



Preliminary Ecological Appraisal
Hammersmith Temporary Ferry

For

Beckett Rankine

Project No.: VBRP115/002/001

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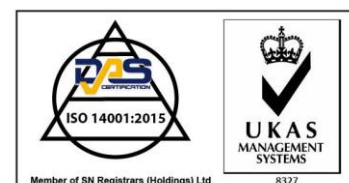
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Contents

| | | |
|-----|--|----|
| 1. | Summary and Main Recommendations | 7 |
| 1.1 | Summary | 7 |
| 1.2 | Recommendations | 8 |
| 2. | Introduction | 9 |
| 2.1 | Introduction | 9 |
| 2.2 | Development Background | 9 |
| 2.3 | Scheme Design | 9 |
| 2.4 | Incorporated mitigation | 14 |
| 2.5 | Ecology Background | 14 |
| 2.6 | The Brief and Objectives | 15 |
| 2.7 | Study Area | 16 |
| 2.8 | Limitations | 16 |
| 3. | Methodology | 18 |
| 3.2 | Desk Study | 19 |
| 3.3 | Phase 1 Habitat Survey | 19 |
| 3.4 | Bat Surveys | 21 |
| 3.5 | Wintering Bird Survey | 22 |
| 3.6 | Aquatic ecology desk assessment | 23 |
| 4. | Desk Study Results | 24 |
| 4.1 | Statutory Designated Sites | 24 |
| 4.2 | Non-Statutory Designations | 25 |
| 4.3 | Protected Species | 26 |
| 5. | Field Survey results | 37 |
| 5.1 | Phase 1 habitat survey | 37 |
| 5.2 | Bat survey | 40 |
| 5.3 | Wintering bird survey | 41 |
| 5.4 | Aquatic Ecology Desk assessment | 41 |
| 6. | Legal and Planning Policy Context | 43 |
| 6.1 | Legislation | 43 |
| 6.2 | National and local planning policy | 43 |
| 6.3 | Other policy | 44 |
| 7. | Preliminary Impact Assessment | 45 |
| 7.1 | Introduction | 45 |
| 7.2 | Designated Sites | 45 |

| | | |
|------|---|----|
| 7.3 | Habitats..... | 46 |
| 7.4 | Bats..... | 46 |
| 7.5 | Wintering Birds | 46 |
| 7.6 | Marine Mammals | 46 |
| 7.7 | Fish..... | 47 |
| 7.8 | Benthic Invertebrates..... | 47 |
| 7.9 | Invasive Aquatic Species..... | 47 |
| 8. | Potential Further Ecological Considerations | 48 |
| 9. | Conclusions | 49 |
| 10. | References..... | 50 |
| | Appendix 1 Assessment Methodology..... | 51 |
| 10.2 | Legal and Planning Policy Context..... | 51 |
| 10.3 | Nature Conservation Value | 52 |
| 10.4 | Preliminary Impact Assessment | 56 |
| 10.5 | Identification of Potential Further Ecological Issues..... | 56 |
| | Appendix 2: Hammersmith Temporary Pedestrian and Cycle Bridge. Planning Application. Survey Report (Pell Frischmann, 2020) | |
| | Appendix 3: Hammersmith Temporary Pedestrian and Cycle Bridge. Wintering Bird Survey Report (Pell Frischmann, 2020) | |
| | Figure 1 Site Location, Study Area and Desk Study Results | |
| | Figure 2-1: Proposed temporary Hammersmith ferry location (from HR Wallingford Hammersmith Temporary Ferry - Aquatic Ecology Desk Assessment)..... | 12 |
| | Figure 3-1: Phase 1 habitat survey area (from Hammersmith Temporary Pedestrian and Cycle Bridge PEA. Pell Frischmann (2020) | 20 |
| | Figure 3-2: Bat activity survey transect route (from Hammersmith Temporary Pedestrian and Cycle Bridge. Planning Application. Bat Survey. Pell Frischmann. 2020) | 22 |
| | Figure 5-1: Phase 1 habitat map (from Pell Frischmann. Hammersmith Temporary Pedestrian and Cycle Bridge). Planning Application. Preliminary Ecological Appraisal. July 2020. Report Ref: 102963-PEF-BAS-ZZZ-REP-EN-00004)..... | 39 |
| | Figure 6: Boundaries of Phase One, Bats & Wintering Bird Survey Areas used to inform PEA for Temporary Ferry Crossing Scheme | |
| | Table 2-1: Reports used as sources of baseline data | 15 |
| | Table 3-1: Desk study data sources..... | 19 |
| | Table 4-1: Non-statutory sites for nature conservation | 25 |
| | Table 4-2 : Species records derived from the desk study | 29 |
| | Table 5-1: Summary of Phase 1 habitat survey findings | 37 |

1. Summary and Main Recommendations

1.1 Summary

- 1.1.1 This Preliminary Ecological Appraisal (PEA) has been prepared by Thomson Environmental Consultants on behalf of Beckett Rankine, in support of full planning applications for a Temporary Ferry crossing on the River Thames between Hammersmith (to the north) and Barnes (to the south). The proposed temporary ferry crossing will be located to the east of the existing Hammersmith Bridge (Figure 1) and will comprise two piers, one on either side of the river. Earlier plans for a temporary bridge have been replaced by a scheme for a temporary ferry.
- 1.1.2 The baseline for the PEA draws on ecological data from reports prepared for a previous planning application for the temporary bridge scheme comprising a PEA, and bat and wintering bird surveys. An aquatic ecology desk assessment was previously undertaken in support of this temporary ferry scheme. The data has previously been reviewed by Thomson Environmental Consultants and is considered to be robust as a baseline for the temporary scheme.
- 1.1.3 Four statutory and twenty five non-statutory designated sites of importance to nature conservation were identified within 2km of the Site. Records for a range of protected species were returned from the data search, including eight species of bat and 185 species of bird. The reach of the River Thames within 2km of the site supports a number of protected marine mammal, fish, and benthic invertebrate species including grey and harbour seal, European smelt and the two-lipped door snail. A number of invasive and non-native species also occur in the Thames including Chinese mitten crab.
- 1.1.4 The Phase 1 habitat survey recorded 7 habitat types, including intertidal mudflat, shingle, running water and scattered broadleaved trees. No potential bat roosts were recorded in trees or structures within the study area. Bat activity surveys recorded foraging and commuting common pipistrelle, soprano pipistrelle and occasional noctule. 6 bat species were recorded during static detector surveys. Wintering bird surveys recorded 29 species over 5 monthly visits, including two Birds of Conservation Concern (BOCC) Red list species.
- 1.1.5 No direct or indirect impacts are anticipated on statutory sites. There will be temporary landtake from the River Thames and Tidal Tributaries Site of Metropolitan Importance for Nature Conservation. Due to the installation of piers and dredging. There will be minor changes in water quality in the River Thames due to the resuspension of silt during the dredging and piling operations. No loss of trees or shrubs from the banks of the River Thames and as such impacts on terrestrial habitats are lower than for the previous temporary bridge scheme. There is potential for disturbance to bats from lighting. However, the lighting plan has been designed with the aim of minimising impacts on bats, and is in accordance with guidance issued by the Environment Agency. Low impact vibro-piling will be used to install the piers, in order to minimise impacts on fish and wintering birds. Additional measures, such as the use of nylon rollers on the pile gate, will further reduce noise. Additional mitigation measures recommended for the temporary bridge scheme have been incorporated into the design, including a pre-commencement survey for two-lipped door snail, and wildflower planting on the margins of the towpath to enhance the habitat for pollinating insects.

1.2 Recommendations

- 1.2.1 Although low noise methods will be used to install the piles, it is recommended that construction and decommissioning of the piles avoids the smelt spawning period of April and March.

2. Introduction

2.1 Introduction

- 2.1.1 This Preliminary Ecological Appraisal (PEA) has been prepared by Thomson Environmental Consultants on behalf of Beckett Rankine, in support of full planning applications for a Temporary Ferry crossing on the River Thames between Hammersmith (to the north) and Barnes (to the south). The ferry crossing will lie to the east of the Grade II* listed Hammersmith Bridge which is closed to road traffic.

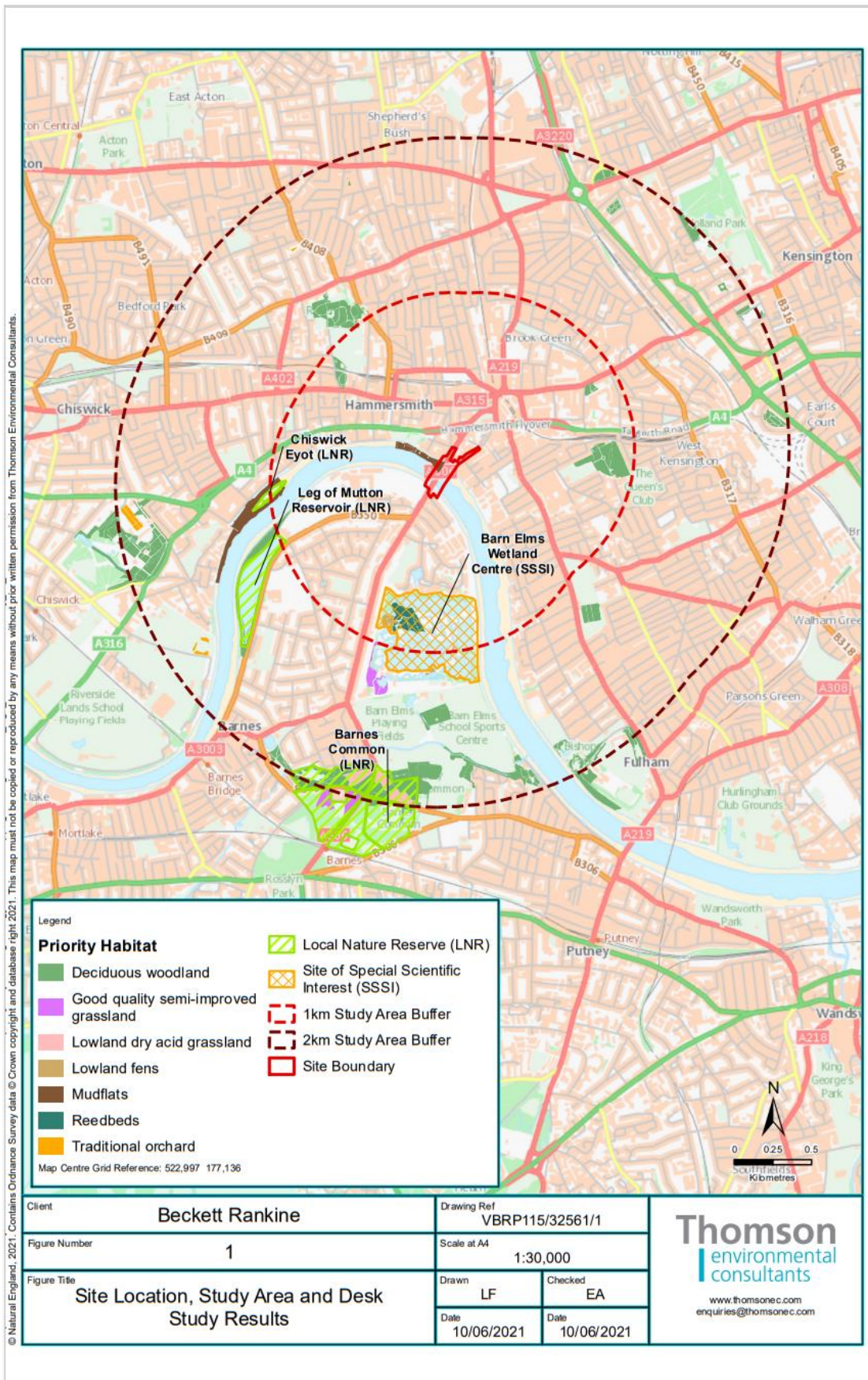
2.2 Development Background

- 2.2.1 Hammersmith Bridge provides a major link between Barnes and Hammersmith. It was closed to road traffic indefinitely in April 2019 when it was found to contain faults that may lead to a catastrophic collapse. The hot weather in August 2020 caused a deterioration to key parts of the suspension structure and an increased risk to public safety and the bridge had to be closed to pedestrians and river traffic passing underneath. There is consequently a need for a temporary crossing for pedestrian and cyclists in this location. Earlier plans for a temporary bridge are now no longer being taken forward, and have been replaced by a scheme for a temporary ferry.

2.3 Scheme Design

- 2.3.1 The proposed temporary ferry crossing will be located to the east of the existing Hammersmith Bridge (Figure 1) and will comprise two piers, one on either side of the river (Figure 2.1). Hammersmith Pier on the north bank will land at the end of Queen Caroline Street, whilst Barnes Pier will land on the Thames towpath on the south bank. Hammersmith Pier comprises two segments with the first extending approximately 10m into the channel perpendicular to the bank and the second extending off the end of the first approximately 150m downstream. Barnes Pier is a single span extending approximately 50m into the channel perpendicular to the bank.
- 2.3.2 Both the Hammersmith Pier and Barnes Pier which make up the Hammersmith temporary Ferry service are to be temporary installations for a up to 3 years. The design of each structure has therefore been completed with ease of removal as a key criterion.
- 2.3.3 The Hammersmith pier will comprise a modular floating walkway spanning between the flood defence wall and a second- hand barge, modified for use as a pier. The walkway will be restrained by temporary tubular piles of up to 0.5 m in diameter. The required piling is to be minimised to avoid major impacts and disturbance to the river environment. The pier is skewed downstream to facilitate passage of large vessels beneath Hammersmith Bridge.
- 2.3.4 The Barnes Temporary Pier is formed from the old Savoy pier, itself a temporary structure, which will be repurposed for this development. The pier will be modified such that is restrained by a pair of spud legs rather than its current radial arms to minimise the impact on the foreshore. Two new temporary piles of around 1 m diameter will be installed restraining the pier of dimensions approximately 40 m long and 10 m wide. Access to the pier is by an aluminium linkspan, connecting to the landside towpath.

