



Nottinghamshire YMCA

Balderton Lake

ECOLOGICAL APPRAISAL

August 2022

FPCR Environment and Design Ltd

Registered Office: Lockington Hall, Lockington, Derby DE74 2RH

Company No. 07128076. [T] 01509 672772 [F] 01509 674565 [E] mail@fpcr.co.uk [W] www.fpcr.co.uk

This report is the property of FPCR Environment and Design Ltd and is issued on the condition it is not reproduced, retained or disclosed to any unauthorised person, either wholly or in part without the written consent of FPCR Environment and Design Ltd. Ordnance Survey material is used with permission of The Controller of HMSO, Crown copyright 100018896.

Rev	Issue Status	Prepared / Date	Approved/Date
-	Draft	VF / 02.08.22	RG / 03.08.22
	Final	VF / 30.08.22	

CONTENTS

1.0 INTRODUCTION 1

2.0 METHODOLOGY..... 2

3.0 RESULTS..... 6

4.0 DISCUSSION AND MITIGATION STRATEGY 8

APPENDICES

- Appendix A: Surveyor Experience
- Appendix B: Botanical Species Lists

FIGURES

- Figure 1: Phase 1 Habitat Plan
- Figure 2. Breeding Bird Survey Plan
- Figure 3: Otter Survey Plan

1.0 INTRODUCTION

- 1.1 This report has been prepared by FPCR Environment & Design Ltd. (FPCR) on behalf of Nottinghamshire YMCA and details the results of an Ecological Appraisal of Balderton Lake (central OS grid reference SK 808 521), hereafter referred to as the Site.

Site Context

- 1.2 Balderton Lake is located in New Balderton on the southern edge of Newark on Trent in Nottinghamshire. It is a Local Wildlife Site (LWS) and is surrounded to the north, east and west by the urban extent of Newark on Trent and to the west by a dismantled railway with the YMCA activity village beyond.

Development Proposals

- 1.3 The proposed development comprises the construction of a new pontoon to offer kayaking activities on the lake for maximum groups of 16 boats for 3-4 hours a day during spring to autumn. The proposed usage zone is shown on **Figure 1**.

Scope of Appraisal

- 1.4 This Ecological Appraisal describes the current ecological interest within and around the Site, which has been identified through field-based investigations. It then considers the potential ecological impacts and opportunities for ecological enhancement within the context of relevant legislation and planning policy. Finally, it identifies the necessary additional measures to avoid, mitigate or provide compensation for potential impacts, and the mechanisms for securing such measures.

Surveyor Qualifications

- 1.5 The qualifications and experience of the surveyors involved is provided in **Appendix A**.

2.0 METHODOLOGY

Extended Phase 1 Habitat Survey

- 2.1 The Site was subject to an Extended Phase 1 Habitat survey by FPCR in May 2022.
- 2.2 The survey technique adopted for the habitat assessment followed the Extended Phase 1 habitat survey technique as recommended by Natural England (JNCC, 2010)¹. This involved a systematic walkover of the Site, mapping and broadly describing the principal habitat types. A non-exhaustive botanical species list was produced for the Site as a whole. A detailed botanical list was additionally produced for the proposed pontoon location as this is the only area of habitat that will be directly impacted by the proposals.

Fauna

- 2.3 Throughout the walkover survey, consideration was given to the actual or potential presence of protected species, such as, although not limited to, those protected under the Wildlife and Countryside Act 1981 (as amended), the Protection of Badgers Act 1992, and the Conservation of Habitat and Species Regulations 2017 (as amended). Consideration was also given to the existence and use of the Site by other notable fauna such as Schedule 1 bird species, breeding birds, species of Principle Importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006), Local Biodiversity Action Plan (LBAP) and Red Data Book (RDB) species.

Breeding Bird Survey

- 2.4 A full breeding bird survey was completed by way of three visits to the Site, one each in April, May, and June 2022. The objectives of the survey were to:
- Identify the presence of any designated nature conservation sites that support notable breeding bird assemblages within or in the vicinity of the Site.
 - Identify the presence, species, and distribution of breeding birds within the Site.
 - Evaluate the conservation importance of habitats within the Site to local bird populations and identify any areas of ornithological interest.
 - Make recommendations to minimise the potential impact of development and to consider opportunities for additional mitigation, compensation, and enhancement where relevant.
- 2.5 A route was mapped out prior to the surveys being undertaken, paying particular attention to the water's edge and surrounding woodland and scrub. Bird surveys were not undertaken in unfavourable conditions as this can negatively affect the results. Details of weather conditions for each of the three survey occasions are detailed in **Table 1**.

Table 1: Breeding Bird Survey Dates and Conditions

Survey	Date	Cloud Cover (%)	Rain	Wind (Beaufort)	Visibility
1	25.04.22	60	None	None	Excellent
2	03.05.22	20	None	Light Air	Very Good
3	06.06.22	60	None	Gentle Breeze	Excellent

¹ JNCC, 2010. *Handbook for Phase 1 habitat survey - a technique for environmental audit*, ISBN 0 86139 636 7.

- 2.6 The methodology employed was broadly based on territory mapping² used for the British Trust for Ornithology (BTO) Common Bird Census (CBC). Standard BTO species codes and symbols for bird activities were used to identify the birds and denote activity, sex, and age where appropriate.
- 2.7 Breeding Status evidence can be broken down into four categories, each with their own codes, as defined by the European Ornithological Atlas Committee (EOAC):

Confirmed breeder

DD – distraction display or injury feigning

UN – used nest or eggshells found from this season

FL – recently fledged young or downy young

ON – adults entering or leaving nest-site in circumstances indicating occupied nest

FF – adult carrying faecal sac or food for young

NE – nest containing eggs

NY – nest with young seen or heard

Probable breeder - Evidence accumulated during the survey indicates that the bird species is breeding on site.

