Appendix 7.9

ECOLOGY REPORT (TERRESTRIAL HABITATS, LUCUSTRINE HABITATS, SURVEY FOR INVASIVE NON-NATIVE SPECIES, BADGER, OTTER, WATER VOLE) (OCTOBER 2023)

Greengage

Brighter strategies
for greener projects

Client: London Borough of Hillingdon

Project: HWSFAC

Report: 2023 Ecology Survey Report

QUALITY ASSURANCE

Issue/Revision:	Draft	Final
Date:	June 2023	October 2023
Comments:		
Prepared by:	Molly Dailide	Molly Dailide & Stephanie Harper
Authorised by:	Stephanie Harper	Mike Harris
File Reference:	552023mdshOct23FV01_2023 Ecology Report_Redacted.docx	552023mdshOct23FV01_2023 Ecology Report_Redacted.docx

CONTENTS

Tables

No table of figures entries found.

Figures

1.0 EXECUTIVE SUMMARY

Greengage Environmental Ltd was commissioned by London Borough of Hillingdon (LBH) to undertake further ecological survey work at a site known as Hillingdon Water Sports Facility and Activity Centre (HWSFAC) in the London Borough of Hillingdon.

The survey work was undertaken to inform an ecological impact assessment for a proposed development at the site, which seeks to develop the HWSFAC on the peninsula, with eventual demolition of the current Broadwater Lake Sailing Club facilities at the north end.

Surveys were undertaken on land and by boat in April, May, June, July and August 2023. The following surveys were undertaken:

- Otter (Lutra lutra) - to search for holts (May and August);
- Water vole (Arvicola amphibius) - to establish presence or absence (May and August);
- Vegetation on islands - characterise to inform a Biodiversity Net Gain assessment and inform future management proposals (May);
- Invasive non-native plant surveys - establish presence and coverage, if / where present (May and August);
- Aquatic and emergent vegetation (presence, coverage and species) (May and August); and
- UKHab survey of grassland in a field north of Moorhall Road in July.

The survey results are summarised as follows:

- Use of the site by otter is assumed, based on previous anecdotal evidence recorded during other surveys of the site, however, no likely potential otter holts or further evidence of otter activity was found during the 2023 surveys;
- The habitat onsite was sub-optimal for water vole and no signs of their presence were found; no signs were noted in the surrounds. Therefore, water voles are concluded to be likely absent from the Site;
- Habitat surveys of the islands were conducted from a boat on the water so as not to disturb breeding birds. Based on the boat based survey, the habitats on the islands were considered to be dominated by wet woodland (Islands 6, 8 and 10 - 16) or tall forbs/ruderal (Island 1 - 5 and 7);
- One island (Island 6) was dominated by Schedule 9 invasive species giant knotweed (Fallopia sachalinensis). Japanese knotweed (Fallopia japonica) was present in one location and was under active management. Buddleia was still present across the site although the majority had been cleared from hardstanding areas;
- Very small patches of typical emergent vegetation were present all around the lake edge and at the edge of islands, but no extensive emergent beds were present;
- Aquatic vegetation (benthic macrophytes) presence was limited to a small range of aquatic plants in a few locations. The majority of the lake had limited to no macrophyte growth, likely to be due to

the depth and substrate condition. Below 3m, no macrophytes grew. Algae was present in many locations across the lake; and

- The field in the south of the Site was assessed as 'other neutral grassland' (previously this would have been classified as 'roughland' a London-specific habitat type).

High level mitigation and enhancement is included in this report with further detailed provided in the accompanying Ecological Impact Assessment and Draft Mitigation and Ecological Management Plan (MEMP) Volume 1 and 2.

2.0 INTRODUCTION

Greengage Environmental Ltd was commissioned by London Borough of Hillingdon (LBH) to conduct additional habitat surveys along with otter and water vole at the Site known as Hillingdon Water Sports Facility and Activity Centre (HWSFAC) in the London Borough of Hillingdon.

The survey aims were as follows:

- Classify habitats present on the islands within Broadwater Lake and within a field to the south of the Site identified as a potential site for biodiversity enhancement;
- Map locations of lake aquatic macrophytes and emergent vegetation (See Figure A1 - A4 in Appendix A;
- Identify and map any invasive non-native plant species;
- Assess the habitat suitability for water vole within the lake, peninsula and adjacent suitable habitats (River Colne banks and canal edge); and
- Identify any signs of otter including holts.

This document is a report of this survey work and has been produced to inform a planning submission for the site which seeks to develop the HWSFAC on the peninsula, with eventual demolition of the current Broadwater Lake Sailing Club facilities at the north end.

The surveys aimed to inform appropriate mitigation, compensation and enhancement actions in light of the proposed development at site, ensuring legislative and planning policy compliance.

2.1 SITE CONTEXT & STATUS

The assessment area ('the Site') covers an area of approximately 79.95 hectares (ha) and is approximately centred on National Grid Reference TQ 04396 89593, OS Co-ordinates 504396 , 189593.

The Site is located in South Harefield approximately 5km north of Uxbridge. The Site forms part of the Mid-Colne Valley Site of Special Scientific Interest (SSSI) and Site of Importance for Nature Conservation (SINC) and lies within the Colne Valley, an area of lakes and rural habitat.

The Site comprises an access road from Moorhall Road, the lake itself with an associated lagoon (south-east corner of the lake), a peninsula at the south-east corner, an existing sailing club (Broadwater Sailing Club) at the north end of the lake, parts of the margins of the lake, and islands set within the lake. Projecting north from the peninsula there is an island or isthmus which supports woodland.

Habitats present at the Site are areas of standing open water, broadleaved woodland, wet woodland, scattered trees, invasive non-native buddleia scrub, dense scrub, modified grassland, gravel hardstanding, concrete, and buildings. The dominant habitat across the Site was standing open water in the form of Broadwater Lake (approximately 60 ha).

The habitats immediately surrounding the Site primarily comprise the River Colne to the west and north, a large residence with gardens to the north, the Grand Union Canal to the east, and woodland,

scrub and a mineral processing site to the south along with residential bungalows on Boyer's Pit Road. Within the wider area, urban development in the form of South Harefield exists to the east, with further lakes, woodland and open grassland being present to the north, south and west.

2.2 PREVIOUS SURVEY WORK

A Preliminary Ecological Appraisal was carried out on the site in 2021 which recommended several protected species surveys.

Further surveys for otter and water vole were undertaken and reported in 2022. No evidence of otter or water vole was recorded during the surveys in May 2022. These surveys were constrained to the areas around the peninsula and did not cover the entire Site.