- 2.3.5 A steel walkway will extend approximately 40m along the bank top on the line of the existing tow path. The walkway will be approximately 3m in width and will be kinked in order to follow the line of the existing path.



2.3.6 Approximately 120 m³ of sediment is to be levelled by plough dredging in and around the area of the Hammersmith Temporary Pier to allow vessels to come alongside at low tide. Approximately 34m³ of sediment is to be levelled by plough dredging around the Barnes Temporary Pier to minimise grounding. The location of the proposed dredged areas are illustrated in Figure 2.2.

Figure 2-1: Proposed temporary Hammersmith ferry location (from HR Wallingford Hammersmith Temporary Ferry - Aquatic Ecology Desk Assessment)

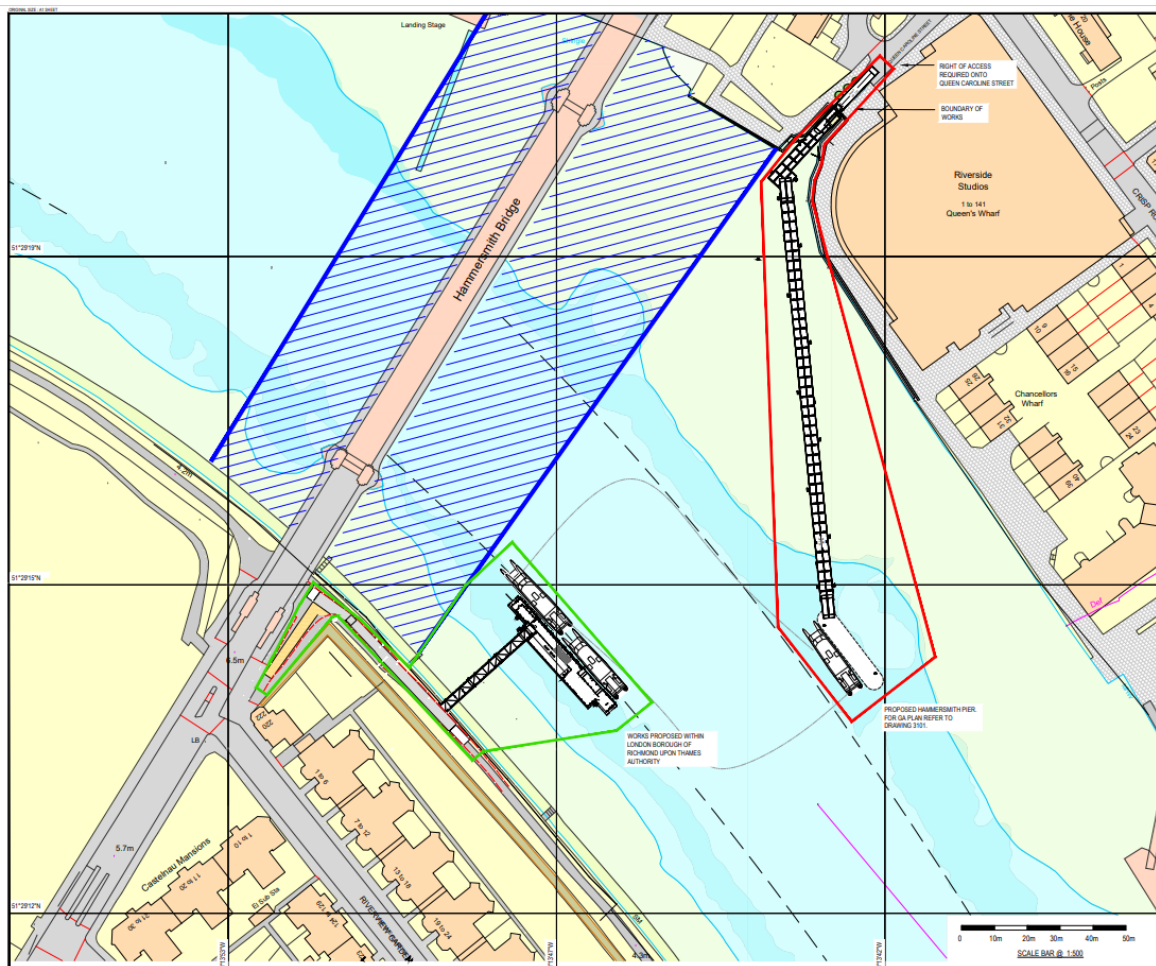
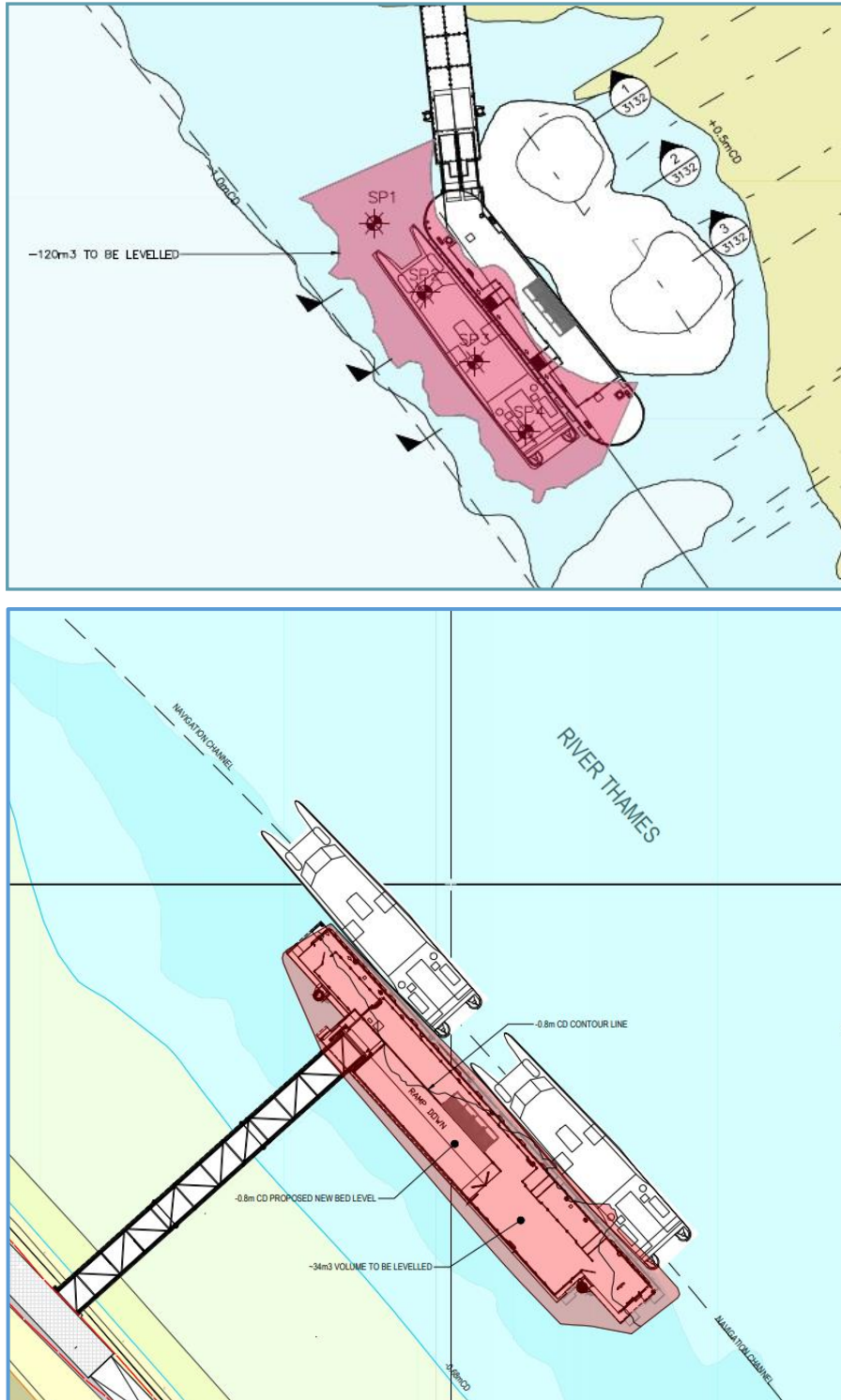


Figure 2.2 Area of river bed to be dredged (Hammersmith Pier - Top, Barnes Pier - Bottom). (from HR Wallingford Hammersmith Temporary Ferry - Aquatic Ecology Desk Assessment)



2.4 Incorporated mitigation

- 2.4.1 Mitigation measures recommended in the PEA for the previous temporary bridge scheme have been incorporated into the design of the temporary ferry piers so as to provide mitigation by design. In particular the ferry piers have been located so as to avoid the need for any tree felling or pruning. This measure minimises the risk of disturbance to breeding birds, and potentially roosting bats.
- 2.4.2 Piling into the foreshore is proposed but the pile diameters have been minimised so as to enable the piles to be installed by vibration instead of impact driving which will minimise noise and disturbance. Noise will be further reduced by using nylon rollers on the pile gate to eliminate the steel on steel between gate and pile. A variable moment hammer will be used which will eliminate the start up and run down rattling which produces noise through the crane and lifting accessories.
- 2.4.3 The walkways will incorporate low level lighting which minimises spill into the river. A Lighting Strategy for the scheme is included with the planning application. In summary, the lighting will comprise small LED units fixed onto the handrails of the piers and landside access walkways at 4m intervals. The proposals will give an average luminance of 30lux, with maximum light spillage beyond the pontoons and walkways generally not exceeding 2lux in accordance with Environment Agency guidelines.
- 2.4.4 A Construction Environmental Management Plan (CEMP) (Uber Boat, 2021) has been produced to ensure environmental considerations are taken into account during construction works so as to minimise impacts. The CEMP is enclosed with the planning application.
- 2.4.5 A pre-commencement survey to check for two-lipped door snails prior to any vegetation clearance will be undertaken. To minimise disturbance of the snails the need for clearance of vegetation has been minimised, and where possible avoided altogether, in the design.
- 2.4.6 Following removal of the steel walkway, wildflower planting will be established on the margins of the existing tow path in order to provide an enhancement for pollinating insects such as bees and butterflies.
- 2.4.7 The proposals described above are hereafter referred to collectively as the development.

2.5 Ecology Background

- 2.5.1 The baseline for the PEA draws on ecological data from reports prepared for a previous planning application for the temporary bridge scheme (Table 2.1), as well as for the current temporary ferry scheme. A Phase 1 habitat surveys was undertaken by Pell Frischmann in October 2019 in support of the temporary bridge scheme. Based on the findings of the survey, recommendations were made for additional bat and wintering bird surveys. A desk-based assessment of aquatic ecology receptors was also recommended and was subsequently commissioned by Transport for London from HR Wallingford for the temporary ferry scheme.
- 2.5.2 The methods for the bat and wintering bird surveys are summarised in Sections 3.4 and 3.5 respectively. Data sources for the aquatic ecology desk study are presented in Section 2.6.

- 2.5.3 This data has previously been reviewed by Thomson Environmental Consultants and is considered to be robust as a baseline for the temporary scheme. This is because it is based on surveys undertaken within the past two years, and up to date desk study requests obtained from Greenspace Information for Greater London (GIGL).
- 2.5.4 The areas covered by the bat and walkover surveys for the temporary bridge scheme cover the pier footings for the ferry and therefore the results of these surveys are considered to provide an adequate baseline for the ferry scheme.

Table 2-1: Reports used as sources of baseline data

| Report | Date |
|--|--------------|
| Hammersmith Temporary Pedestrian and Cycle Bridge. Planning Application. Preliminary Ecological Appraisal. Prepared on behalf of Transport for London by Pell Frischmann. Report Reference: 102963-PEF-BAS-ZZZ-REP-EN-00004. | July 2020 |
| Hammersmith Temporary Ferry Ecological Report. Prepared by Beckett Rankine on behalf of Uber Boat by Thames Clippers. Report reference: 2048-BRL-02-XX-RP-C-1500. | May 2021 |
| Hammersmith Temporary Pedestrian and Cycle Bridge. Planning Application. Bat Survey Report. Prepared on behalf of Transport for London by Pell Frischmann. Report Reference: 102963-PEF-BAS-ZZZ-REP-EN- 012 | October 2020 |
| Hammersmith Temporary Ferry. Aquatic Ecology Desk Assessment. Prepared by HR Wallingford. Report reference: DER6480-RT003-R01-00. | May 2021. |

2.6 The Brief and Objectives

- 2.6.1 Beckett Rankine on behalf of Uber Boat by Thames Clipper have submitted a planning application to LB Hammersmith and Fulham and LB Richmond upon Thames. Thomson Environmental Consultants have been commissioned to prepare a Preliminary Ecological Appraisal (PEA) for the scheme.
- 2.6.2 The PEA includes the following elements:
- Records of designated sites and protected species held by GiGL;
 - Results of an extended Phase 1 habitat survey of the temporary bridge site, which incorporates the area that would be occupied by the footings for the temporary ferry piers.;
 - Results of a bat and wintering bird surveys undertaken in response to recommendations in the PEA ;

- Summary of information presented in an aquatic ecology desk study prepared to support the planning application for the temporary ferry scheme.
- A combined report giving the methods and results of the surveys undertaken, an initial impact assessment and any recommendations, including opportunities for biodiversity enhancement; and
- Provide a digitised map of the survey results.

