



# **Preliminary Environmental Information Report**

## **Appendix 7.6 Volume 4**

Non-breeding Bird Survey Baseline Report 2022/23

Binnies UK Ltd.

# River Thames Scheme –

## Non-breeding Bird Survey Baseline Report 2022/23

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## 1. Executive Summary

This report documents the methods and results of a programme of non-breeding bird surveys, undertaken between November 2022 and March 2023, for the proposed River Thames Scheme (RTS). This follows on from previous survey programmes by APEM for RTS both during the breeding and non-breeding seasons.

A census of wintering and passage birds of conservation concern present at suitable locations was undertaken, following an adapted version of the line transect methodology, as detailed in Bibby *et al.* (1998). Species of conservation concern recorded in surveys included species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), Annex I of the Birds Directive, the Amber and Red lists of Birds of Conservation Concern 5 (BoCC5) by Stanbury *et al.* (2021), and Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006).

In total, 26 target species were recorded across the survey area during the 2022-23 non-breeding season. Of those recorded, one is listed on Annex I of the Birds Directive (red kite), six on Schedule 1 of the WCA 1981 (Cetti's warbler, fieldfare, kingfisher, peregrine, red kite, and redwing), eight on Section 41 of the NERC Act 2006 (dunnock, herring gull, house sparrow, lapwing, linnet, skylark, song thrush and starling), and 11 are Red Listed BoCC5 species (fieldfare, goldeneye, greenfinch, herring gull, house sparrow, lapwing, linnet, mistle thrush, pochard, skylark and starling). Gadwall and shoveler are both Qualifying Features of the South West London Waterbodies SPA. The greatest concentrations of target bird species were recorded in the west and the centre of the Main Site (being the area comprising the proposed flood channel).

Gadwall numbers peaked in January (53 birds) and shoveler counts peaked in December (43) along with pochard (153). Lapwing, the only red-listed wader species recorded, peaked in numbers in December (125). Redwing numbers peaked in March (246) with the highest count among the Schedule 1 species recorded and the highest peak count for any passerine, followed by starlings in February (239). These counts are likely to refer to spring migration through the site; however, it is possible that redwing and starling also move around the site in winter depending on food availability and weather conditions. Herring gull, the only red-listed gull species recorded, peaked in January (45), while red kite numbers peaked in March (27), the highest among all raptors recorded, with birds becoming more visible as the breeding season commenced.



## 2. Introduction

### 2.1 About this Document

This report will provide Binnies, on behalf of the Environment Agency (EA), with details of the methodology and results of the 2022/23 non-breeding bird survey programme for the River Thames Scheme (RTS or the Project). It is expected that this report will be used to provide additional baseline information on the non-breeding bird assemblage present within the Project boundary for EIA Scoping, plus a 100 m survey buffer particularly for those species of conservation concern.

### 2.2 Background

APEM Ltd. (hereafter referred to as APEM) was commissioned by Binnies UK Ltd. (hereafter referred to as Binnies) on behalf of the Environment Agency, to undertake non-breeding bird surveys for the proposed RTS. Suitable habitats within the Project boundary for EIA Scoping (as of July 2022) and a 100 m buffer were covered, hereon referred to as the Survey Area. The RTS will deliver net gain for biodiversity, to offset proposed habitat losses within the Project boundary. RTS consists of multiple measures to reduce both the probability and consequences of future flood events.

### 2.3 Site Description

The RTS, pending Development Consent Order (DCO) approval from the Secretary of State, will include the large-scale construction of a new flood channel, measuring between 30 m and 60 m wide and 8 km long (4 km being via existing lakes). Construction will take place in two sections, within the boroughs of Runnymede and Spelthorne. These sections will connect to a series of existing lakes between Egham Hythe and Desborough Island. The works will also include bed lowering of the River Thames downstream of Desborough Cut, increasing the capacity of the existing weirs at Sunbury, Molesey and Teddington, in addition to landscape and green infrastructure enhancements, including Habitat Creation Areas (HCAs) (subsequent to this survey, the HCAs have been renamed as priority areas for habitat creation, enhancement and mitigation, but the term HCA is retained here). A total of eleven potential HCAs have been shortlisted for consideration and include the following: Former Laleham Golf Course, Grove Farm, Drinkwater Pit, Littleton Lane, Norlands Lane, land between Desborough Cut and Engine River, land south of Wraysbury Reservoir, Laleham Reach, Land South of Chertsey Road, Desborough Island and Sheepwalk.

The RTS is situated on the south-western outskirts of London, between the towns of Egham and Richmond-upon-Thames, Teddington ( **Figure 1**). The National Grid reference (NGR) location of the HCAs are detailed in **Table 1**. The HCAs are largely brownfield or greenfield sites within suburban areas.

For clarity when presenting results, the Survey Area has been divided up for the purposes of this report. The main flood channel section, presented in **Figure 4** to **Figure 6**, has been split into three sections comprising Main Site East, Central, and West. The outlying sites are Land South of Wraysbury Reservoir HCA, Sunbury Weir, Molesey Weir (Hurst Park), Teddington Weir, Drinkwater Pit HCA and Grove Farm HCA, and are presented in **Figure 2**, **Figure 3**, and **Figure 8** to **Figure 10**.

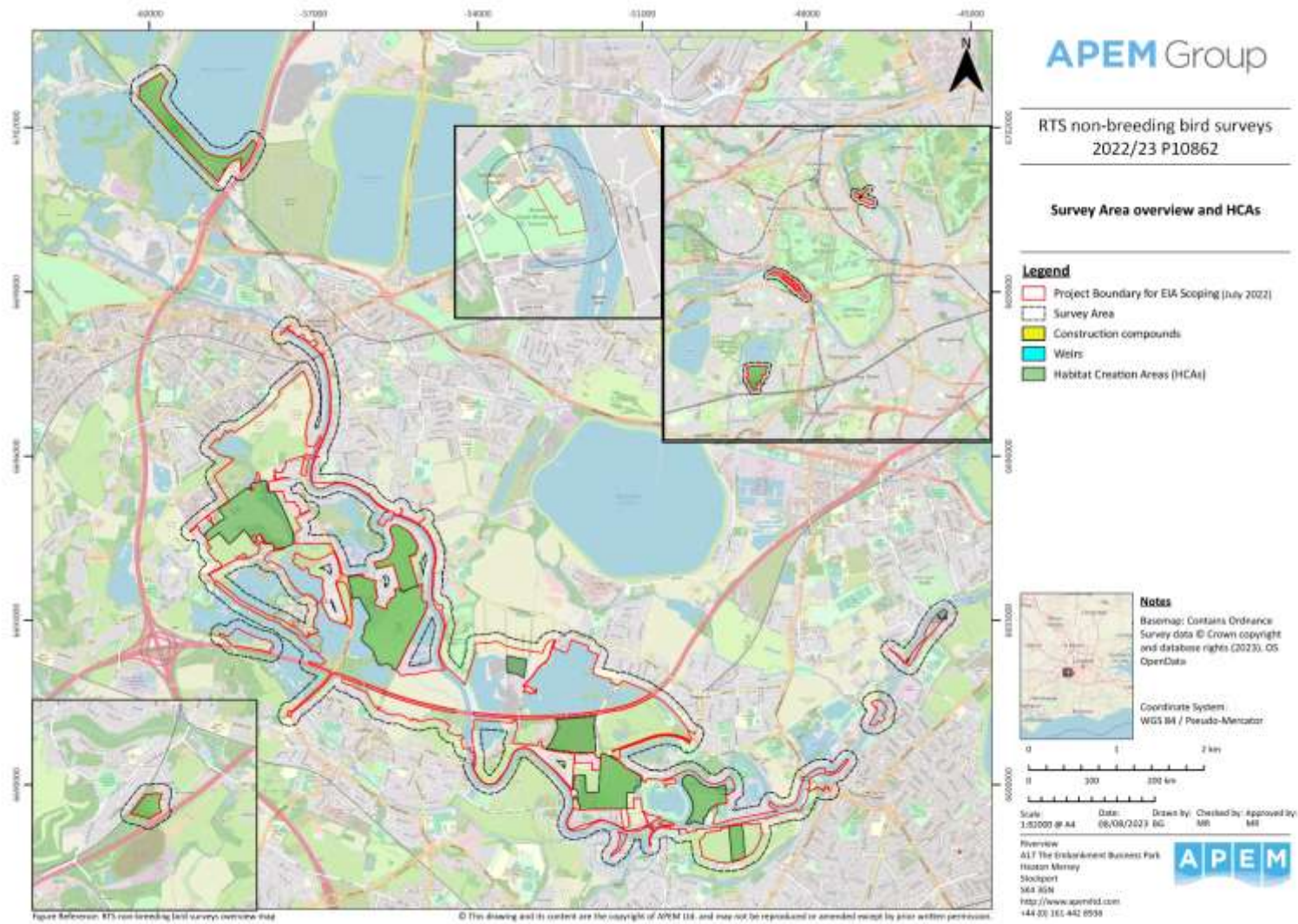
**Table 1**      **Location of HCAs**

Site ID	Site	National Grid Reference
1	Former Laleham Golf Course	TQ 04459 68252
2	Grove Farm	TQ 13803 66302
3	Drinkwater Pit	SU 99800 66886
4	Littleton Lane	TQ 05923 67757
5	Norlands Lane	TQ 02901 69378
6	Land Between Desborough Cut and Engine River	TQ 08482 65796
7	Land South of Wraysbury Reservoir	TQ 02053 73762
8	Laleham Reach	TQ 04587 68962
9	Land South of Chertsey Road	TQ 06995 66405
10	Desborough Island	TQ 08081 66296
11	Sheepwalk	TQ 06606 66977

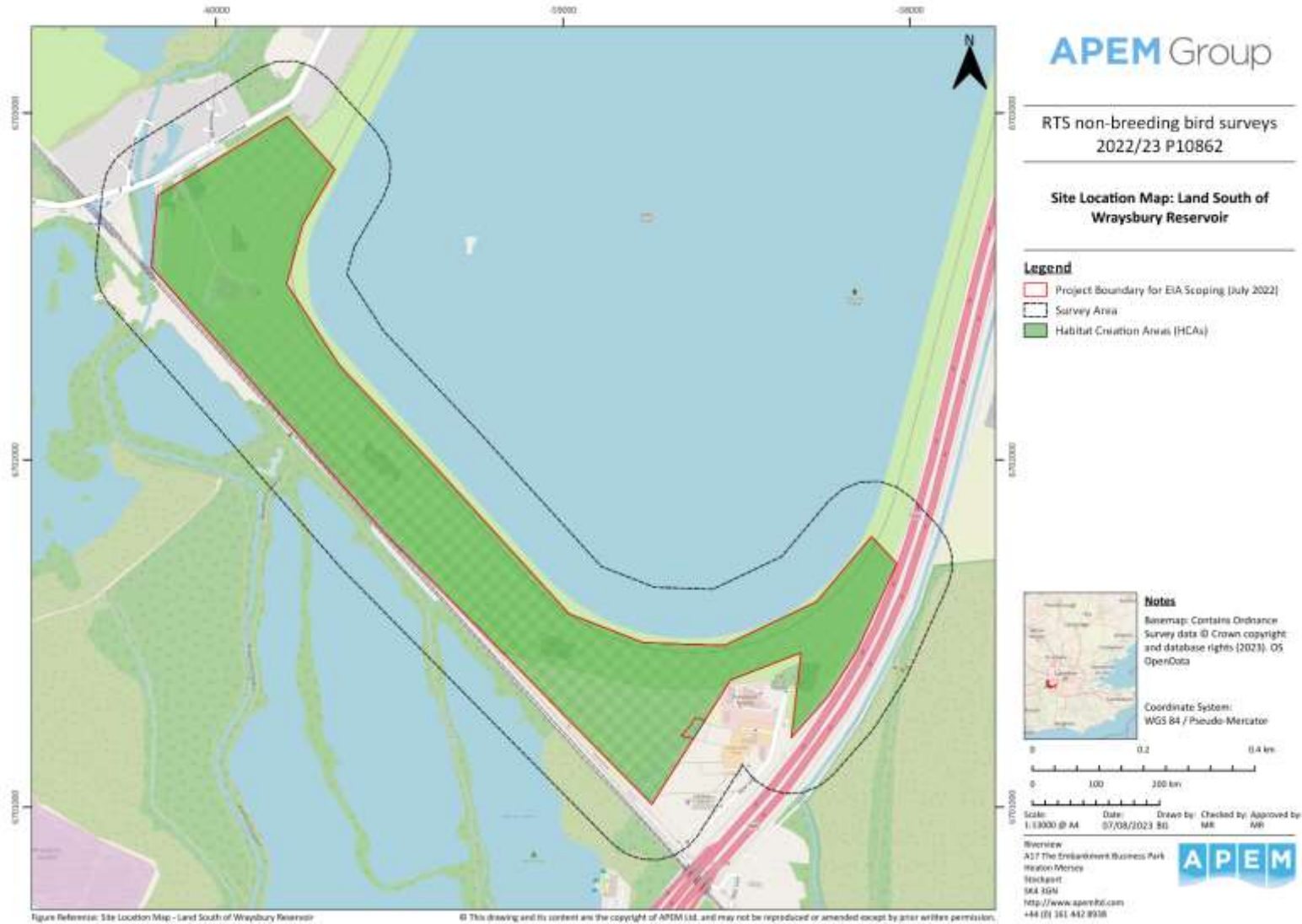
There are nine Sites of Special Scientific Interest (SSSIs) that are located in close proximity to the RTS (within 1 km), six of which are designed for ornithological interests, namely:

- Wraysbury Reservoir SSSI;
- Wraysbury and Hythe End Gravel Pits SSSI;
- Wraysbury No. 1 Gravel Pit SSSI;
- Staines Moor SSSI;
- Thorpe Park No. 1 Gravel Pit SSSI; and
- Knight & Bessborough Reservoirs SSSI.

Of note is that the Land South of Wraysbury Reservoir HCA lies partially within the Wraysbury Reservoir SSSI, a constituent part of the South West London Waterbodies Special Protection Area (SPA) (Natural England, 2014). Further details on designated sites within 1 km of the Project boundary for EIA Scoping (as of July 2022) are presented in the previous RTS Non-breeding Birds Baseline Report (APEM, 2022b).

