engagement and education in regards to the Local Nature Reserve, its designation and biodiversity

Action		Objective & Rationale	Method	Timings
1	Install interpretation board within the LNR	<p>There is limited interpretation around the reservoir that describes the significance and value of the designation and the biodiversity present. A number of map-based interpretation panels should be produced that are tailored for the site and specific areas.</p> <p>Permanent and seasonal – three types to be installed site name with description, directional signs and interpretation boards.</p>	To be designed in conjunction with LNR committee. Contractor to produce and install.	Opportunity - When resources available.
2	Work with the Friends of Edgbaston Reservoir Group	<p>As the management plan will be prescribing detailed management operations to be undertaken with potential future project opportunities, there is a need to ensure that additional works, surveys and engagement activity can be undertaken.</p> <p>As the BCC parks team has limited capacity. There is an aim that a number of management actions including practical works, survey and events would be undertaken regularly by the volunteer group.</p> <p>As the Friends of Edgbaston Reservoir group is already established and community groups such as these have access to funding pots. It lies a good position to take on this role.</p>	<p>This action should be discussed and actioned within the LNR committee to determine whether the current Friends of Edgbaston Reservoir Group would be happy to take on this role or whether a collaboration of existing group would be more appropriate.</p> <p>The volunteer team would report the actions to the LNR committee to allow support and promotion of the activities to the wider public but also to work in the partnership with the BCC parks team.</p> <p>As one of the Wildlife Trusts Engagement Officers are already actively engaged with the community groups, the Wildlife Trust would seek to continue this role, to provide assistance, if necessary.</p>	April 2020 – December 2021
3	Practical Conservation Tasks	As part of the role of the Friends of Group, work party days will be set up to undertake habitat creation and maintenance within green space areas. This would include scrub management, wildflower planting, and green hay strewing.	Co-ordinated by Birmingham City Council Parks Team and community groups. The requirement of training and equipment would need to be investigated.	Opportunity
4	Fauna and Flora Surveys	Community group and stakeholders have the opportunity to lead on a series of nature-focused	These events would be managed by Community groups or specific stakeholders, in conjunction	Opportunity

Action		Objective & Rationale	Method	Timings
		walks and talks and species surveys, such as breeding bird and bat activity survey.	with other groups such as Brumbats, Birmingham, depending on the suggested event.	
5	litter picking scheme	The friends of group and or other community groups have the opportunity to undertake regular litter picking session, every two months, to manage the levels of the litter with the estate areas.	These events would be managed by Community groups or specific stakeholders	Opportunity
6	Public Engagement: Nature Focused walks and talks	<p>Edgbaston Reservoir provides a wide variety of habitats with numerous fauna and flora known to be present, as such the site provides ample opportunities to engage with the public on the site in terms of the wildlife present, but also providing details on the habitat management undertaken to enhance its biodiversity.</p> <p>These events could include:</p> <ul style="list-style-type: none"> • Bat walk; • Breeding or Wintering bird talks; and • Habitat management talks. 	These events would be managed by Community groups or specific stakeholders, in conjunction with other groups such as Brumbats, Birmingham, depending on the suggested event.	April 2020 – December 2021
7	Nature Focused: one-off event conservation activities	<p>In addition, to regular volunteer days open to all residents, it would be supportive to run one-off conservation task days.</p> <p>This could involve the creation of a hibernaculum, installing plants or undertaking wildlife surveys.</p>	Would be managed and organised by community groups and or stakeholders	Opportunity
8	National ecological events	<p>There is an opportunity for the Edgbaston Reserve LNR committee to engage with national events such as RSPB's Big Garden Birdwatch and City Nature Challenge.</p> <p>These can be undertaken by individuals, but also can be run as an event so people with more limited knowledge can improve their identification skills and the events can become a social occasion.</p>	These events could be organised by the LNR committee, stakeholders or other community groups, in conjunction with other groups depending on the specific event.	Ongoing