In August 2022 an otter spraint was identified on the banks of the Grand Union Canal running parallel to the Site. A potential otter spraint next to signal crayfish (Pacifastacus leniusculus) remains was also identified on the northern bank of the lake. Further crayfish remains were found on the banks of the lake, however, due to the presence of a wide variety of bird species, the remains could not be confidently attributed to otter. No otter holts were discovered during the surveys. While the spraint and crayfish remains could not be identified definitively as signs of otter presence, it was considered highly likely that otter visit and utilise the site for feeding due to the presence of suitable habitat and an otter spraint close by along the Grand Union Canal.

No evidence of water vole was identified during the surveys and the lake was considered to offer very marginal suitability due to the lack of suitable bankside habitat for burrows, foraging opportunities and cover. It was considered the part of the wider lake that enters the peninsula in the east may be suitable but was covered by dense buddleia at the time of the survey.

The field to the south of the Site was identified as a potential site for enhancement or offsetting during winter 2022. This was originally assessed in December 2022 which is outside the optimal survey season for grassland.

3.0 METHODOLOGY

3.1 SITE VISITS

Following clearance of dense buddleia in February 2023, a survey within previously inaccessible areas of the peninsula was completed in April 2023. This was carried out to determine the presence of any otter holts along with an assessment of the suitability of the habitat for water vole. The survey was undertaken by foot following standard guidance for each species (further details provided below).

A survey of the lake by boat was undertaken over two days in May 2023 and one day in August 2023. The boat survey allowed close access to the waterside aspect of habitats which were not able to be viewed from the landside. The surveys were undertaken from a motorised boat, driven slowly by a helmsman around the lake edge and island perimeters. Two surveyors were onboard searching for signs (as above) along the edges. Where access was limited due to overhanging vegetation, binoculars were used.

A survey of the grassland field was undertaken in July - previously the field had been subject to a basic habitat assessment during the initial PEA site visit. This was outside the optimal survey season.

3.2 HABITAT SURVEYS

Vegetation on islands

The survey was undertaken in May to inform a Biodiversity Net Gain assessment and inform future management proposals. Habitats were identified and classified using the UKHab methodology. Due to the presence of nesting birds on the islands, the UKHab survey was undertaken from the boat and at sufficient distance to ensure there was no disturbance to nesting birds.

The islands and their associated number are shown in Figure A5 in Appendix A.

Invasive Non-Native Species - plants

A boat survey and site walkover were undertaken in August to record the presence and determine the coverage of any INNS. The land survey was the main survey although from the boat, binoculars were used to search areas of vegetation not easily visible from land. Species searched for included Japanese knotweed, giant knotweed, Himalayan balsam and giant hogweed.

Aquatic macrophytes

To locate areas where macrophytes were present within the lake, four transects were taken across the lake. These were located centrally within the lake from north to south and in an 'X' shape crossing the lake from each corner. An additional transect was surveyed along the northern edge of the lake. A bathyscope was used at approximately 100m intervals to look into the water and a grapnel deployed to collect samples of plant material from the bed for identification. The location and information regarding any visible macrophyte cover was noted at each interval. An assessment of presence, coverage and

species was made from the information. The surveys were undertaken in May (the start of the main growing season) and August (when full macrophyte growth would have been achieved and the most likely month to discover the full coverage / extent and species composition).

Emergent vegetation

Emergent vegetation was mapped from the boat in May 2023 and characterised using binoculars, or a closer approach was made if breeding birds were unlikely to be present. Emergent vegetation is fairly visible and occurs on shallow sediments close to land such as the lake shore and islands.

Grassland

A UKHab survey was undertaken of the Moorhall Road field during July to inform a Biodiversity Net Gain assessment and inform future management proposals. The field was walked and the plant species identified throughout and ground conditions assessed. A 'w' transect was undertaken with sampling points at each point of the W. The number of species were counted within a $1m^2$ area at each point. This was to better allow the grassland type to be established, as the number of species is an important criterion in grassland classification.

3.3 SPECIES SURVEYS

Otter (*Lutra lutra*)

Signs of otter and their holts were searched for during the survey. This included any slides showing where otters enter the water routinely, and suitable holt (den) sites such as hollows beneath tree roots or within earth banks beneath rocks or rubble. Spraint, footprints or food remains were also searched for. The extent of the survey was limited to Broadwater Lake.

Water Vole (*Arvicola terrestris*)

Water vole potential was assessed during the land-based and water-based surveys. The potential is identified by the presence of holes (burrows) and runs along the banks of rivers and lakes as well as ditches. Along with the assessment of suitability of the habitat for water vole, signs including burrows, latrines, footprints or piles of food were also searched for.

Areas of the site covered by the surveys included the shoreline of the lake and the banks of the adjacent River Colne wherever this was accessible. The canal towpath was also walked where this lies in parallel with the site, to assess areas visible from the pathway.

3.4 WEATHER

Weather during all the survey visits was conducive for surveying being dry with temperatures of 11-24^{0}C.

3.5 COMPETENCIES

Molly Dailide, who undertook the April and May surveys, has a degree in Ecology and Conservation (Hons), an MSc in Biodiversity Conservation and is a Full member of CIEEM with over 9 years' experience in ecological survey and assessment. Molly holds a Natural England Great Crested Newt Licence and a FISC level 4 in botanical identification.

Laura Cooper-Smith, who assisted with the May boat survey, has a BSc degree in Zoology (Hons) and is a Qualifying member of CIEEM. Laura has three years of experience in ecological survey and assessment and has particular proficiency in River Condition Assessment.

Stephanie Harper and Matthew Cameron undertook the June, July and August surveys. Stephanie has 16 years' experience as an ecological consultant with field survey training and significant experience in surveying for otter, water vole, badgers and reptiles. She holds a Natural England Level 1 class licence for bats. Matthew is an assistant ecologist with two years' experience in general ecology and 10+ years' experience as a keen birdwatcher, working as a professional ornithologist since 2023.

This report was written by Molly Dailide and reviewed and verified by Stephanie Harper who confirms in writing (see the QA sheet at the front of this report) that the report is in line with the following:

- Represents sound industry practice;
- Reports and recommends correctly, truthfully and objectively;
- Is appropriate given the local site conditions and scope of works proposed; and
- Avoids invalid, biased and exaggerated statements.

3.6 CONSTRAINTS

Parts of the peninsula, namely the wet woodland and lake edges, comprised dense vegetation and wet ground (standing water overlying sinking sand / silt), limiting access in these areas. In addition, these areas were largely on flat ground making them unsuitable for water vole burrows.

Parts of the lake shoreline including the peninsula and some island edges were inaccessible due to the presence of dense, overhanging willow along much of the shoreline. To overcome this limitation, the shoreline was fully viewed using binoculars and therefore the presence of any holts or water burrows are likely to have been identified in these areas.