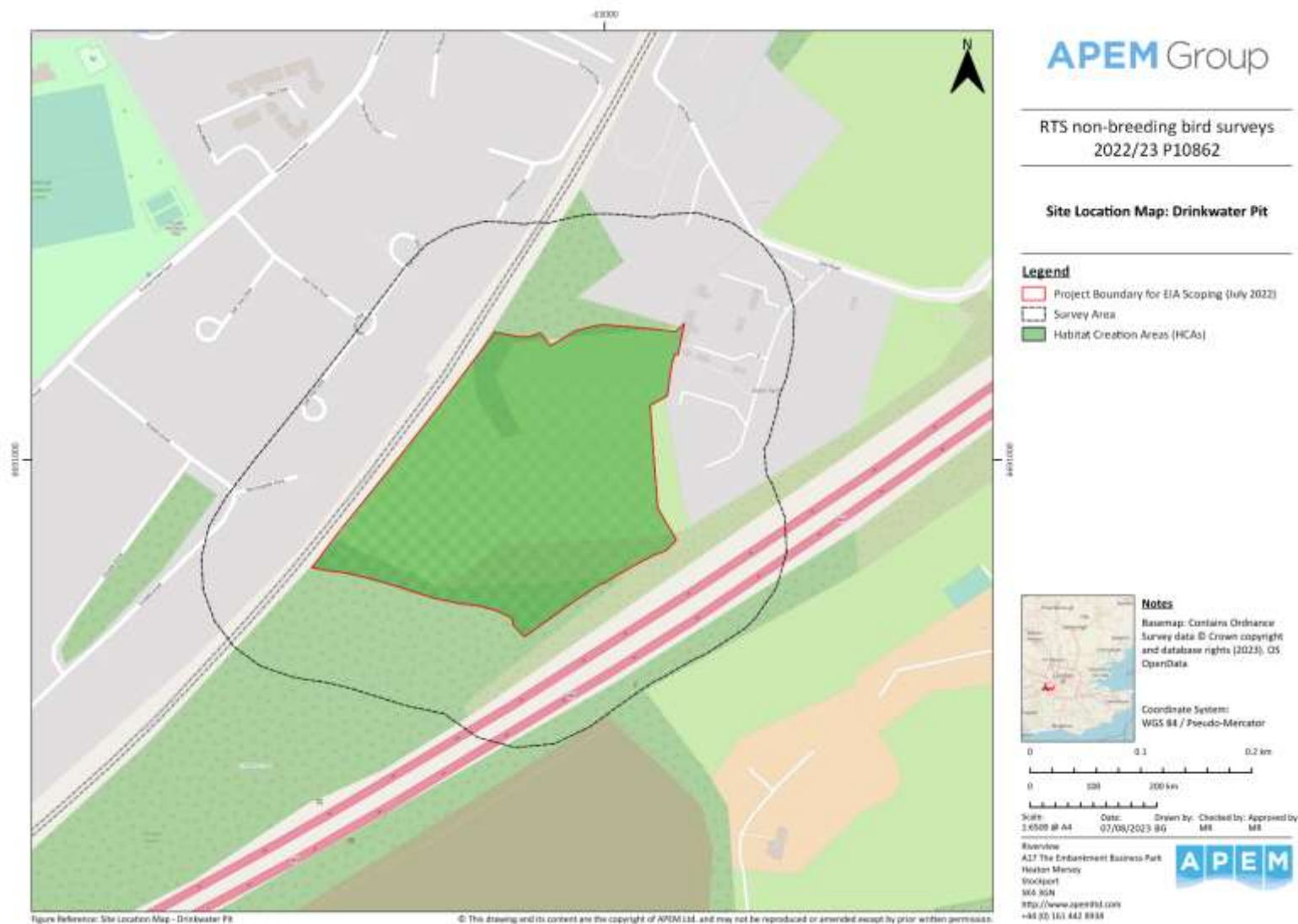


**Figure 1** Survey Area overview.

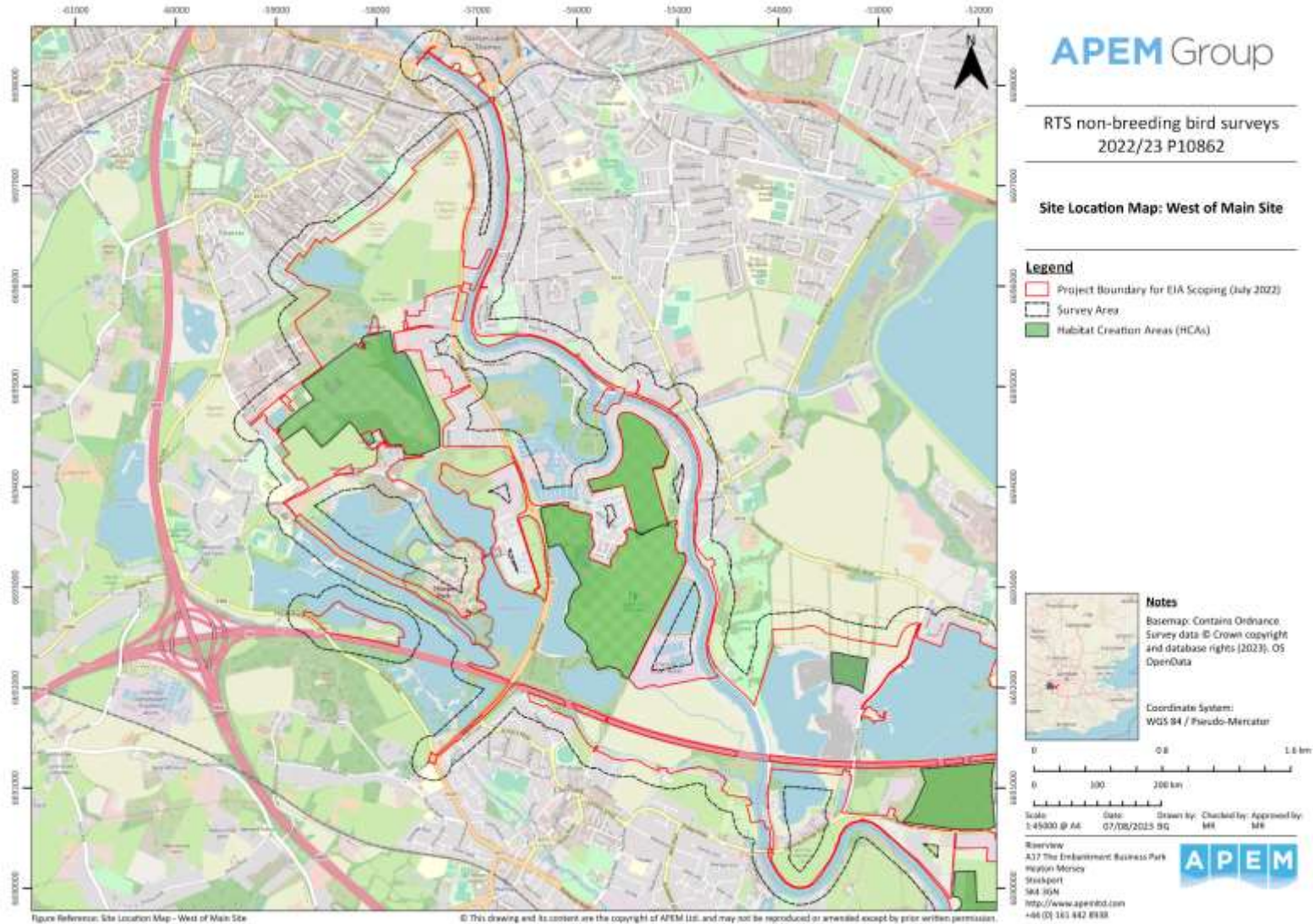


**Figure 2** Location of Land South of Wraybury Reservoir.





**Figure 3 Location of Drinkwater Pit.**



**Figure 4** Location of Main Site (west).



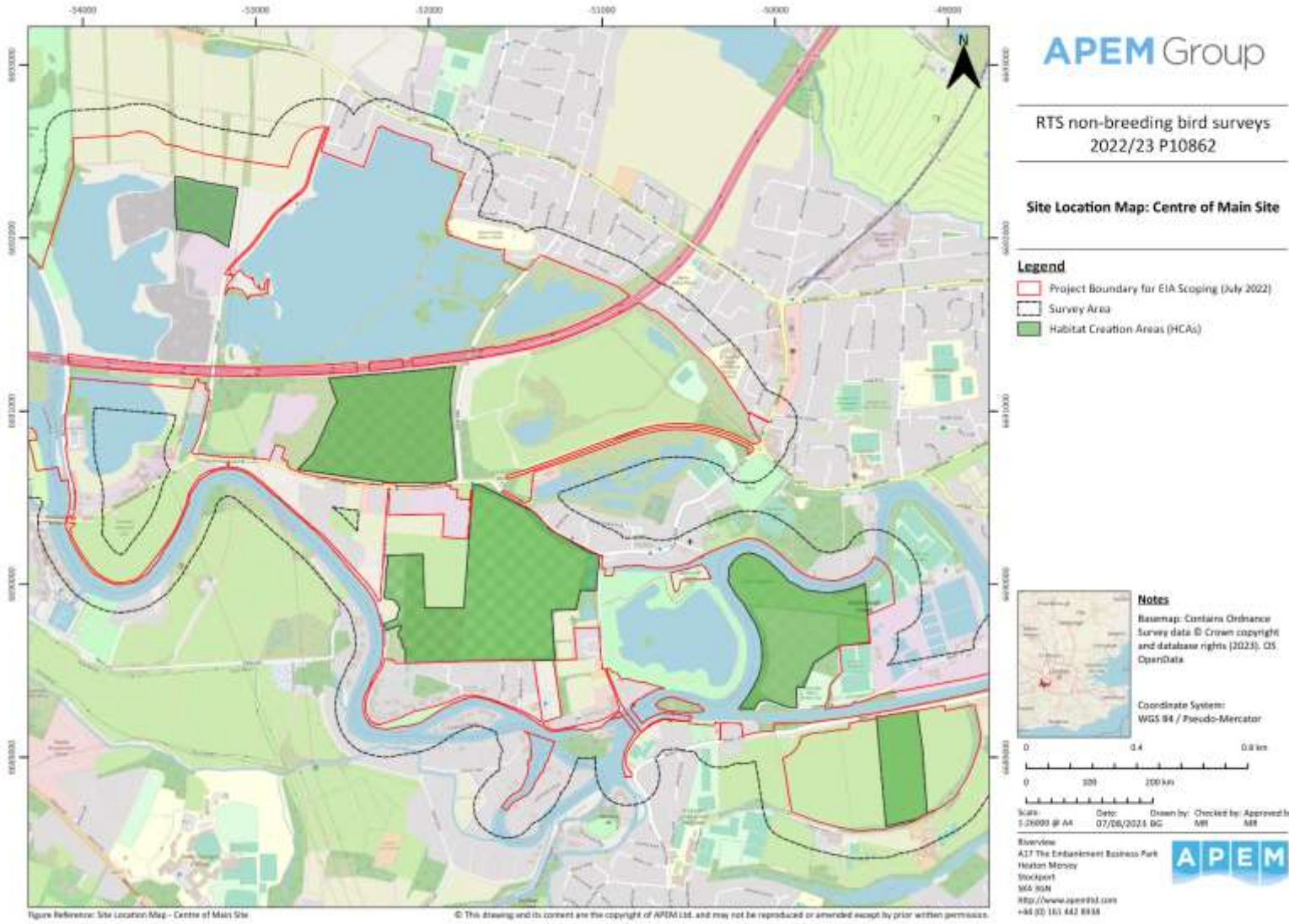
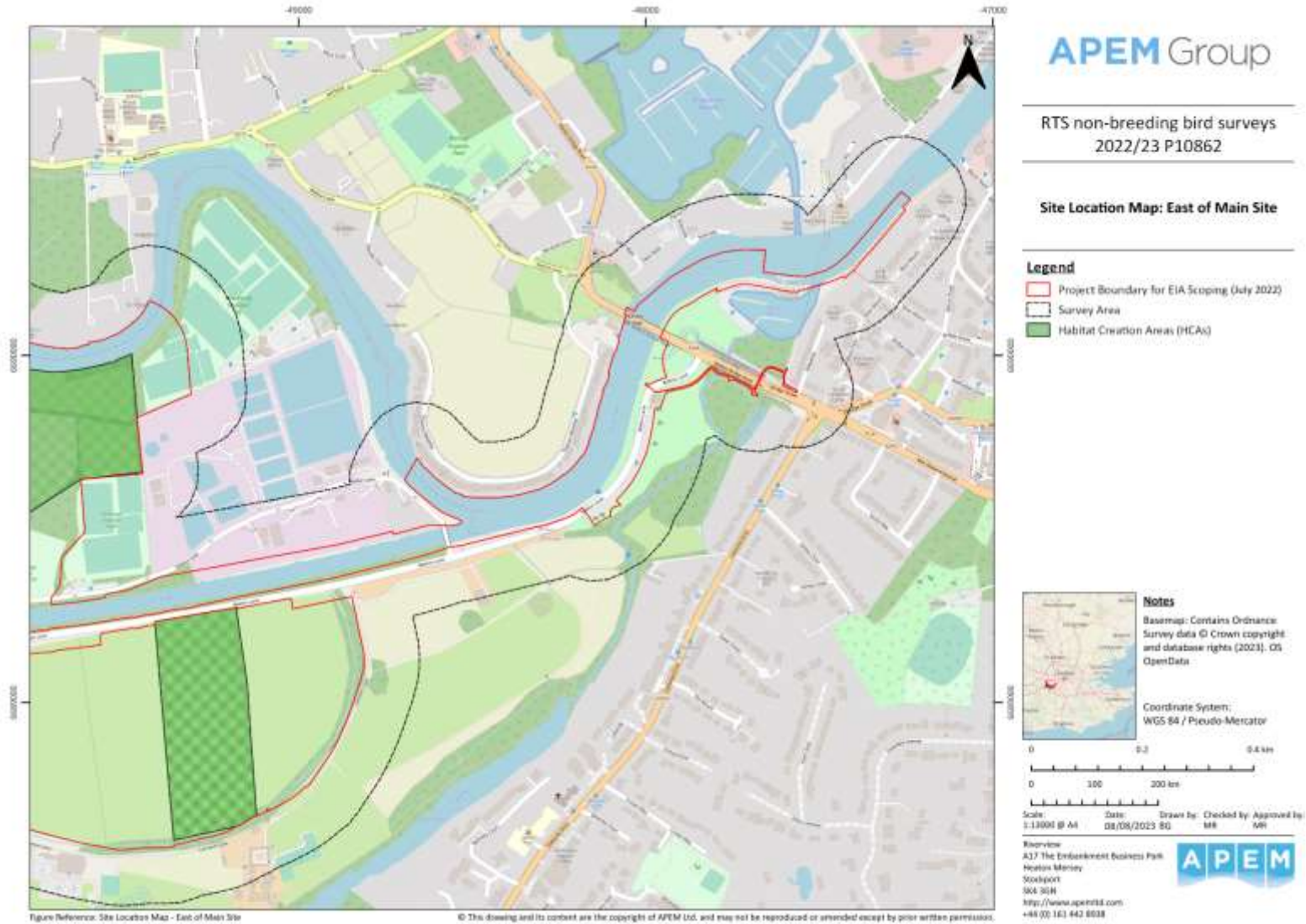


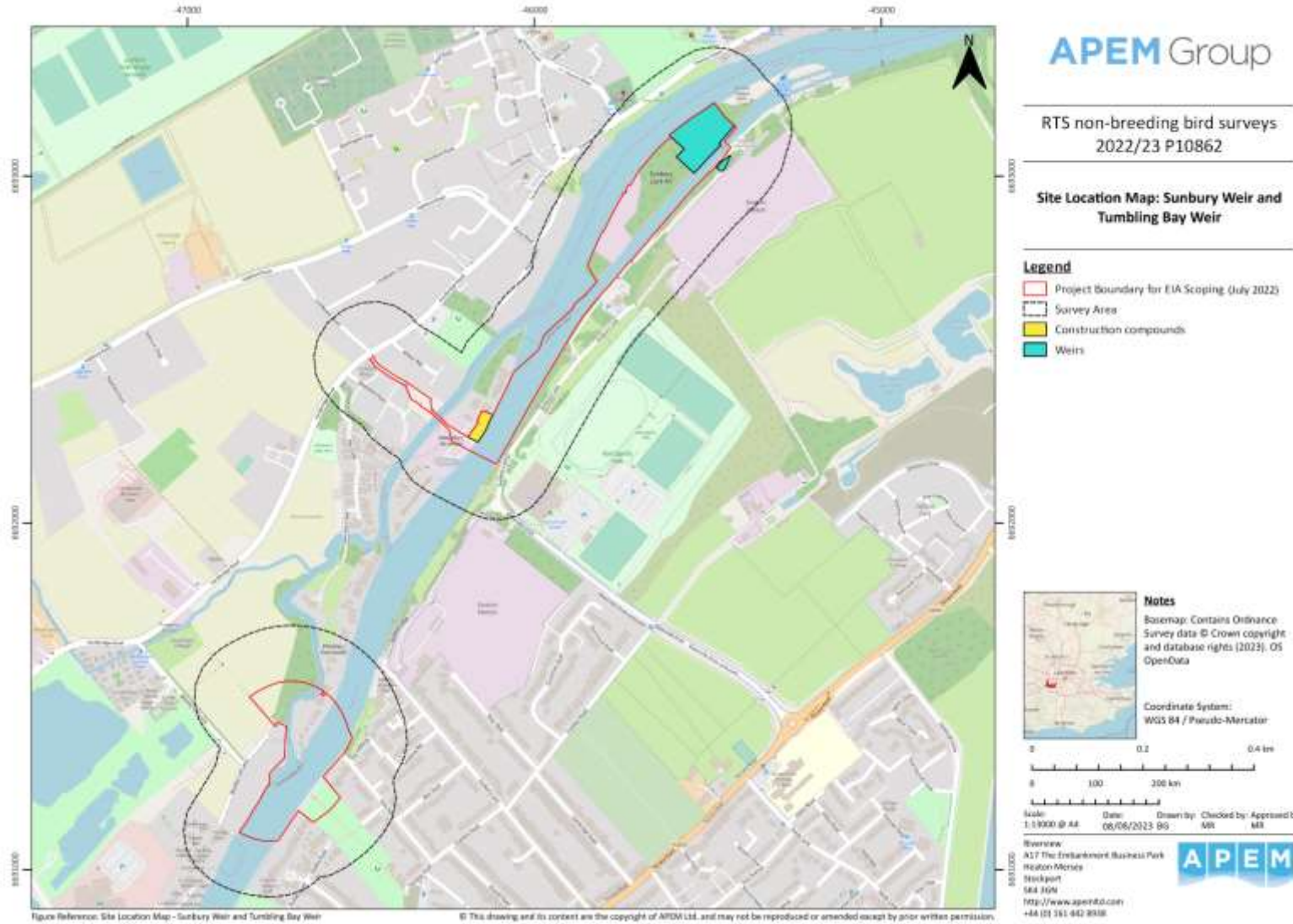
Figure 5 Location of Main Site (central).