Action	Objective & Rationale	Method	Timings
9	<p>Work with Birmingham settlement community hub</p> <p>Within Selwyn Road Field adjacent to the LNR, Birmingham Settlement are currently developing a community hub, which will be publicly accessible from the western boundary of the LNR.</p> <p>This community hub will provide the LNR and the general public with facilities not currently available.</p>	<p>Partnership working with the LNR committee and Birmingham settlement proposed development to allow the potential use of the building for engagement events and community groups.</p>	<p>Opportunity.</p>
10	<p>Policy on general public behaviour with respect to the reserve</p> <p>Consideration should be given to engagement with the general public using the LNR and their interaction with their use of LNR.</p> <p>This could include the use of BBQs on site and angling.</p>	<p>LNR committee to look into avenues to interact with the general public in the use of the LNR such as angling rules and use of BBQs.</p>	<p>Opportunity</p>
11	<p>Engagement with residents in terms of providing advice for creating habitat for wildlife</p> <p>Residential gardens play a component part of the ecological network within the local and wider landscape.</p> <p>Consideration should be given to engagement with local residents to improve their gardens for wildlife. This could be undertaken through engagement events and through the Birmingham Settlement Community development adjacent to the Edgbaston Reservoir.</p>	<p>LNR committee to look into avenues to interact with the local residents to promote wildlife-friendly gardens. This would likely be in the form of engagement events through community groups.</p>	<p>Opportunity</p>
12	<p>Work towards better communication with stakeholders and water users</p> <p>With aims to increase usage of the reservoir,, it will be pivotal to ensure good communication between stakeholders and water users, to ensure commercial businesses and public users can use the water space in conjunction with each other as usage increases.</p>	<p>Stakeholders and water users should set up a direct line of communication in regards to water usage, which can monitor usage and monitoring any impacts from increased usage.</p>	<p>Ongoing</p>
13	<p>Ongoing Visitor monitoring and survey</p> <p>Biannual visitor survey should be undertaken to monitor the increase in visitor usage of the LNR. It should be designed to monitoring the potential impact of increased usage of the LNR and the</p>	<p>Visitor surveys, including counts and survey forms, should be undertaken every two years.</p>	<p>Every two years.</p>

Action	Objective & Rationale	Method	Timings
	investment requirement needed to maintain the quality of the LNR.		

11. Schedule of Habitat Works

11.1 Yearly timeframe of habitat works

Job description	Scheduled year					Key Deliverer
	2021	2022	2023	2024	2025	
Water quality testing*	X	X	X	X	X	BCC
Monthly monitoring surveys on the impacts of water fluctuations	X	X	X	X	X	TBC
Installation of floating vegetation beds		X				Funder
Annual maintenance of the floating vegetation beds			X	X	X	BCC
Hedgerow management – Infill existing gaps with native species*	X					Community group
Creation of two hedgerows along the northern boundary		X				Community group
Hedgerow management – sympathetic management designed to create a wide and dense corridor*	X	X	X	X	X	BCC
Ground preparation and re-seeding of designated grassland area to create species rich grassland*	X					BCC
Annual traditional meadow cut*	X	X	X	X	X	Community group
Amenity grassland cut*	X	X	X	X	X	BCC
Installation of 'Insect Friendly' wildflower strips		X				BCC with community group
Annual maintenance of wildflower strips			X	X	X	Community group
Installation of edible formal plant beds		X				Community group
Annual maintenance of edible formal plant beds			X	X	X	Community group
Coppicing of Willow scrub and individual trees*	X					Joint BCC + community group
Wet Woodland thinning*	X					BCC
Scrub planting (including Willow, Hazel, Alder, Hawthorn, Blackthorn and Rowan)*	X					Joint BCC + community group
Reed bed creation and planting		X				Community group
Woodland - Selective thinning*	X			X		BCC