2.7 Study Area

2.7.1 The study area for the PEA incorporates terrestrial and aquatic ecology receptors with potential to be impacted by the temporary ferry scheme. The Phase 1 habitat survey undertaken in support of the PEA for temporary bridge scheme (Figure 3.1) covered an area which includes the land-based footprint of both the Hammersmith Pier and the Barnes Pier. The pontoon for the Hammersmith Pier will extend approximately 150m downstream of the area covered by the Phase 1 survey for the temporary bridge scheme. However, given that this is floating infrastructure within the channel it is not considered to affect the validity of the survey as baseline for this PEA.

2.7.2 The bat and wintering bird surveys for the temporary bridge scheme was based on a study area which extends approximately 300m and 200m downstream of Hammersmith Bridge respectively (Figure 3.2 and Figure 6). The survey areas for the walkover survey the bat survey and the wintering bird survey is therefore considered adequate for the ferry scheme.

2.7.3 The aquatic ecology desk study incorporates an area within 2km of the temporary ferry scheme (Figure 1).

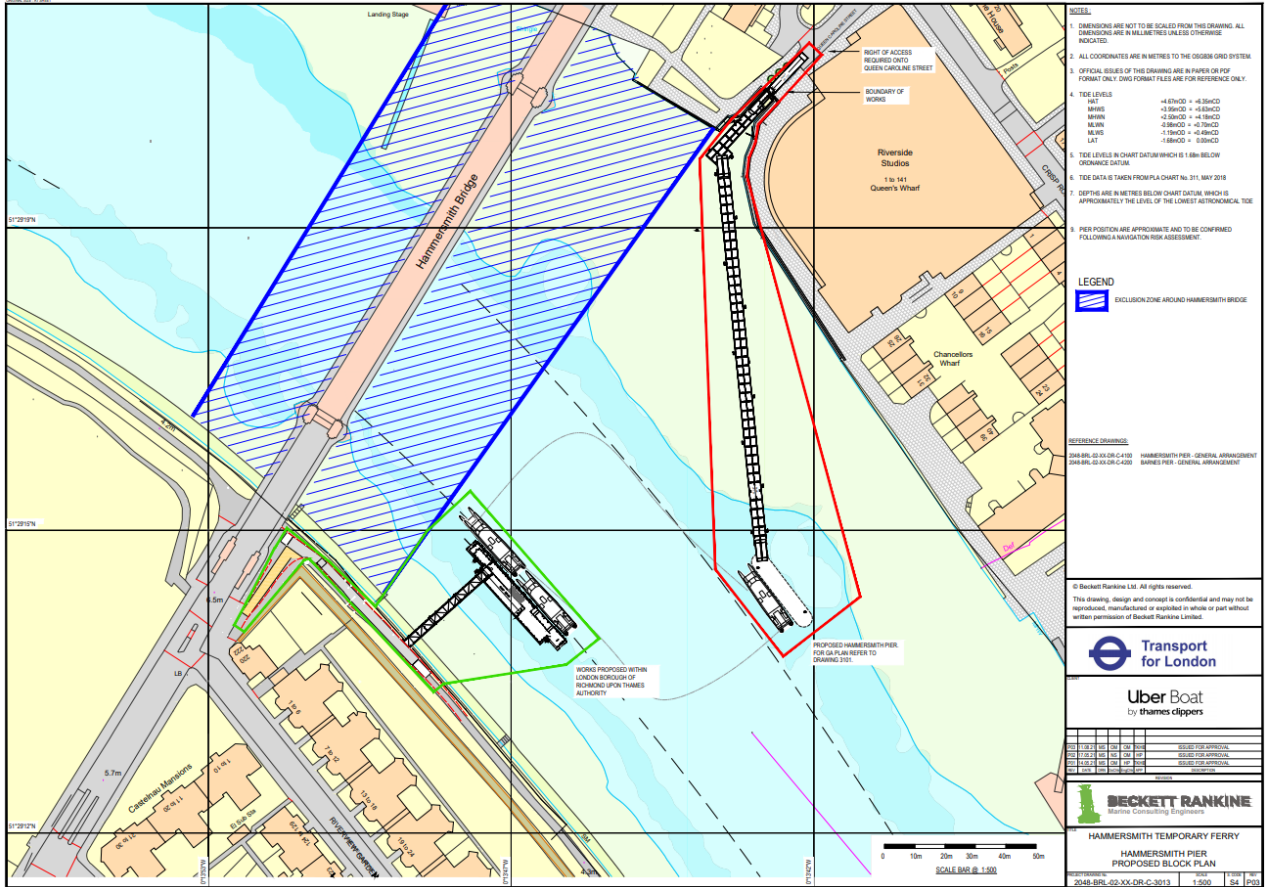
2.8 Limitations

2.8.1 The surveys were undertaken by a third party and therefore have not been subject to Thomson Environmental Consultants' in house quality control system. However, the surveys adhere to approved methodologies and were undertaken by a qualified ecologist during the appropriate seasonal window.

2.8.2 The species data collated during the desk study is mainly derived from records submitted by members of the public and ad hoc surveys undertaken by volunteers. Therefore, it should not be taken as a definitive list of the protected species and other species of conservation concern that occur in the local area.

2.8.3 This report is based on the development boundary and layout shown on Figure 2.3. Subsequent changes to either may result in a requirement to reassess the potential impacts of the development and the requirements for avoidance, mitigation and enhancement.

Figure 2.3: Development boundary and layout plan



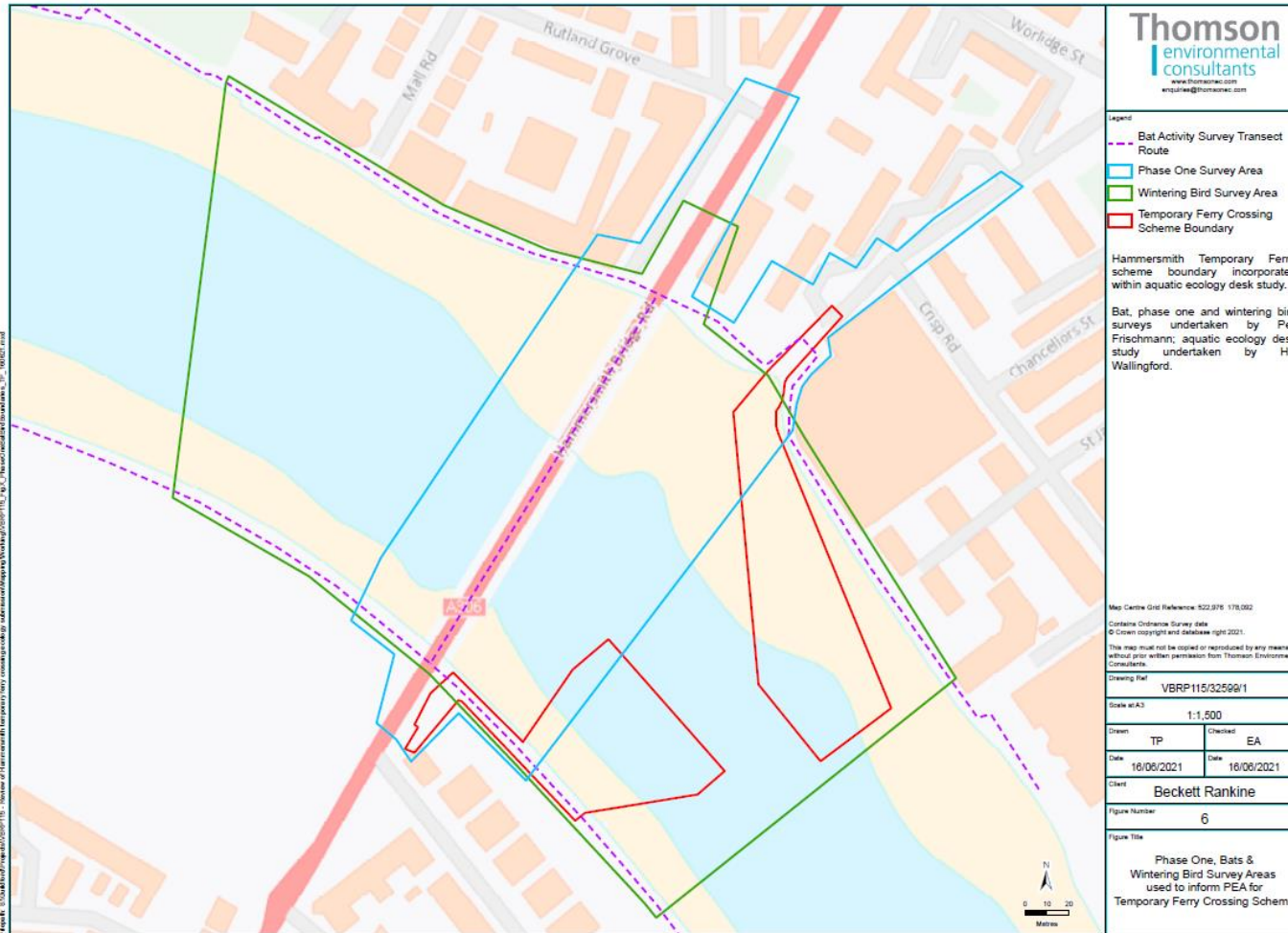


Figure 2.4 Boundaries of Phase one, Bats & Wintering Bird Survey Areas used to inform PEA for Temporary Ferry Crossing Scheme

3. Methodology

3.1.1 The following section outlines the methods used for the desk study and field work undertaken by Pell Frischmann to support the PEA and the bat survey for the temporary bridge scheme. It also outlines the methods used for the aquatic ecology desk study for the Temporary Ferry scheme.

3.2 Desk Study

3.2.1 The desk study undertaken by Pell Frischmann for the temporary bridge scheme PEA (Pell Frischmann, 2020) included a data search for records of designated sites and protected species from a 2km radius of the site. Data sources are listed in Table 3.1.

Table 3-1: Desk study data sources

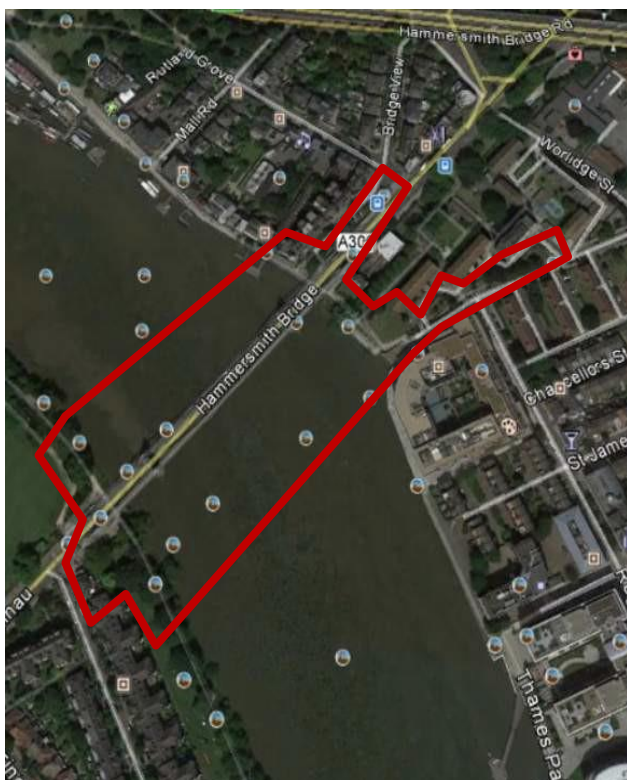
| Information | Data source |
|--|---|
| Statutory and non-statutory designated sites | Multi-Agency Geographic Information for the Countryside (MAGIC) Greenspace information for Greater London (GiGL) |
| Protected and notable species | National Biodiversity Network (NBN) Greenspace information for Greater London (GiGL) |

3.3 Phase 1 Habitat Survey

3.3.1 A Phase 1 habitat survey (JNCC, 2010) was undertaken by Pell Frischmann on 31st October 2019. Phase 1 habitat survey is a standard technique for rapidly obtaining baseline ecological information over a large area of land. It is primarily a mapping technique and uses a standard set of habitat definitions for classifying areas of land on the basis of the vegetation present. For this survey, the technique was modified (or extended) to provide more detail over a smaller area, and give further consideration to fauna (IEA, 1995). The standard habitat definitions were used with an additional category of coarse grassland for unmanaged, secondary grasslands that are species poor.

3.3.2 The study area for the walkover survey is presented in Figure 3.1 below.

Figure 3-1: Phase 1 habitat survey area (from Hammersmith Temporary Pedestrian and Cycle Bridge PEA. Pell Frischmann (2020))



3.3.3 The dominant and readily identified species of higher plant species from each habitat area or type within the survey area were recorded and their abundance was assessed on the DAFOR scale:

- D Dominant
- A Abundant
- F Frequent
- O Occasional
- R Rare

3.3.4 These scores represent the abundance within the defined area only and do not reflect national or regional abundances. Plant species nomenclature follows Stace (2010).