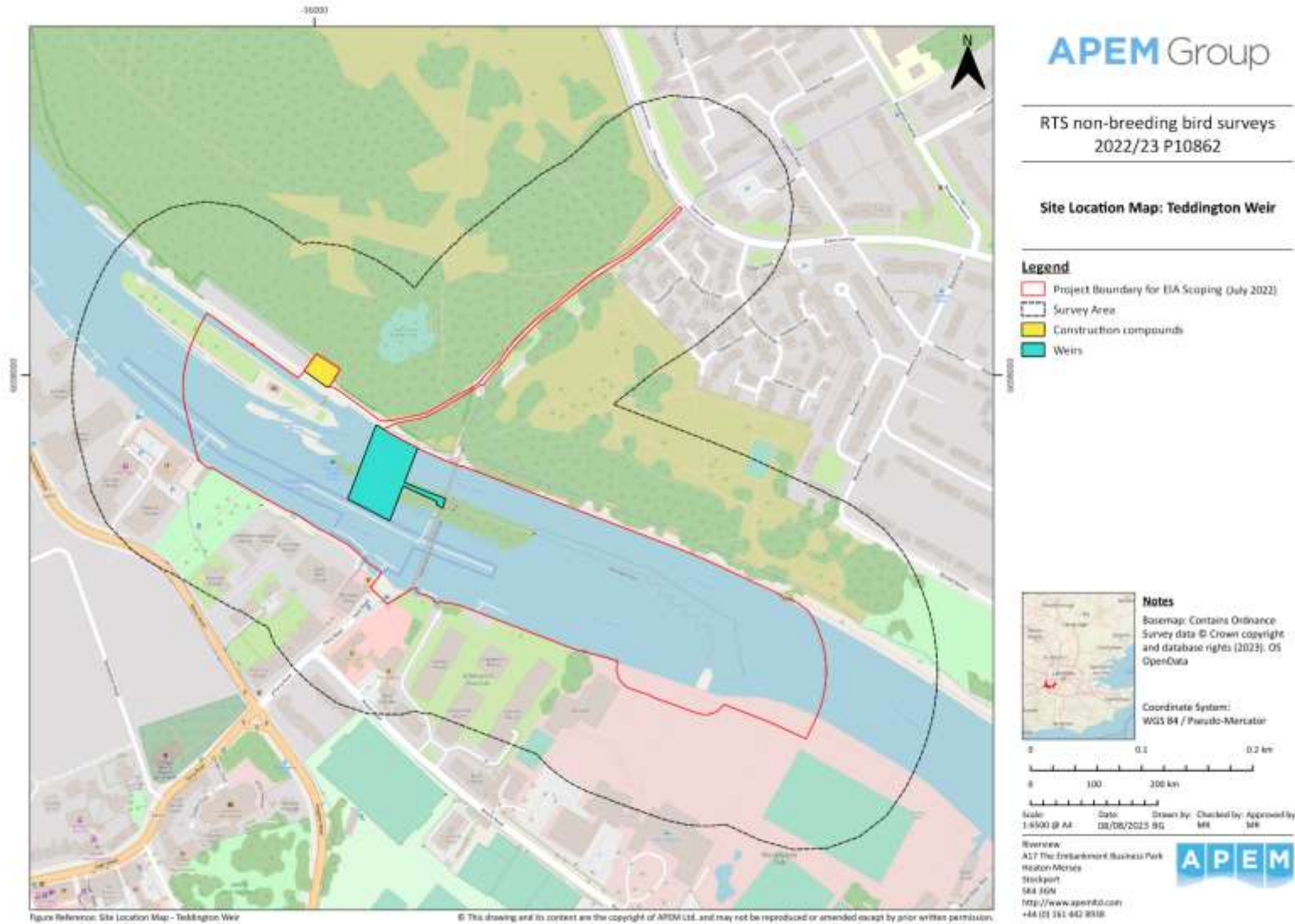


**Figure 6 Location of Main Site (east).**





**Figure 7** Location of Sunbury Weir and Tumbling Bay Weir.



**Figure 8** Location of Teddington Weir.

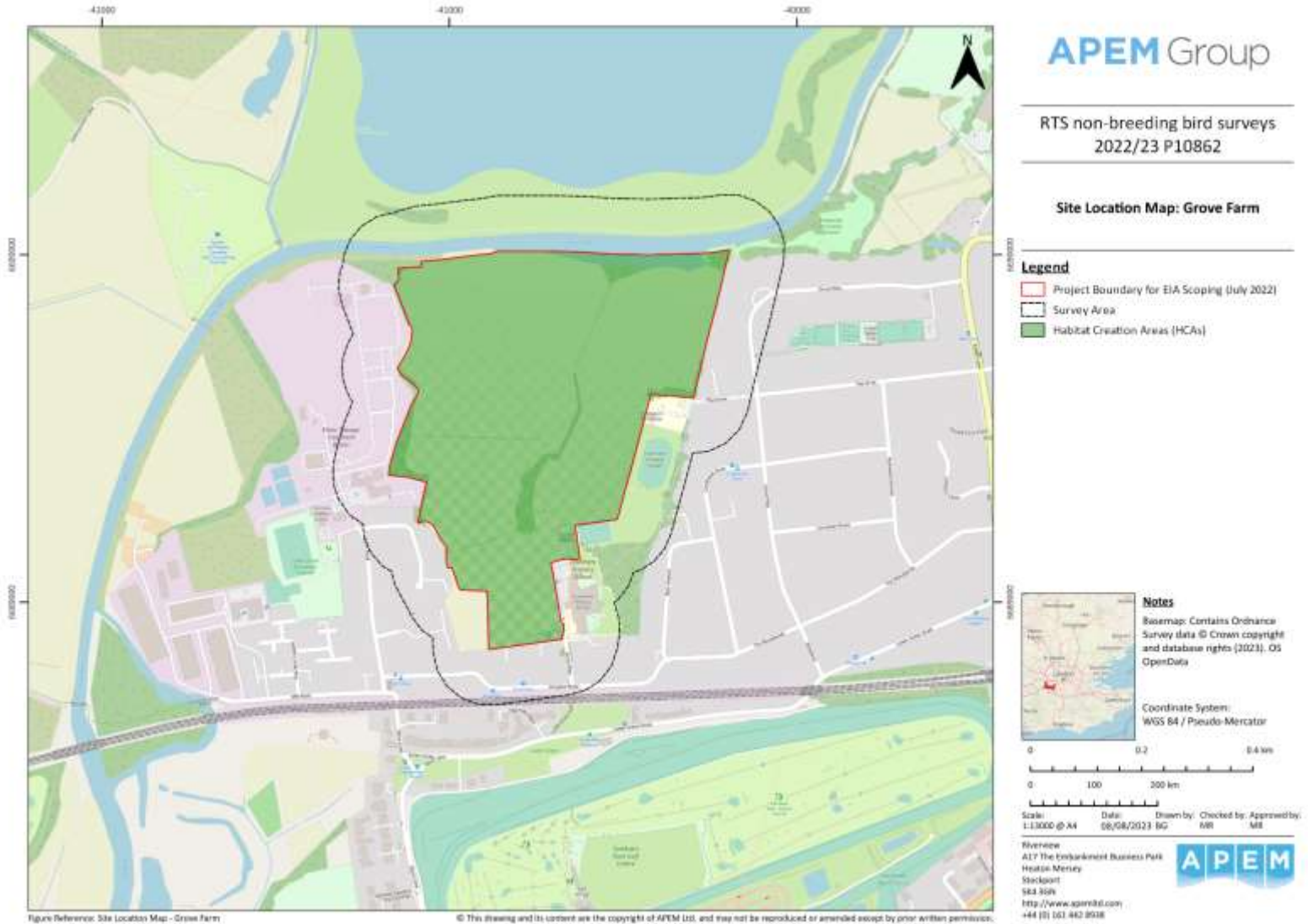
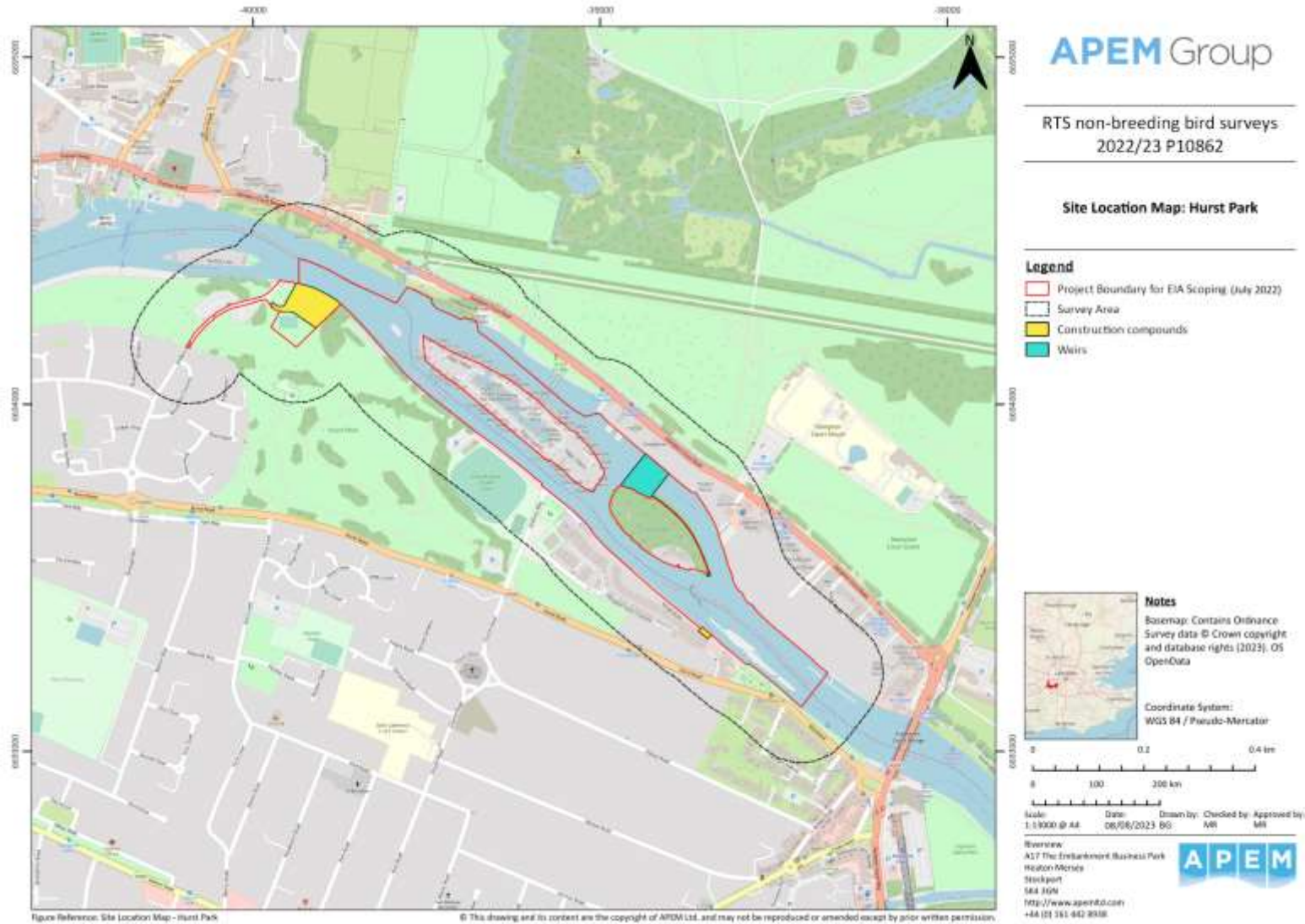


Figure 9 Location of Grove Farm.







**Figure 10** Location of Hurst Park.

## 2.4 Background and Scope of Surveys

The EA is planning to undertake flood alleviation works within the River Thames catchment between Egham Hythe at its northern extent to Desborough Cut at the southern extent, and is located to the south-west of Greater London. The proposed works are part of the overarching RTS Project. The main components of the Project include:

- An 8 km flood relief channel, split into two sections (Runnymede Channel (CS2) and Spelthorne Channel (CS3)) which are connected to a series of existing lakes;
- Capacity improvement works at Sunbury, Molesey and Teddington weirs and bed lowering of the River Thames 1 km downstream of the Desborough Cut; and
- Associated features including flow and water level control structures, flood embankments, site compounds, materials reprocessing sites, landscape enhancement areas and areas of habitat creation.

WSP Binnies (WBi) are also exploring opportunities with Thames Water to adjust the timing of their abstractions to existing storage reservoirs during large flood events so that the highest rate of abstraction coincides with the flood peak. This would be undertaken in accordance with an agreed protocol between the Environment Agency and Thames Water.

APEM undertook baseline non-breeding bird surveys within the Survey Area between November 2022 and March 2023. Note that some waterbodies within the Survey Area are either part of the South West London Waterbodies SPA or may be functionally linked to the SPA.

This follows on from previous surveys undertaken by APEM for RTS:

- Breeding Bird Baseline Report 2022 (APEM, 2022a);
- River Thames Scheme: Non-breeding bird baseline report 2021-22 (APEM, 2022b);
- River Thames Scheme: Survey of Breeding Birds 2021 (APEM, 2021a);
- River Thames Scheme: Non-breeding Bird Baseline Report 2021 (APEM, 2021b);
- River Thames Scheme: Survey of Wintering Waterbirds 2018-19 (APEM, 2019a); and
- River Thames Scheme: Survey of Breeding Birds 2019 (APEM, 2019b).

Surveys of waterbodies within the Survey Area are undertaken as part of the Wetland Bird Surveys (WeBS) scheme, administered by the British Trust for Ornithology (BTO) to monitor trends in wetland birds across the UK.

## 2.5 Target species

Natural England (2015) guidance recommends that field surveys should be focussed on 'target species', which will generally be limited to those that are afforded a higher level of legislative protection. Some species may also be considered target species, as a result of their behaviour,

which makes them more likely to be subject to impact from the development. There are four overarching species lists from which target species are generally derived:

- Species listed under Annex I of the Directive 2009/147/EC on the conservation of wild birds (commonly referred to as the Birds Directive);
- Species listed under Schedule 1 of the Wildlife & Countryside Act 1981 (as amended);
- Red listed in the BoCC5 (Stanbury *et al.*, 2021); and
- Species listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006).

In addition, consideration was given to species identified within Local Biodiversity Action Plans (LBAPs), though target species should be limited to those likely to be affected by the proposed development.

Gadwall and shoveler are the qualifying features of the South West London Waterbodies SPA as this designated site supported >1% of the north-west European wintering population at the time of designation. Nationally important numbers of cormorant, great crested grebe, tufted duck, pochard and coot also occur within the SPA (Natural England, 2014). In addition, all species listed under Schedule 1, the red list of the BoCC5 and NERC Section 41 species were target species during this programme of non-breeding bird surveys. In addition, flocks of 20 or more amber-listed BoCC5 species were also considered target species. Only target species were recorded during the surveys.

## 2.6 Legislation

Legislation that protects birds in the UK is described within this section.

### **European Commission Directive 2009/147/EC (codified version of 79/409/EC) on the Conservation of Wild Birds (the 'Birds Directive') (2009)**

The Birds Directive aims to protect all of the 500 wild bird species naturally occurring in the European Union and the UK. The Directive stipulates that Member States must designate Special Protection Areas (SPAs) for the survival of species listed under Annex 1 of the Directive and all migratory bird species. The Directive is implemented in England by the Wildlife and Countryside Act 1981 (as amended).

### **Ramsar Convention on Wetlands of International Importance (1971)**

The Ramsar Convention commits Contracting Parties to “*wise use of all wetlands through local and national actions and international cooperation*”. Parties agree to work towards wise use of wetlands, designate suitable wetlands for the Wetlands of International Importance and

ensure their effective management, and cooperate internationally on transboundary wetlands.

### **The Convention on the Conservation of Migratory Species of Wild Animals (the ‘Bonn Convention’) (1979)**

The Convention stipulates that Contracting Parties collaborate to conserve migratory species and their habitats by providing strict protection for endangered migratory species (listed in Appendix I of the Convention), concluding multilateral Agreements for the conservation and management of migratory species which require or would benefit from international co-operation (listed in Appendix II), and by undertaking co-operative research activities.

### **The Convention on the Conservation of European Wildlife and Natural Habitats (the ‘Bern Convention’) (1979)**

The principal aims of the Convention are to ensure conservation and protection of wild plant and animal species and their natural habitats (listed in Appendices I and II of the Convention), to increase co-operation between contracting parties, and to regulate the exploitation of migratory species listed in Appendix III.

### **The Wildlife and Countryside Act (as amended) (1981)**

The Wildlife and Countryside Act 1981 was enacted to implement the Birds Directive and Bern Convention in Britain. Among other things, the Wildlife and Countryside Act 1981 provides protection to all birds, with increased protection afforded to those listed under Schedule 1 of the Act. All Birds Directive Annex 1 species are listed under Schedule 1 of the Act.

### **The Natural Environment and Rural Communities Act (2006)**

The Natural Environment and Rural Communities Act 2006 extended the biodiversity duty set out in the Countryside and Rights of Way (CROW) Act to public bodies and statutory undertakers to ensure due regard to the conservation of biodiversity. Section 41 of the Act refers to a published list of habitats and species which are of principal importance for the conservation of biodiversity in England.

## **3. Survey Methods**

### **3.1 Surveyor**

Surveys were undertaken by lead surveyor Andrew Ferguson, a knowledgeable ornithologist with over five years field experience of monitoring bird activity and distribution within the River Thames catchment area. Andrew is familiar with and has a detailed understanding of

the key survey methodologies that were used for this project. Andrew was assisted by Matthew Rohner and Tobias Phelps where required.

### 3.2 Survey Methodology

The non-breeding bird surveys followed an adapted version of the line transect methodology as detailed in Bibby *et al.* (1998). As the surveys are designed to identify wintering and passage species of conservation concern, a five-visit approach, with monthly surveys between November 2022 and March 2023 (inclusive), was considered appropriate. Surveys were conducted within the Survey Area, although access to the 100 m survey buffer beyond the project boundary for EIA scoping was limited due to access restrictions with regard to private land in some locations.

Surveys began at sunrise and were completed at or prior to sunset. The methodology used was in line with the latest guidance on non-breeding bird surveys from the Bird Survey and Assessment Steering Group (2023). All parcels of suitable habitat within the Survey Area were approached to within 500 m and a periodic stop and scan method was used to locate target species using high-quality optics (Zeiss Conquest HD 8x42 binoculars with 90% light transmission and a 128 m field of view at 1 km; Opticron MM4 77 GA/ ED/45 fieldscope with a 77mm HDF ED APO lens design). A pre-determined survey route was designed to ensure that the entire Survey Area was covered (as access allowed) during each visit, and the routes were varied between visits to increase overall ground coverage. Field boundaries were walked, and a closer approach was taken in wooded areas. The waterbodies and margins were characterised by scanning using binoculars and approaching to ensure all areas were visible. All visits were carried out in suitable weather conditions (i.e., avoiding winds in excess of Beaufort force 5 and/or poor visibility), with details of the weather conditions during each visit provided in **Appendix 1**. The identity and activity of all bird species of conservation concern were recorded using standard British Trust for Ornithology (BTO) notation. Names, locations and short descriptions of land parcels and waterbodies within the Survey Area are presented in the associated **Additional Appendices** document (reference ENVIMSE500260-GBV-ZZ-3ZZ-RP-EN-10258).

### 3.3 Limitations

Some areas of private land were not accessible during every survey visit. Where access was restricted, these areas were surveyed from public rights of way (PRoW), where possible. Surveyors recorded birds by ear as well as sight; however, only a select number of species sing outside the breeding season, often making visual survey the more reliable method during these times of year. This methodology also has further limitations with regard to larger sites due to the distances of suitable habitat from accessible boundaries. The following areas were all surveyed from PRoW and/ or from an adjacent area that was either open access or to which the surveyors had access (area locations and descriptions are presented in the associated **Additional Appendices** document, reference ENVIMSE500260-GBV-ZZ-3ZZ-RP-EN-10258):



- Affinity Water Limited;
- Littleton Lane (bar Survey 1, where internal access was available);
- Land south of Thorpe Hay Meadow;
- Donkey Island (part of Sunbury Lock);
- Funky Footprints Nature Reserve (Surveys 1 and 2 only);
- Area east of lake south of Green Lane;
- The north-eastern parcel of Chertsey Road Tip;
- Land southwest of Thorpe Hay Meadow (Survey 1 only);
- Former Laleham Golf Course (now agricultural land with cattle present);
- Land north of Coldharbour Lane (CEMEX);
- Land south of Chertsey Road (Shepperton Ranges);
- Royal Hythe;
- Weybridge Vandals Football Club (Desborough Island); and
- Abrook Farm (Survey 4 only)

Access was not available for Chertsey Caravan Club, Twynersh Fishing Complex, Grove Farm and Haliford Mere. Data was unable to be captured for these areas during the surveys due to restricted views from boundaries and limited opportunities to walk around the boundaries on foot.

Access to Drinkwater Pit, Tim Chambers' land and Littleton Sailing Club was not available for Survey 1 (November 2022). These areas could not be surveyed on this occasion due to restricted views from boundaries and limited opportunities to walk around the boundaries on foot.

Internal access to Funky Footprints Nature Reserve was granted from Survey 3 (January 2023) onwards.

Access to Abrook Farm was granted, although the surveyor was unable to access this area during Survey 4 (February 2023) as the landowner could not be contacted to open the entrance gate.

Access to Land south of Wraysbury Reservoir was granted for Surveys 4 (February 2023) and 5 (March 2023) only. As an alternative, surveying from the PRoW was considered, however the dynamic risk assessment concluded that the proximity of the only boundary footpath to an active railway line was a health and safety concern.

Access to the western extent of JB Waterski (Thorpe Lakes Aqua Park) was restricted during Surveys 1 to 3 due to the presence of HERAS fencing erected by a different company using the land. An alternative access route was negotiated for Surveys 4 and 5.

Broom Road Recreation Ground was not surveyed throughout the non-breeding bird survey programme due to evolving Survey Area requirements.

Despite the above limitations and based upon APEM's knowledge and experience of the site, the known bird assemblage, results gathered and APEM's understanding of the value of the unsurveyed area, APEM anticipate that no significant bird species or habitats were missed as

a result. It is considered that the dataset is both robust and comprehensive and is fit for purpose when taking the revisions and access restrictions into consideration. The use of high-quality optics (where boundaries are not overly vegetated) and recording bird vocalisations resulted in a comprehensive dataset.

## 4. Results

### 4.1 Overview

In total, 36 species were recorded within the Survey Area during the 2022-23 non-breeding surveys. Of those recorded, 26 of these are considered target species. one is listed under Annex I of the Birds Directive, six under Schedule 1 of the WCA 1981 (as amended), eight under Section 41 of the NERC Act 2006, 12 are Amber List BoCC5 species in aggregations of 20 birds or greater, and 11 are Red List BoCC5 species.

Additional, more detailed consideration is provided for target species recorded with maps and the overall status of these species within **4.2 Full results**. Weather conditions for each survey are presented in **Appendix 1** with full tabulated survey results in the associated **Additional Appendices** document (reference ENVIMSE500260-GBV-ZZ-3ZZ-RP-EN-10258). All species lists are presented in British Ornithologists' Union (BOU) order (BOU, 2017), and a full species list is presented in **Appendix 2 Species Names** which can be referred to when viewing the survey results figure maps.

To add clarity to the results, Land south of Wraysbury Reservoir HCA, Tumbling Bay, Sunbury Lock, Teddington Lock, Hurst Park, Grove Farm, and Drinkwater Pit are referred to as the 'Outlying Sites', with all other land within the Survey Area being referred to as the 'Main Site' with an eastern, central or western designation as appropriate. Amber-listed species have not been presented in the results figures to maintain clarity but are included within the tabulated results.

Amber-listed species have not been mapped to ensure clarity in figures is maintained. These species do, however, have species accounts discussing the occurrence of groups of 20 or greater individuals.

### 4.2 Full results

#### 4.2.1 Survey 1 (November 2022)

A total of 19 target species were recorded within the Survey Area during the November 2022 survey, as presented in **Table 2**.