Woodland - Understorey and field layer species planting		X				Community group
Prune fruit trees within orchard in accordance with individual species guidelines*	X	X	X	X	X	BCC
Annual rotational cut of woodland edge*	X	X	X	X	X	BCC
Annual rotational cut of dense scrub area*	X	X	X	X	X	BCC
Annual cut of onsite Bracken*	X	X	X	X	X	BCC
Removal of non-native species from woodland plantations	X	X				BCC
Tree safety inspection*	X	X	X	X	X	BCC
Tree safety – main works*					X	BCC

11.2 Standard Habitat Creation Methods and Species Mixes

Standard 'outline methodologies' and 'species mixes' are referred to in the enhancement proposals tables. Standard methodologies are proposed as guidelines only and further detailed project planning should be undertaken prior to delivery of the proposed habitat and enhancement works in any given location. Similarly, species mixes are given for guidance only and should be seen as a 'palette' to select from in the design of any individual habitat creation or enhancement action.

Outline meadow creation methodology

Ground preparation

- Topsoil should not be imported. Soils should be sampled to ensure macro-nutrient levels are below agreed thresholds.
- Not necessary (or even advisable) to cultivate the receptor site. If the site is already largely bare, a light chain harrowing may be necessary. If the soil is heavy and compacted, a light disk harrow should be considered.
- If there is existing vegetation of annuals, mow before the seed has set, remove and chain harrow (or disk harrow on heavy soil).
- If there is a vegetation of perennial forbs or grasses, it will be necessary to create bare conditions: cut and clear well before the introduction, allow regrowth, and then kill the regrowth using glyphosate whilst still very short but developing leaf.

Sowing seeds

- An alternative to green hay strewing is to sow a species-rich seed mixture after preparing the ground. This can be done to create a species-rich meadow habitat or marshy grassland area dependent on the seed mixture chosen.
- In seeds can be sown directly to sow in Autumn ideally by scattered on the identified area. The sowing rate should be approximately 2-4g /m².

Meadow Species list

Species	Common Name
<i>Achillea millefolium</i>	Yarrow
<i>Agrimonia eupatoria</i>	Agrimony
<i>Agrostis capillaris</i>	Common Bent
<i>Betonica officinalis</i>	Betony
<i>Centaurea nigra</i>	Common Knapweed
<i>Centaurea scabiosa</i>	Greater Knapweed
<i>Cynosurus cristatus</i>	Crested Dog's tail
<i>Daucus Carota</i>	Wild Carrot
<i>Festuca rubra</i>	Red Fescue
<i>Galium verum</i>	Lady's Bedstraw
<i>Geranium pratense</i>	Meadow Crane's-bill
<i>Knautia arvensis</i>	Field Scabious
<i>Leontodon hispidus</i>	Rough Hawkbit
<i>Leucanthernum vulgare</i>	Oxeye Daisy
<i>Lotus corniculatus</i>	Bird's foot Trefoil
<i>Medicago lupulina</i>	Black Medick

<i>Origanum vulgare</i>	Wild Marjoram
<i>Poa pratensis</i>	Smooth-stalked Meadow-grass
<i>Poterium sanguisorba</i>	Salad Burnet
<i>Prunella vulgaris</i>	Selfheal
<i>Rhinanthus minor</i>	Yellow Rattle
<i>Vicia cracca</i>	Tufted Vetch

Subsequent management:

The following management should be implemented from the year. This method is designed to mimic traditional hay meadow management:

1. Leave area uncut from November – August.
 2. Cut & remove arisings in the first week of August.
 3. Gang mow (removing arisings if possible) August – October.
- If there is an extensive problem with non-target perennial species such as Broad-leaved Dock or Nettle, then localised herbicide may be applied during the autumn or spring growing season.

Amenity trees and shrubs

Trees to be planted as individuals or as lines for landscape purposes should be selected for their value to wildlife as well as their aesthetic value and management requirements. The following table of native and non- native trees flower (and therefore provide pollen and nectar) at different times of the year and a combination of these will therefore provide a wider range of feeding opportunities throughout the growing season. Additional trees in the species list below are predominately wind-pollinated (though pollen may also be collected by some insects) but provide food sources and other benefits to fauna, and should also be considered. Cultivated varieties of fruit trees including Apple, Quince, Medlar, and Pear should also be considered.