Due to the density of vegetation in some areas, precautionary mitigation measures are recommended to minimise any low risk of harm.

The lake islands could not be directly accessed to minimise disturbance to any nesting birds. Therefore, habitat classification was undertaken from the boat. While individual plant species may have been missed, the majority of the island habitats were visible from the boat given their small size and therefore the habitat classification is considered accurate on this basis.

4.0 RESULTS

4.1 HABITAT SURVEYS

Lake - emergent vegetation

The shallow lake banks were formed of earth and gravel. The majority of the lake edge was dominated by overhanging willow (Salix spp). Pockets of emergent, marginal vegetation were occasionally present. These typically comprised dominant common reed (Phragmites australis), branched bur-reed (Sparganium erectum), bulrush (Typha sp.) or yellow flag iris (Iris pseudacorus). Other species included gypsywort (Lycopus europaeus), watermint (Mentha aquatica) and willowherb species (Epilobium sp.).

The broad location of emergence vegetation recorded is shown in Figure A1 - A4 in Appendix A.

Lake - aquatic macrophytes

During the survey in May 2023, no macrophyte cover was observed. In areas of shallow water, the floor of the lake was visible with some vegetation beginning to the develop although not yet identifiable.

During the August survey, limited macrophytes were observed to be present with patchy distribution. Species recorded were lesser pondweed (Potamogeton pusillus), hornwort (Ceratophyllum demersum), and the invasive non-native Canadian pondweed (Elodea canadensis) along with algae (it was beyond the scope of the survey to identify the algal species).

At depths of 3m or more, the lakebed was bare (four transect points); in one location gravels were present on the lakebed which were also bare of growth. Algae was predominantly present within shallow areas of the lake used by waders / dabblers for feeding. Overall, there were very few species and growth was very limited in extent.

Islands

The islands were not accessible to identify all the species present due to the nesting bird season; instead an assessment of the broad habitat type habitat was made from the boatside with species identified where possible.

The islands and their associated number are shown in Figure A5 in Appendix A.

w1d - Wet woodland

Islands 6, 8 and 10- 16 were well wooded with mature trees; the species present appeared to be dominated by willow with native broadleaved shrubs and trees occupying the landmass. The islands are assumed to be natural ground remaining from quarrying activities and as such will likely have soils present, allowing more natural plant assemblages to grow. As such, although occupying a small area, a woodland habitat type has been ascribed. Examination of historic aerial photography shows that these islands have been continuously wooded for over 20 years.

Many of the smaller islands were completely submerged and dominated by low-lying willow. Due to the dominance of willow spp on all wooded islands, the woodlands are considered wet woodland, a Habitat of Principal Importance (HPI) under the NERC Act 2006[1].

One of the islands was dominated by giant knotweed, an invasive, non-native species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

Tall forbs/Ruderals

Islands 1, 2, 2a, 4, 5 and 7 have been cleared of woodland in the past ten years and are reportedly cleared annually by members of the sailing club in order to a) enhance the provision of the lake for roosting waterfowl and b) remove barriers to the wind, in order to create a less turbulent air flow for sailing.

The main habitat observed from the boat appeared to be tall forb/ruderal vegetation with visible species including white dead nettle (Lamium album), hemlock (Conium maculatum), willowherb species, dock (Rumex sp.), spear thistle (Cirsium vulgare), red campion (Silene dioica), and daisy species. Patches of bramble (Rubus fruticosus) were also present on some of the islands. These islands are likely under grazing pressure from waterfowl, regularly well-trodden, and organically enriched from bird guano.

Invasive non-native species

Buddleia was present across the Site although only in significant densities at the peninsula where clearance had not been completed.

Giant knotweed was identified occupying part of island 6 and in two locations near the entrance to the peninsula.

Japanese knotweed is present in a very stunted dwarf form at the peninsula shoreline in one location; it is under treatment to remove it from the Site.

Limited presence of submerged macrophytes (Elodea canadensis) were recorded within the lake during the August boat survey.

No other invasive non-natives were found on the Site.

In the surrounding area, floating pennywort was observed on the River Colne.

Field north of Moorhall Road

The field to the southernmost extent of the Site on Moorhall Road was classified as 'other neutral grassland' in moderate condition. 90% of the field had a 'roughland' character (a habitat term specific to Greater London which is essentially a damp grassland).

There were a mixture of grasses and rushes including perennial ryegrass (Lolium perenne) meadow foxtail (Alopecurus pratensis), quaking grass (Briza media) red fescue (Festuca rubra), reed sweet-grass (Glyceria maxima), soft brome (Bromus hordaceous), black bent (Agrostis gigantea), jointed rush (Juncus articulatus) and soft rush (Juncus effusus). Herbs included prostrate knotweed (Polygonum

aviculare), tormentil (Potentilla erecta), red bartsia (Odontites vernus), creeping buttercup (Ranunculus repens), celery-leaved buttercup (R. sceleratus), selfheal (Prunella vulgaris), white clover (Trifolium repens), tufted vetch (Vicia cracca), broadleaf plantain (Plantago major). Large patches of tall ruderals were scattered through the field, with curled dock (Rumex crispus), thistles (Circium arvense and C. vulgare), lesser burdock (Arctium minus) with occasional teasel (Dipsacus fullonium); there were some dense tufts of gypsywort (Lycopus europaeus); osier (Salix viminalis) and white willow (Salix alba) and common alder (Alnus glutinosa) occurred occasionally, nettle (Urtica dioica) was also present.

The remaining 10% in the south-west corner of the field was more marshy / damp in character with amphibious bistort (Persicaria amphibia), great willowherb (Epilobium hirsutum), American willowherb (E. ciliatum), broadleaf dock (Rumex obtusifolius), smooth sow thistle (Sonchus oleraceus), prickly sow thistle (Sonchus asper), redshank (Persicaria maculosa), gypsywort, fat hen (Chenopodium album). Bramble scrub (Rubus fruticosus), lesser burdock and field bindweed (Calystegia sepium) occurred along the boundary hedgerow (elder (Sambuca nigra), ash (Fraxinus vulgaris) and alder); small stands of bulrushes (Typha latifolia) occurred along the south-west fence line with HS2, marking spots where the ground stayed wet through the summer.

4.2 PROTECTED SPECIES SURVEYS

A full description of the lake and peninsula, where the surveys were undertaken, and associated habitats can be found within the 2023 PEA (Report ref: 552023sh21Feb23FV01_PEA).

Otter

No evidence of otter such as feeding remains or spraints was identified during the 2023 surveys. The density of parts of the wet woodland limited full access, however much of the area could still be surveyed. Rubble piles within the survey area had potential to be utilised as holts for otter, however no other signs indicated use by this species such as spraints or tracks. The area is regularly disturbed, reducing its suitability for use as holts further. It is considered that holts are likely absent from the Site.