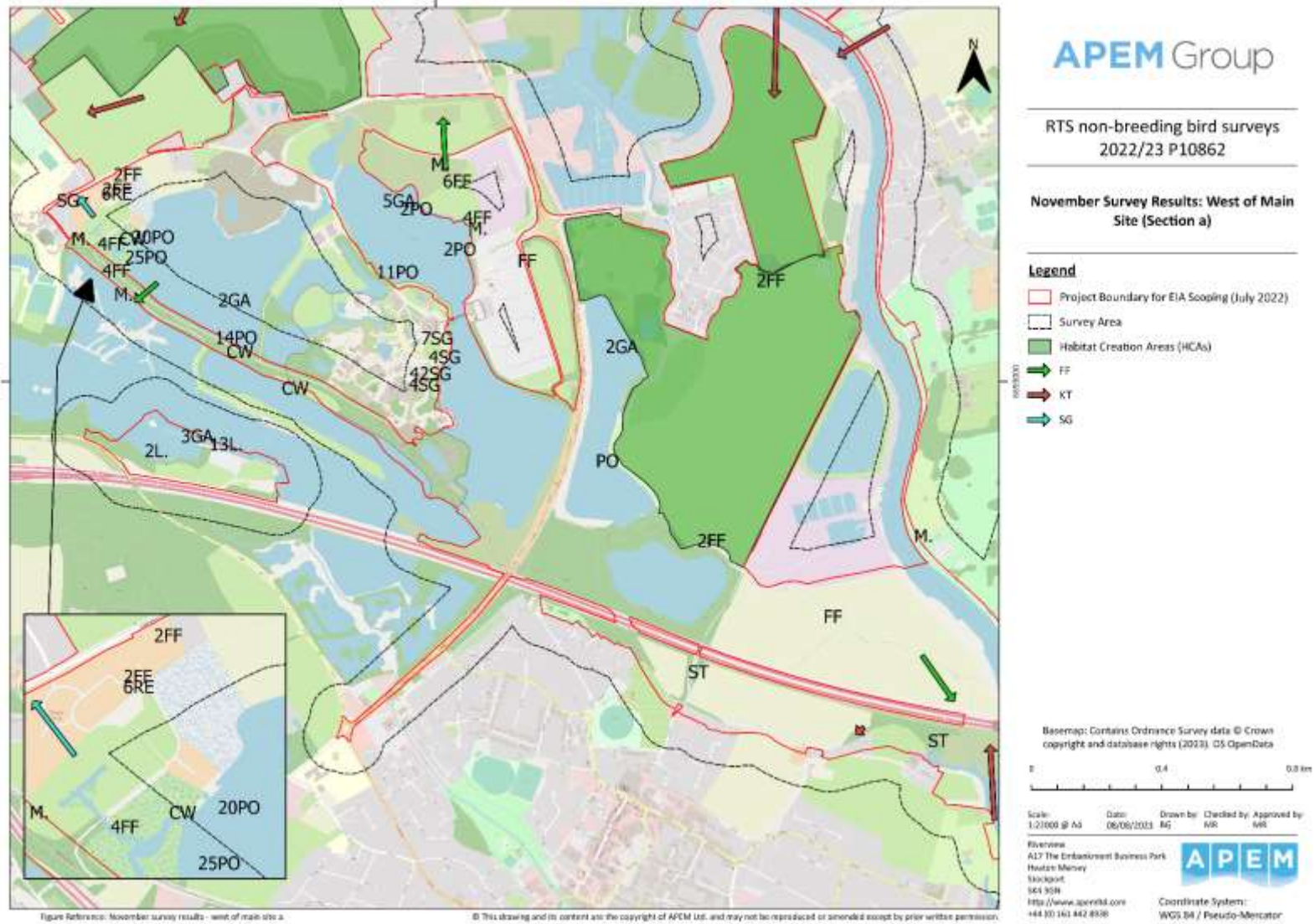
**Table 2 Target bird species recorded during Survey 1 (November 2022).**

Species	Number recorded	Species	Number recorded
Gadwall	26	Cetti’s warbler	3
Shoveler	3	Starling	225
Wigeon	33	Song thrush	3
Pochard	87	Mistle thrush	8
Lapwing	16	Redwing	54
Black-headed gull	509	Fieldfare	71
Herring gull	11	House sparrow	14
Red Kite	9	Greenfinch	2
Kingfisher	1	Linnet	8
Skylark	1		

Target species were recorded throughout the Main Site as well as at Teddington Lock, Hurst Park, Grove Farm, Sunbury Lock and Tumbling Bay Weir during the November survey. Species diversity was highest in the west of the Main Site with 14 species recorded, followed by the centre of the Main Site with 12 target species present at the time of survey. Teddington Lock had two target species, Hurst Park two, Grove Farm one, Sunbury Lock two and Tumbling Bay Weir one target species. There were no target species recorded at the Land South of Wraysbury Reservoir or Drinkwater Pit. The highest number of target species were recorded in the west of the Main Site with 539 birds recorded, followed by centre of the main site with 284 birds.

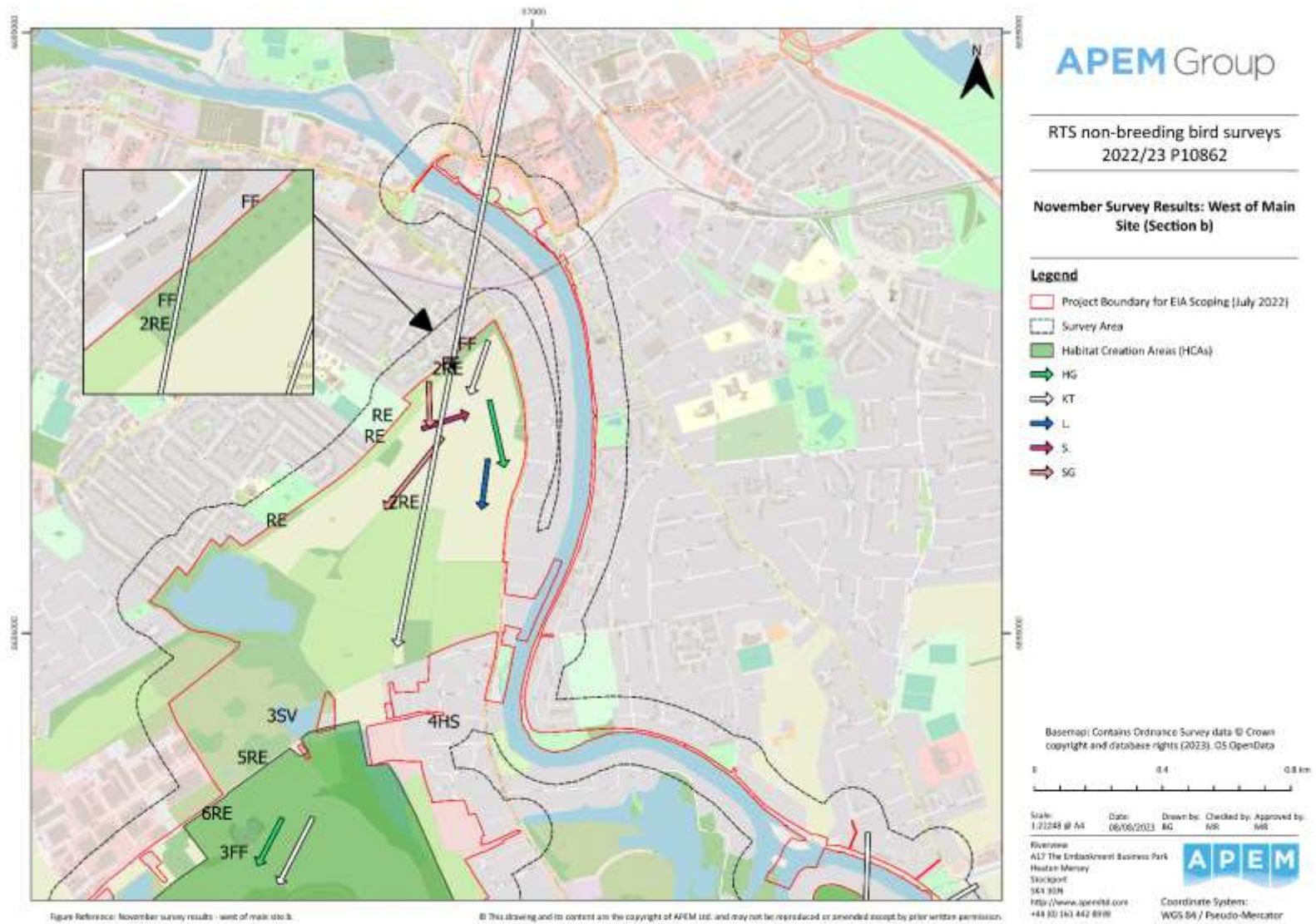
The highest number of target species throughout the Survey Area were recorded on or adjacent to open grassland or on or adjacent to open water, chiefly made up of black-headed gull (n=509), starling (n=225), pochard (n=87), linnet (n=83), and redwing (n=54).

Note that, in reference to the results figures, arrows represent birds in flight. Full details regarding the number of birds per flight record are provided in the **Additional Appendices** document (reference ENVIMSE500260-GBV-ZZ-3ZZ-RP-EN-10258).



**Figure 11 November survey results for the west of the Main Site (Section A).**





**Figure 12 November survey results for the west of the Main Site (Section B).**

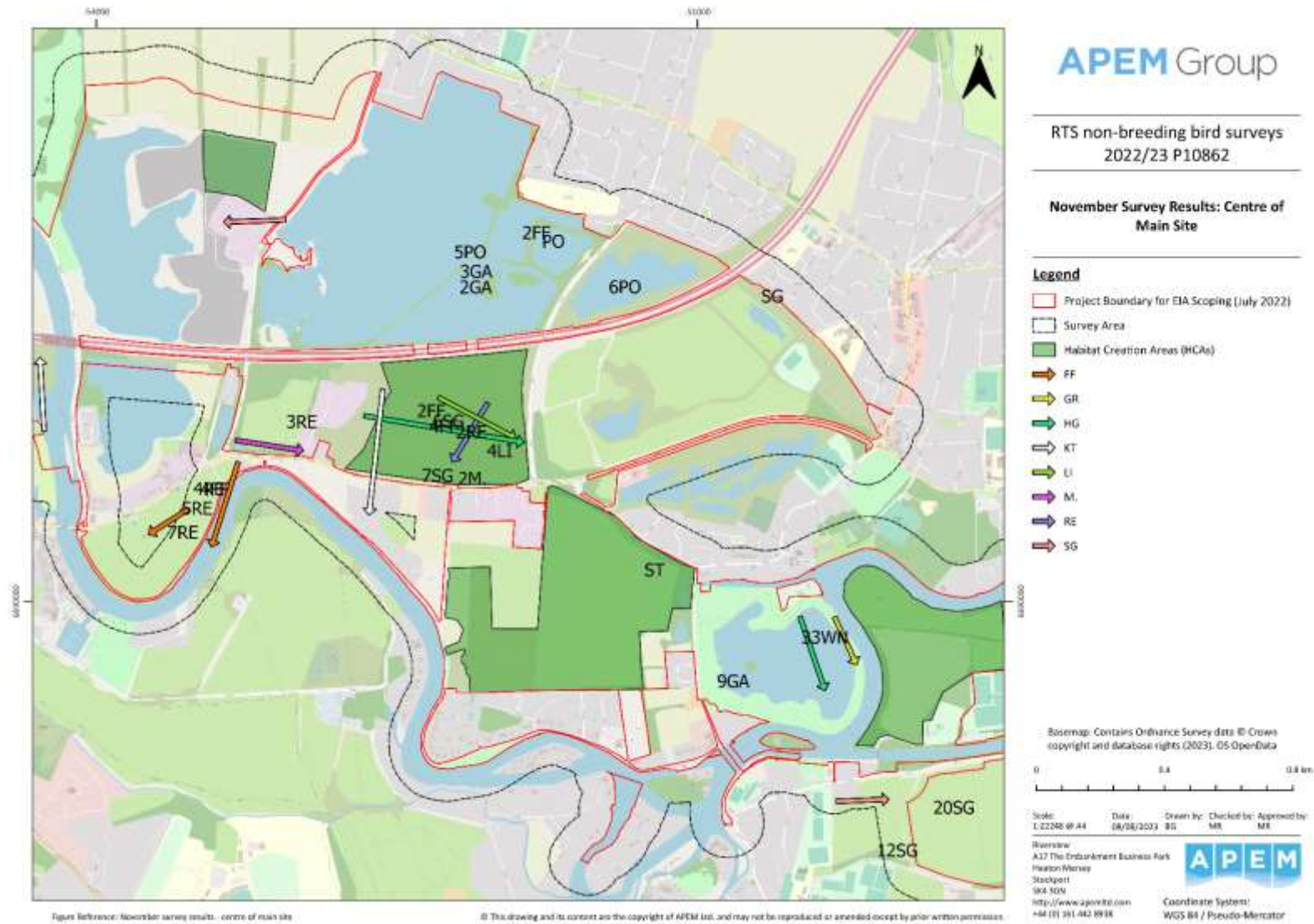
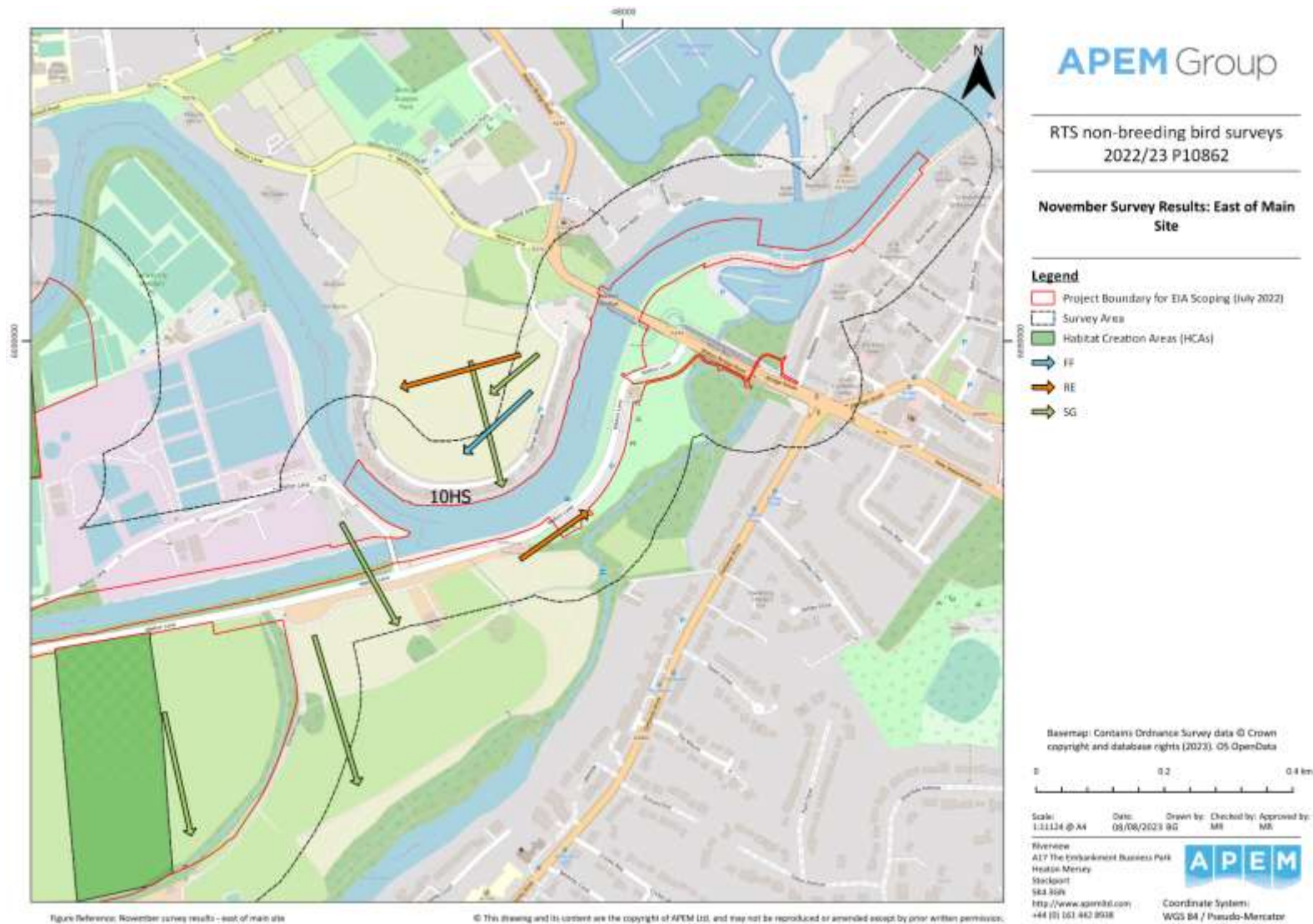
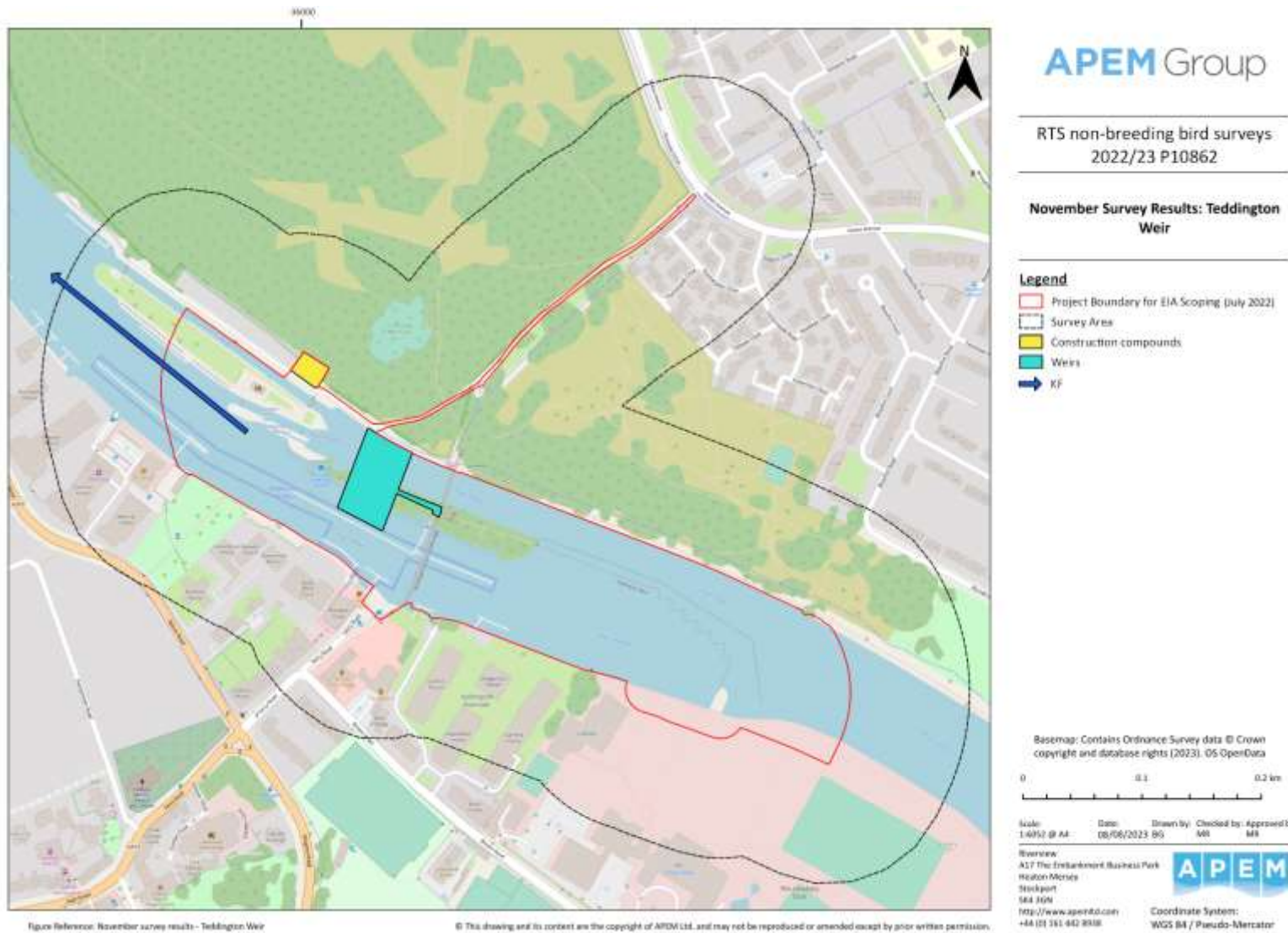


Figure 13 November survey results for the centre of the Main Site.