March	Cherry Plum (int.), Wild Plum (int.)
April	Field Maple, Crab Apple, Bird Cherry, Wild Cherry, Wild Pear (int.)
May	Alder Buckthorn, Hawthorn, Rowan, Holly, Common Whitebeam
June	Wild Service-tree, Small-leaved Lime, Guelder Rose, Tulip Tree (int.)
July	Large-leaved Lime, Sweet Chestnut (int.)
August	
September	
October	Strawberry Tree (int.)

N.b. Month of flowering is indicative only, int. = non-native introduction.

Species list

Species	Common Name
<i>Acer campestre</i>	Field Maple
<i>Alnus glutinosa</i>	Alder
<i>Arbutus unedo</i>	Strawberry Tree (int.)
<i>Betula pendula</i>	Silver Birch
<i>Castanea sativa</i>	Sweet Chestnut (int.)

<i>Corylus avellana</i>	Hazel
<i>Frangula alnus</i>	Alder Buckthorn
<i>Liriodendron tulipifera</i>	Tulip Tree (int.)
<i>Malus sylvestris</i>	Crab Apple
<i>Prunus avium</i>	Wild Cherry
<i>Prunus cerasifera</i>	Cherry Plum (int.)
<i>Prunus padus</i>	Bird Cherry
<i>Prunus pyraster</i>	Wild Pear (int.)
<i>Quercus robur</i>	Pedunculate Oak
<i>Sorbus aria</i>	Common Whitebeam
<i>Sorbus aucuparia</i>	Rowan
<i>Sorbus torminalis</i>	Wild Service-tree
<i>Tilia cordata</i>	Small-leaved Lime
<i>Tilia platyphyllos</i>	Large-leaved Lime
<i>Viburnum opulus</i>	Guelder Rose

'Insect Friendly' wildflower strip species mix

Flower beds designed to provide insect-friendly species will offer an opportunity to enhance opportunities for wildlife within managed areas of parkland and amenity grassland. The following table provided a list of attractive flora species that provides pollen and nectar for a wide range of species. It is recommended that each strip is planted with a wide range of species to ensure that there are feeding opportunities for invertebrates throughout the season.

Species	Common Name
<i>Betonica officinalis</i>	Betony
<i>Centaurea nigra</i>	Common Knapweed
<i>Centaurea scabiosa</i>	Greater Knapweed
<i>Daucus Carota</i>	Wild Carrot
<i>Digitalis purpurea</i>	Foxglove
<i>Dipsacus fullonum</i>	Teasel
<i>Eupatorium cannabinum</i>	Hemp Agrimony
<i>Hypericum perforatum</i>	Perforate St John's Wort
<i>Knautia arvensis</i>	Field Scabious
<i>Origanum vulgare</i>	Wild Marjoram
<i>Papaver rhoeas</i>	Common Poppy
<i>Pastinaca sativa</i>	Wild Parsnip
<i>Poterium sanguisorba</i>	Salad Burnet
<i>Primula veris</i>	Cowslip
<i>Prunella vulgaris</i>	Selfheal

<i>Silene dioica</i>	Red Campion
<i>Silene flos-cuculi</i>	Ragged Robin
<i>Silene latifolia</i>	White Campion
<i>Symphytum officinale</i>	Comfrey

Edible formal plant bed mix

Formal plant beds designed to provide a balance between community involvement and provision of foraging areas for wildlife will enhance areas of managed parkland. The following table provided a list of a number edible floral species which also provides pollen and nectar for a wide range of species. It is recommended that each planter is planted with a wide range of species to ensure that there are feeding opportunities throughout the season.