Water Vole

The habitat within the peninsula previously covered by buddleia was considered unsuitable for water vole. The topography was generally flat, including within the wet woodland, with small ponds holding shallow water a few centimetres deep. Some marginal vegetation such as water mint (Mentha aquatica) was present, but the waterbodies lacked the depth and vegetation to provide cover for this species. The flat topography also meant the area lacked suitable habitat for burrowing.

During the lake surveys from the boat, very little suitable habitat for water vole was identified. Only very small pockets of emergent vegetation were visible and therefore cover and a suitable range of food plants that are necessary for water vole were absent from the lake edge. The bankside substrate, a mix of earth and gravel, also limited suitability for burrow creation due to the preponderance of gravel. No

signs of water vole including feeding remains, burrows and latrines were identified during the survey. Water voles are considered to be likely absent from the site.

5.0 DISCUSSION

5.1 HABITAT SURVEYS

Lake - emergent vegetation

Emergent vegetation in the lake was limited to occasional pockets. This is likely to be due in part to the impoverished substrate that is present. Emergent vegetation is an important habitat for a whole range of faunal species including nesting, roosting and foraging birds, as well as an important habitat for invertebrates and fish, particularly juvenile fish. Therefore, the lack of significant areas of emergent vegetation are likely to restrict the ecological condition of the lake; food webs that would typically rely on such plants will be very impoverished or absent, resulting in much lower biodiversity.

Emergent vegetation, due to its limited occurrence on site, is not considered to be an important ecological receptor at the site in its current form.

Significant enhancements to the lake, embedded within the Proposed Development, such as making the lake less homogenous, creating new floating reedbeds and coir rolls etc will ensure that a significant greater proportion of emergent vegetation will be present and will be able to establish. The aim of this is that the increase in this habitat will provide new and important refuges for a swathe of species including invertebrates and juvenile fish in particular.

Lake - aquatic macrophytes

The macrophyte cover was considered very low to negligible during the survey in May 2023 and low in August 2023. The development of macrophytes appeared to be limited by the depth of the water and the hard substrate which was encountered during the sampling and reported from other surveys undertaken previously.

Macrophytes are not considered to be an important ecological receptor at the Site. The lack of significant growth of macrophytes will significantly restrict the ecological condition of the lake; food webs that would typically rely on such plants will be very impoverished or absent, resulting in much lower biodiversity.

Significant enhancements to the lake, embedded within the Proposed Development, such as making the lake less homogenous, creating new floating reedbeds and coir rolls etc will ensure that a significant greater proportion of aquatic macrophytes will be present and will be able to establish. The aim of this is that the increase in this habitat will provide new and important refuges for a swathe of species including invertebrates and juvenile fish in particular.

Islands

The majority of the islands will be retained as part of the Proposed Development with future management measure implemented to ensure their value for biodiversity is maximised.

All islands with wet woodland habitat, a Habitat of Principle Importance, will be retained as part of the Proposed Development.

Two islands, Island 2a (tall ruderal/forbs) and Island 3, will be lost to facilitate the Proposed Development. However, as part of the Proposed Development, new islands are being created and this habitat creation, which is embedded in the design, will more than adequately compensate for the small loss of 2a and 3.

Invasive non-native species

The Schedule 9 invasive giant knotweed was identified on an island. It is an offence to allow the spread of a Schedule 9 species into the wild. As such, it is recommended a specialist contractor is sought to devise a remediation strategy for the safe removal of the giant knotweed within the site.

Field north of Moorhall Road

In earlier design discussions the field north of Moorhall Road was considered as a possible enhancement area for BNG. However, this is no longer proposed and the Proposed Development does not include any works within or to this field. Instead, it is recommended that the field is left as is, albeit with any existing management being continued in the short term, and dialogue be opened with appropriate stakeholders to discuss the best use/management of this habitat moving forward in the context of the wider Mid Colne Valley Nature Reserve. The grassland is currently likely to support foraging geese and the value for this should be maintained.

5.2 PROTECTED SPECIES SURVEYS

Otter

No evidence of otter was identified during the surveys in 2023, however use of the site by foraging otter cannot be ruled out given the identification of a nearby otter spraint along the canal, which is offsite, in previous surveys.

Mitigation and enhancement measures for otter are outlined within the PEA (Report ref: 552023sh21Feb23FV01_PEA) and developed further within the Draft Mitigation and Ecological Management Plan (MEMP) Volume 1 and 2, which has been written to accompany the Environmental Statement for the proposed development. The measures include creation of wildflower meadow, with mounds and hedgerows to provide sheltered terrestrial habitat for couches and feeding. Secluded beaches for foraging otter will be retained. Wider enhancements to the lake will serve to increase the fish population which in turn will improve the foraging resource for otter.

Water vole

No evidence of water vole was identified during the surveys. Habitats within the peninsula were not considered suitable for water vole. No suitable habitat around the lake edges was identified. Therefore,

this species is considered likely absent within the site and no further surveys or specific mitigation measures are required.

6.0 SUMMARY AND CONCLUSIONS

Greengage Environmental Ltd was commissioned by LBH to undertake an updated survey for otter and water vole on the site's peninsula and lake, in addition to a UKHab classification survey of the lake's islands, and identification of macrophyte cover within the site's lake.

The occurrence of aquatic macrophytes and emergent vegetation was found to be minimal and neither of these are considered to be an important ecological receptor at the Site. Enhancements designed into the Proposed Development will significantly improve the occurrence of these habitats and therefore increase the biodiversity value of the site for a swathe of species including invertebrates and fish.

Habitats within the islands included ruderal vegetation and wet woodland HPI. The islands supporting wet woodland will be retained as part of the Proposed Development and suitable long term management to maximise their biodiversity value will be implemented (see MEMP Volume 1 and 2). The majority of the island with tall ruderal/forbs will also be retained and protected during the Proposed Development. Two islands are to be removed; however, these are being more than adequately compensated for through the creation of new islands within the Site.

Giant knotweed, a Schedule 9 invasive, non-native species was identified on one the islands. A specialist contractor should be sought to develop a remediation strategy for the removal of this species to avoid any unintended spread into the wild.

Macrophyte cover within the lake was negligible to low during the survey in May 2023.

No signs of water vole were identified during the surveys and this species is considered likely absent from the site. In addition, no signs of otter were identified however foraging otter cannot be ruled out. Mitigation and enhancement measures for otter are included within the EcIA and MEMP Volume 1 and 2 for the Site.