P – pair in suitable nesting habitat

T – permanent territory (defended over at least 2 survey occasions)

D – courtship and display

N – visiting probable nest site

A – agitated behaviour

I – brood patch of incubating bird (from bird in hand)

B – nest building or excavating nest-hole

Possible breeder - Evidence accumulated during the survey indicates that the bird species could be breeding on site, but the evidence is less conclusive than that obtained for probable breeders.

H – observed in suitable nesting habitat

S – singing male

Non-breeder

F – flying over

M – migrant

U – summering non-breeder

UH – observed in unsuitable nesting habitat

- 2.8 Breeding evidence was accumulated across all three surveys to allow breeding status to be assigned for each species.

² Bibby, C.J., N.D. Burgess & D.A. Hill, 2000: *Bird Census Techniques*: 2nd Edition. London: Academic Press

Water Vole and Otter Survey

- 2.9 Both water vole *Arvicola amphibius* and otter *Lutra lutra* have previously been recorded present at Balderton Lake. A survey for both species was conducted, where both habitat suitability and physical field signs of both species was searched for.
- 2.10 Suitable Habitat for water voles includes:
- Water more than 50cm deep and relatively stable;
 - Muddy bottom;
 - Static or slow flowing water;
 - Earth banks of >45° (for burrowing);
 - Dense vegetation cover on the banks of a good mix of grasses and herbs for summer food and cover and some berry bearing bushes, tubers and trees for autumn and winter food;
 - Emergent, in-channel vegetation; and
 - Channel width 1-2m.
- 2.11 Otter have been known to exploit virtually any aquatic habitat and no specific variables have been found to be preferred by otter, thus suitable habitat is a loose term³.
- 2.12 A water vole and otter survey was carried out at the lake on 4th May 2022 which involved searching the banks for evidence of water voles as per best practice guidelines⁴. The banks of the island were not searched at this time but were subsequently searched on 15th July 2022.
- 2.13 Evidence for the presence of water voles includes:
- Feeding signs (neat piles of short pieces of vegetation cut at a 45° angle),
 - Latrines (piles of droppings),
 - Burrows
 - Footprints and pathways; and
 - Sightings of animals.
- 2.14 Evidence of otter includes⁵:
- Dung (spraints);
 - Tracks (footprints);
 - Feeding remains;
 - Otter slides (into water);
 - Holts (underground dens); and
 - Couches (above ground sites where otters rest during the day).
- 2.15 During the otter survey, evidence comprising potential shelter and resting places was noted. To determine the level of use of these areas, trail cameras were deployed at each location for a total of 21 consecutive days (15th July to 5th August 2022), after which the footage analysed.

³ Chanin P (2003). Ecology of the European Otter. Conserving Natura 2000 Rivers Ecology Series No. 10. English Nature, Peterborough.

⁴ Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016), Water Vole Mitigation Handbook (Mammal Society Mitigation Guidance Series). Eds Fiona Matthews and Paul Channin. Mammal Society, London.

⁵ <https://www.gov.uk/guidance/otters-protection-surveys-and-licences#survey-methods>

Surveys Scoped Out

- 2.16 **Table 2** summarises other survey types which, while commonly required as part of an Ecological Appraisal for development sites, were not considered appropriate in this case.

Table 2: Ecology Surveys Scoped Out

Survey Type	Reasons for Scoping Out
Bats	The proposals are during daylight hours and thus will not impact foraging bats. There are no trees or structures with potential roost features for bats close to the launch area and thus roosting bats will not be impacted.
Notable Terrestrial Mammals	The proposals are for aquatic activities and thus will not impact terrestrial mammals. Disturbance levels on terrestrial habitats will not increase over the high level already present at the Site.
Great Crested Newts and Other Amphibians	The lake is suboptimal for amphibians due to high fish stock levels which will predate larval and juvenile amphibians. Any adverse impacts on amphibian species as a result of the proposals will thus be minimal.
Invertebrates	The proposals are for aquatic activities and thus will not impact terrestrial invertebrates. The low levels of bankside and submerged vegetation at the proposed launch site limits the habitat suitability for such species therefore this location likely supports a minor component of the wider invertebrate assemblage, and such habitats will continue to be widely available elsewhere along the lake shores. Impacts on aquatic invertebrates will therefore be minimal.

3.0 RESULTS

Balderton Gravel Pit LWS

- 3.1 Balderton Gravel Pit LWS was designated for the habitat and plant species diversity it supports. The site description is provided below.

“This large flooded abandoned gravel pit consists of a wide area of open water edged by a variety of willow species including crack willow *Salix fragilis*, grey willow *S. cinerea*, goat willow *S. caprea* and osier *S. viminalis*. The edges of the pit have been colonised by a number of marginal plant species such as yellow iris *Iris pseudacorus*, purple-loosestrife *Lythrum salicaria*, tufted forget-me-not *Myosotis laxa*, and water mint *Mentha aquatica*, with a stand of common reed *Phragmites australis* and some grey club-rush *Schoenoplectus tabernaemontani*, branched bur-reed *Sparganium erectum* and bulrush *Typha latifolia*. Other associated habitats include woodland, semi-improved and unimproved grassland. The site provides breeding opportunities for amphibians and Odonata, and habitat for a number of bird species. Apart from the dismantled railway on the western side, most of the adjacent land has been developed for housing.”