Species	Common Name
<i>Aegopodium podagraria</i>	Ground elder
<i>Alliaria petiolata</i>	Garlic mustard
<i>Angelica sylvestris</i>	Wild Angelica
<i>Cardamine hirsuta</i>	Hairy bittercress
<i>Fragaria vesca</i>	Wild strawberry
<i>Mentha arvensis</i>	Wild mint
<i>Rumex acetosa</i>	Common sorrel
<i>Stellaria media</i>	Chickweed
<i>Taraxacum officinale</i>	Dandelion

Woodland Plantations

Existing woodlands plantations should be improved with the aim of creating woodland which is similar in composition and structure to local old (or ancient as defined by Natural England) 'reference' woodlands.

Woodlands should therefore be comprised of a canopy of mature 'standard' trees with an understorey of shrubs and multi-stemmed trees. Such structural diversity is aesthetically attractive, allows access, and will enable a greater diversity of flora and fauna species to colonise and utilise the woodland. The onsite woodland plantations are dominated by mature broadleaved trees that have heavily shaded out much of the understorey and field layer species in many areas, as such the woodlands would benefit from an introduction of diverse native species within both layers.

Woodland tree and shrub species mix

Species	Common Name
<i>Acer campestre</i>	Field Maple
<i>Aesculus hippocastanum</i>	Horse-chestnut
<i>Betula pendula</i>	Silver Birch
<i>Corylus avellana</i>	Hazel
<i>Fagus sylvatica</i>	Beech
<i>Frangula alnus</i>	Alder Buckthorn
<i>Lonicera periclymenum</i>	Honeysuckle

<i>Malus sylvestris</i>	Crab Apple
<i>Prunus avium</i>	Wild Cherry
<i>Quercus robur</i>	Pedunculate Oak
<i>Quercus petraea</i>	Sessile Oak
<i>Rosa canina</i>	Dog-rose
<i>Salix alba</i>	White Willow
<i>Sambucus nigra</i>	Elder
<i>Sorbus aucuparia</i>	Rowan
<i>Taxus baccata</i>	Yew
<i>Tilia cordata</i>	Small-leaved Lime
<i>Tilia europaea</i>	Common Lime
<i>Ulmus procera</i>	English Elm
<i>Viburnum opulus</i>	Guelder Rose

Woodland field-layer plant species mix

Species	Common Name
<i>Adoxa moschatellina</i>	Moschatel
<i>Alium ursinum</i>	Ramsons
<i>Anemone nemorosa</i>	Wood Anemone
<i>Brachypodium sylvaticum</i>	False Brome
<i>Bromopsis ramosa</i>	Hairy-brome
<i>Carex sylvatica</i>	Wood-sedge
<i>Chrysosplenium oppositifolium</i>	Opposite-leaved Golden-saxifrage
<i>Conopodium majus</i>	Pignut
<i>Digitalis purpurea</i>	Foxglove
<i>Galium odoratum</i>	Woodruff
<i>Geum urbanum</i>	Wood Avens
<i>Glechoma hederacea</i>	Ground-ivy
<i>Hyacinthoides non-scripta</i>	Bluebell
<i>Lamiaeum galeobdolon</i>	Yellow Archangel
<i>Linaria vulgaris</i>	Common Toadflax
<i>Lonicera periclymenum</i>	Honeysuckle
<i>Lysimachia nemorum</i>	Yellow Pimpernel
<i>Melica uniflora</i>	Wood Melick
<i>Millium effusum</i>	Wood Millet
<i>Oxalis acetosella</i>	Wood-sorrel

<i>Primula vulgaris</i>	Primrose
<i>Silene dioica</i>	Red Campion
<i>Stellaria holostea</i>	Greater Stitchwort
<i>Veronica montana</i>	Wood Speedwell
<i>Viola riviniana</i>	Common Dog-violet