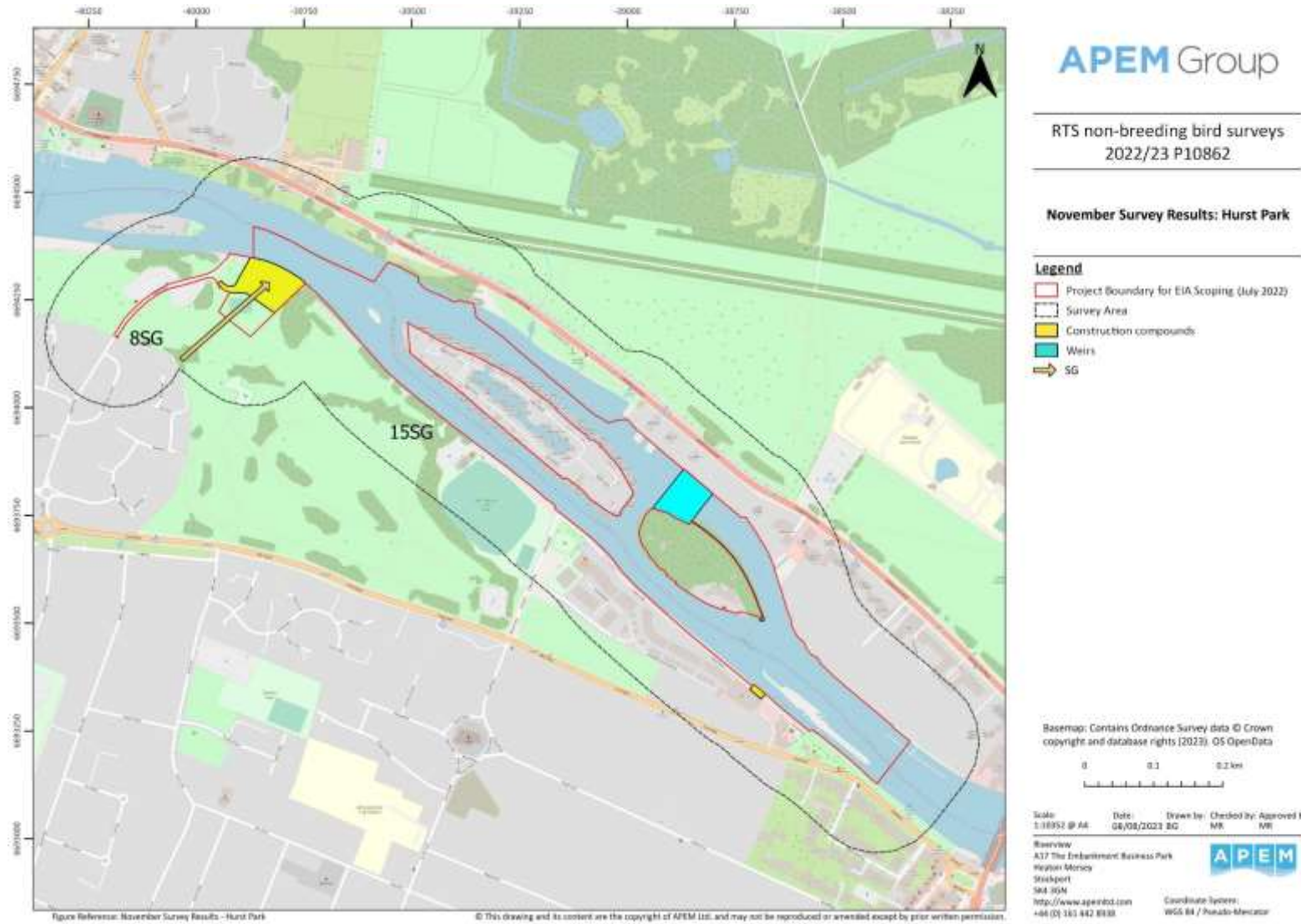


**Figure 14** November survey results for the east of the Main Site.



**Figure 15** November survey results for Teddington Weir.





**Figure 16 November survey results for Hurst Park.**

#### 4.2.2 Survey 2 (December 2022)

A total of 19 target species were recorded within the Site during the December survey, as presented in **Table 3**.

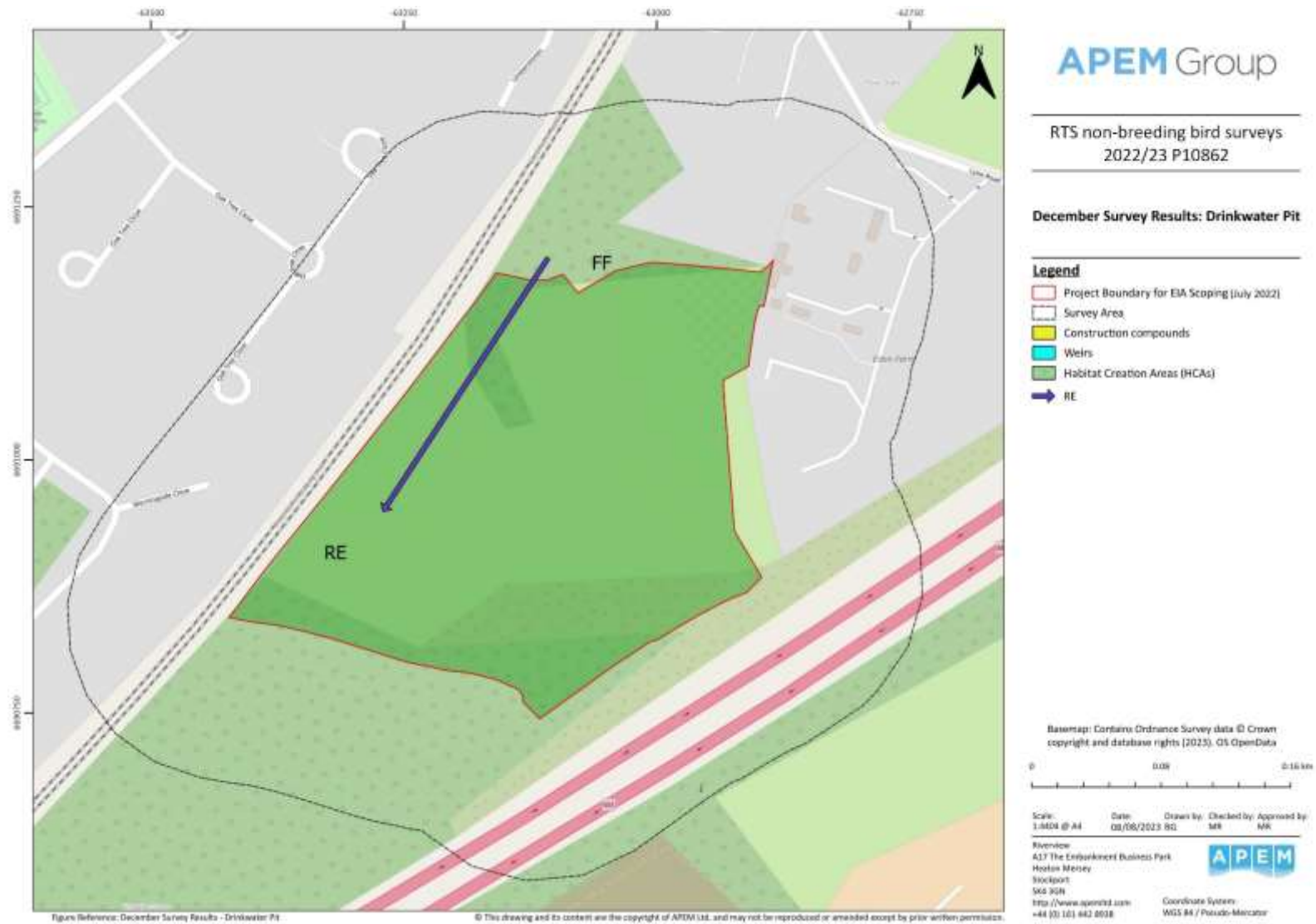
**Table 3 Target species recorded during Survey 2 (December 2022).**

Species	Number recorded	Species	Number recorded
Gadwall	22	Starling	126
Shoveler	43	Song thrush	4
Wigeon	53	Mistle thrush	9
Pochard	153	Redwing	207
Goldeneye	3	Fieldfare	45
Lapwing	125	House sparrow	48
Black-headed gull	512	Meadow pipit	22
Herring gull	43	Greenfinch	10
Red kite	5	Linnet	22
Kingfisher	7		

Target species were recorded throughout the Main Site as well as at Drinkwater Pit, Teddington Lock, and Hurst Park during the December survey. Species diversity was highest in the west of the Main Site with 16 species recorded, followed by the centre of the Main Site with 13 target species. There were no target species recorded at Grove Farm or the Land south of Wraysbury Reservoir. The highest number of target species were in the west of the Main Site with 721 birds recorded, followed by the centre of the Main Site with 306 birds.

The highest number of target species throughout the Survey Area were recorded on or adjacent to open grassland or on or adjacent to open water, chiefly comprising of black-headed gull (n=512), redwing (n=207), pochard (n=153), starling (n=126), and lapwing (n=125).

Goldeneye were recorded in the December survey on St Ann's Lake within the Main Site (west).



**Figure 17** December survey results for Drinkwater Pit.



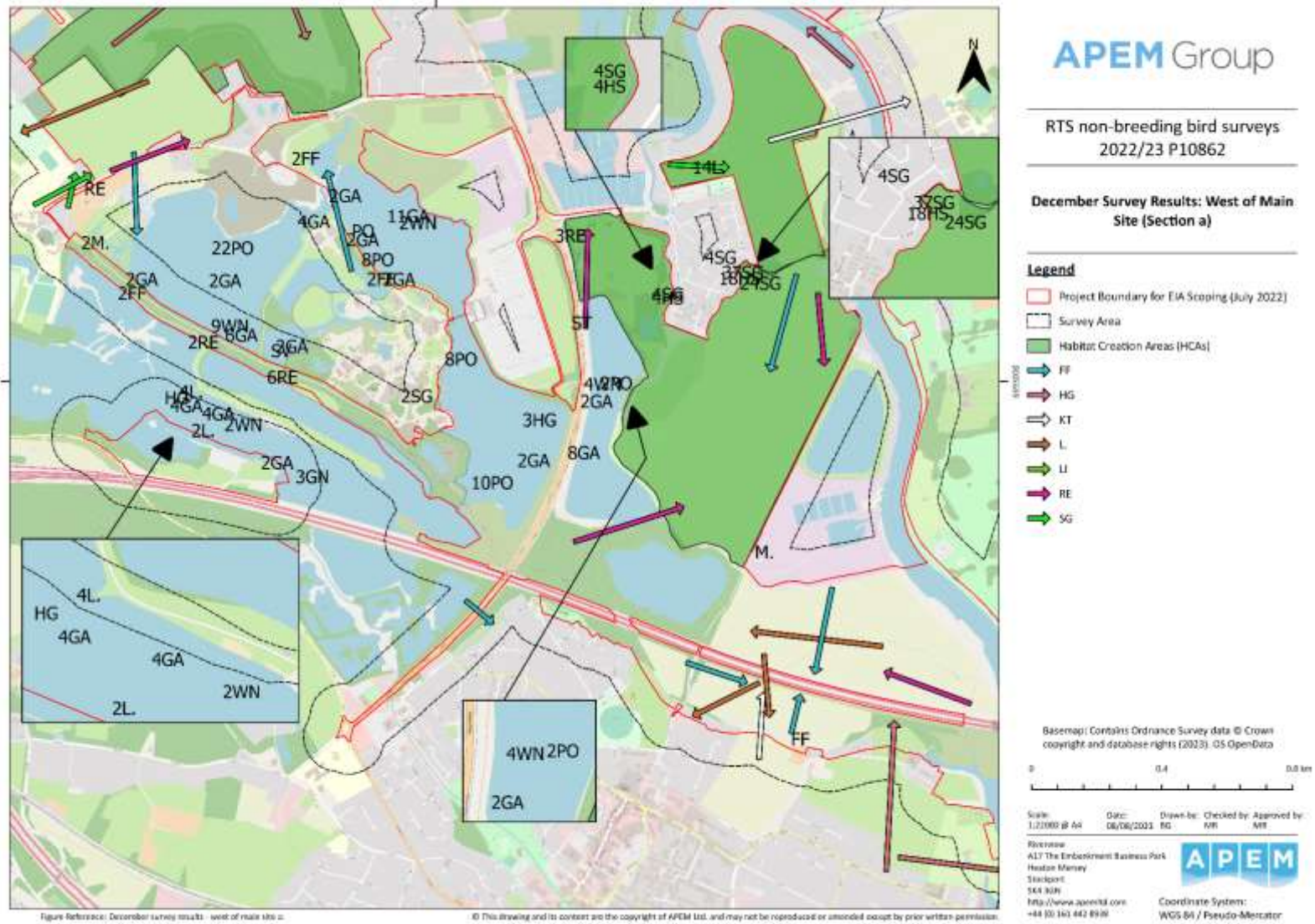
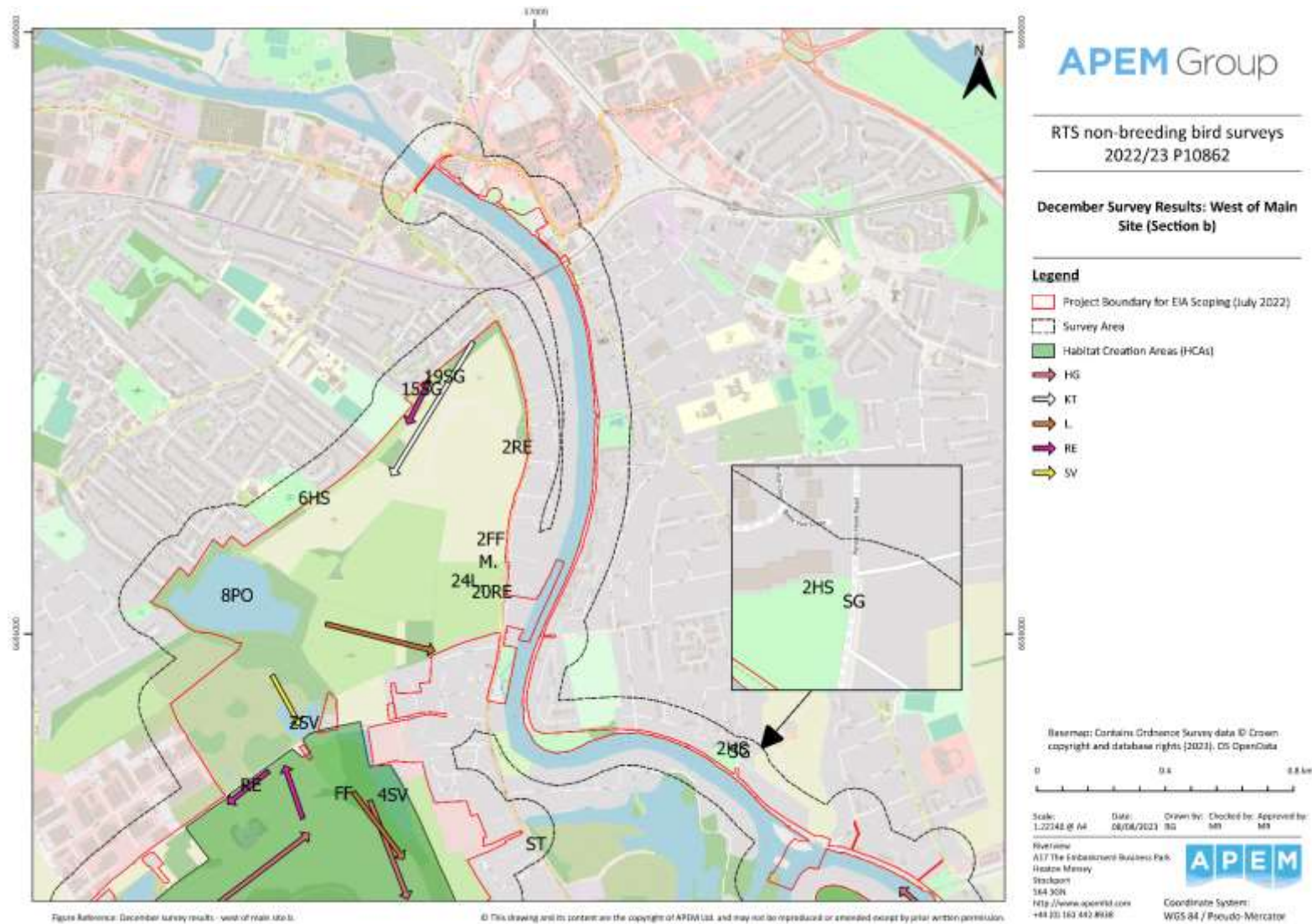


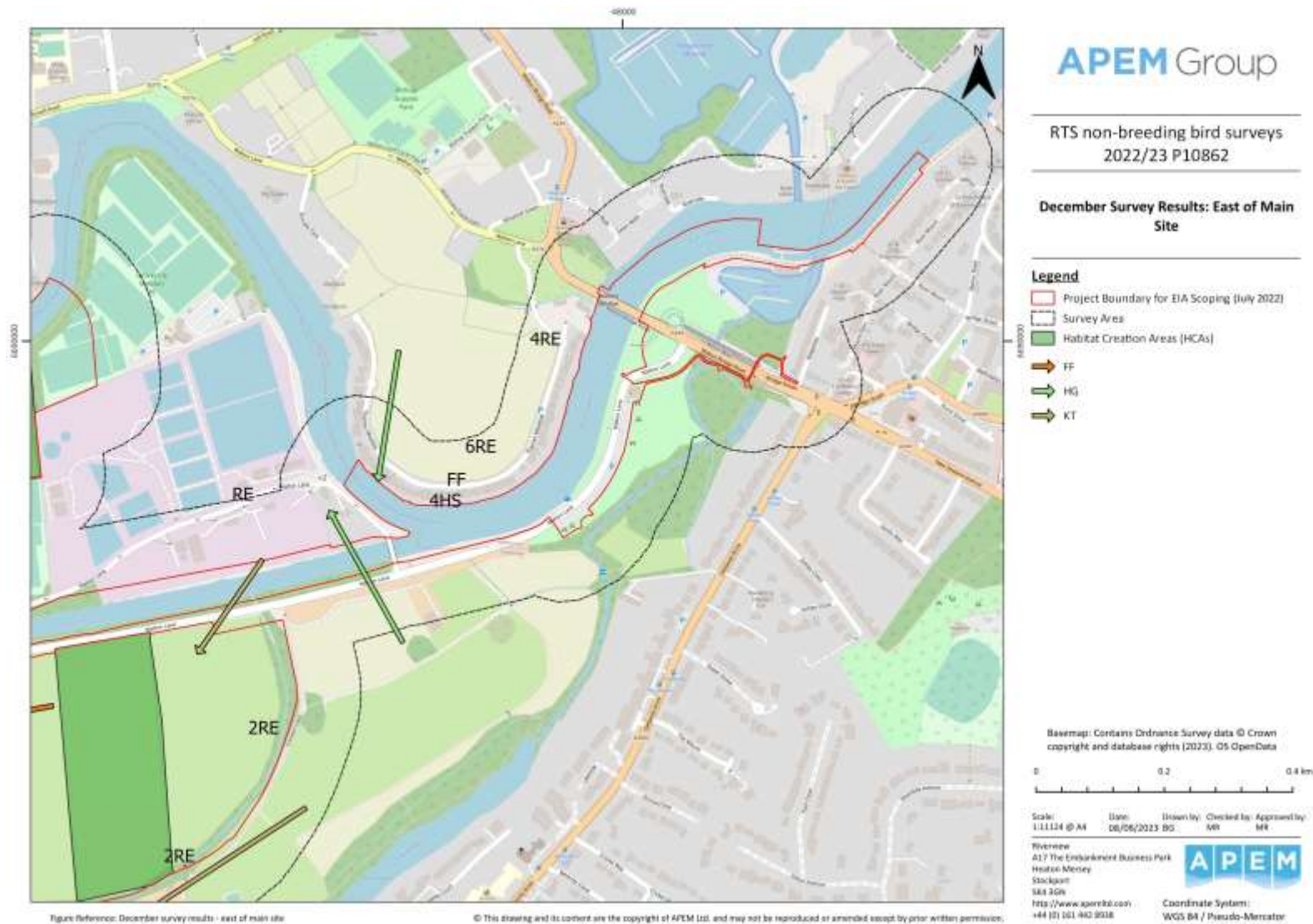
Figure 18 December survey results for the west of the Main Site (Section A).