APPENDIX A FIGURES

Figure A.1 Emergent Vegetation (Plan 1)

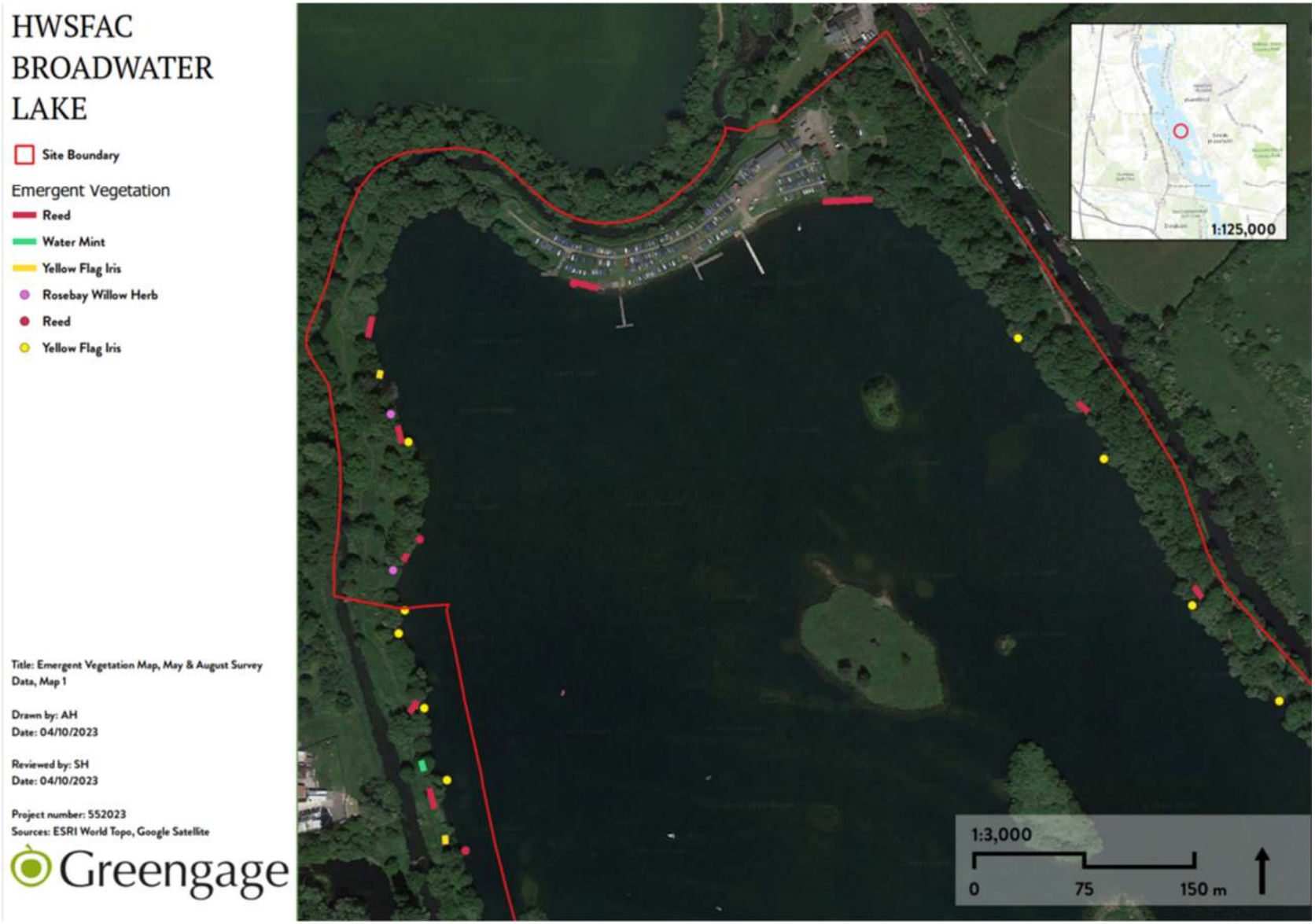

Figure A.2 Emergent Vegetation (Plan 2)