Hedgerow tree and shrub mix

Species	Common Name
<i>Acer campestre</i>	Field Maple
<i>Castanea sativa</i>	Sweet Chestnut
<i>Corylus avellana</i>	Hazel
<i>Crataegus monogyna</i>	Hawthorn (60-70%)
<i>Ilex aquifolium</i>	Holly
<i>Lonicera periclymenum</i>	Honeysuckle
<i>Malus sylvestris</i>	Crab Apple
<i>Prunus spinose</i>	Blackthorn
<i>Quercus robur</i>	Pedunculate Oak
<i>Quercus petraea</i>	Sessile Oak
<i>Rosa canina</i>	Dog-rose
<i>Rubus idaeus</i>	Raspberry
<i>Sambucus nigra</i>	Elder
<i>Sorbus aucuparia</i>	Rowan
<i>Viburnum opulus</i>	Guelder Rose

Hedgerow field-layer plant mix

Species	Common Name
<i>Anemone nemorosa</i>	Wood Anemone
<i>Brachypodium sylvaticum</i>	False Brome
<i>Galium odoratum</i>	Woodruff
<i>Glechoma hederacea</i>	Ground-ivy
<i>Melica uniflora</i>	Wood Melick
<i>Millium effusem</i>	Wood Millet
<i>Oxalis acetosella</i>	Wood-sorrel
<i>Primula vulgaris</i>	Primrose
<i>Stellaria holostea</i>	Greater Stitchwort
<i>Viola riviniana</i>	Common Dog-violet

Hedgerow field-layer seed mix

Species	Common Name
<i>Agrimonia eupatoria</i>	Agrimony
<i>Digitalis purpurea</i>	Foxglove
<i>Galium mollugo</i>	Hedge Bedstraw
<i>Silene dioica</i>	Red Campion
<i>Torilis japonica</i>	Upright Hedge-parsley

Standing Water Mix

As part of the habitat creation and enhancing existing habitat, aquatic vegetation should be planted along the reservoir margins. To ensure those best suited to the conditions of the water body will survive and reproduce to establish themselves within the habitat in the long-term, it is recommended that a wide range of species is introduced. Locally common competitive aquatic species including Greater Reedmace (*Typha latifolia*), Branched Bur-reed (*Sparganium erectum*) and Reed Sweet-grass (*Glyceria maxima*) should not be introduced as these are likely to out-compete other species. Consideration should be given to controlling these species if they do colonise the waterbody.

Species	Common Name
<i>Alisma plantago-aquatica</i>	Water-plantain
<i>Butomus umbellatus</i>	Flowering -rush
<i>Caltha palustris</i>	Marsh Marigold
<i>Eleocharis palustris</i>	Common Spike-rush
<i>Eupatorium cannabinum</i>	Hemp-agrimony
<i>Filipendula ulmaria</i>	Meadowsweet
<i>Glyceria fluitans</i>	Floating Sweet-grass
<i>Iris pseudacorus</i>	Yellow Iris
<i>Lycopus europaeus</i>	Gipsywort
<i>Lythrum salicaria</i>	Purple-loosestrife
<i>Mentha aquatica</i>	Water Mint
<i>Myosotis scorpioides</i>	Water Forget-me-not
<i>Myriophyllum spicatum</i>	Spiked Water-milfoil
<i>Nasturtium officinale</i> agg.	Water-cress
<i>Nymphaea alba</i>	White Water-lily
<i>Potamogeton crispus</i>	Curled Pondweed
<i>Ranunculus aquatilis</i>	Pond Water-crowfoot
<i>Ranunculus flammula</i>	Lesser Spearwort
<i>Ranunculus lingua</i>	Greater Spearwort
<i>Rorippa amphibia</i>	Great Yellow-cress
<i>Rumex hydrolapathum</i>	Water Dock

<i>Sagittaria sagittifolia</i>	Arrowhead
<i>Schoenoplectus lacustris</i>	Common Club-rush
<i>Silene flos-cuculi</i>	Ragged-Robin
<i>Veronica beccabunga</i>	Brooklime

Marginal and aquatic planting

As part of the habitat creation, aquatic vegetation should be planted along the re-naturalised feeder brook bank edges to enhance the brook habitat for a variety of fauna. To ensure those best suited to the conditions will survive and reproduce to establish themselves within the habitat in the long-term, it is recommended that a wide range of species is introduced.