3.3.5 Target notes were made for any features which were too small to map or are of particular ecological interest.

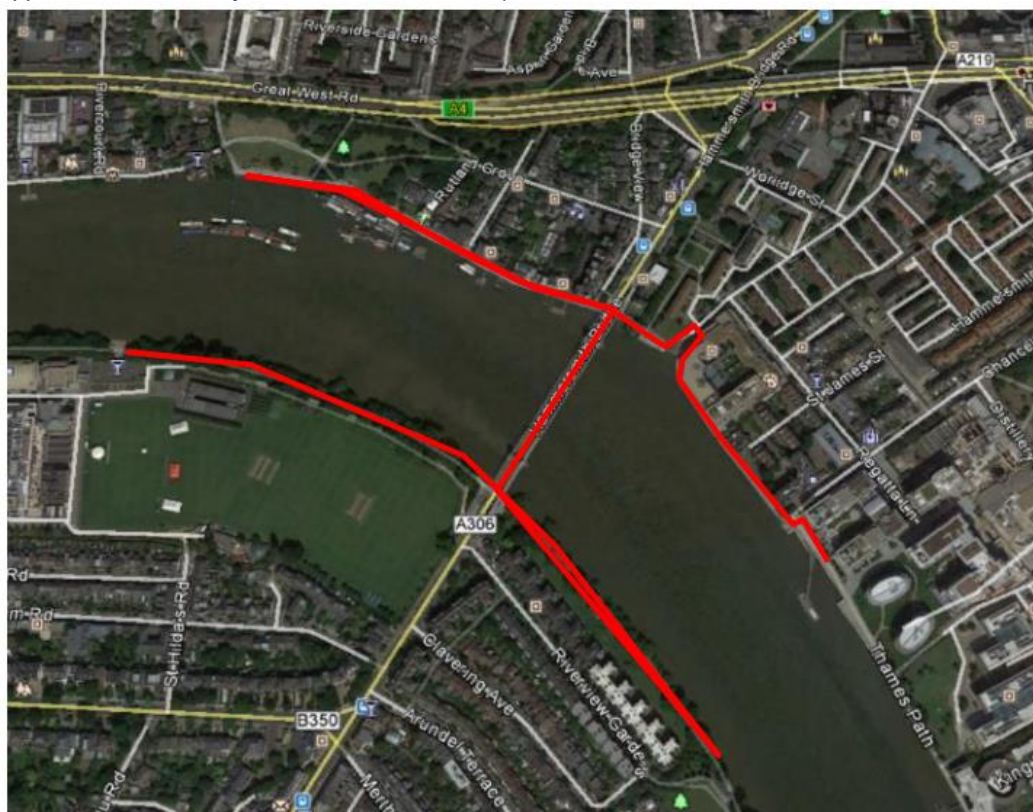
3.3.6 The survey also aimed to record any evidence of protected species (including nesting birds) and invasive species.

3.4 Bat Surveys

- 3.4.1 Bat surveys were undertaken by Pell Frischmann between April and September 2020. The area encompassed by the bat surveys includes the study area for the temporary ferry crossing and has therefore been included in the baseline for this PEA.
- 3.4.2 The surveys comprised:
- Preliminary bat roost assessment of buildings and trees;
 - Activity transect and static bat detector surveys;
 - Emergence surveys from the existing Hammersmith Bridge structure.
- 3.4.3 Surveys were undertaken in accordance with good practice guidance¹.
- 3.4.4 As the habitat present within the Site was assessed to provide a low to moderate foraging habitat quality for bats, one transect survey per month during 2020 summer season was undertaken, one of which included a combined dusk and dawn survey within the same 24 hour period. The transect route is illustrated in Figure 3.2.
- 3.4.5 Static bat detectors were also deployed within the Site at a suitable location for five consecutive nights during each survey month. There was found to be a lack of suitable structures to attach static bat detectors to, although this was not considered to be a significant constraint to the survey.
- 3.4.6 One dusk emergence survey was undertaken for the Hammersmith Bridge on the 4th May 2020, with an additional survey of the northern abutments only on 18th June 2020.
- 3.4.7 The survey report is presented in full in Appendix 2.

¹ Bat Conservation Trust (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* 3rd edition

Figure 3-2: Bat activity survey transect route (from Hammersmith Temporary Pedestrian and Cycle Brige. Planning Application. Bat Survey. Pell Frischmann. 2020)



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3.5 Wintering Bird Survey

- 3.5.1 Wintering bird surveys were undertaken by Pell Frischmann between October 2019 and February 2020 in order to establish wintering bird assemblages within the study area for the temporary bridge scheme.
- 3.5.2 Surveys were undertaken in accordance with the Wetland Bird Survey (WeBS) (Gilbert *et al.* 1998) standard methodology in which birds are recorded on a monthly basis from set vantage points at low tide. No specific constraints were noted on the survey method.
- 3.5.3 Desk study records of wintering birds within a 2km radius of the site were sought from NBN.
- 3.5.4 An assessment of the impacts of the scheme on wintering birds was undertaken in accordance with guidance on ecological impact assessment published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018).

3.6 Aquatic ecology desk assessment

- 3.6.1 An aquatic ecology desk assessment was undertaken by HR Wallingford for the temporary ferry scheme in May 2021. The scope of the assessment included marine mammals, fish, breeding and wintering birds, benthic invertebrates and invasive species.
- 3.6.2 Records for the aquatic ecology desk study undertaken by HR Wallingford (2021) were also obtained for an area within 2km of the footprint of the temporary ferry scheme. The desk-based search included obtaining readily available data from the following organisations and from various available projects in the vicinity of the Hammersmith Bridge planned works:
- Environment Agency - Migratory and freshwater fish monitoring surveys (EA, 2021);
 - National Biodiversity Network (NBN) - Species atlas (<https://nbn.org.uk/>);
 - Various Thames guidance documents produced by, or for the Zoological Society of London (ZSL) HR Wallingford 2016; ZSL, 2016 and ZSL, 2018);
 - Fulham Football ground Environmental Statement (WSP, 2017); and,
 - Half tide weir removal ecological survey (APEM, 2015).
- 3.6.3 A high-level assessment of impacts on aquatic ecology receptors during the construction, operational and decommissioning stage of the project was undertaken based on CIEEM guidance (CIEEM, 2018).

4. Desk Study Results

4.1 Statutory Designated Sites

4.1.1 Four statutory designated sites of importance to nature conservation were identified within 2km of the Site. Details of the sites are summarised in Table 4.1

Barn Elms Wetland Centre Site of Special Scientific Interest (SSSI)

4.1.2 This SSSI is located approximately 650m to the south of the Site and is designated due to a mosaic of wetland habitat which support nationally important wintering birds including shoveler (*Anas clypeata*) and a number of other breeding birds associated with lowland waters. Most of this SSSI consists of standing open water, grazing marsh and reedbed, with some carr woodland, scrub and mesotrophic woodland. Breeding birds recorded here regularly include little grebe (*Tachybaptus ruficollis*), great crested grebe (*Podiceps cristatus*), grey heron (*Ardea cinerea*), mute swan (*Cygnus alor*), gadwall (*Anas strepera*), pochard (*Aythya farina*), tufted duck (*Aythya fuligula*), little ringed plover (*Charadrius dubius*), redshank (*Tringa tetanus*), common tern (*Sterna hirundo*), sedge warbler (*Acrocephalus schoenobaenus*), reed warbler (*Acrocephalus scirpaceus*) and reed bunting (*Emberiza schoeniclus*).

Chiswick Eyot Local Nature Reserve (LNR)

4.1.3 This LNR is located approximately 940m to the west of the Site and is a small island within the Thames beside the Chiswick Mall. The island used to be larger but has slipped away due to erosion and is covered in trees including willow saplings and reeds. Regular volunteer days include bank stabilisation and scrub removal.

Lonsdale Road Reservoir (Leg of Mutton Reservoir) Local Nature Reserve

4.1.4 This LNR is located approximately 1km to the south-west of the Site and is a disused reservoir covering 8.2 hectares. The site supports a number of breeding bird including the nationally scarce pochard (*Aythya ferina*), and a number of wintering wildfowl. Other species present include bats and great crested newt (*Triturus cristatus*), and aquatic plants that are rare in London including bogbean (*Menyanthes trifoliata*) and frogbit (*Hydrocharis morsus ranae*).

Barnes Common Local Nature Reserve

4.1.5 This LNR is located approximately 1.8km to the south of the Site and contains a range of habitats including acid grassland, acid scrub, woodland and neutral grassland. Barnes Old Burial Ground is contained within the common and the entire reserve is considered of educational value.

SSSI Impact Risk Zone

4.1.6 The Site is situated within a SSSI Impact Risk Zone for Barn Elms Wetland Centre SSSI. Consultation with Natural England will be required for any transport proposal including road, rail and by water (excluding routine maintenance).

4.2 Non-Statutory Designations

4.2.1 Twenty-five non-statutory designated Sites of Importance to Nature Conservation (SINC) have been identified within 2km of the Site and summarised below in Table 4.1. These sites are split into 3 tiers of importance:

- Sites of Metropolitan Importance;
- Sites of Borough Importance (Grade I & II); and
- Sites of Local Importance.

Table 4-1: Non-statutory sites for nature conservation

| Site Designation | Tier | Distance to site (km) |
|---|---|-----------------------|
| Site of Importance to Nature Conservation | | |
| River Thames and Tidal Tributaries | Site of Metropolitan Grade Importance | Within the site |
| Furnivall Gardens | Site of Metropolitan Grade Importance | 0.3 |
| Disused track bed west of Hammersmith station | Site of Borough Grade Importance (Grade I) | 0.665 |
| Ravenscourt Park | Site of Borough Grade Importance (Grade II) | 0.895 |
| Margravine Cemetery | Site of Local Importance | 0.94 |
| London Wetland Centre | Site of Metropolitan Grade Importance | 1 |
| Leg o'mutton | Site of Borough Grade Importance (Grade I) | 1 |
| St Paul's Green | Site of Local Importance | 1 |
| Fulham Cemetery | Site of Local Importance | 1.1 |
| Loris Road Community Garden | Site of Local Importance | 1.2 |
| Barn Elms Playing Fields | Site of Borough Grade Importance (Grade II) | 1.3 |
| Catnor Park | Site of Local Importance | 1.5 |
| Normand Park | Site of Local Importance | 1.5 |
| Fulham Palace, Bishops Park and All Saints Churchyard | Site of Borough Grade Importance (Grade I) | 1.6 |
| West London Line in Brompton | Site of Borough Grade Importance (Grade I) | 1.6 |
| Putney Lower Common | Site of Borough Grade Importance (Grade I) | 1.6 |
| Beverley Brook in Wandsworth | Site of Borough Grade Importance (Grade II) | 1.6 |
| Godolphin Road Community Garden | Site of Borough Grade Importance (Grade I) | 1.6 |
| Shepherds Bush Green | Site of Local Importance | 1.6 |

| Site Designation | Tier | Distance to site (km) |
|---|---|-----------------------|
| Beverley Brook from Richmond Park to the River Thames | Site of Borough Grade Importance (Grade II) | 1.7 |
| Chiswick House Grounds | Site of Borough Grade Importance (Grade I) | 1.7 |
| Barnes Common | Site of Metropolitan Grade Importance | 1.8 |
| Piccadilly and District Lines in Ealing | Site of Borough Grade Importance (Grade II) | 1.8 |
| Wendell Park | Site of Local Importance | 1.9 |
| Barnes Green Pond | Site of Local Importance | 1.9 |

Ancient Woodland outside designated sites

- 4.2.2 There are no records for areas of Ancient Semi Natural or Replanted Ancient Woodland (ASNW/PAWS) within a 2km search radius of the Site.

4.3 Protected Species

- 4.3.1 Records of protected and notable species which have been identified within a boundary of the Site have been provided by NBN and GiGL.

European protected species Mammals

- 4.3.2 NBN has returned records for bats species including brown long-eared bat, (*Plecotus auratus*), common pipistrelle, (*Pipistrellus pipistrellus*), Nathusius's pipistrelle, (*Pipistrellus nathusii*), noctule, (*Nyctalus noctule*), serotine, (*Eptesicus serotinus*), soprano pipistrelle, (*Pipistrellus pygmaeus*) within 2km of the Site.
- 4.3.3 GiGL returned records for bat species including brown long-eared bats, common pipistrelle, Nathusius's pipistrelle, noctule, serotine, soprano pipistrelle, Daubenton's bat (*Myotis daubentonii*) and lesser noctule (*Nyctalus leisleri*) within a 2km search radius of the Site.

Other protected species

Amphibians

- 4.3.4 NBN has returned records for common frog, (*Rana temporaria*), common toad, (*Bufo bufo*), palmate newt, (*Lissotriton helveticus*), and smooth newt, (*Lissotriton vulgaris*) within 2km of the Site.
- 4.3.5 GiGL returned 94 records for common frog, and 14 records for common toad within a 2km search radius of the Site. The closest common frog was found approximately 136m to the south of the Site and the nearest common toad was found approximately 768m to the north of the Site.

Birds

- 4.3.6 NBN have returned over 130,000 records for birds covering 181 species within a 2km search radius of the Site. GiGL returned records for 85 notable bird species within a 2km search radius of the Site.

Fish, Bivalve and Gastropods

- 4.3.7 NBN returned records for bullhead (*Cottus gobio*) and European eel (*Anguilla anguilla*). The European eel is a UK Biodiversity Action Plan priority fish species. GiGL did not return any records for fish, bivalves or gastropods.

Mammals

- 4.3.8 NBN returned records for Eurasian badger (*Meles meles*) and West European hedgehog (*Erinaceus europaeus*) within 2km of the Site.
- 4.3.9 GiGL returned 144 records for European water vole (*Arvicola amphibious*), 109 records for European hedgehogs, and one European badger within a 2km search radius of the Site. The closest water vole, hedgehog and badger were found approximately 870m to the south west, 130m to the south west and 1.03km to the south of the Site respectively.
- 4.3.10 GiGL returned records for grey seal (*Halichoerus grypus*) approximately 195m to the east of the Site in 2004, and common seal (*Phoca vitulina*) approximately 190m to the east in 2005.