Habitats

- 3.2 The Site comprises a large lake surrounded by short amenity grassland, woodland and scrub. The habitats are subject to high levels of disturbance from walkers and fishing activities. There are many footpaths around the lake and fishing platforms. There are small areas of reedbed on parts of the lake shores. Habitats are mapped on **Figure 1**. Species lists are provided in **Appendix B**.
- 3.3 At the proposed launch site (at fishing platform 16), vegetation cover was limited with significant areas of bare ground. The plant species list comprised 12 species (see **Appendix B**), many of which were represented by a single specimen or low number of individuals.

Species

Breeding Birds

- 3.4 A total of 36 species were recorded within the survey area, including 13 species meeting the criteria of at least one of the following pieces of legislation: Schedule 1 of the WCA, Section 41 of the NERC Act 2006, and/or the BoCC Red or Amber Lists. These 13 species are hence referred to as 'notable' species.
- 3.5 Of the 36 species recorded as present during the breeding bird survey, seven were confirmed as breeding including the notable species moorhen *Gallinula chloropus*. The other six confirmed breeding species are of low conservation concern i.e. BoCC Green-listed. A further six species were considered probable breeders within the survey area, which included three notable species: mallard *Anas platyrhynchos*, wren *Troglodytes troglodytes* and, dunnoek *Prunella modularis*. The remaining 23 species recorded were considered possible breeders or non-breeders.
- 3.6 The majority of species recorded are typical of the habitats found across the survey area, namely the lake and associated scrub and woodland habitat. The lake provides breeding opportunities for most of the wetland species recorded, although only moorhen *Gallinula Chloropus*, mute swan *Cygnus olor* and great-crested grebe *Podiceps cristatus* were confirmed breeding.

- 3.7 The scrub and woodland habitat surrounding the lake was of the most value to breeding birds and supported a large proportion of the recorded assemblage. Several species were noted to be using these habitats for breeding, including robin *Erithacus rubecula*, blackbird *Turdus merula* and tit species, all of which are species of low conservation concern.
- 3.8 Eight species recorded as non-breeders were so because they were recorded overflying the Site only. This included notable species such as black-headed gull *Chroicocephalus ridibundus*, starling *Sternus vulgaris* and oystercatcher *Haematopus ostralegus*. There was no suitable breeding habitat for these species present at the time of surveys.
- 3.9 The adjoining gardens and street trees in the existing residential developments bordering the Site supported colonies of house sparrow *Passer domesticus* and nesting woodpigeon *Columba palumbus*.
- 3.10 The breeding bird assemblage recorded is typical of such habitat in the region and whilst this did include several notable species, all occurred in low numbers, and none are of local conservation priority as all are deemed fairly common to common within Nottinghamshire.
- 3.11 The results are displayed on **Figure 2**.

Water vole

- 3.12 Whilst the lake and the island encompass earth banks that have some potential for burrowing, these are relatively shallow and have very limited vegetation cover. Water voles favour high levels of vegetation as both a food resource and for cover, with cover being especially important in habitats such as this with high levels of disturbance. Whilst less disturbance occurs on the island the banks had low vegetation cover, and this was predominantly limited to tree species.
- 3.13 Several burrows were located on the island that could feasibly have been originally dug by water vole. These burrows are now however occupied by brown rat *Rattus norvegicus*, as evidenced by the presence of rat droppings and several observations of individuals moving among the holes.
- 3.14 No evidence of water vole was recorded during site surveys and the species is not considered to be currently present at the lake.

Otter

- 3.15 Evidence of otter consisting of spraints and feeding remains was noted at the lake. Two potential resting places were also located on the island, one with feeding remains found close by. A trail camera set to monitor each of these areas however recorded no evidence of current use by otter though did record a red fox *Vulpes vulpes* visits to one of these areas and frequent use of both areas by brown rat.
- 3.16 Otters are considered to use the lake regularly for feeding, which is expected given the high fish stock levels. Anecdotal evidence suggests that otters use a series of three lakes in the area as part of a feeding territory.
- 3.17 Results of the otter survey are summarised on **Figure 3**.

4.0 DISCUSSION AND MITIGATION STRATEGY

The Proposals

- 4.1 The proposals are for the commencement of kayaking activities on the lake and the construction of a new pontoon to facilitate these activities. The proposed usage zone for the kayaks is shown in **Figure 1**.
- 4.2 The pontoon will be an extension of an existing fishing platform (platform 16), which will require the widening of the platform and the addition of a further platform and pontoon that will extend further into the lake.
- 4.3 Kayaking will be limited to groups of 16 boats for two three-hour periods Tuesday to Friday, and one three-hour period on Saturdays and Sundays. Staff will always be present to ensure the usage zone is adhered to.

Balderton Gravel Pit LWS

- 4.4 The Site is designed as an LWS for the botanical and habitat diversity that it supports, as well the potential opportunities provided for a range of faunal species.
- 4.5 Habitats noted at the proposed launch site predominantly comprised bare ground with limited coverage of 12 plant species, none of which are NERC S41 species or on the Nottinghamshire Biodiversity Action Plan.
- 4.6 The proposals will not materially impact on the botanical species diversity of the Site. There will be negligible impact on the woodland, grassland and scrub habitats, and any impacts on the bankside habitat will be limited to the launch area. This launch area is already predominantly bare ground with limited vegetation and a fishing platform with scant cover of a few common plant species. No significant habitat impacts are therefore considered likely as a result of the proposals.
- 4.7 Impacts on protected and notable faunal species are considered likely to be minimal and are discussed in more detail in the relevant sections below. In summary the proposals are not considered likely to result in a significant adverse impact on the LWS or the species/assemblages for which it was designated.