Species	Common Name
<i>Caltha palustris</i>	Marsh Marigold
<i>Eleocharis palustris</i>	Common Spike-rush
<i>Filipendula ulmaria</i>	Meadowsweet
<i>Iris pseudacorus</i>	Yellow Iris
<i>Lythrum salicaria</i>	Purple-loosestrife
<i>Mentha aquatica</i>	Water Mint
<i>Myosotis scorpioides</i>	Water Forget-me-not
<i>Ranunculus flammula</i>	Lesser Spearwort
<i>Ranunculus lingua</i>	Greater Spearwort
<i>Rumex hydrolapathum</i>	Water Dock
<i>Schoenoplectus lacustris</i>	Common Club-rush
<i>Veronica beccabunga</i>	Brooklime

Appendix 1. Phase 1 habitat survey – photographs 2020



Photograph 1: Surfaced path running along northern boundary OF Edgbaston Reservoir LNR



Photograph 2: Horse Chestnut tree, containing features suitable for roosting bats, present within the north-western plantation



Photograph 3: Reservoir shoreline with sparse grassland and mature trees denoted the high water mark



Photograph 4: Parkland habitat present within the western edge of the LNR



Photograph 5: Wet woodland habitat present in the south-western area of the reservoir

Appendix 2. Phase 1 habitat survey Flora Species Records 2020

Species Records

Scientific Name	Common Name	Scientific Name	Common Name
<i>Acer campestre</i>	Field Maple	<i>Ligustrum ovalifolium</i>	Garden Privet
<i>Acer platanoides</i>	Norway Maple	<i>Lolium perenne</i>	Perennial Rye-grass
<i>Acer pseudoplatanus</i>	Sycamore	<i>Lycopus europaeus</i>	Gypsywort
<i>Achillea millefolium</i>	Yarrow	<i>Malus</i>	Apple
<i>Aegopodium podagraria</i>	Ground-elder	<i>Matricaria discoidea</i>	Pineappleweed
<i>Aesculus hippocastanum</i>	Horse-chestnut	<i>Mentha aquatica</i>	Water Mint
<i>Alliaria petiolata</i>	Garlic Mustard	<i>Papaver rhoeas</i>	Common Poppy
<i>Alnus glutinosa</i>	Alder	<i>Pentaglottis sempervirens</i>	Green Alkanet
<i>Anthriscus sylvestris</i>	Cow Parsley	<i>Phragmites australis</i>	Common Reed
<i>Arrhenatherum elatius</i>	False Oat-grass	<i>Plantago lanceolata</i>	Ribwort Plantain
<i>Artemisia vulgaris</i>	Mugwort	<i>Plantago major</i>	Greater Plantain
<i>Atriplex patula</i>	Common Orache	<i>Poa annua</i>	Annual Meadow-grass
<i>Bellis perennis</i>	Daisy	<i>Poa pratensis</i>	Smooth Meadow-grass
<i>Betula pendula</i>	Silver Birch	<i>Polygonum aviculare</i>	Knotgrass
<i>Bryonia dioica</i>	White Bryony	<i>Populus nigra x deltoides = P. x canadensis</i>	Hybrid Black-poplar
<i>Buddleja davidii</i>	Butterfly-bush	<i>Populus tremuloides</i>	American Aspen
<i>Calendula officinalis</i>	Pot Marigold	<i>Potentilla reptans</i>	Creeping Cinquefoil
<i>Calystegia sepium</i>	Hedge Bindweed	<i>Prunus avium</i>	Wild Cherry
<i>Calystegia silvatica</i>	Large Bindweed	<i>Prunus spinosa</i>	Blackthorn
<i>Capsella bursa-pastoris</i>	Shepherd's-purse	<i>Pteridium aquilinum</i>	Bracken
<i>Carex</i>	Sedge	<i>Quercus cerris</i>	Turkey Oak
<i>Carpinus betulus</i>	Hornbeam	<i>Quercus robur</i>	Pedunculate Oak
<i>Castanea sativa</i>	Sweet Chestnut	<i>Ranunculus acris</i>	Meadow Buttercup
<i>Cirsium arvense</i>	Creeping Thistle	<i>Ranunculus aquatilis</i>	Common Water-crowfoot
<i>Cirsium vulgare</i>	Spear Thistle	<i>Ranunculus ficaria</i>	Lesser Celandine
<i>Cornus sanguinea</i>	Dogwood	<i>Ranunculus repens</i>	Creeping Buttercup
<i>Corylus avellana</i>	Hazel	<i>Rhododendron ponticum</i>	flowering plant
<i>Cotoneaster simonsii</i>	Himalayan Cotoneaster	<i>Rosa</i>	Rose
<i>Crataegus monogyna</i>	Hawthorn	<i>Rubus fruticosus agg.</i>	Bramble
<i>Dactylis glomerata</i>	Cock's-foot	<i>Rubus idaeus</i>	Raspberry