Reptiles

- 4.3.11 NBN returned records for common lizard, (*Zootoca vivipara*), grass snake, (*Natrix natrix*) and slow worm, (*Anguis fragilis*) within 2km of the Site.
- 4.3.12 GiGL returned 26 records for common lizards, 8 records for slow worms and 5 records for grass snakes within a 2km search radius of the Site. The closest common lizard, slow worm and grass snakes were found approximately 620m to the south west, 1.03km to the south and 950m to the south of the Site respectively.

Invasive Species

- 4.3.13 The NBN search has returned records for invasive non-native species Chinese mitten crab (*Eriocheir sinensis*), zebra mussel (*Dreissena polymorpha*) to the west of the Site and marsh frog (*Pelophylax ridibundus*).
- 4.3.14 GiGL returned records of Chinese mitten crab, Japanese knotweed, (*Fallopia japonica*), giant hogweed (*Heracleum mantegazzianum*), and New Zealand pigmyweed, (*Crassula helmsii*). The closest Chinese mitten crab was found 1km to the west of the Site. Invasive plant species Japanese knotweed, giant hogweed and New Zealand pigmyweed were found approximately 1.10km to the north east, 1.05km to the south east and 1.10km to the south of the Site respectively.

Tree Preservation Orders and Conservation Areas

- 4.3.15 Information obtained from the Hammersmith and Fulham Council Planning Department and the Richmond and Wandsworth Council Trees and Park Department indicates that there are Conservation Areas within the Site and immediately adjacent. There are no known tree preservation orders within the Site boundary.

Table 4-2 : Species records derived from the desk study

| Common Name | Scientific Name | HSR ² Sch 2 or 5 | WCA ³ Sch1, 5 or 8 | National Priority Species ⁴ | Local priority/ BAP species | BoCC ⁵ / Other ⁶ | Red Data Book | Grid Ref. | Distance from site | Source |
|---------------------|-------------------------------------|-----------------------------------|-------------------------------------|--|--------------------------------------|---|------------------|--------------|-----------------------|--------|
| Arctic Skua | <i>Stercorarius parasiticus</i> | | | | | Red | | | | GiGL |
| Avocet | <i>Recurvirostra avosetta</i> | | ✓ | | | | | | | GiGL |
| Bewick's Swan | <i>Cygnus columbianus</i> | | ✓ | | | | | | | GiGL |
| Bittern | <i>Botaurus stellaris</i> | | ✓ | | | | | | | GiGL |
| Black redstart | <i>Phoenicurus ochruros</i> | | ✓ | | | Red | | | | GiGL |
| Black tern | <i>Chlidonias niger</i> | | ✓ | | | | | | | GiGL |
| Black-necked grebe | <i>Podiceps nigricollis</i> | | ✓ | | | Red | | | | GiGL |
| Black-tailed godwit | <i>Limosa limosa</i> | | ✓ | | | Red | | | | GiGL |
| Blue-headed wagtail | <i>Motacilla flava subsp. Flava</i> | | | | | Red | | | | GiGL |
| Bluethroat | <i>Luscinia svecica</i> | | | | | Red | | | | GiGL |

² Conservation of Habitats and Species Regulations 2010, as amended

³ Wildlife and Countryside Act 1981, as amended

⁴ Species of Principal Importance within the relevant country of the United Kingdom

⁵ Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man

⁶ Other to include nationally scarce species and species listed on Annex II of the Habitats Directive

| Common Name | Scientific Name | HSR ² Sch 2 or 5 | WCA ³ Sch1, 5 or 8 | National Priority Species ⁴ | Local priority/ BAP species | BoCC ⁵ / Other ⁶ | Red Data Book | Grid Ref. | Distance from site | Source |
|---------------------|---|-----------------------------------|-------------------------------------|--|--------------------------------------|---|------------------|--------------|-----------------------|--------|
| Brambling | <i>Fringilla montifringilla</i> | | ✓ | | | | | | | GiGL |
| Common crossbill | <i>Loxia curvirostra</i> | | ✓ | | | | | | | GiGL |
| Common scoter | <i>Melanitta nigra</i> | | ✓ | | | Red | | | | GiGL |
| Cuckoo | <i>Cuculus canorus</i> | | | | | Red | | | | GiGL |
| Curlew | <i>Numenius arquata</i> | | | | | Red | | | | GiGL |
| Fieldfare | <i>Turdus pilaris</i> | | ✓ | | | Red | | | | GiGL |
| Firecrest | <i>Regulus ignicapilla</i> | | ✓ | | | | | | | GiGL |
| Garganey | <i>Anas querquedula</i> | | ✓ | | | | | | | GiGL |
| Grasshopper warbler | <i>Locustella naevia</i> | | | | | Red | | | | GiGL |
| Great nortner diver | <i>Gavia immer</i> | | ✓ | | | | | | | GiGL |
| Green sandpiper | <i>Tringa ochropus</i> | | ✓ | | | | | | | GiGL |
| Greenshank | <i>Tringa nebularia</i> | | ✓ | | | | | | | GiGL |
| Grey partridge | <i>Perdix perdix</i> | | | | | Red | | | | GiGL |
| Grey Wagtail | <i>Motacilla cinerea</i> | | | | | Red | | | | GiGL |
| Grey-headed wagtail | <i>Motacilla flava subsp. Thunbergi</i> | | | | | Red | | | | GiGL |
| Hen Harrier | <i>Circus cyaneus</i> | | ✓ | | | Red | | | | GiGL |
| Herring gull | <i>Larus argentatus</i> | | | | | Red | | | | GiGL |
| Honey buzzard | <i>Pernis apivorus</i> | | ✓ | | | | | | | GiGL |

| Common Name | Scientific Name | HSR ² Sch 2 or 5 | WCA ³ Sch1, 5 or 8 | National Priority Species ⁴ | Local priority/ BAP species | BoCC ⁵ / Other ⁶ | Red Data Book | Grid Ref. | Distance from site | Source |
|------------------------------|----------------------------------|-----------------------------------|-------------------------------------|--|--------------------------------------|---|------------------|--------------|-----------------------|--------|
| House sparrow | <i>Passer domesticus</i> | | | | | Red | | | | GiGL |
| Kingfisher | <i>Alcedo atthis</i> | | ✓ | | | | | | | GiGL |
| Kittiwake | <i>Rissa tridactyla</i> | | | | | Red | | | | GiGL |
| Lapland bunting | <i>Calcaeus lapponicus</i> | | ✓ | | | | | | | GiGL |
| Lapwing | <i>Vanellus vanellus</i> | | | | | Red | | | | GiGL |
| Leach's Petrel | <i>Oceanodroma leucorhoa</i> | | ✓ | | | | | | | GiGL |
| Lesser redpoll | <i>Carduelis cabaret</i> | | | | | Red | | | | GiGL |
| Lesser spotted woodpecker | <i>Dendrocopos minor</i> | | | | | Red | | | | GiGL |
| Linnet | <i>Linaria cannabina</i> | | | | | Red | | | | GiGL |
| Little gull | <i>Hydrocoloeus minutus</i> | | ✓ | | | | | | | GiGL |
| Little ringer plover | <i>Charadrius dubius</i> | | ✓ | | | | | | | GiGL |
| Little tern | <i>Sternula albifrons</i> | | ✓ | | | | | | | GiGL |
| Marsh Harrier | <i>Circus aeruginosus</i> | | ✓ | | | | | | | GiGL |
| Marsh tit | <i>Poecile palustris</i> | | | | | Red | | | | GiGL |
| Mediterranean gull | <i>Larus melanocephalus</i> | | ✓ | | | | | | | GiGL |
| Merlin | <i>Falco columbarius</i> | | ✓ | | | Red | | | | GiGL |

| Common Name | Scientific Name | HSR ² Sch 2 or 5 | WCA ³ Sch1, 5 or 8 | National Priority Species ⁴ | Local priority/ BAP species | BoCC ⁵ / Other ⁶ | Red Data Book | Grid Ref. | Distance from site | Source |
|--------------------|--------------------------------------|-----------------------------------|-------------------------------------|--|--------------------------------------|---|------------------|--------------|-----------------------|--------|
| Mistle thrush | <i>Turdus viscivorus</i> | | | | | Red | | | | GiGL |
| Montagu's Harrier | <i>Circus pygargus</i> | | ✓ | | | | | | | GiGL |
| Nightingale | <i>Luscinia megahynchos</i> | | | | | Red | | | | GiGL |
| Osprey | <i>Pandion haliaetus</i> | | ✓ | | | | | | | GiGL |
| Pied flycatcher | <i>Ficedula hypoleuca</i> | | | | | Red | | | | GiGL |
| Pochard | <i>Aythya farina</i> | | | | | Red | | | | GiGL |
| Red kite | <i>Milvus milvus</i> | | ✓ | | | | | | | GiGL |
| Red-backed grebe | <i>Podiceps griseogen</i> | | | | | Red | | | | GiGL |
| Red-backed shrike | <i>Lanius collurio</i> | | ✓ | | | Red | | | | GiGL |
| Red-throated diver | <i>Gavia stellate</i> | | ✓ | | | | | | | GiGL |
| Redwing | <i>Turdus iliacus</i> | | ✓ | | | Red | | | | GiGL |
| Ring ouzel | <i>Turdus torquatus</i> | | | | | Red | | | | GiGL |
| Ringed plover | <i>Charadrius hiaticula</i> | | | | | Red | | | | GiGL |
| Ruff | <i>Calidris pugnax</i> | | ✓ | | | Red | | | | GiGL |
| Scaup | <i>Aythya marila</i> | | ✓ | | | Red | | | | GiGL |
| Serin | <i>Serinus serinus</i> | | | | | Red | | | | GiGL |
| Shag | <i>Phalacrocorax aristotelis</i> | | | | | Red | | | | GiGL |

| Common Name | Scientific Name | HSR ² Sch 2 or 5 | WCA ³ Sch1, 5 or 8 | National Priority Species ⁴ | Local priority/ BAP species | BoCC ⁵ / Other ⁶ | Red Data Book | Grid Ref. | Distance from site | Source |
|--------------------|---------------------------------------|-----------------------------------|-------------------------------------|--|--------------------------------------|---|------------------|--------------|-----------------------|--------|
| Shore lark | <i>Eremophila alpestris</i> | | ✓ | | | | | | | GiGL |
| Skylark | <i>Alauda arvensis</i> | | | | | Red | | | | GiGL |
| Slavonian Grebe | <i>Podiceps auratus</i> | | ✓ | | | Red | | | | GiGL |
| Snow bunting | <i>Plectrophenax nivalis</i> | | ✓ | | | | | | | GiGL |
| Song thrush | <i>Turdus philomelos</i> | | | | | Red | | | | GiGL |
| Spanish wagtail | <i>Motacilla flava subsp. iberiae</i> | | | | | Red | | | | GiGL |
| Spoonbill | <i>Platalea leucorodia</i> | | ✓ | | | | | | | GiGL |
| Spotted crane | <i>Porzana porzana</i> | | ✓ | | | | | | | GiGL |
| Spotted flycatcher | <i>Muscicapa striata</i> | | | | | Red | | | | GiGL |
| Starling | <i>Sturnus vulgaris</i> | | | | | Red | | | | GiGL |
| Stone-curlew | <i>Burhinus oedicanus</i> | | ✓ | | | | | | | GiGL |
| Temminck's stint | <i>Calidris temminckii</i> | | ✓ | | | | | | | GiGL |
| Tree pipit | <i>Anthus trivialis</i> | | | | | Red | | | | GiGL |
| Tree sparrow | <i>Passer montanus</i> | | | | | Red | | | | GiGL |
| Turtle dove | <i>Streptopelia turtur</i> | | | | | Red | | | | GiGL |
| Twite | <i>Linaria flavirostris</i> | | | | | Red | | | | GiGL |

| Common Name | Scientific Name | HSR ² Sch 2 or 5 | WCA ³ Sch1, 5 or 8 | National Priority Species ⁴ | Local priority/ BAP species | BoCC ⁵ / Other ⁶ | Red Data Book | Grid Ref. | Distance from site | Source |
|----------------------------|----------------------------------|-----------------------------------|-------------------------------------|--|--------------------------------------|---|------------------|--------------|-----------------------|--------|
| Whimbrel | <i>Numenius phaeopus</i> | | ✓ | | | Red | | | | GiGL |
| Whinchat | <i>Saxicola rubetra</i> | | | | | Red | | | | GiGL |
| White-fronted Goose | <i>Anser albifrons</i> | | | | | Red | | | | GiGL |
| Whooper Swan | <i>Cygnus cygnus</i> | | ✓ | | | | | | | GiGL |
| Wood sandpiper | <i>Tringa glareola</i> | | ✓ | | | | | | | GiGL |
| Wood warbler | <i>Phylloscopus sibilatrix</i> | | | | | Red | | | | GiGL |
| Woodcock | <i>Scolopax rusticola</i> | | | | | Red | | | | GiGL |
| Yellow wagtail | <i>Motacilla flava</i> | | | | | Red | | | | GiGL |
| Yellowhammer | <i>Emberiza citrinella</i> | | | | | Red | | | | GiGL |
| Mammals (Bats) | | | | | | | | | | |
| Brown long-eared bat | <i>Plecotus auratus</i> | ✓ | ✓ | ✓ | ✓ | | | | | GiGL |
| Common Pipistrelle | <i>Pipistrellus pipistrellus</i> | ✓ | ✓ | ✓ | ✓ | | | | | GiGL |
| Nathusius's Pipistrelle | <i>Pipistrellus nathusii</i> | | | | | | | | | GiGL |
| Noctule | <i>Nyctalus noctule</i> | ✓ | ✓ | ✓ | ✓ | | | | | GiGL |
| Serotine | <i>Eptesicus serotinus</i> | ✓ | ✓ | | ✓ | | | | | GiGL |