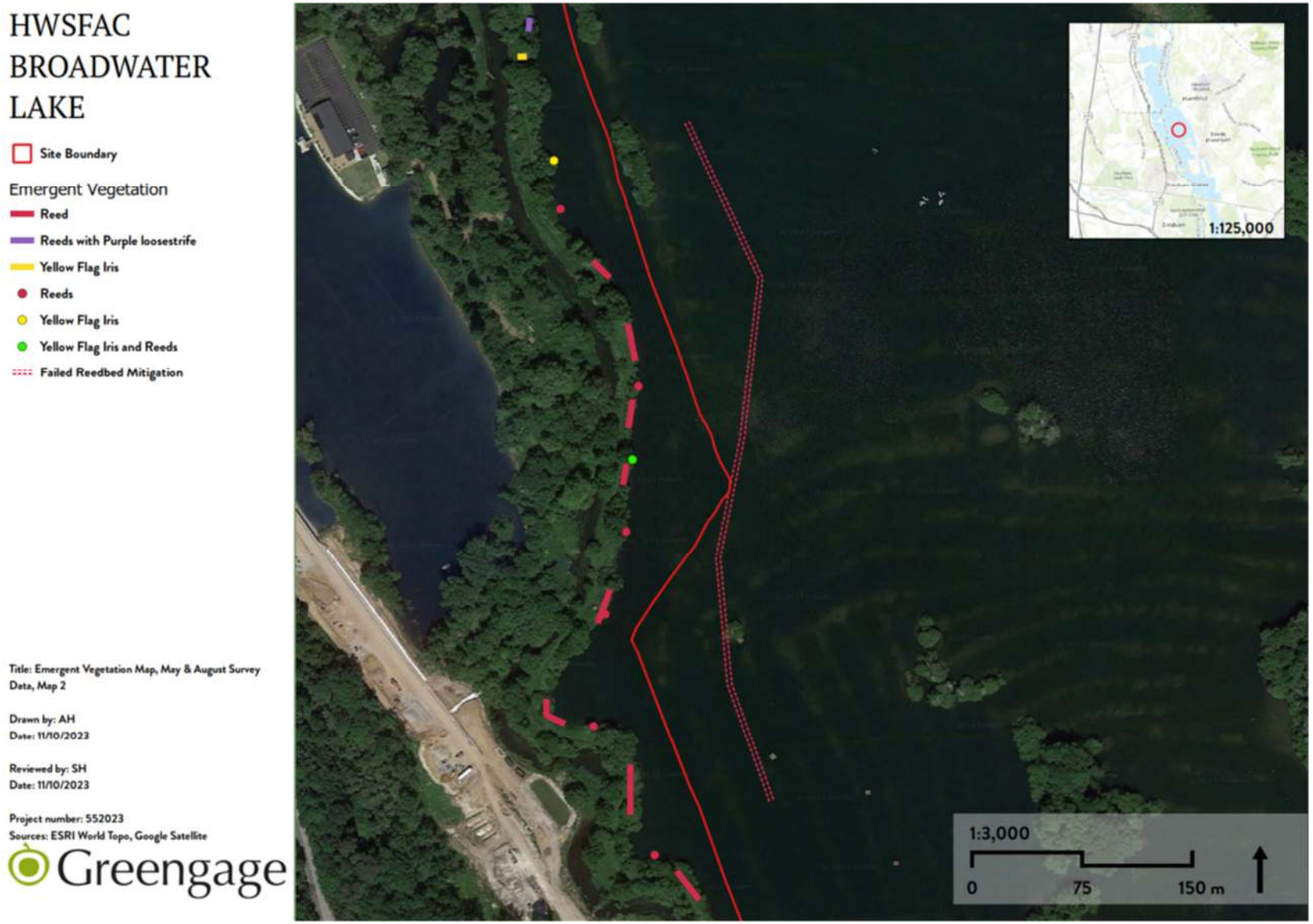

Figure A.3 Emergent Vegetation (Plan 3)

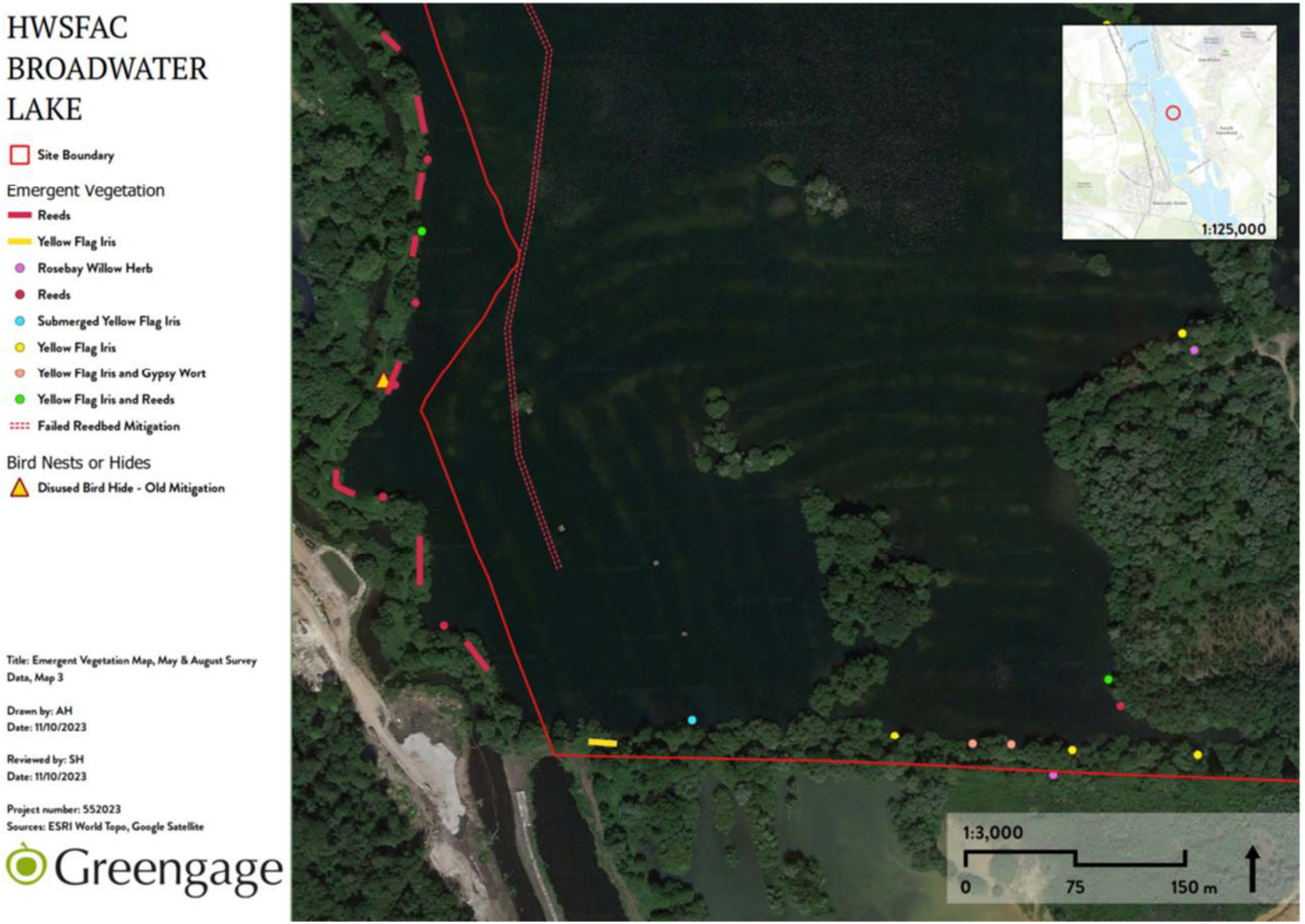

Figure A.4 Emergent Vegetation (Plan 4)