Habitats

- 4.8 The degree to which habitats receive consideration within the planning system relies on a number of mechanisms, including:
 - Inclusion within a specific policy, for example veteran trees, ancient woodland and linear habitats within the National Planning Policy Framework (NPPF);
 - A non-statutory site designation;
 - Habitats considered as habitats of principal importance for the conservation of biodiversity as listed within Section 41 (S41) of the NERC Act 2006; or
 - Habitats identified as being a Priority Habitat within the Local Biodiversity Action Plan (LBAP).
- 4.9 The woodlands and the lake itself fall under one of these categories and these will be retained.

- 4.10 Given the launch site predominantly comprises bare ground with limited vegetation coverage cover, no significant habitat impacts are considered likely as a result of the proposals.

Protected and/or Notable Species

- 4.11 Principal pieces of legislation protecting wild species are Part 1 of the Wildlife and Countryside Act 1981 (as amended) (WCA) and the Conservation of Habitats and Species Regulations 2017 (as amended). Some species, for example badgers, also have specific protective legislation, in this case, the Protection of Badgers Act 1992. The impact that this legislation has on the planning system is outlined in ODPM 06/2005 Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System.
- 4.12 This guidance states that as the presence of protected species is a material consideration in any planning decision, it is essential that the presence (or otherwise) of protected species, and the extent to which they are affected by proposals is established prior to planning permission being granted. Furthermore, where protected species are present and proposals may result in harm to the species or its habitat, steps should be taken to ensure the long-term protection of the species, such as through attaching appropriate planning conditions.
- 4.13 In addition to protected species, there are those species that are otherwise of conservation merit, such as species of principal importance for the purpose of conserving biodiversity under the NERC Act (2006). These are recognised in the NPPF, which advises that when determining planning applications, LPAs should aim to conserve and enhance biodiversity by applying a set of principles including:
- If significant harm resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
 - Development proposals, where the primary objective is to conserve or enhance biodiversity, should be encouraged.
- 4.14 The possible implications of the various identified species or those that are thought reasonably likely to occur at the Site are outlined below:

Breeding Birds

- 4.15 All wild birds, their nests and eggs are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:
- Intentionally kill, injure or take any wild bird;
 - Take, damage or destroy the nest of any wild bird while it is in use or being built;
 - Take, damage or destroy the egg of any wild bird; or
 - To have in one's possession, or control, any wild bird (dead or alive) or egg or any part of a wild bird or egg.
- 4.16 Further protection is afforded to those wild bird species listed on Schedule 1, prohibiting any intentional or reckless disturbance to these species while it is nest building, or at a nest containing eggs or young, or to recklessly disturb the dependent young of such a bird. In addition to, or in the absence of, legal protection, some species are also of conservation concern and may also be subject to specific UK and local BAP measures.

*Wildfowl*Assemblage

- 4.17 Wildfowl recorded using the lake included mute swan, graylag goose *Anser anser*, Canada goose *Branta canadensis*, mallard *Anas platyrhynchos* and tufted duck *Aythya fuligula*.
- 4.18 Two adult mute swans with young were noted during the June survey. Local recorders and anecdotal evidence suggest this family of swans are regular users of the lake.
- 4.19 Small numbers of graylag and Canada geese were noted across the three surveys, with the greatest concentration noted in June, presumably coinciding with moulting. Mallard were the main wildfowl species noted within the lake, with a single tufted duck also recorded in June.

Assessment of Effects

- 4.20 The wildfowl present were well habituated to the presence of human activity, with some gregarious species approaching people for food.
- 4.21 It has been noted in previous studies that the concentration of wildfowl on similar waterbodies to Balderton Lake is greatest earlier in the morning. The watersports are proposed to begin at 9am and thus disturbance at the busiest time of day will be limited.
- 4.22 Studies have furthermore noted that “kayak disturbance potential will depend on the level of intensity to which birds are exposed”⁶. As the kayaks are only anticipated to be using the lake for a limited number of hours it is considered that the birds will become quickly habituated and hence minimal negative impacts to wildfowl are anticipated.
- 4.23 Duck species typically flush to around 35m per disturbance event⁷ and have been recorded with the lowest number of disturbance events in previous studies, i.e. they are disturbed less easily than other species. The lake is approximately 350m, which leaves a large escape path for any wildfowl that are disturbed by the kayaks.
- 4.24 The results on disturbance impacts from existing studies are largely inconclusive, with some studies suggesting waterfowl become habituated to watercraft with relative ease, and that recreational pressures such as angling and walking at lakes such as Balderton have similar disturbance impacts on waterfowl as watercraft (KL Borgmann, 2011⁸).
- 4.25 Given the low numbers of breeding wildfowl recorded on the lake, the existing disturbance levels from walkers and anglers and resulting habituation, it is considered that with appropriate mitigation any residual impacts on wildfowl using the lake will be at most minor and non-significant.

⁶Sara Méndez Roldán 2012. Water-based recreation disturbance on coastal bird populations. A canoeing/kayaking case study in Langstone Harbour, UK. MSc Coastal and Marine Resource Management, Department of Geography University of Portsmouth.

⁷ M. Ruddock & D.P. Whitfield, 2007. *A Review of Disturbance Distances in Selected Bird Species*. A report from Natural Research (Projects) Ltd. to Scottish Natural Heritage,

⁸ <https://hogisland.audubon.org/sites/default/files/documents/humandisturbanceimpactsreportfinal.pdf>

*Great Crested Grebe and Moorhen*Assemblage

- 4.26 Great crested grebes were noted making a breeding attempt in the east of the lake, however this attempt reportedly failed. Breeding was not seen to be attempted again though FPCR ecologists did note courtship behaviour occurring throughout the survey period.
- 4.27 A moorhen nest was noted adjacent to one of the fishing pegs at the southwest of the lake, which appeared to have not been successful although the adults continued to incubate.