| Common Name | Scientific Name | HSR ² Sch 2 or 5 | WCA ³ Sch1, 5 or 8 | National Priority Species ⁴ | Local priority/ BAP species | BoCC ⁵ / Other ⁶ | Red Data Book | Grid Ref. | Distance from site | Source |
|---------------------------|----------------------------------|-----------------------------------|-------------------------------------|--|--------------------------------------|---|-----------------------------|--------------|-----------------------|--------|
| Soprano Pipistrelle | <i>Pipistrellus pygmaeus</i> | ✓ | ✓ | ✓ | ✓ | | | | | GiGL |
| Daubenton's | <i>Myotis daubentonii</i> | ✓ | ✓ | | ✓ | | | | | GiGL |
| Leisler's | <i>Nyctalus leisleri</i> | ✓ | ✓ | ✓ | ✓ | | | | | GiGL |
| Mammals (excluding bats) | | | | | | | | | | |
| Eurasian Badger | <i>Meles meles</i> | | | | | | | | | GiGL |
| West European Hedgehog | <i>Erinaceus europaeus</i> | | | ✓ | ✓ | | | | | GiGL |
| European Water Vole | <i>Arvicola amphibious</i> | ✓ | | ✓ | ✓ | | | | | GiGL |
| Marine Mammals | | | | | | | | | | |
| Grey Seal | <i>Halichoerus grypus</i> | ✓ | ✓ | | | | Seals act | | | |
| Common Seal | <i>Phoca vitulina</i> | ✓ | ✓ | ✓ | | | | | | |
| Fish | | | | | | | | | | |
| Bullhead | <i>Cottus gobio</i> | | | | | | | | | |
| European Eel | <i>Anguilla Anguilla</i> | | | | ✓ | | Eels Regulations 2009 | | | |
| Amphibians | | | | | | | | | | |
| Common Frog | <i>Rana temporaria</i> | ✓ | | | | | | | | |
| Common Toad | <i>Bufo bufo</i> | | | ✓ | ✓ | | | | | |

| Common Name | Scientific Name | HSR ² Sch 2 or 5 | WCA ³ Sch1, 5 or 8 | National Priority Species ⁴ | Local priority/ BAP species | BoCC ⁵ / Other ⁶ | Red Data Book | Grid Ref. | Distance from site | Source |
|---------------|-----------------------------------|-----------------------------------|-------------------------------------|--|--------------------------------------|---|------------------|--------------|-----------------------|--------|
| Palmate Newt | <i>Lissotriton helveticus</i> | | ✓ | | | | | | | |
| Smooth Newt | <i>Lissotriton vulgaris</i> | | ✓ | | | | | | | |
| Reptiles | | | | | | | | | | |
| Common Lizard | <i>Zootoca vivipara</i> | | ✓ | | | | | | | |
| Grass Snake | <i>Natrix natrix</i> | | ✓ | | | | | | | |
| Slow Worm | <i>Anguis fragilis</i> | | ✓ | | | | | | | |

5. Field Survey results

5.1 Phase 1 habitat survey

Habitats and Flora

5.1.1 The following Phase 1 habitat types were identified in the survey undertaken by Pell Frischmann for the temporary bridge schem:

- Intertidal mud flat;
- Shingle;
- Running water;
- Scattered broadleaved trees
- Ephemeral vegetation
- Amenity grassland;
- Hardstanding and structures;

5.1.2 A summary of these habitat types is presented in Table 4.1. Their distribution and extent in the study area is given on Figure 4.1.

Table 5-1: Summary of Phase 1 habitat survey findings

| Habitat type | Phase 1 code | Description |
|-----------------------------|--------------|---|
| Scattered broadleaved trees | A3.1 | <ul style="list-style-type: none">• Present to the north and south of the Hammersmith Bridge abutments.• 9 species recorded including London plane (<i>Platanus x hispanica</i>), hybrid black poplar (<i>Populus x canadensis</i>) and horse chestnut (<i>Aesculus hippocastanum</i>).• Mature London plane trees to the south of Hammersmith Bridge on the boundary between the Thames path and properties to the south considered to have roosting potential for bats. |
| Running water | G2 | <ul style="list-style-type: none">• Tidal River Thames flowing from west to east• Important habitat for wintering birds, fish, benthic invertebrates and marine mammals |
| Intertidal mud flat | H1.1 | <ul style="list-style-type: none">• UK Priority habitat• Recorded at low tide between northern and southern banks of River Thames |

| Habitat type | Phase 1 code | Description |
|--|---------------|--|
| | | <ul style="list-style-type: none"> Valuable habitat for fish and wintering birds |
| Shingle | H1.2 | <ul style="list-style-type: none"> Occupies zone between mudflat and river wall Supports scattered dock (<i>Rumex</i> sp) plants |
| Amenity grassland | J1.2 | <ul style="list-style-type: none"> Dominated by perennial rye-grass (<i>Lolium perenne</i>) and daisy (<i>Bellis perennis</i>). Present within the gardens and car parking areas of the Queen Caroline Estate. |
| Scattered scrub and ephemeral vegetation | A2.2 and J1.3 | <ul style="list-style-type: none"> 5 ephemeral/ruderal species recorded on margins of Thames path which runs east/west through the site. Considered to be of low value for protected species as fragmented and isolated. |
| Hardstanding and structures | J4 and J3.6 | <ul style="list-style-type: none"> Hammersmith Bridge lies within the study area. The structure is used for perching and potentially nesting by starling and feral pigeon. Ring-necked parakeet also noted. Small bin stores within the car park of the Queen Caroline Estate with green roofs |

Preliminary Ecological Appraisal
Hammersmith Temporary Ferry

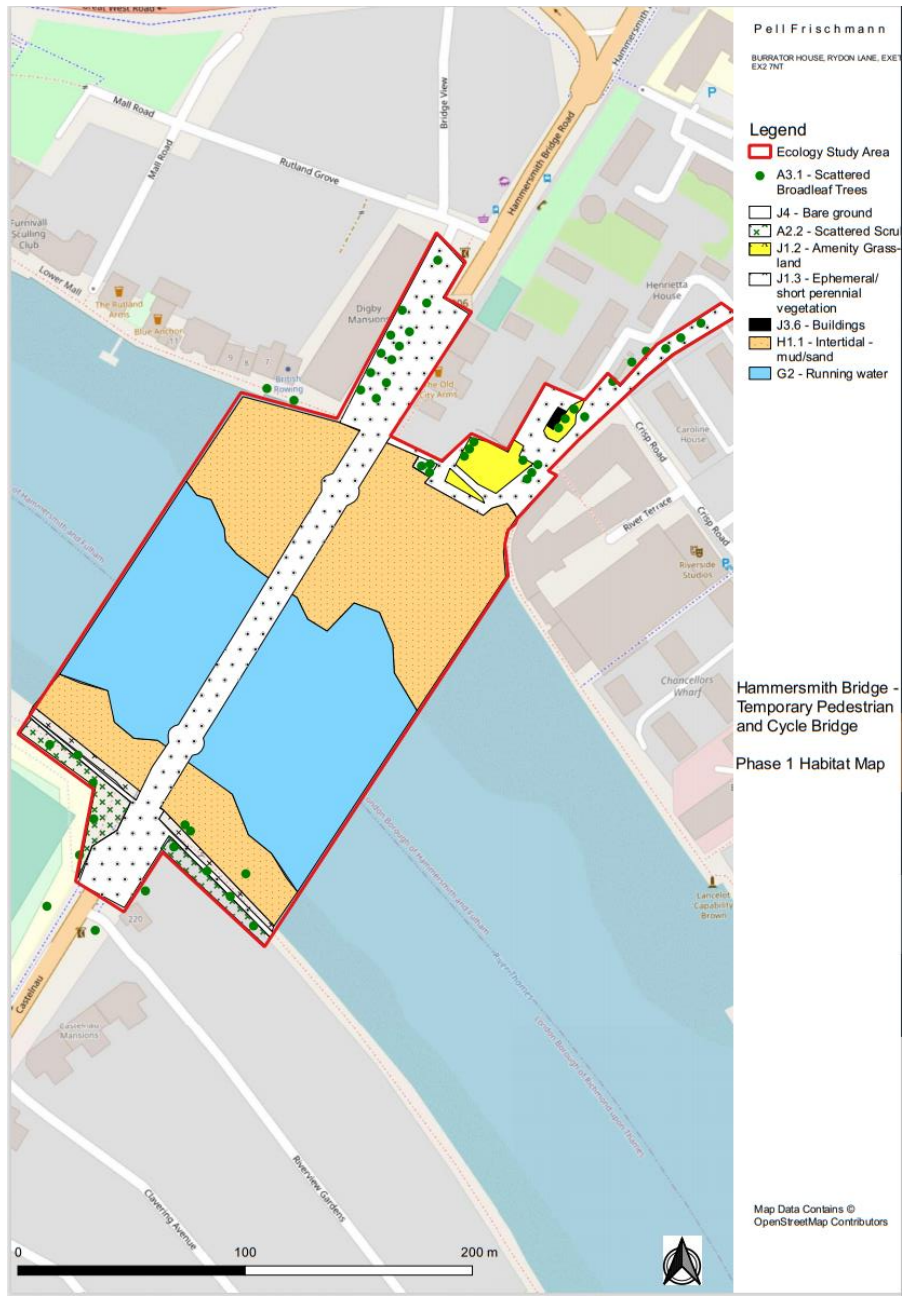


Figure 5-1: Phase 1 habitat map (from Pell Frischmann. Hammersmith Temporary Pedestrian and Cycle Bridge). Planning Application. Preliminary Ecological Appraisal. July 2020. Report Ref: 102963-PEF-BAS-ZZZ-REP-EN-00004)

Fauna

- 5.1.3 Mature trees and structures within the survey area were highlighted in the Phase 1 survey as having potential to support roosting bats.
- 5.1.4 A number of breeding bird species were recorded during the survey including feral pigeon, pied wagtail, grey wagtail, and starling. 11 species of wetland bird were recorded including black headed gull, herring gull, teal and moorhen.
- 5.1.5 Recommendations were made for bat and wintering bird surveys which were subsequently undertaken.
- 5.1.6 Other than wetland birds, no aquatic species were recorded during the survey, although the mudflats and slipways were considered to have potential as haul out areas for seal.
- 5.1.7 The two lipped door snail (*Alinda biplicata*), a London BAP species, has been previously recorded approximately 3.8km to the west, near Chiswick Bridge. Potential, although sub-optimal, habitat was considered to be present on the site and therefore precautionary mitigation measures were proposed.
- 5.1.8 No invasive species listed under Schedule 9 of the Wildlife and Countryside Act (1981) were recorded, although Buddleja, a locally invasive species listed on the London Invasive Species Initiative (LISI) was present. Various non-native bird species including ring-necked parakeet were recorded.
- ## 5.2 Bat survey
- 5.2.1 The findings of the bat survey are presented in Hammersmith Temporary Pedestrian and Cycle Bridge. Planning Application. Bat Survey (Pell Frischmann, 2020)(Appendix 2 to this report). Key findings of the survey which are relevant to the PEA for the temporary ferry scheme are presented below.
- 5.2.2 The preliminary roost and habitat assessment concluded that there were no roost features associated with the trees to the south or north of Hammersmith Bridge. No roost features were noted in the metalwork of Hammersmith Bridge, although the southern and northern brick abutments were considered to have low and moderate potential respectively due to cavities in the brickwork.
- 5.2.3 Bat activity was primarily limited to foraging and commuting common pipistrelle, with some soprano pipistrelle. Noctule was recorded frequently during the July surveys and one during the August survey. The southern side of the river was considered to be of greater value for light tolerant species such as common pipistrelle than the northern side.
- 5.2.4 A total of 6 species were recorded during the static detector surveys; common and soprano pipistrelle, occasional Nathusius' pipistrelle, noctule, Leisler's and a myotis species considered to be Daubenton's bats due to the waterside location.
- 5.2.5 No bats were recorded emerging from the bridge structure during the two emergent survey visits in May and June 2020.

5.3 Wintering bird survey

- 5.3.1 The findings of the wintering bird survey are presented in Hammersmith Temporary Pedestrian and Cycle Bridge. Wintering Bird Survey Report (Pell Frischmann, 2020) (Appendix 3 to this report). Key findings of the survey which are relevant to the PEA for the temporary ferry scheme are presented below.
- 5.3.2 The desk study returned records of 85 notable bird species within a 2km radius of the site, many of which were recorded in the Barn Elms Wetland Centre SSSI.
- 5.3.3 Twenty nine bird species were recorded during the 5 survey visits undertaken between 31st October 2019 and 11th February 2020. Of these the most abundant species was Black-headed gull *Chroicocephalus ridibundus*, with 250 individuals noted during a single visit on mud-flats in the River Thames at low tide. Feral pigeon was also abundant, with over 120 individuals noted during a single visit.
- 5.3.4 Of the twenty nine species recorded, two are on the British Trust for Ornithology (BTO) red list of Birds of Conservation Concern (BoCC); grey wagtail (*Motacilla cinerea*) and herring gull (*Larus argentatus*). A peak count of 14 herring gull were recorded during one of the survey visits.
- 5.3.5 Seven species are on the British Trust for Ornithology (BTO) amber list of Birds of Conservation Concern (BoCC), including black-headed gull (*Chroicocephalus ridibundus*), common gull (*Larus canus*), dunnock (*Prunella modularis*), great black-backed gull (*Larus marinus*), lesser black-backed gull (*Larus fuscus*), mallard (*Anas platyrhynchos*) and teal (*Anas crecca*).
- 5.3.6 The site was considered to be of District importance for wintering birds based on adapted criteria from Fuller (1980).