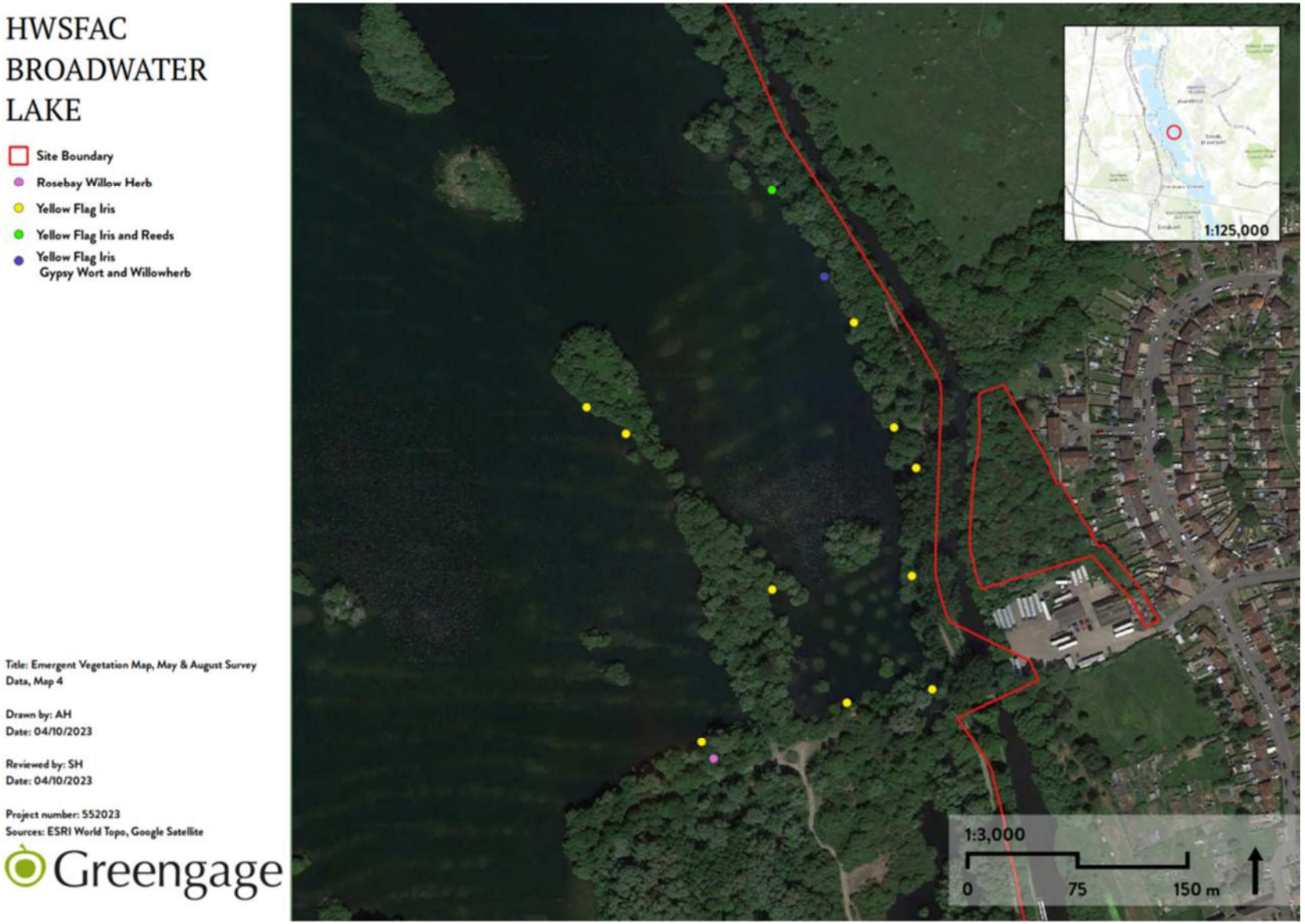

Figure A.5 Island Location and Number (letters indicate existing tern rafts)

APPENDIX B LEGISLATION AND PLANNING POLICY

B.1 LEGISLATION

All species of reptile native to the UK are protected to some degree under national and/or international legislation, which provides mechanisms to protect the species, their habitats and sites occupied by the species.

Sand lizards and smooth snakes are European protected species and are afforded full protection under Section 9 of the Wildlife and Countryside Act 1981 and Regulation 43 of the Conservation of Habitats and Species Regulations 2017. However, these species are rare and highly localised. Their occurrence is not considered as relevant in this instance, as the ranges and specialist habitats of these species do not occur at this site.

The remaining widespread species of native reptiles (adder, grass snake, slow worm and viviparous lizard) are protected under part of Section 9(1) and all of Section 9(5) of the Wildlife and Countryside Act 1981. They are protected against intentional killing and injury and against sale, transporting for sale etc. The habitat of these species is not protected. However, in terms of development, disturbing or destroying reptile habitat during the course of development activities while reptiles are present is likely to lead to an offence under the Wildlife and Countryside Act 1981. It is therefore important to identify the presence of these species within a potential development site. If any of these species are confirmed, all reasonable measures must then be taken to ensure the species are removed to avoid the threat of injury or death associated with development activities.

B.2 PLANNING POLICY

Guidance on nature conservation within planning is issued by the Government within the National Planning Policy Framework. The National Planning Policy Framework (NPPF) 2018[2] sets out the Government's planning policies for England, including how plans and decisions are expected to apply a presumption in favour of sustainable development.

The NPPF has replaced, among other planning guidance documents, Planning Policy Statement 9: Biological and Geological Conservation[3]. However, the accompaniment to PPS9, government circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System[4], remains valid. The prevention of harm to biodiversity through prudent planning decisions is the key principle in the NPPF when considering planning and the natural environment; set out in section 15.

Within the NPPF the Government's vision for conserving and enhancing biological diversity in England within the planning system is set out. The Government's objectives for planning from an ecological perspective are, among others, to recognise the wider benefits of ecosystem services, minimise the impacts on biodiversity and provide net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, which will include the establishment of coherent ecological networks that are more resilient to current and future pressures.

Of particular note to ecological impact assessment is paragraph 174 of the Habitats and biodiversity section which states, to protect and enhance biodiversity and geodiversity, plans should:

"a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and

"b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity".

And, when determining planning applications, local planning authorities should refuse planning permission if "significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for".

As a result of the NPPF any species or habitats of principal importance found on the application site, in addition to statutorily protected species, are of material consideration in the planning process.

Legislation Relating to Water Voles

Water Voles are protected by the Wildlife & Countryside Act (1981) (as amended). It is an offence to intentionally kill, injure or capture a water vole or be in possession of a live or dead water vole or any part of one or intentionally damage, destroy or obstruct access or disturb any water vole shelter or disturb while occupying such shelter. Works to water vole habitat may require a licence from Natural England.

Legislation Relating to Otter

Otter is protected by both the Wildlife and Countryside Act (1981) (listed on Schedule 5) and the Conservation of Habitats and Species Regulations 2019 which make it an offence to capture, kill disturb or injure an otter, damage or destroy a breeding or resting place, obstruct access to their resting or sheltering places and possess, sell, control or transport live or dead or parts of an otter. Activities which involve the disturbance of otter or the destruction of its places of shelter require a license from Natural England.

B.3 PLANNING POLICY

National

National Planning Policy Framework

The National Planning Policy Framework (NPPF) 2021[5] sets out the Government's planning policies for England, including how plans and decisions are expected to apply a presumption in favour of sustainable development. Chapter 15 of the NPPF focuses on conservation and enhancement of the

natural environment, stating plans should 'identify and pursue opportunities for securing measurable net gains for biodiversity'.

It goes on to state: 'if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused'.

The NPPF states that development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest

Alongside this, it acknowledges that planning should be refused where irreplaceable habitats such as ancient woodland are lost.

Regional

The London Plan[6]

Policy G1 Green infrastructure

1. London's network of green and open spaces, and green features in the built environment such as green roofs and street trees, should be protected, planned, designed and managed as integrated features of green infrastructure.
2. Boroughs should prepare green infrastructure strategies that integrate objectives relating to open space provision, biodiversity conservation, flood management, health and wellbeing, sport and recreation.
3. Development Plans and Opportunity Area Planning Frameworks should:
    1. identify key green infrastructure assets, their function and their potential function
    2. identify opportunities for addressing environmental and social challenges through strategic green infrastructure interventions.
4. Development proposals should incorporate appropriate elements of green infrastructure that are integrated into London's wider green infrastructure network.