**Figure 19** December survey results for the west of the Main Site (Section B).

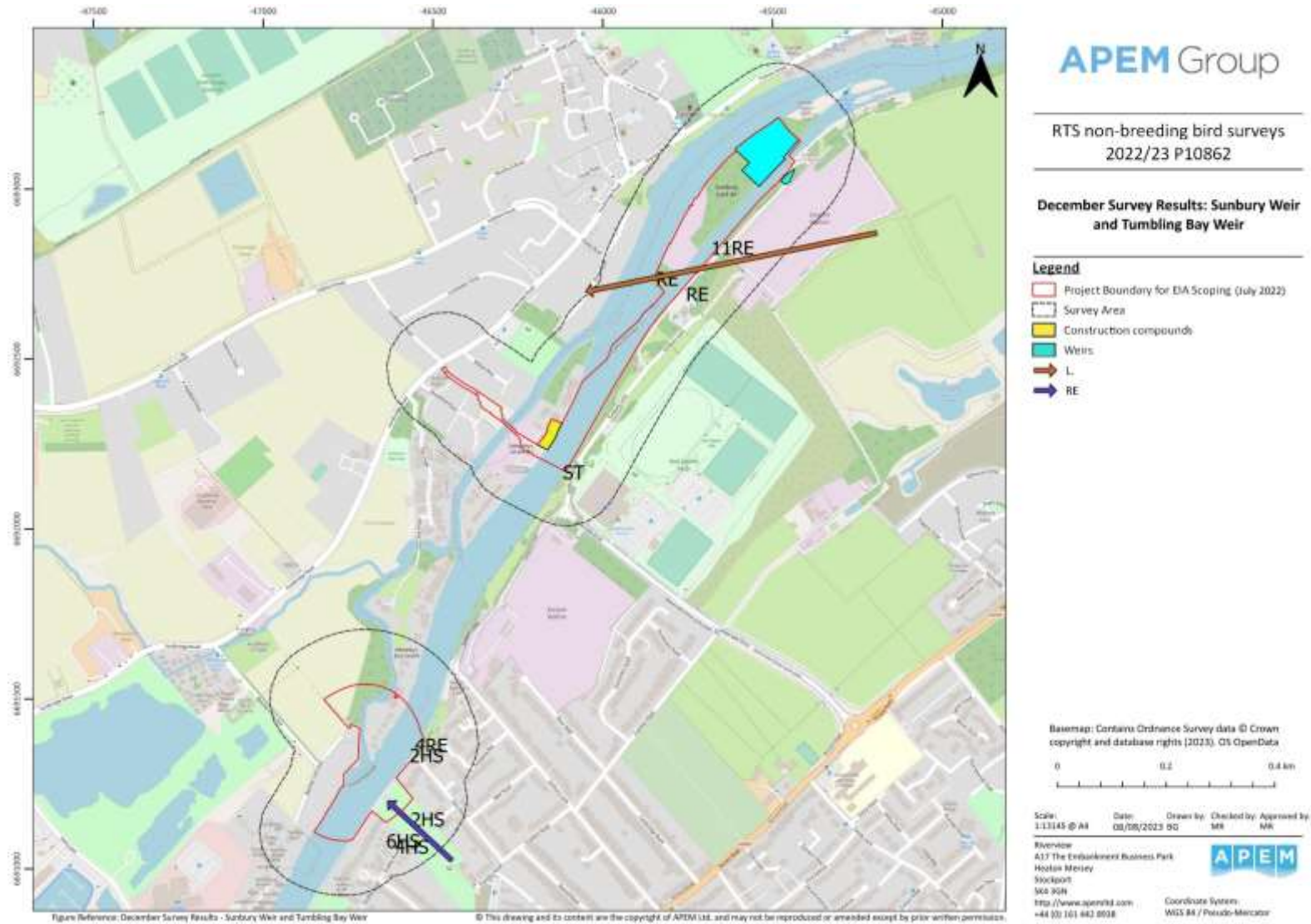






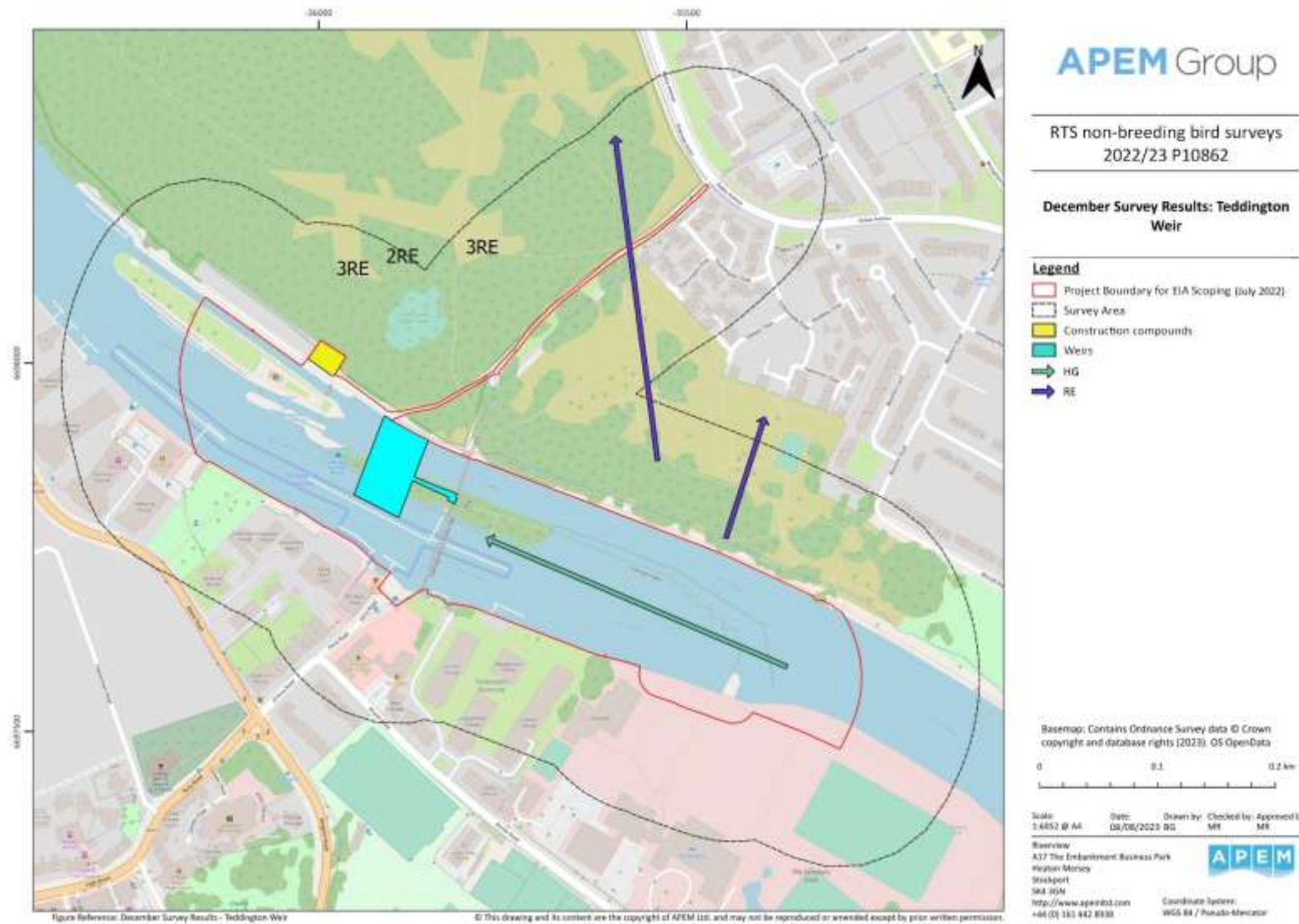
**Figure 21** December survey results for the east of the Main Site.





**Figure 22** December survey results for Sunbury Weir and Tumbling Bay Weir.





**Figure 23 December survey results for Teddington Weir.**

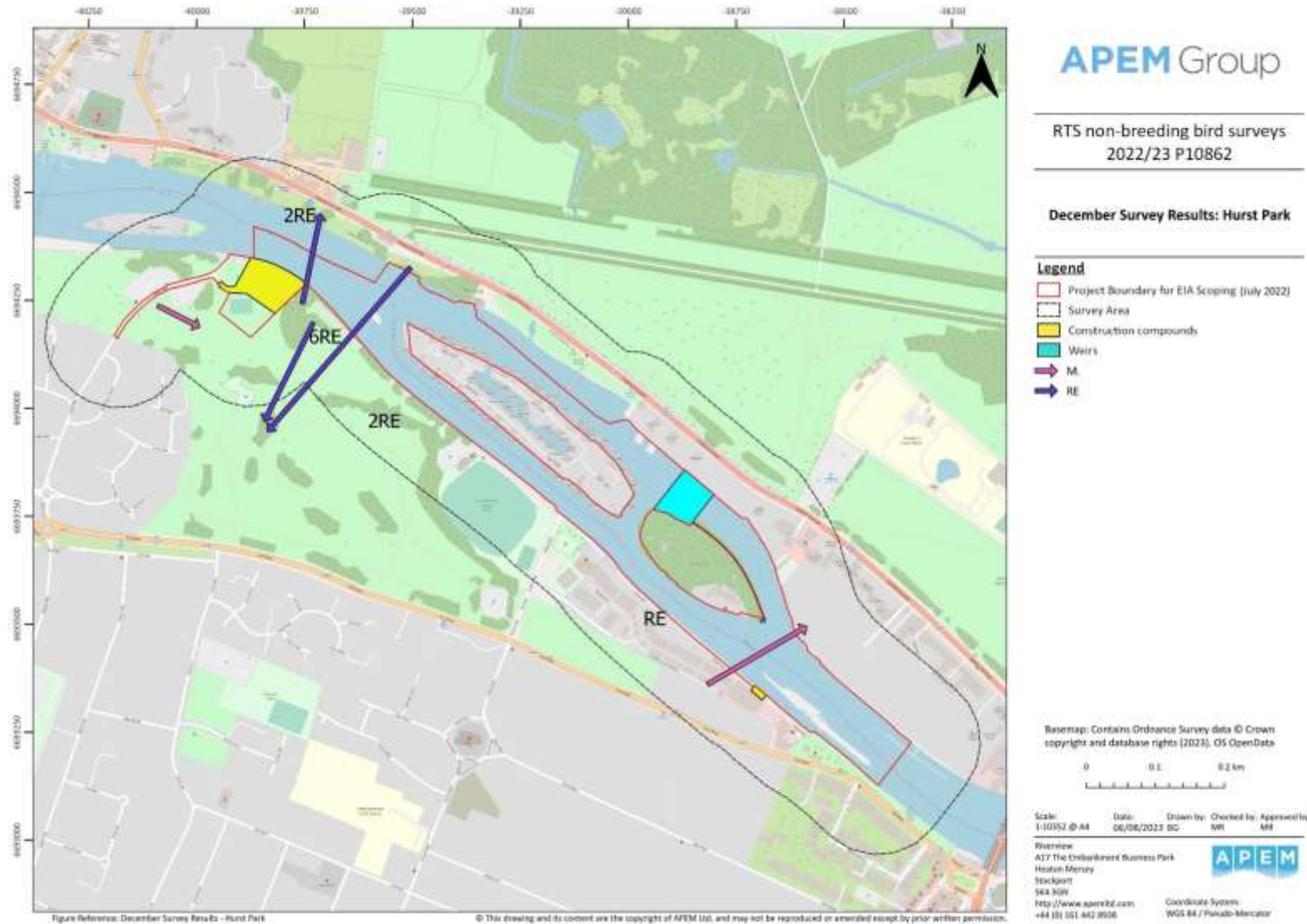


Figure 24 December survey results for Hurst Park.

#### 4.2.3 Survey 3 (January 2023)

A total of 18 target species were recorded within the Survey Area during the January survey, presented in **Table 4**.

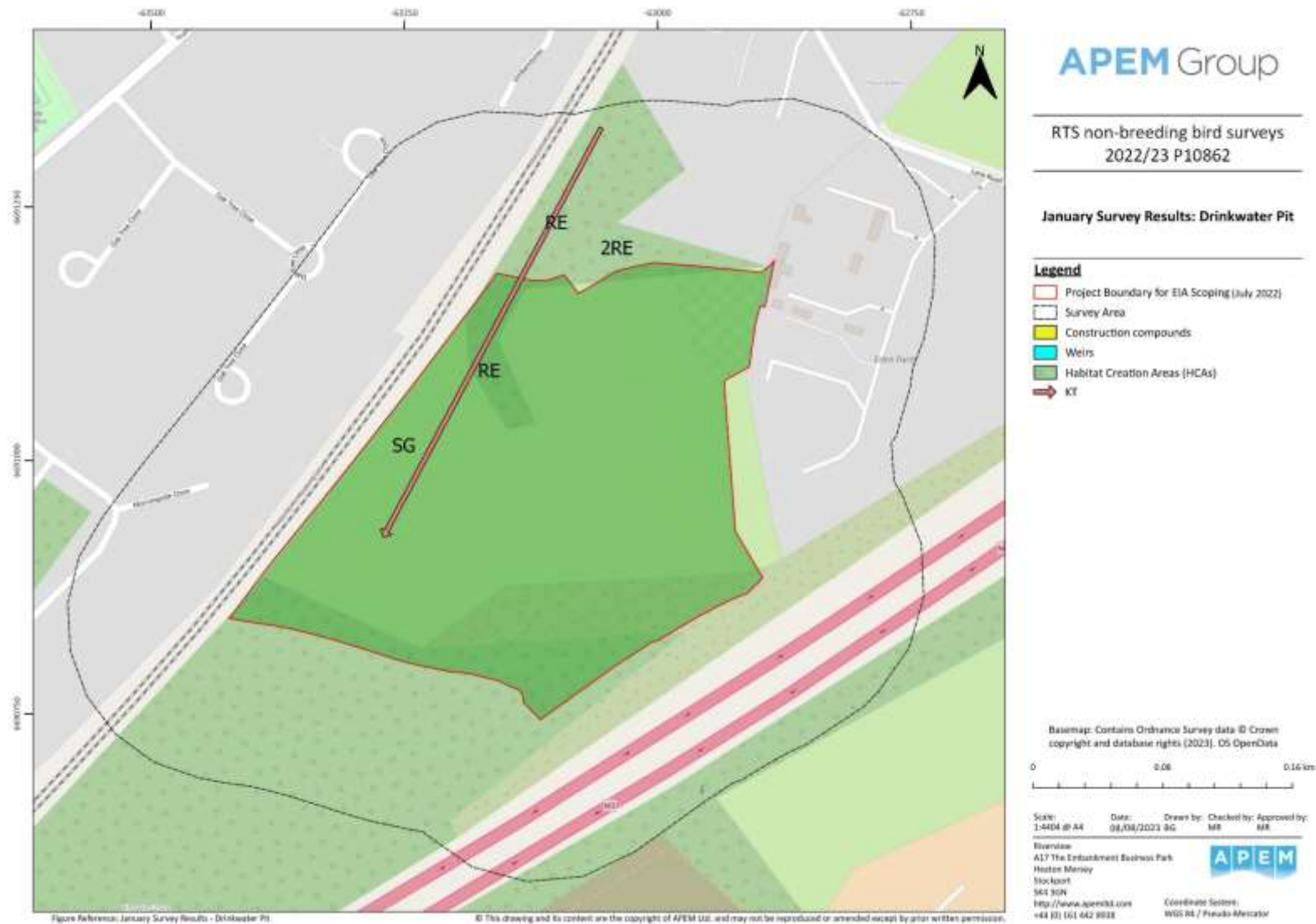
**Table 4 Target bird species recorded during Survey 3 (January 2023).**

Species	Number recorded	Species	Number recorded
Gadwall	53	Peregrine	1
Shoveler	15	Cetti's warbler	2
Wigeon	62	Starling	195
Pochard	69	Song thrush	8
Lapwing	115	Mistle thrush	7
Black-headed gull	584	Redwing	180
Herring gull	45	Fieldfare	7
Red kite	8	House sparrow	52
Kingfisher	3	Greenfinch	3

Target species were recorded throughout the Main Site as well as at Drinkwater Pit, Teddington Lock, and Hurst Park, Tumbling Bay Weir and Sunbury Lock during the January survey. Species diversity was highest in the west of the Main Site with 17 species recorded, followed by the centre of the Main Site with 13 target species recorded. There were no target species recorded at Grove Farm or the Land South of Wraysbury Reservoir. The highest number of target species were recorded in the west of the Main Site with 810 birds recorded, followed by the centre of the Main Site with 408 birds.

The highest number of target species throughout the Survey Area were recorded on or adjacent to open grassland or on or adjacent to open water, chiefly made up of black-headed gull (n=584), starling (n=195), redwing (n=180) and lapwing (n=115).