5.4 Aquatic Ecology Desk assessment

- 5.4.1 The Aquatic Ecology Desk Assessment is summarised below. The full document is included with the planning application documents⁷.

Statutory and non-statutory sites

- 5.4.2 The statutory and non-statutory sites included in the Aquatic Ecology Desk Assessment (HR Wallingford, 2021) are described in Sections 4.1 and 4.2 of this report. The report includes a description of the nearest Water Framework Directive waterbody; the Thames Upper transitional water body (GB530603911403).

Fish

- 5.4.3 A total of 120 species of fish have been previously recorded in the River Thames. Of these 12 are identified in the report as 'common or protected species' based on guidance from Zoological Society of London (ZSL, 2016). Atlantic salmon (*Salmo salar*), and river lamprey (*Lampetra fluviatilis*) are

⁷ HR Wallingford. Hammersmith Temporary Ferry Crossing. Aquatic Ecology Desk Assessment. May 2021. DER6480-RT003-R01-00

protected under the Annexe III of the Bern Convention, and Annex IV and V of the EU Habitats Directive. Atlantic salmon, European smelt, European eel, river lamprey and brown trout/sea trout are UK BAP species.

- 5.4.4 European smelt spawns in the upper tidal Thames between Teddington Lock and Wandsworth and ZSL advise that no development affecting the subtidal habitat of the predicted spawning ground should be permitted during the months where smelt are likely to spawn: late February, March and April.
- 5.4.5 European eel (*Anguilla anguilla*), a Critically Endangered species on the IUCN Red List is known to pass through the study area during up and downstream migrations by adults and juveniles in autumn and spring respectively.

Marine mammals

- 5.4.6 The tidal Thames supports a number of marine mammals including seals, harbour porpoises, bottlenose dolphins and occasionally whales. Around the project site, pinnipeds are likely to be either grey seal (*Halichoerus grypus*) or harbour seals (*Phoca vitulina*), and cetaceans are likely to be restricted to harbour porpoise (*Phocoena phocoena*).

Benthic ecology

- 5.4.7 The upper tidal Thames supports a number of protected invertebrate species including the two-lipped door snail (*Balea biplicata*), the swollen spire snail (*Mercuria confuse*) and the German hairy snail (*Pseudotrichia rubiginosa*). Additional IUCN red data list species include the duck mussel (*Anodonta anatine*), the swollen river mussel (*Unio tumidus*) and the nationally scarce crustacean shrimp (*Corophium lacustre*), which is thought to be locally common in the Thames. The tidal River Thames is also known to support populations of the tentacled lagoon worm (*Alkmaria romijni*), protected under the Wildlife and Countryside Act, 1981.
- 5.4.8 The aquatic ecology desk assessment includes a review of reports from survey undertaken close to the study area at Fulham football club (WSP, 2017) and the Wandall half tide weir (AEPM, 2015). None of these species were recorded. The site is considered likely to support an assemblage of benthic invertebrates comprising commonly occurring estuarine species. However, a precautionary approach has been adopted in assuming that the two-lipped door snail could be present.

Invasive aquatic species

- 5.4.9 In addition to the invasive bird and plant species noted in paragraph 5.1.8, the invasive non-native crustacean, Chinese mitten crab (*Eriocheir sinensis*), the New Zealand mud snail (*Potamopyrgus antipodarum*), and the Asian clam (*Corbicula fluminea*) are established in the tidal Thames.

6. Legal and Planning Policy Context

6.1 Legislation

6.1.1 The following legislation is relevant to the PEA:

- The Wildlife and Countryside Act (WCA) 1981 (as amended by the Countryside and Rights of Way (CRoW) Act 2000);
- The Conservation of Habitats and Species Regulations 2017, as amended (Habitats Regulations, 2017);
- The Natural Environment and Rural Communities Act (NERC) 2006;
- The Water Framework Directive or WFD ('Directive 2000/60/EC of the European Parliament)
- The Marine and Coastal Access Act 2009 (MCAA) which established Marine Conservation Zones;
- Salmon and Freshwater Fisheries Act, 1975; and,
- The EU Eels Regulations, 2007 (Council Regulation EC) establishing measures for the recovery of the stock of European eel, transposed into UK law through The Eels (England & Wales) Regulations, 2009.

6.2 National and local planning policy

6.2.1 National Planning Policy Framework (NPPF) (adopted March 2019). Paragraphs 170 to 177 set out the Government's policies on protection of biodiversity through the planning system

6.2.2 **The London Plan** (March 2016). Chapter 7 of the London Plan relates to the Environment and includes specific policies relating to the Tidal Thames. The London Plan is being updated and the Consultation Draft of the New London Plan was published in December 2017. Policy SI 17 relates to protecting and enhancing London's waterways includes biodiversity. The current 2016 Plan is still the adopted Development Plan,

6.2.3 **Hammersmith and Fulham Local Plan**. Adopted 2018. Replaces the Core Strategy 2011 and Development Management Local Plan 2013.

6.2.4 Policy OS4 addresses Nature Conservation and states that areas of green corridors will be protected from development that would likely cause harm to their ecological (habitats and species) value. In these areas, development will only be granted if the proposed development would provide qualitative gain for the local community and provision is made for the replacement of nature conservation in equal or greater value;

6.2.5 Policy OS5 states that the borough will enhance biodiversity through the 'greening of streets and public realm' and planting as part of new development; and

6.2.6 Policy CC2 states that design and construction measures in major developments will conserve and promote biodiversity and the natural environment.

6.2.7 **London Borough of Richmond Upon Thames Local Plan (2018)** covers Green Infrastructure and Biodiversity:

- Policy LP12 addresses Green Infrastructure and the importance of maintaining and enhancing the integrity of green spaces and features as part of the wider green network;
- Policy LP15 addresses biodiversity and states that the council will protect and enhance the biodiversity within the borough, including sites designated for their nature conservation value and the biodiversity within adjacent habitats. Enhancement measures to biodiversity and ensuring that new biodiversity features or habitats should be considered to connect to the wider environment existing networks; and
- Policy LP16 addresses trees, woodland and landscape and states that the council will require the '*protection of existing trees and the provision of new trees, shrubs and other vegetation of landscape significance*'.

6.3 Other policy

6.3.1 **UK Post 2010 Biodiversity Framework.** Aim is to 'halt overall biodiversity loss, support healthy well-functioning ecosystems, and establish coherent ecological networks with more and better places for nature for the benefit of wildlife and people'.

6.3.2 **Mayor's Biodiversity Strategy** (Greater London Authority, 2015): The Mayor's Biodiversity Strategy was published in 2002, and partly updated in 2015, to provide the framework to protect and enhance London's natural environment.

6.3.3 **London Borough of Richmond upon Thames Biodiversity Action Plan.** Covers 11 species and 9 habitats considered to be a priority for biodiversity conservation in the Borough, including broadleaved woodland, and the tidal Thames. The tidal Thames plan includes the banks, towpaths and other riverside pathways and associated flood channels, as well as the main channel of the Thames. Issues affecting the river include sea level rise linked to climate change, result in increased flooding and loss of foreshore habitat; water quality, litter and invasive species.

6.3.4 **Tidal Thames Encroachment Policy for Tidal Rivers and Estuaries** (EA, 2000). States that, 'except in exceptional circumstances, the Environment Agency will resist works on the Thames that cause encroachment where these may lead to loss or damage to river habitats The Agency welcome those aspects of development that lead to enhanced opportunities for fisheries and other ecology.

7. Preliminary Impact Assessment

7.1 Introduction

7.1.1 This section presents a preliminary assessment of the impacts of the scheme on ecological receptors. Impacts are considered at the construction, operation and de-commissioning stage of the project and the potential pathways for an effect to occur is considered for each of the receptor groups described in section 6 above.

7.1.2 There is the potential for the following temporary impacts, based on the scheme described in Section 2.3:

- Loss of habitat during construction due to the installation of pier footings;
- Disturbance of habitat during construction due to the operation of machinery to install the piers and dredging to allow vessels to come alongside at the Hammersmith Temporary Pier;
- Changes to water quality during construction due to plough dredging;
- Increases in noise and vibration during construction;
- Changes to the hydraulic regime of the river during operation due to the introduction of floating walkways;
- Disturbance to the river during operation due to increased vessel movements;
- Shading of habitat beneath pontoons and walkways during operation; and
- Increases in lighting of the bed and banks of the river during operation due to illumination of the walkways.

7.1.3 Ecological effects on each of the receptor groups are considered below.

7.2 Designated Sites

7.2.1 There will be no direct or indirect impacts on statutory sites. Given that the nearest site is Barn Elms Wetland Centre SSSI is 2km away there are no effect pathways through which an impact on this site could occur.

7.2.2 Direct impacts are anticipated on the River Thames and Tidal Tributaries SMINC. There will be temporary loss of habitat beneath the footings of the temporary piers on both the north and south bank of the River Thames, although this will be less than 10m² in total.

7.2.3 Plough dredging of an area adjacent to Hammersmith Temporary Pier will result in disturbance of approximately 120m³ of sediment. This will cause a temporary alteration in the benthic sediment from the location where the sediment is moved from. There will also be disturbance to sediment in the areas where plant (a crawler crane on spud legs) is used to install the temporary piers. The impact of disturbance is short term, and will only last during the construction of the piles.

7.2.4 There will be minor changes in water quality in the River Thames due to the resuspension of silt during the dredging and piling operations. However, the Thames is a turbid river with high volumes of silt carried on each tide. The increases in suspended sediment will be temporary and are unlikely to increase background levels significantly.

7.2.5 No direct or indirect impacts are anticipated on any of the other non-statutory sites described in Table 4.1.

7.3 Habitats

- 7.3.1 There will be a temporary loss of approximately 10m² of intertidal mudflat; a UK Priority, and London BAP Habitat. This represents a very minor loss in the context of the overall area of intertidal mudflat on the River Thames.
- 7.3.2 There will be no loss of trees or shrubs from the banks of the River Thames in order to install the piers. Temporary loss of amenity grassland habitat adjacent to the Thames path on the south side may occur due to improvements to access in the approaches to the pier. For example, there will be some re-grading of the access on the south side onto Castlenau. This impact is considered to be minimal and reversible.
- 7.3.3 No additional impacts on terrestrial habitats are anticipated during the operation of the scheme. Ferry users would be confined to the walkways and so no new disturbance to habitats would occur.
- 7.3.4 Wildflower planting will be established on the margins of the tow path to enhance the Site for pollinating insects such as bumble bees and butterflies.

7.4 Bats

- 7.4.1 No impacts on roosting bats are anticipated. The introduction of low level lighting on the raised walkways has the potential to cause disturbance to foraging and commuting bats. However, the lighting plan has been designed with the aim of minimising impacts on bats, and is in accordance with guidance issued by the Environment Agency (Section 2.4).
- 7.4.2 There will be an increase in human disturbance on the river bank from users of the ferry, although they will be confined to the walkway and in the context of background levels of disturbance in a highly urbanised environment this is unlikely to increase levels of disturbance to bats.

7.5 Wintering Birds

- 7.5.1 Birds foraging on the intertidal mudflats will experience increased levels of disturbance during construction of the piers. This includes 2 BoCC Red list species (herring gull and grey wagtail) and seven Amber list species. Low impact vibro-piling will be used to install the piers, which will reduce sudden increase in noise levels which tends to startle birds. The river is currently subject to high levels of disturbance from vessels and recreational users, and birds are considered to have a high tolerance to disturbance.

7.6 Marine Mammals

- 7.6.1 Seals (grey and harbour; paragraph 5.4.6) are considered to be the only marine mammal species likely to be present in the vicinity of the site. Temporary loss of intertidal mudflat due to the installation of the temporary piers is not expected to reduce habitat availability significantly, particularly given that seals do not seem to routinely use this stretch of foreshore.
- 7.6.2 Disturbance due to construction activity is likely to temporarily deter seals from using the mudflats in the vicinity of the site, although construction activity will be confined to daylight hours, and so the intertidal habitat will be available as a haul out during the night.

7.7 Fish

- 7.7.1 The subtidal habitat in this reach of the River Thames may be used for spawning by European smelt, and the river is a migratory corridor for European eel (paragraphs 5.4.3 to 5.4.5). There will be no loss of subtidal habitat.
- 7.7.2 Piling and dredging have the potential to cause disturbance to fish communities from noise and vibration. Impacts range from minor behavioural disturbance, such as avoidance, at low noise levels to physical injury and mortality at high levels. The piles will be installed using vibro-piling methods which emit lower levels of noise than percussive or impact piling. This is considered to be adequate to mitigate for impacts on migratory and resident fish species.

7.8 Benthic Invertebrates

- 7.8.1 There will be direct loss of benthic invertebrates within the footprint of the piers, and in the area that will be dredged around the Hammersmith pier. Although no surveys have been undertaken, the desk study data returned no records of rare or endangered benthic invertebrates in the vicinity of the scheme. The two lipped door-snail, a London BAP species, is known to occur (normally in habitat above the strand line) in the upper reaches of the Thames and so mitigation for the species in the form of a pre-commencement check has been incorporated into the scheme.

7.9 Invasive Aquatic Species

- 7.9.1 The invasive invertebrate species Chinese mitten crab, Asiatic clam and New Zealand mud snail are all present in this stretch of the River Thames. The movement of plant equipment, including dredgers and piling rigs, has the potential to cause the spread of these invasive species. However, given that they are considered to be ubiquitous in the River Thames, the scheme is not considered likely to contribute significantly to their spread. The CEMP will include standard measures to minimise the risk of spread of invasive species.