<i>Daucus carota</i>	Carrot	<i>Rumex acetosa</i>	Common Sorrel
<i>Digitalis purpurea</i>	Foxglove	<i>Rumex hydrolapathum</i>	Water Dock
<i>Epilobium hirsutum</i>	Great Willowherb	<i>Rumex obtusifolius</i>	Broad-leaved Dock
<i>Euphorbia peplus</i>	Petty Spurge	<i>Salix alba</i>	White Willow
<i>Fagus sylvatica</i>	Beech	<i>Salix caprea</i>	Goat Willow
<i>Festuca rubra</i>	Red Fescue	<i>Salix euxina x alba = S. x fragilis</i>	Hybrid Crack-willow
<i>Fraxinus excelsior</i>	Ash	<i>Sambucus nigra</i>	Elder
<i>Fuchsia</i>	Garden fuchsia	<i>Sanguisorba minor</i>	Salad Burnet
<i>Galeopsis tetrahit</i>	Common Hemp-nettle	<i>Senecio jacobaea</i>	Common Ragwort
<i>Galium aparine</i>	Cleavers	<i>Sisymbrium officinale</i>	Hedge Mustard
<i>Geranium molle</i>	Dove's-foot Crane's-bill	<i>Sonchus arvensis</i>	Perennial Sow-thistle
<i>Geranium pratense</i>	Meadow Crane's-bill	<i>Sorbus aucuparia</i>	Rowan
<i>Geranium robertianum</i>	Herb-Robert	<i>Symphoricarpos albus</i>	Snowberry
<i>Geum urbanum</i>	Wood Avens	<i>Taraxacum officinale agg.</i>	Dandelion
<i>Hedera helix</i>	Ivy	<i>Taxus baccata</i>	Yew
<i>Heracleum sphondylium</i>	Hogweed	<i>Tilia platyphyllos x cordata = T. x europaea</i>	Lime
<i>Holcus lanatus</i>	Yorkshire-fog	<i>Trifolium pratense</i>	Red Clover
<i>Hordeum murinum</i>	Wall Barley	<i>Trifolium repens</i>	White Clover
<i>Hyacinthoides non-scripta</i>	Bluebell	<i>Tripleurospermum inodorum</i>	Scentless Mayweed
<i>Hypericum perforatum</i>	Perforate St John's-wort	<i>Tropaeolum majus</i>	Garden nasturtium
<i>Hypochaeris radicata</i>	Cat's-ear	<i>Ulmus glabra</i>	Wych Elm
<i>Ilex aquifolium</i>	Holly	<i>Urtica dioica</i>	Common Nettle
<i>Iris pseudacorus</i>	Yellow Iris	<i>Viburnum lantana</i>	Wayfaring-tree
<i>Juncus effusus</i>	Soft-rush	<i>Geastrum triplex</i>	Collared Earthstar
<i>Laurus nobilis</i>	Cherry Laurel		