Assessment of Effects

- 4.28 The introduction of the kayaks will be for restricted time periods, in a specific part of the lake which will limit the disturbance impacts on these species. Both species are site faithful, but not known to be nest faithful, therefore disturbance impacts in one area of the lake should not prevent breeding attempts elsewhere. Given the small number of individuals recorded present and the existing regularly disturbance encounters due to walkers and anglers, it is not considered that there will be a significant impact on either great crested grebe or moorhen.

*Heron and Little Egret*Assemblage

- 4.29 A single grey heron *Ardea cinerea* and little egret *Egretta garzetta* were noted roosting in a mature tree in the north of the Site. As there were no active heronries within the Site it is assumed that these birds were foraging or using the lake only as a day roost.

Assessment of Effects

- 4.30 Heron and egret have been noted at various locations around the lake. Given the limited extent of the proposals there will be a negligible impact to these species as a result.

*Kingfisher*Assemblage

- 4.31 Anecdotal evidence suggests that kingfisher *Alcedo atthis* uses the lake for breeding, however this species excavates tunnels for their nests in steep banks, usually soft riverbanks. Detailed assessment of the lake perimeter recorded no habitats suitable for use by breeding kingfisher due to scrub cover and the low bank profiles.

Assessment of Effects

- 4.32 Kingfisher territories tend to extend across at least 1km of watercourse, and can extend up to 5km. As the kayaks would only be on the water for limited periods, and at a time when disturbance would be highest anyway disturbance of foraging individuals as a result of the proposals is therefore unlikely to be significant and kingfisher are not considered to be a constraint to the proposals.

Impacts on the Whole Assemblage

- 4.33 The majority of the lake perimeter habitats are to be retained, with only a short section of the bank impacted by the construction of the pontoon and associated works. Kayaking activities will be restricted to agreed three-hour time periods and will not extend beyond a limited 'usage zone'. Given the existing disturbance levels from walkers and anglers and the relative habituation of the resident bird assemblage as a response, any resulting impacts will be no more than minor, and can be addressed via implementation of appropriate mitigation to ensure a negligible to minor positive impact on the overall bird assemblage.

Enhancements

- 4.34 Recommended mitigation measures comprise the provision of:
- Duck tubes to provide new nesting habitat and offer opportunities to different species of duck, including the tufted duck which was noted on a single occasion. To be located away from the proposed kayaking area.
 - Rafts for nesting to encourage new species such as common tern and black headed gull, which do not have any suitable habitat on the lake currently. To be located away from the proposed kayaking area.
 - A variety of woodcrete/woodstone bird boxes positioned on suitable trees around the lake to provide suitable nesting habitat for a wide range of local bird species.
- 4.35 Additional measures to be taken could include briefings and clear signage for the kayakers to include information about the bird species using the lakes and how to avoid disturbance. Staff must always be present to ensure the usage zone is adhered to.

Otter

- 4.36 Otters are listed as European Protected Species (EPS) on Schedule 2 of the Conservation Regulations (Annex IV(a) to the Habitats Directive). This affords them strict protection under the Conservation of Habitats and Species (Amendment) Regulations 2017, making it an offence to:
- (i) Deliberately capture, injure or kill a wild animal of an EPS;
 - (ii) Deliberately disturb wild animals of an EPS wherever they are occurring, in particular any disturbance that is likely to impair their ability to survive, to breed or reproduce, or in the case of hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong;
 - (iii) Deliberately take or destroy the eggs of a wild animal of an EPS; or
 - (iv) Damage or destroy a breeding site or resting place of a wild animal of an EPS.
- 4.37 Additional protection for otter is also afforded under the Wildlife and Countryside Act 1981 (as amended), making it an offence to intentionally or recklessly disturb otter whilst they are occupying a structure or place which is used for shelter or protection, or to obstruct access to this structure or place.
- 4.38 Otters are largely a predominantly nocturnal species. They use the lake as part of a larger foraging territory, with no evidence recorded of use of lakeside habitats for shelter or protection. As the kayaking activities would take place during daylight hours only these are unlikely to disturb foraging otter or prevent them from accessing this section of their territory. Furthermore the

presence of staff members will ensure the usage zone is adhered to, limiting activities to a small area of the lake.

- 4.39 Given the above it is considered the proposals would at most have a negligible to minor (non-significant) impact on foraging otter.

Conclusions

- 4.40 The surveys have demonstrated that the habitats present within and around the Site do not pose an 'in principle' constraint to the proposed activities.
- 4.41 There are no statutorily protected nature conservation interests within the Site and none nearby that would be materially affected by the proposals. The Site is located within a LWS, however the proposals will not impact the reasons for designation.
- 4.42 Specific proposals for the mitigation of potential impacts are considered within this report and recommendations are provided for enhancements to create additional breeding opportunities for a range of protected and notable species within the Site.
- 4.43 On this basis, the scheme is capable of compliance with relevant planning policy for the conservation of the natural environment.

Appendix A - Surveyor Qualifications and Experience

Vicky Fletcher

1. I have a first-class BSc (hons) degree in Ecology and a PhD in soil ecology and am an associate member of CIEEM. I have been an ecological consultant since 2014 and in this role have conducted many botanical surveys and otter and water vole surveys.
2. Prior to consultancy work I worked for the Cheshire Wildlife Trust and led the Cheshire Water Vole Project, which involved surveying water courses in Cheshire to determine water vole presence/absence across the county and the training of volunteer surveyors.