Policy G5 Urban greening

5. Major development proposals should contribute to the greening of London by including urban greening as a fundamental element of site and building design, and by incorporating measures such as high-quality landscaping (including trees), green roofs, green walls and nature-based sustainable drainage.

6. Boroughs should develop an Urban Greening Factor (UGF) to identify the appropriate amount of urban greening required in new developments. The UGF should be based on the factors set out in Table 8.2, but tailored to local circumstances. In the interim, the Mayor recommends a target score of 0.4 for developments that are predominately residential, and a target score of 0.3 for predominately commercial development. (excluding B2 and B8 uses).
7. Existing green cover retained on site should count towards developments meeting the interim target scores set out in (B) based on the factors set out in Table 8.2.

Policy G6 Biodiversity and access to nature

8. Sites of Importance for Nature Conservation (SINCs) should be protected.
9. Boroughs, in developing Development Plans, should:
    a. use up-to-date information about the natural environment and the relevant procedures to identify SINCs and ecological corridors to identify coherent ecological networks
    b. identify areas of deficiency in access to nature (i.e. areas that are more than 1km walking distance from an accessible Metropolitan or Borough SINC) and seek opportunities to address them
    c. support the protection and conservation of priority species and habitats that sit outside the SINC network, and promote opportunities for enhancing them using Biodiversity Action Plans
    d. seek opportunities to create other habitats, or features such as artificial nest sites, that are of particular relevance and benefit in an urban context
    e. ensure designated sites of European or national nature conservation importance are clearly identified and impacts assessed in accordance with legislative requirements.
10. Where harm to a SINC is unavoidable, and where the benefits of the development proposal clearly outweigh the impacts on biodiversity, the following mitigation hierarchy should be applied to minimise development impacts:
    a. avoid damaging the significant ecological features of the site
    b. minimise the overall spatial impact and mitigate it by improving the quality or management of the rest of the site
    c. deliver off-site compensation of better biodiversity value.
11. Development proposals should manage impacts on biodiversity and aim to secure net biodiversity gain. This should be informed by the best available ecological information and addressed from the start of the development process.
12. Proposals which reduce deficiencies in access to nature should be considered positively.

Policy G7 Trees and woodlands

13. London's urban forest and woodlands should be protected and maintained, and new trees and woodlands should be planted in appropriate locations in order to increase the extent of London's urban forest – the area of London under the canopy of trees.
14. In their Development Plans, boroughs should:
    a. Protect 'veteran' trees and ancient woodland where these are not already part of a protected site
    b. Identify opportunities for tree planting in strategic locations
15. Development proposals should ensure that, wherever possible, existing trees of quality are retained [Category A and B]. If planning permission is granted that necessitates the removal of trees, there should be adequate replacement based on the existing value of the benefits of the trees removed, determined by, for example, i-tree or CAVAT or another appropriate valuation system. The planting of additional trees should generally be included in new developments – particularly large-canopied species which provide a wider range of benefits because of the larger surface area of their canopy.

London Environment Strategy 2018[7]

The Mayor's Environment Strategy was published in May 2018. This document sets out the strategic vision for the environment throughout London. Although not primarily a planning guidance document, it does set strategic objectives, policies and proposals that are of relevance to the delivery of new development in a planning context, including:

Objective 5.1 Make more than half of London green by 2050

Policy 5.1.1 Protect, enhance and increase green areas in the city, to provide green infrastructure services and benefits that London needs now.

This policy states:

"New development proposals should avoid reducing the overall amount of green cover and, where possible, seek to enhance the wider green infrastructure network to increase the benefits this provides. […] New developments should aim to avoid fragmentation of existing green space, reduce storm water run-off rates by using sustainable drainage, and include new tree planting, wildlife-friendly landscaping, or features such as green roofs to mitigate any unavoidable loss".

This supports the 'environmental net gain' approach promoted by government in the 25 Year Environment Plan.

Proposal 5.1.1.d The London Plan includes policies to green streets and buildings, including increasing the extent of green roofs, green walls and sustainable drainage.

Objective 5.2 conserving and enhancement wildlife and natural habitats

Policy 5.2.1 Protect a core network of nature conservation sites and ensure a net gain in biodiversity

This policy requires new development to include new wildlife habitat, nesting and roosting sites, and ecologically appropriate landscaping will provide more resources for wildlife and help to strengthen ecological corridors. It states:

“Opportunities should be sought to create or restore priority habitats (previously known as UK Biodiversity Action Plan habitats) that have been identified as conservation priorities in London [and] all land managers and landowners should take BAP priority species into account”.

Local Policy

The Hillingdon Local Plan sets out the strategic policies guiding development in the Borough. A Strategic Objective of particular note is:

‘S08: Protect and enhance biodiversity to support the necessary changes to adapt to climate change. Where possible, encourage the development of wildlife corridors.’

It also sets out policy under Policy EM7 for the Borough;

Hillingdon's biodiversity and geological conservation will be preserved and enhanced with particular attention given to:

- 2. The protection and enhancement of all Sites of Importance for Nature Conservation. Sites with Metropolitan and Borough Grade 1 importance will be protected from any adverse impacts and loss. Borough Grade 2 and Sites of Local Importance will be protected from loss with harmful impacts mitigated through appropriate compensation.
- 3. The protection and enhancement of populations of protected species as well as priority species and habitats identified within the UK, London and the Hillingdon Biodiversity Action Plans.
- 4. Appropriate contributions from developers to help enhance Sites of Importance for Nature Conservation in close proximity to development and to deliver/ assist in the delivery of actions within the Biodiversity Action Plan.
- 5. The provision of biodiversity improvements from all development, where feasible.
- 6. The provision of green roofs and living walls which contribute to biodiversity and help tackle climate change.

7. The use of sustainable drainage systems that promote ecological connectivity and natural habitats.

REFERENCES

[1] *HM Government, (2006); Natural Environment and Rural Communities Act 2006. HMSO*
[2] *GOV.UK. (2018). National Planning Policy Framework. [online] Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2.*
[3] *DCLG (Former ODPM), (2005); Planning Policy Statement 9: Biodiversity and Geological Conservation. HMSO*
[4] *ODPM, (2005); Circular 06/2005; Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System. TSO*
[5] *GOV.UK. (2021). National Planning Policy Framework. [online] Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2*
[6] *Greater London Authority (2021) The London Plan: The Spatial Development Strategy for Greater London (GLA)*
[7] *Greater London Authority (2018). London Environment Strategy 2018. London: Greater London Authority.*