8. Potential Further Ecological Considerations

- 8.1.1 The potential further ecological considerations section sets out our assessment of the potential of the site to support protected species and other species of conservation concern which were not recorded during the extended Phase 1 habitat survey.
- 8.1.2 Additional surveys for wintering birds and bats, and an aquatic ecology desk study, were undertaken in response to recommendations from the Pell Frischmann PEA for the temporary bridge crossing. Given that these studies covered the study area for the temporary ferry scheme, no additional surveys are considered necessary.
- 8.1.3 The scheme lies within a stretch of the river which may support spawning habitat for European smelt. Although low noise methods will be used to install the piles, it is recommended that construction and decommissioning of the piles avoids the smelt spawning period of April and March.

9. Conclusions

- 9.1.1 This PEA presents the baseline and preliminary impact assessment for a temporary ferry scheme at Hammersmith Bridge. The baseline draws upon studies undertaken in support of an earlier temporary bridge scheme which would occupy a similar footprint. The pontoon for the ferry scheme would extend approximately 100 to 150m further downstream than the study area for the ecological surveys for the bridge scheme. However, this extension is within the river channel and only comprises floating infrastructure. There would be no new landtake outside the areas covered by the baseline surveys.
- 9.1.2 The assessment identifies potential impacts and likely ecological effects during the construction and operation of the scheme. Measures to reduce and mitigate impacts have been incorporated into the design of the scheme (Section 2.4), and includes the use of low-level lighting to mitigate for disturbance impacts on bats; low noise piling methods to minimise impacts on fish and marine mammals; and a pre-commencement check for two-lipped door snail, a London BAP species. A recommendation has been included in this report for piling to be undertaken outside the spawning season for European smelt.
- 9.1.3 Based on the findings of this preliminary assessment, the scheme is considered to be in compliance with national and local policy. Trees on the banks of the River Thames will be safeguarded in compliance with LB Richmond upon Thames policy LP16, and wildflower planting on the margins of the Thames path delivers benefits in accordance with policy LP15. Although the scheme will represent temporary encroachment on the Thames foreshore, the scheme is a river related use, which is accepted within the Tidal Thames Encroachment policy (paragraph 6.3.4).

10. References

- 10.1.1 CIEEM Sources of Survey Methods (<http://www.cieem.net/sources-of-survey-methods-sosm->),
- 10.1.2 Crosher, I, Gold, S., Max Heaver, Heydon, M., L Moore, L., Panks, S., Scott, S., Stone, D. & White, N. 2019. The Biodiversity Metric 2.0: Auditing and accounting for biodiversity value: technical supplement (Beta version, July 2019). Natural England
- 10.1.3 CIEEM (2017) Guidelines for Preliminary Ecological Appraisal. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester, England.
- 10.1.4 Institute of Environmental Assessment (1995) Guidelines for Baseline Ecological Assessment. E & FN Spon, London, England.
- 10.1.5 JNCC (2010) Handbook for Phase 1 habitat survey: A technique for environmental audit. Joint Nature Conservancy Committee, Peterborough, England.
- 10.1.6 Stace, C. (2019) New Flora of the British Isles (fourth edition). Cambridge University Press, Cambridge, England.
- 10.1.7 Uber Boat by Thames Clipper. Hammersmith Temporary River Crossing Construction Environmental Management Plan (CEMP). Rev. C4.

Appendix 1 Assessment Methodology

10.2 Legal and Planning Policy Context

10.2.1 The relevant legal and policy context is identified as follows:

Features

Designated Sites

10.2.2 The location of the site is compared to the distribution of sites with a statutory or non-statutory nature conservation designation using information derived from the desk study. Consideration is given to designated sites that could be affected directly or indirectly by the proposed development.

Habitats outside Designated Sites

10.2.3 The habitats known to occur on the site are compared to those which receive some protection, in law or policy, outside of designated sites. These include hedgerows, uncultivated land and semi-natural areas; national priority habitats and local priority habitats listed as requiring action in Local Biodiversity Action Plans.

Ancient Woodland

10.2.4 The ancient woodland inventory is checked to determine whether any known ancient woodland occurs either on the site or nearby.

Protected Species

10.2.5 The species known to occur on the site as a result of the desk study and Phase 1 habitat survey are compared to those listed in nature conservation legislation i.e. the Wildlife and Countryside Act 1981, as amended and the Conservation of Habitats and Species Regulations 2010 as amended.

10.2.6 In addition, the species known to occur on the site as a result of the desk study and Phase 1 habitat survey are compared to those listed in animal welfare legislation, i.e. the Badgers Act 1992 and the Wild Mammals (Protection) Act 1996.

Priority Species

10.2.7 The species known to occur on the site are compared to those listed as priority species in the relevant country or those requiring action in Local Biodiversity Action Plans.

Other Species of Conservation Concern

10.2.8 The species known to occur on the site are compared with other nature conservation listings, such as red data books.

Invasive Plant Species

10.2.9 The species of plant present on the site are compared to those listed in the Wildlife and Countryside Act.

Relevant Legislation and Policy

10.2.10 If any of the above are found to occur on or near the site and are likely to be affected by the development in any way, the relevant legislation and planning policy (including national, regional, county and borough policies) is listed and summarised in the table.

10.3 Nature Conservation Value

CIEEM Geographic Scale

10.3.1 The value of the designated sites, habitats and species populations present on the site are then determined on a geographic scale (based on Institute of Ecology and Environmental Management, 2006). The scale is as follows:

- International and European
- National
- Regional
- Metropolitan, County, vice-county or other local authority-wide area
- Local
- Negligible

10.3.2 In arriving at a level of value for an ecological receptor, the criteria set out below are used.

Designated Sites

10.3.3 The highest level of site designated on the basis that an assessment of intrinsic nature conservation has already been carried out using the same or similar criteria as that given below for habitats and species.

Habitats

10.3.4 The table below sets out the criteria used for evaluating habitats. The criteria are based on Ratcliffe (1977), Annex III of the Habitats Directive and a review of criteria used for the designation of Local sites, many of which are reiterated in CIEEM (2016).

10.3.5 Each habitat identified during the survey is evaluated against these criteria. Reference is made to published lists of habitats of conservation concern to help establish the degree to which a

habitat is rare or threatened, however, presence on such a list is not a criteria used in the evaluation.

| Level | Criteria | Explanation |
|---------|----------------------|--|
| Primary | Size | Semi-natural habitats tend to be highly fragmented and the value of the habitat usually increases with its size, because large areas of a habitat will generally support more species and, being more resilient to external influences, is more likely to retain its value in the future. |
| | Proportion of total | Areas of a habitat that represents a large proportion of the total with a given geographic area are generally of higher nature conservation value than areas of a habitat that are a small proportion of the total for a given geographic area. |
| | Diversity | The diversity of species in a habitat is mainly influenced by habitat type, size, structure, age and management. The diversity of species supported by a given habitat strongly influences its value with habitats showing high species diversity generally being of higher value than a habitat of the same type with low species diversity. However, it is recognised that some habitats naturally have low species diversity. |
| | Naturalness/ Quality | Truly natural habitats, unmodified by man, are rare in Britain, and nature conservation deals largely with semi-natural habitats. Those semi-natural habitats that exhibit a level of quality marked by a lack of features which indicate gross or recent human modification are generally more highly valued than highly and recently modified habitats. |
| | Rarity | Rare semi-natural habitats are of higher value for their own sake and because they are likely to support rare and uncommon species. The general principle is that the rarer the habitat, the greater the value for nature conservation. Rarity is related to the frequency of occurrence at all geographic levels on the IEEM scale. |
| | Fragility | Fragility reflects the degree of sensitivity of habitats, communities and species to environmental change. Because of their vulnerability, fragile habitats are generally of higher nature conservation value than those that are more resilient to change. |

| Level | Criteria | Explanation |
|------------------|-------------------------|---|
| | Level of threat | A habitat which is undergoing a rapid decline in either extent or quality is assigned a higher value than a habitat which is more stable. |
| Secondary | Recorded History | The extent to which a site has been used for scientific study and research is a factor of some importance, with those sites having a long recorded history being of more value than others. |
| | Position | Habitats that have an ecological link with adjacent areas of important semi-natural habitat may have more value than is apparent when considering the habitat in isolation. |
| | Potential | Certain sites could, through appropriate management or natural change, develop a greater nature conservation interest. Potential value is assessed separately from current value. |
| | Intrinsic Appeal | Some habitats are of greater appeal than others, which can be taken into account when arriving at a level of value. |
| | Re-creatability | Some habitats can be readily re-created, such as ponds, while others, such as ancient woodland can not. The degree to which a habitat can be re-created can influence its value, with those more readily re-created being of lower value than those that are hard or impossible to re-create. |
| | Amenity | Some areas of habitat are more important to local people than others. This may be a function of accessibility in rural areas or scarcity in urban areas, but habitats used and valued by local people may have more value than is apparent when considering more biological factors. |

Species

- 10.3.6 The table below sets out the criteria used for evaluating the populations of species present on the site. The criteria are again based on Ratcliffe (1977) and Annex III of the Habitats Directive and also the IUCN criteria categories and criteria.
- 10.3.7 Populations of a species recorded during the survey are assessed against the following criteria. Where further investigation is required to establish population size, an estimate is made based on the likely maximum that the habitat can support, to provide a preliminary indication of nature conservation value. As with habitats, reference is made to published lists of species of conservation concern to help establish the degree to which a species is rare or threatened, however, presence on such a list is not a criteria used in the evaluation.

| Level | Criteria | Explanation |
|-----------|----------------------|---|
| Primary | Rarity | A population of a species that is rare in a given area is important because the loss of, or damage to, the population may threaten the survival of the species in that area. This criterion may be extended to include distinct races of a species, as well as the species itself. Endemic and near endemic species have a special status as, by definition, they are globally rare even though they may be relatively common where they occur. |
| | Proportion of total | A population of a species that represents a significant proportion of the total population in a given area could be more important than smaller populations because the loss of a large population is particularly likely to threaten the survival of the species in that area. Large populations also tend to be more robust and may provide a source for the colonisation of other sites. |
| | Level of threat | A population of a species which is undergoing a rapid decline is assigned a higher value than a population of a species which is more stable. In determining the level of threat, reference is made to the criteria published by the IUCN. |
| | Native Status | Non-native species, especially recent introductions, are generally regarded as having low or negligible nature conservation value, even if they are rare or threatened in the UK. The presence of some non-native species may even detract from the conservation status of the site. However, certain ancient introductions are given higher status, particularly rare arable weeds, than other introduced plant species. |
| Secondary | History of Presence | Long-established populations of species which depend on long periods of traditional management, require long established habitats or are otherwise known to have been present at a particular site for many years may be assigned higher values than newly established populations or populations of species which readily colonise new sites. |
| | Importance for fauna | Some species of plants provide an important resource for fauna, either in terms of the general diversity of species or numbers of individuals supported, or in providing a particular resource to a specialist, dependent species of fauna. Such plants may be assigned higher value than others even if they are just as common and widespread. |

| Level | Criteria | Explanation |
|-------|--|--|
| | Links to other populations/ degree of fragmentation | Small populations of a species may be of more importance because than is apparent from the population size because they form a link or potential link to other populations of the same species, and reduce the negative effects of isolation. |
| | Cultural interest/aesthetic appeal | Some species of plant could be important to local people either because there is a cultural connection e.g. wild daffodil in Wales or because they have aesthetic appeal e.g. bee orchid. Populations of such species may be more highly valued than others that are similarly abundant. |
| | Economic | Some species of plant could be important to local people because they provide an economic benefit e.g. by encouraging tourism or use as a commercial crop. |

Use of Primary and Secondary Criteria

10.3.8 The primary criteria are considered at each geographic scale so that, for example, a small population of a native species that is rare in the county but relatively common in the region and stable could be considered important at the county level. Once a rough level of value is derived from the primary criteria, the secondary criteria are considered and may lead to a slight increase or decrease in the level of value assigned to a given population.

10.4 Preliminary Impact Assessment

10.4.1 Consideration is given to whether and how the development could affect each of the features identified during the desk study and Phase 1 survey. The assessment is very much a preliminary exercise, designed to inform early stages in the development process, for example, site selection, development design, masterplanning and avoidance, mitigation and compensation measures that may be required. Re-appraisal of the impacts will be required if there are design changes and when further information is obtained in later stages of the assessment process.

10.5 Identification of Potential Further Ecological Issues

10.5.1 Further ecological issues are those which cannot be resolved during preliminary ecological appraisal for any reason, including the following:

- The development is near a designated site and consultation with the relevant regulator is required in order to determine whether further assessment is required;

- Suitable habitat is present on or near the site for a protected species/species of conservation concern and specialist survey techniques are required for their detection;
 - Suitable habitat is present on or near the site for a protected species/species of conservation concern and the extended Phase 1 habitat survey was not undertaken at a suitable time of year for their detection;
 - A protected species/species of conservation concern was found on or near the site but further information on population size or distribution is required in order to resolve any legal and planning policy issues (such as obtaining licences) or make a reliable assessment of nature conservation value.
- 10.5.2 Discussion of issues raised by 3rd parties, e.g. reports of protected species from the site by local people, may also be discussed under this heading.
- 10.5.3 The desk study is used as a guide to the protected species/species of conservation in the local area, however, the list is not taken to be exhaustive and it is borne in mind that some species may no longer occur in the locality.
- 10.5.4 No attempt is made to evaluate the importance of the site for species not yet confirmed to be on or near the site, nor to discuss the implications for the development if the species were to be found on the site.

Appendix 2: Hammersmith Temporary Pedestrian and Cycle Bridge. Planning Application. Survey Report (Pell Frischmann, 2020)

Appendix 3: Hammersmith Temporary Pedestrian and Cycle Bridge. Wintering Bird Survey Report (Pell Frischmann, 2020).