Molly Foulds

3. I have a Master of Zoology (MZool) degree from Bangor University where my dissertation focused on the restoration of a blanket bog and its impact on meadow pipit. Throughout my time at university I regularly undertook wetland bird survey (WeBS) and seabird counts. Following this I have completed a number of contracts with the RPSB and also managed a bird observatory in Australia. I have a C Permit to ring birds, with my specialities in wading birds and seabirds.
4. I have been a consultant ecologist for 3.5 years, with experience doing a wide variety of bird surveys including breeding bird, wintering bird, flightline, nightjar and woodlark, SPA and wetland bird surveys.
5. My application for Full membership to CIEEM is currently in progress.

Oliver Beacock

6. My degree course included training on point counts and transects and industry best practice for conducting bird population monitoring surveys in a variety of habitats.
7. Professionally I have worked with the Lincolnshire Wildlife Trust where I undertook a range of surveys including Wetland and Breeding Bird Surveys and spatial analysis of territory mapping to produce reliable estimates for the number and size of occupied territories. Subsequent stints at Gibraltar Point NNR and at Blacktoft Sands RSPB reserve involved bird ringing, migration vantage point surveys, and habitat enhancement and protection measures for several protected breeding species. I have also monitored breeding seabirds on Fair Isle, Shetland and was involved with the daily migration recording and oversea passage counts.
8. I have a C Permit to ring birds and am actively involved with a long-term CES project plus several other research activities involving the capture and release of birds.
9. I am involved with both the Nottinghamshire and Lincolnshire bird reporting networks. This year I coordinated a full Breeding Bird Survey and subsequent territory mapping of breeding species across the Nottinghamshire Wildlife Trust's Attenborough Nature Reserve.
10. At FPCR I am part of the well-experienced team undertaking a range of bird surveys including full Breeding and Winter Bird Surveys, Wetland Bird Surveys, Migrant Bird Surveys and bespoke surveys for SPA/SSSI designated species.

Appendix B – Botanical Species Lists**Peg 16**

<i>Alnus glutinosa</i>	Alder
<i>Arctium minus</i>	Lesser burdock
<i>Cirsium vulgare</i>	Spear thistle
<i>Crataegus monogyna</i>	Hawthorn
<i>Epilobium species</i>	Willowherb species
<i>Geranium robertianum</i>	Herb-robert
<i>Helminthotheca echioides</i>	Bristly ox tongue
<i>Juncus inflexus</i>	Hard rush
<i>Lycopus europaeus</i>	Gipsywort
<i>Plantago major</i>	Greater plantain
<i>Taraxacum officinale</i> agg.	Dandelion
<i>Trifolium repens</i>	White clover

Whole Site

<i>Acer pseudoplatanus</i>	Sycamore
<i>Achillea millefolium</i>	Yarrow
<i>Aegopodium podagraria</i>	Ground-elder
<i>Agrostis capillaris</i>	Common bent
<i>Agrostis stolonifera</i>	Creeping bent
<i>Alnus glutinosa</i>	Alder
<i>Anthriscus sylvestris</i>	Cow parsley
<i>Arctium lappa</i>	Greater burdock
<i>Arctium minus</i>	Lesser burdock
<i>Arrhenatherum elatius</i>	False oat-grass
<i>Artemisia vulgaris</i>	Mugwort
<i>Ballota nigra</i>	Black horehound
<i>Bellis perennis</i>	Daisy
<i>Betula pendula</i>	Silver birch
<i>Calystegia sepium</i>	Hedge bindweed
<i>Carex acutiformis</i>	Lesser pond-sedge
<i>Carex pendula</i>	Pendulous sedge
<i>Carex remota</i>	Remote sedge
<i>Cerastium fontanum</i>	Common mouse-ear
<i>Chamerion angustifolium</i>	Rosebay willowherb
<i>Chelidonium majus</i>	Greater celandine
<i>Cirsium arvense</i>	Creeping thistle
<i>Conium maculatum</i>	Hemlock
<i>Convallaria majalis</i>	Lily of the valley
<i>Cornus sanguinea</i>	Dogwood
<i>Corylus avellana</i>	Hazel
<i>Crataegus monogyna</i>	Hawthorn
<i>Crepis capillaris</i>	Smooth hawk's-beard
<i>Crocus x crocosmiiflora</i> (<i>C. aurea</i> x <i>pottsii</i>)	Montbretia