**Figure 25** January survey results for Drinkwater pit.

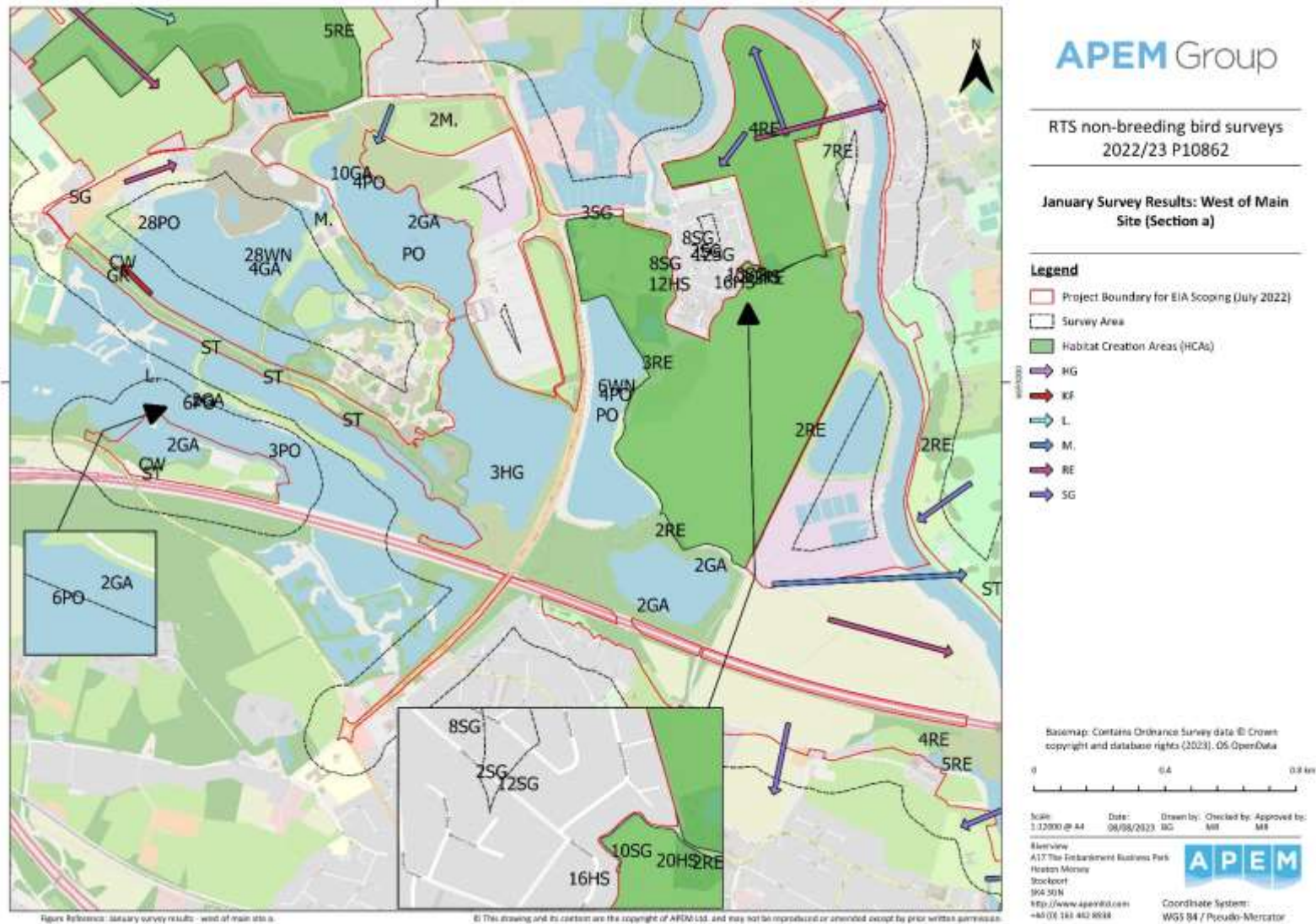
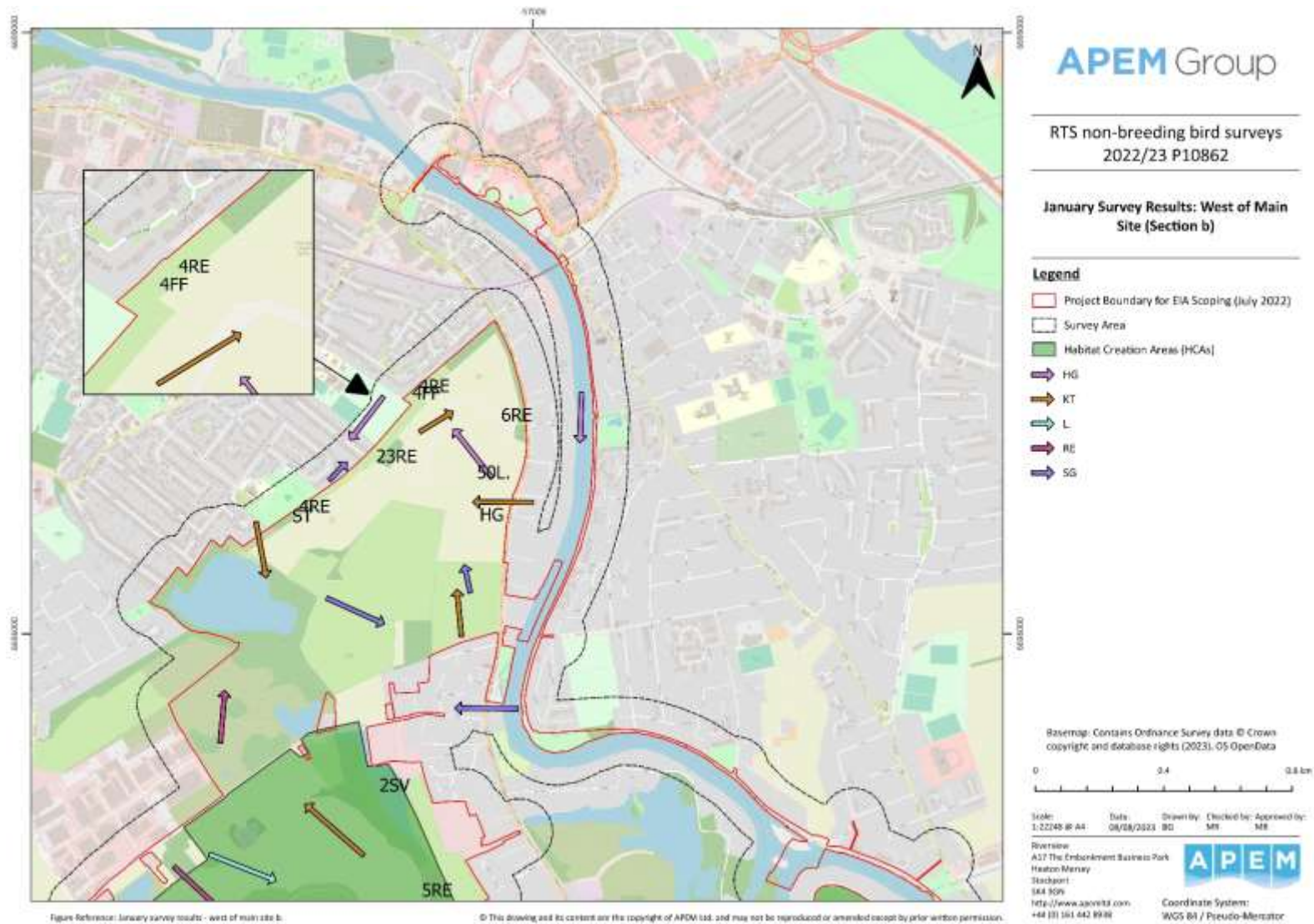


Figure 26 January survey results for the west of the Main Site (Section A).

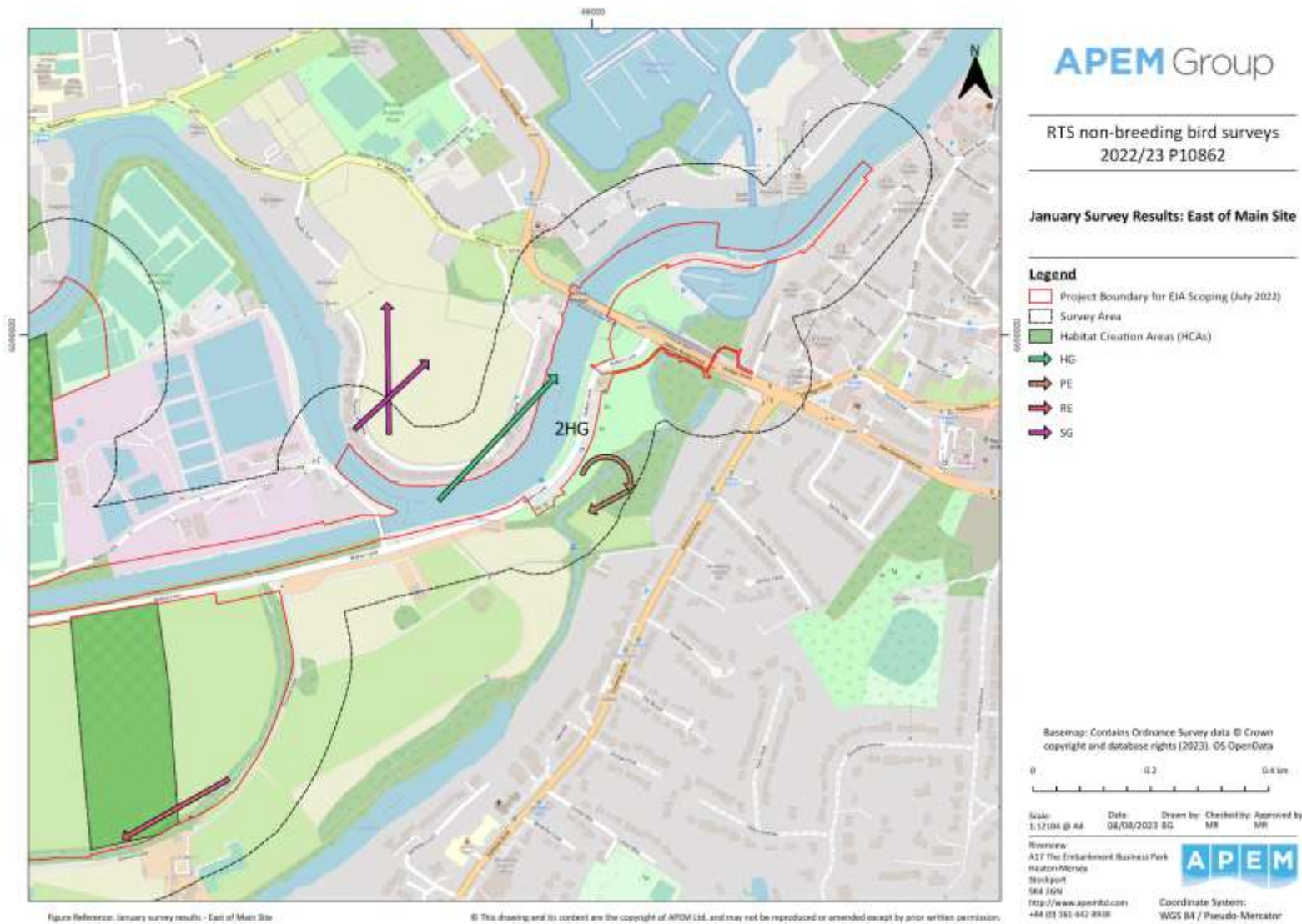




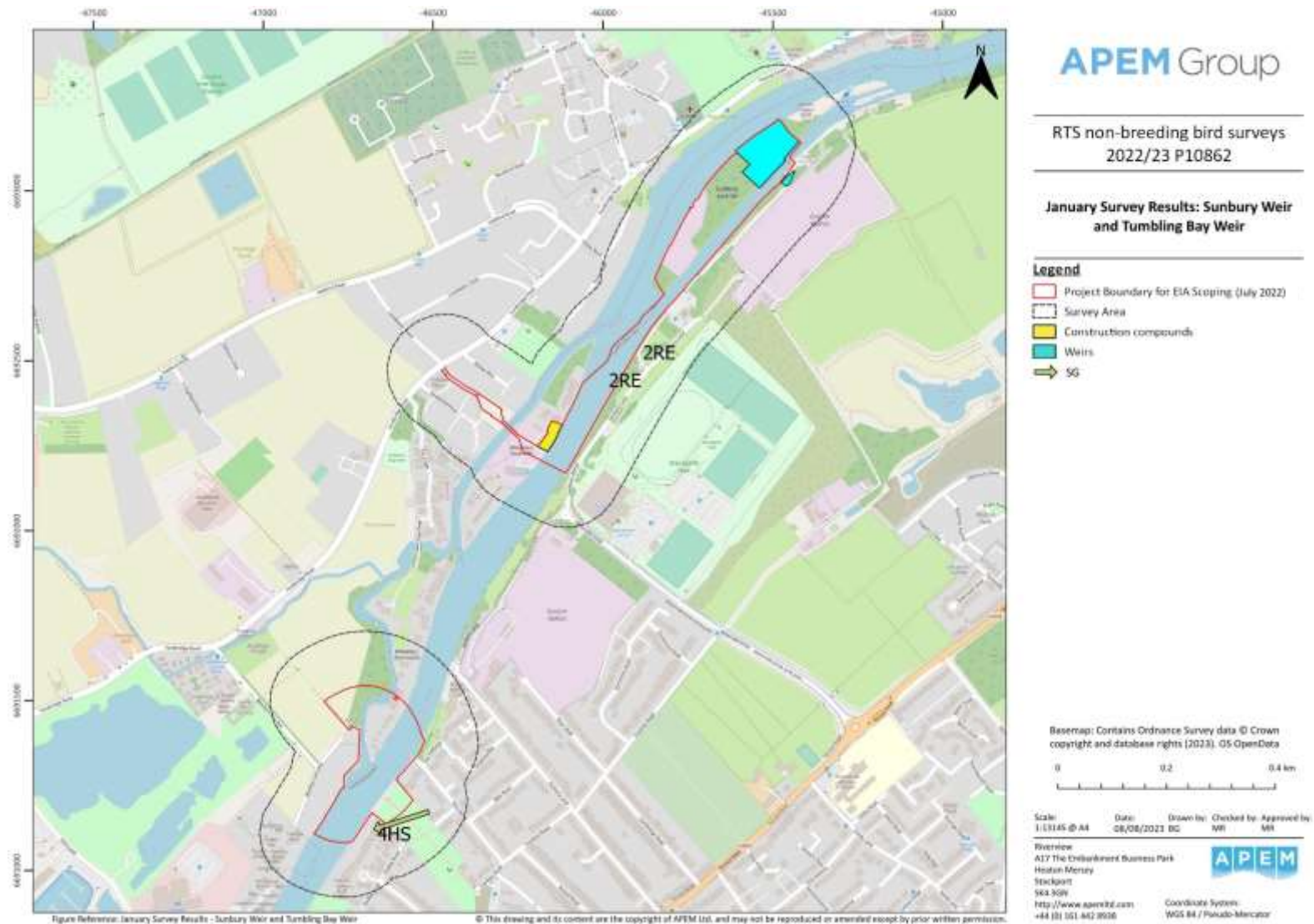
**Figure 27** January survey results for the west of the Main Site (Section B).