<i>Cynosurus cristatus</i>	Crested dog's-tail
<i>Cytisus scoparius</i>	Broom
<i>Dactylis glomerata</i>	Cock's-foot
<i>Dactylorhiza fuchsii</i>	Common spotted-orchid
<i>Daucus carota</i>	Wild carrot
<i>Digitalis purpurea</i>	Foxglove
<i>Dipsacus fullonum</i>	Wild teasel
<i>Dryopteris dilatata</i>	Broad buckler-fern
<i>Dryopteris filix-mas</i>	Common male fern
<i>Epilobium hirsutum</i>	Great willowherb
<i>Galium aparine</i>	Cleavers
<i>Geranium molle</i>	Dove's-foot crane's-bill
<i>Geranium pusillum</i>	Small-flowered crane's-bill
<i>Geranium robertianum</i>	Herb-robert
<i>Geum urbanum</i>	Herb bennet
<i>Glyceria maxima</i>	Reed sweet-grass
<i>Hedera helix</i>	Ivy
<i>Heracleum sphondylium</i>	Hogweed
<i>Holcus lanatus</i>	Yorkshire-fog
<i>Hordeum murinum</i>	Wall barley
<i>Hypericum perforatum</i>	Perforate St. John's-wort
<i>Hypochaeris radicata</i>	Common cat's-ear
<i>Ilex aquifolium</i>	Holly
<i>Iris pseudacorus</i>	Flag iris
<i>Juncus inflexus</i>	Hard rush
<i>Lactuca virosa</i>	Wild lettuce
<i>Lamium album</i>	White dead-nettle
<i>Lolium perenne</i>	Perennial rye-grass
<i>Lonicera periclymenum</i>	Honeysuckle
<i>Lotus corniculatus</i>	Common bird's-foot-trefoil
<i>Lunaria annua</i>	Honesty
<i>Lycopus europaeus</i>	Gipsywort
<i>Malva sylvestris</i>	Common mallow
<i>Medicago lupulina</i>	Black medick
<i>Myosotis arvensis</i>	Field forget-me-not
<i>Odontites vernus</i>	Red bartsia
<i>Oxalis articulata</i>	Pink-sorrel
<i>Papaver dubium</i>	Long-headed poppy
<i>Pentaglottis sempervirens</i>	Green alkanet
<i>Persicaria amphibia</i>	Amphibious bistort
<i>Persicaria maculosa</i>	Redshank
<i>Phalaris arundinacea</i>	Reed canary-grass
<i>Phragmites australis</i>	Common reed
<i>Pilosella officinarum</i>	Mouse-ear-hawkweed
<i>Plantago lanceolata</i>	Ribwort plantain
<i>Poa annua</i>	Annual meadow-grass









<i>Polygonum aviculare</i> agg.	Knotgrass
<i>Populus alba</i>	White poplar
<i>Populus alba</i> x <i>tremula</i> (<i>P. x canescens</i>)	Grey poplar
<i>Potentilla reptans</i>	Creeping cinquefoil
<i>Primula veris</i>	Cowslip
<i>Prunus avium</i>	Wild cherry
<i>Quercus robur</i>	Pedunculate oak
<i>Ranunculus acris</i>	Meadow buttercup
<i>Ranunculus repens</i>	Creeping buttercup
<i>Rosa canina</i>	Dog rose
<i>Rubus fruticosus</i> agg.	Bramble
<i>Rumex conglomeratus</i>	Clustered dock
<i>Rumex crispus</i>	Curled dock
<i>Rumex obtusifolius</i>	Broad-leaved dock
<i>Salix alba</i>	White willow
<i>Salix cinerea</i>	Grey willow
<i>Salix fragilis</i>	Crack willow
<i>Sambucus nigra</i>	Elder
<i>Senecio jacobaea</i>	Common ragwort
<i>Silene dioica</i>	Red campion
<i>Silene latifolia</i>	White campion
<i>Sisymbrium officinale</i>	Hedge mustard
<i>Solidago gigantea</i>	Early goldenrod
<i>Sonchus asper</i>	Prickly sow-thistle
<i>Sorbus aucuparia</i>	Rowan
<i>Stachys sylvatica</i>	Hedge woundwort
<i>Tanacetum vulgare</i>	Tansy
<i>Taraxacum officinale</i> agg.	Dandelion
<i>Taxus baccata</i>	Yew
<i>Tragopogon pratensis</i>	Goat's-beard
<i>Trifolium dubium</i>	Lesser trefoil
<i>Trifolium pratense</i>	Red clover
<i>Trifolium repens</i>	White clover
<i>Tussilago farfara</i>	Colt's-foot
<i>Urtica dioica</i>	Common nettle
<i>Veronica hederifolia</i> <i>lucorum</i>	Ivy leaved speedwell
<i>Vicia sativa</i>	Common vetch
<i>Viola odorata</i>	Sweet violet

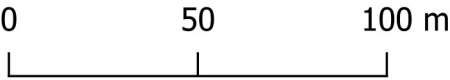




This drawing is the property of FPCR Environment and Design Ltd and is issued on the condition it is not reproduced, retained or disclosed to any unauthorised person, either wholly or in part without written consent of FPCR Environment and Design Ltd.

Aerial Imagery © 2021 Bluesky, Getmapping plc, Infoterra Ltd and Bluesky, Maxar Technologies, Map data © 2021 Google

Key

-  Site Boundary
- Phase 1 Habitats**
-  Built Environment: Buildings/hardstanding
-  Broadleaved woodland - semi-natural
-  Standing water
-  Scrub - dense/continuous
-  Other tall herb and fern - ruderal
-  Wetland: Reedbed
-  Cultivated /disturbed land - amenity grassland





client
Nottinghamshire YMCA

project
Balderton Lake

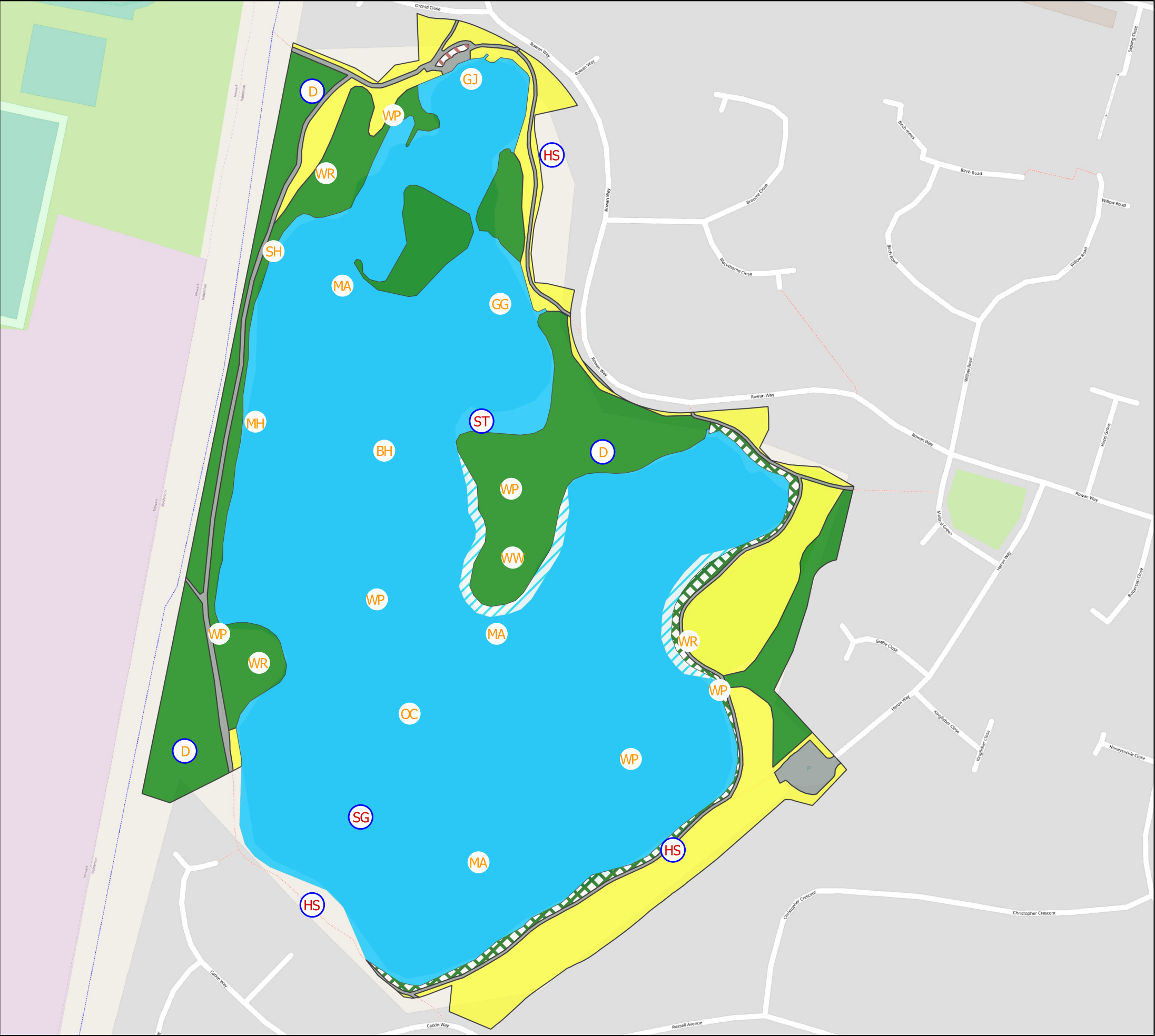
drawing title
Phase 1 Habitat Plan

drawing / figure number
Figure 1

scale @ A3
1:2000

drawn
EH

issue
29/7/2022



This drawing is the property of FPCR Environment and Design Ltd and is issued on the condition it is not reproduced, retained or disclosed to any unauthorised person, either wholly or in part without written consent of FPCR Environment and Design Ltd.

Ordnance Survey material - Crown Copyright. All rights reserved.
Licence Number: 100019980

Key

BH Black-headed Gull

D Dunnock

GG Great Crested Grebe

GJ Greylag Goose

HS House Sparrow

MA Mallard

MH Moorhen

OC Oystercatcher

ST Song Thrush

SH Sparrowhawk

SG Starling

WW Willow Warbler

WP Woodpigeon

WR Wren

Site Boundary

Fly over only

NERC Species of Principal Importance

Schedule 1 Species

LBAP Species (underlined)



client
YMCA

project
Balderton Lake,
Newark

drawing title
BREEDING BIRD SURVEY RESULTS -
LOCATION OF NOTABLE SPECIES

scale@A3
1:2000

drawing / figure number
Figure 2

drawn
MAF / VF

issue
2/8/2022

rev
-

FPCR Environment and Design Ltd, Lockington Hall, Lockington, Derby, DE74 2RH t:01509 672 772 f:01509 674 565 e: mail@fpcr.co.uk w: www.fpcr.co.uk

masterplanning ■ environmental assessment ■ landscape design ■ urban design ■ ecology ■ architecture ■ arboriculture



This drawing is the property of FPCR Environment and Design Ltd and is issued on the condition it is not reproduced, retained or disclosed to any unauthorised person, either wholly or in part without written consent of FPCR Environment and Design Ltd.

Aerial Imagery © 2021 Bluesky, Getmapping plc, Infoterra Ltd and Bluesky, Maxar Technologies, Map data © 2021 Google

Key

Site Boundary

Otter Survey Results

- Potential Resting Places
- Feeding Remains
- Spraints

Phase 1 Habitats

- Built Environment: Buildings/hardstanding
- Broadleaved woodland - semi-natural
- Standing water
- Scrub - dense/continuous
- Other tall herb and fern - ruderal
- Wetland: Reedbed
- Cultivated/disturbed land - amenity grassland



client
Nottinghamshire YMCA

project
Balderton Lake

drawing title
OTTER SURVEY RESULTS PLAN

drawing / figure number
Figure 3

scale @ A3
1:2,000

drawn
SE / VF

issue date
1/8/2022