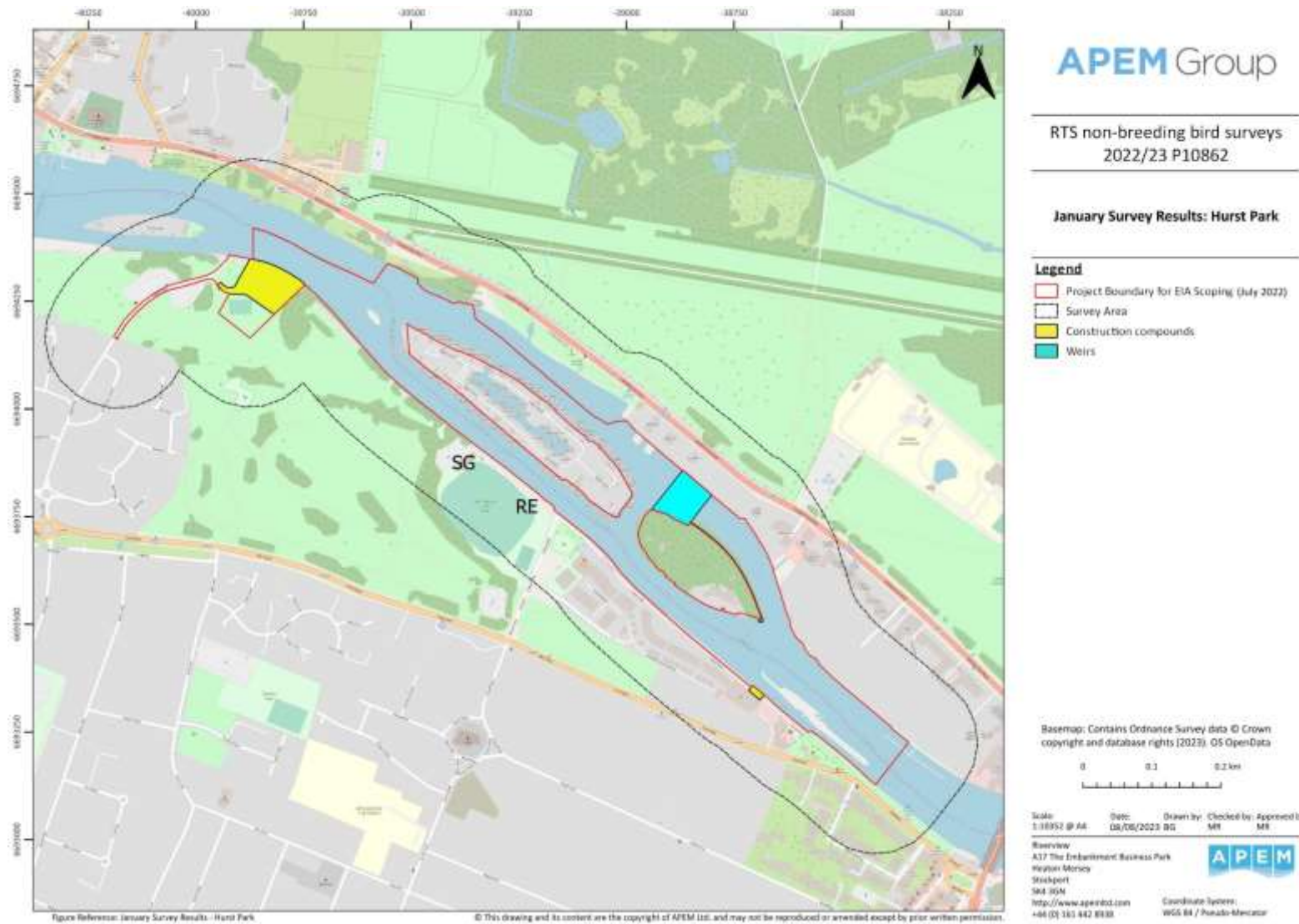


**Figure 29** January survey results for the east of the Main Site.



**Figure 30** January survey results for Sunbury Weir and Tumbling Bay Weir.





**Figure 31** January survey results for Hurst Park.

4.2.4 Survey 4 (February 2023)

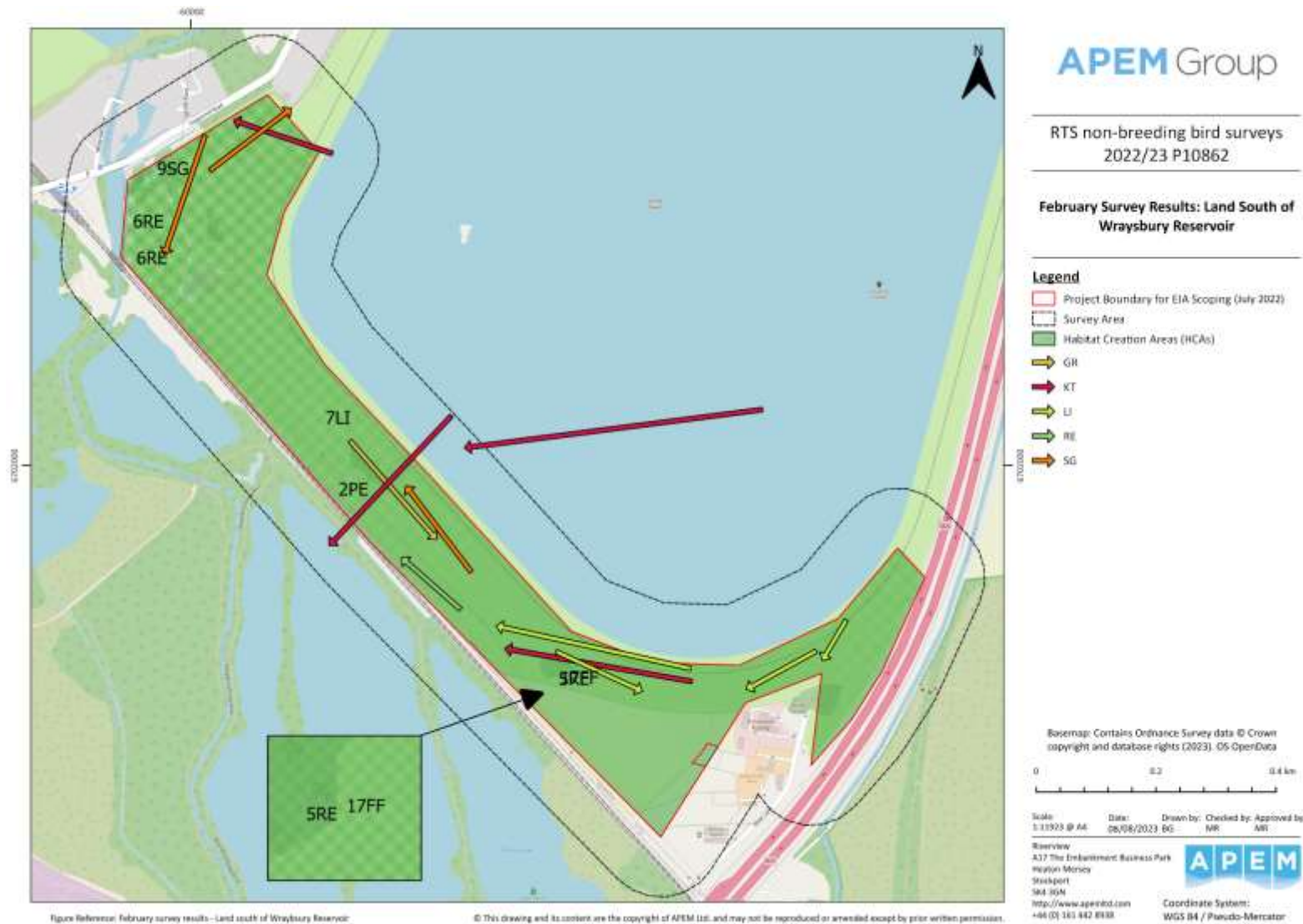
A total of 20 target species were recorded within the Survey Area during the February survey, as presented in **Table 5**.

**Table 5 Target bird species recorded during Survey 4 (February 2023).**

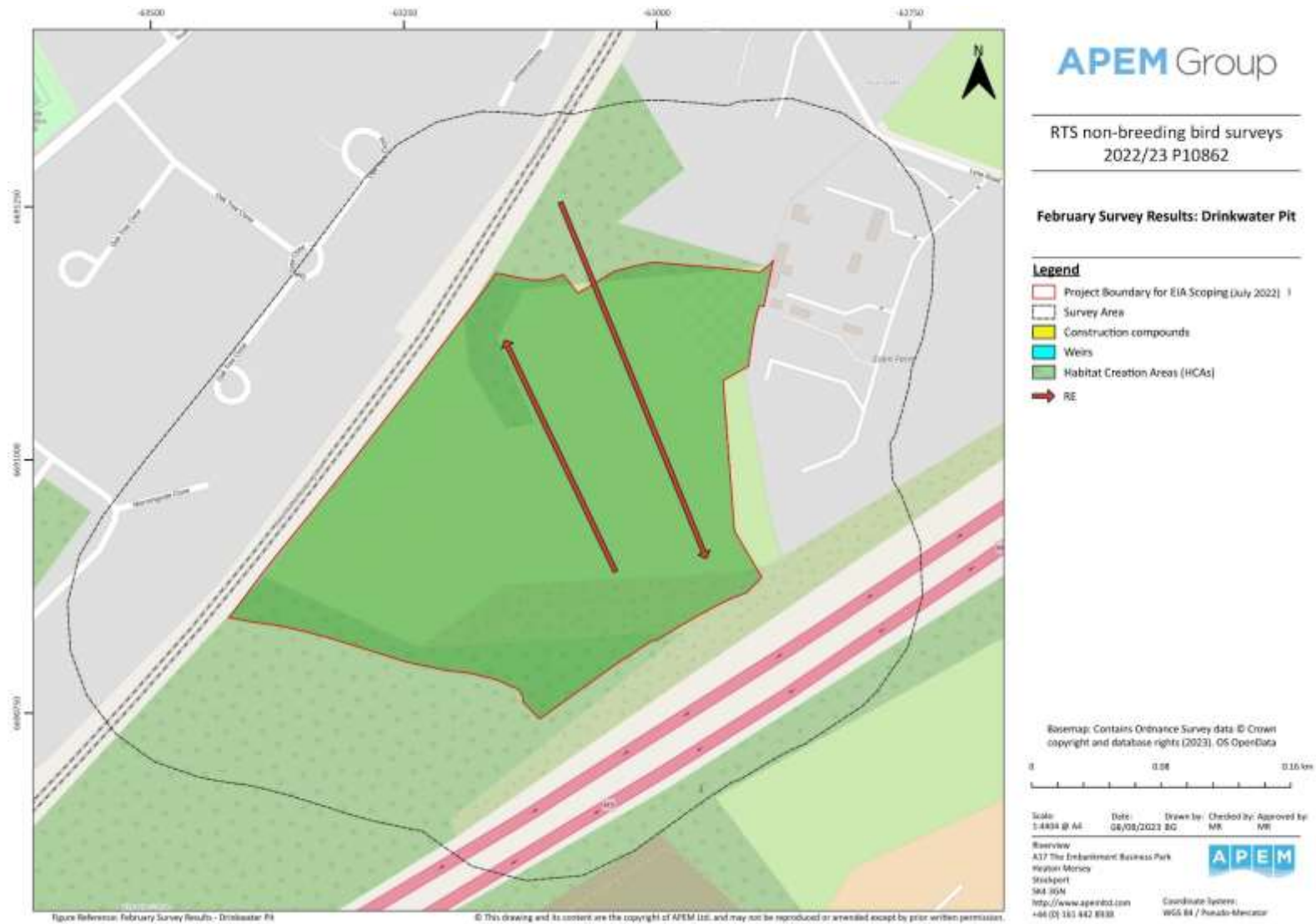
Species	Number recorded	Species	Number recorded
Gadwall	30	Skylark	12
Shoveler	32	Cetti’s warbler	4
Wigeon	83	Starling	239
Pochard	38	Song thrush	19
Lapwing	35	Mistle thrush	1
Black-headed gull	746	Redwing	186
Herring gull	11	Fieldfare	24
Red kite	18	House sparrow	40
Kingfisher	4	Meadow pipit	44
Peregrine	3	Greenfinch	36

Target species were recorded throughout the Main Site as well as at all outlying Sites with the exception of Grove Farm. Species diversity was highest in the west of the Main Site with 19 species recorded, followed by the centre of the Main Site with 15 target species recorded. The highest number of target species were recorded in the west of the Main Site with 902 birds recorded, followed by the centre of the Main Site with 370 birds.

The highest number of target species throughout the Survey Area were recorded on or adjacent to open grassland or on or adjacent to open water, chiefly made up of black-headed gull (n=746), starling (n=239), redwing (n=186), and wigeon (n=83).



**Figure 32 February survey results for Land South of Wraysbury Reservoir.**



**Figure 33 February survey results for Drinkwater Pit.**



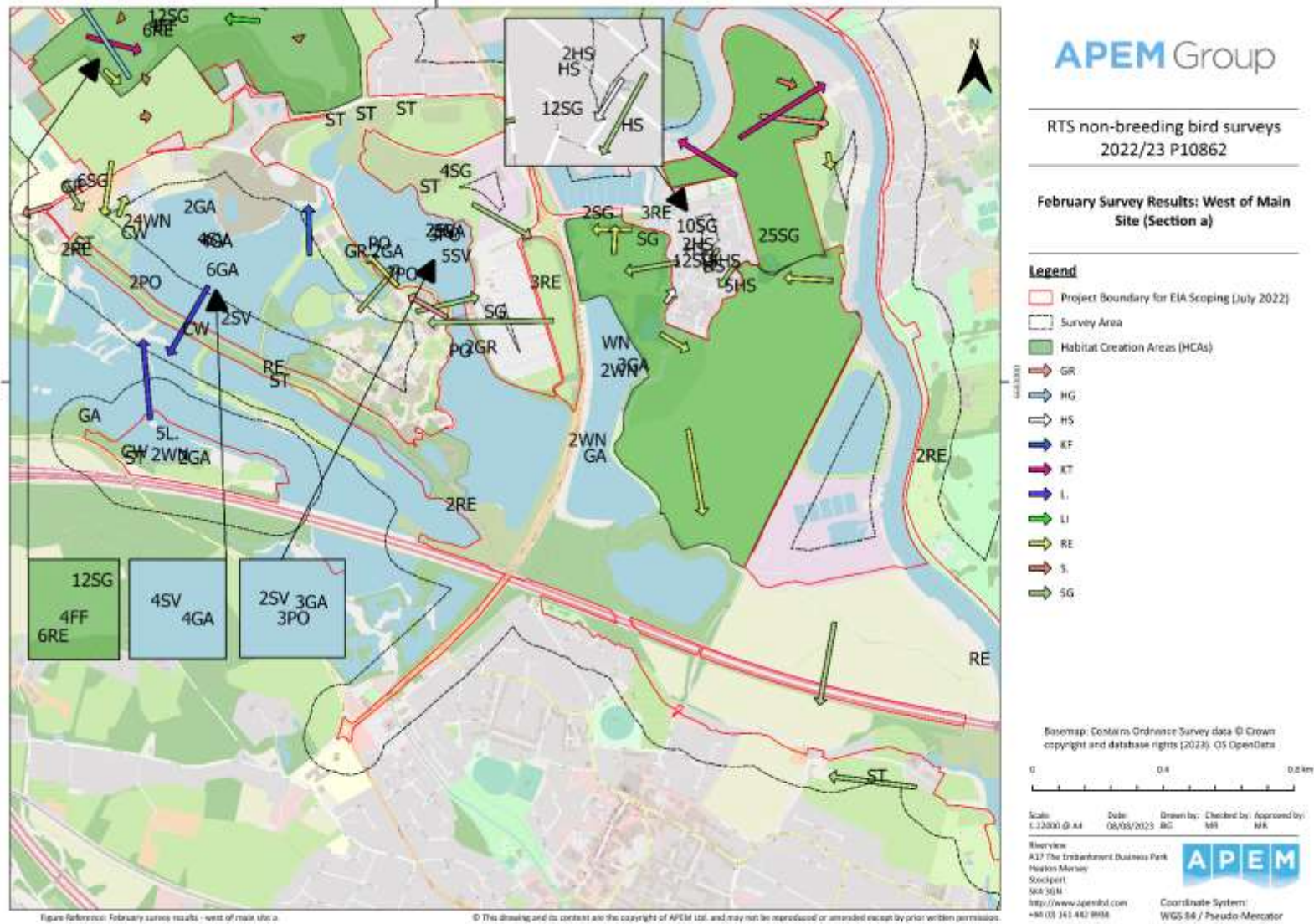
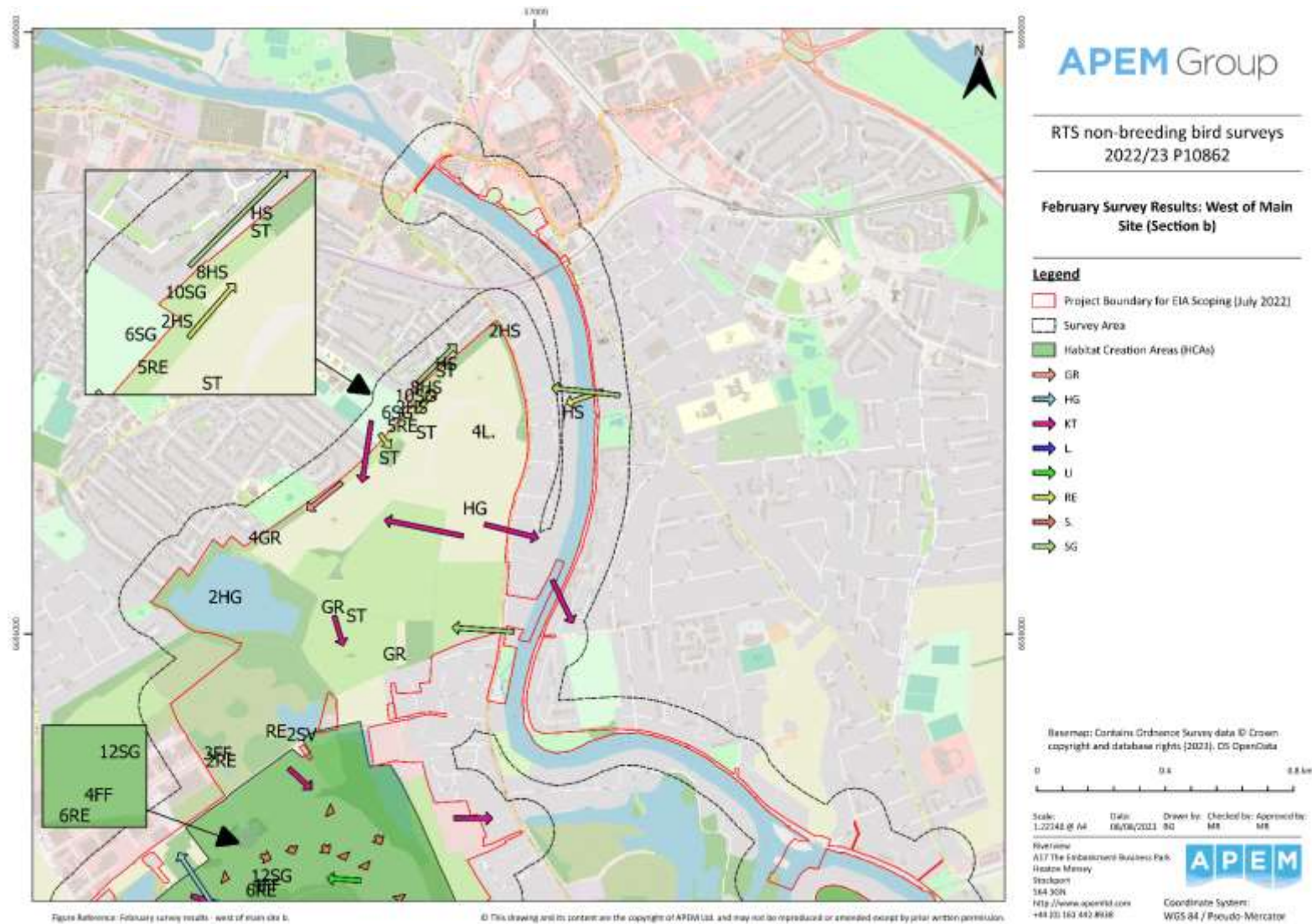


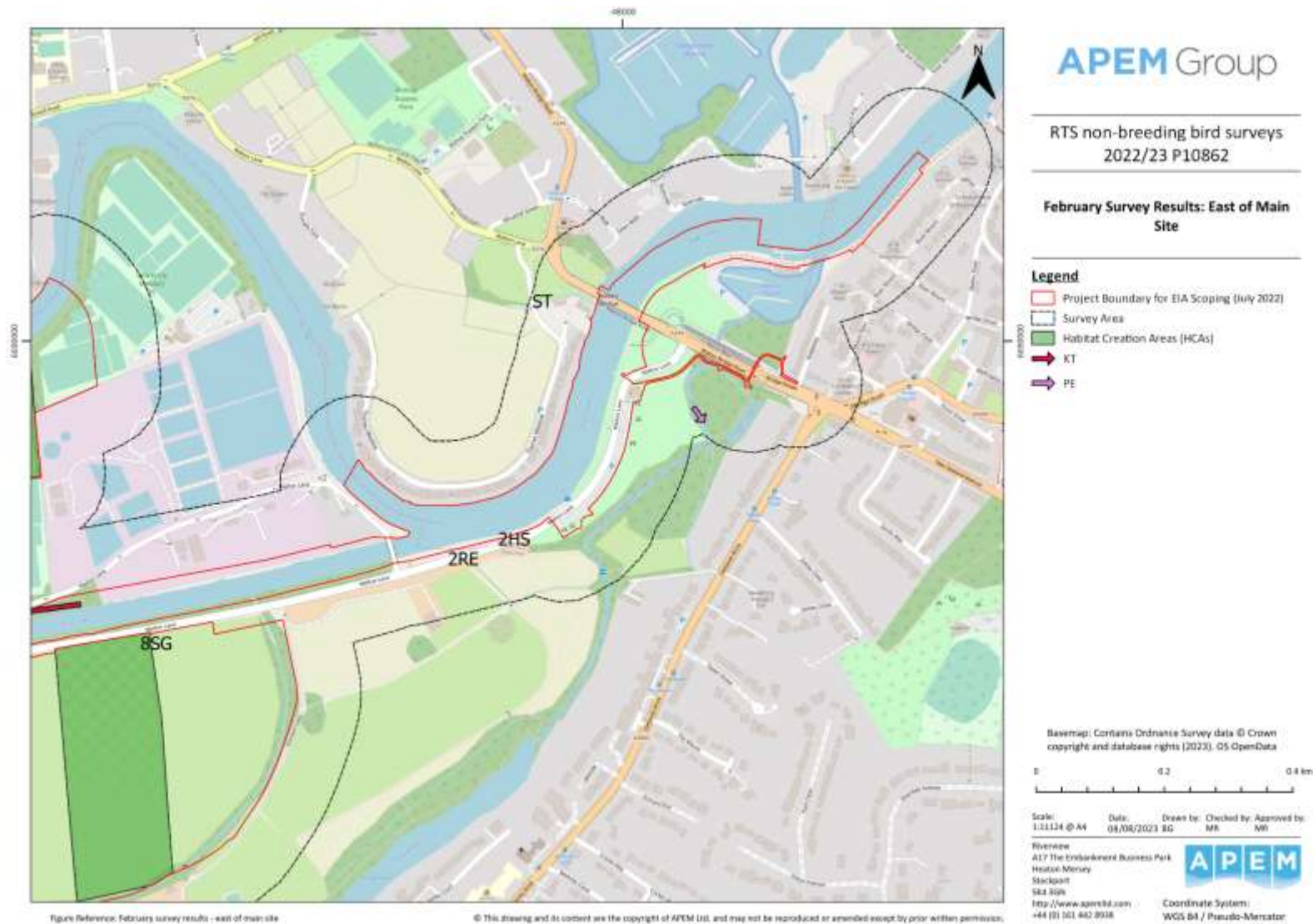
Figure 34 February survey results for the west of the Main Site (Section A).



**Figure 35 February survey results for the west of the Main Site (Section B).**

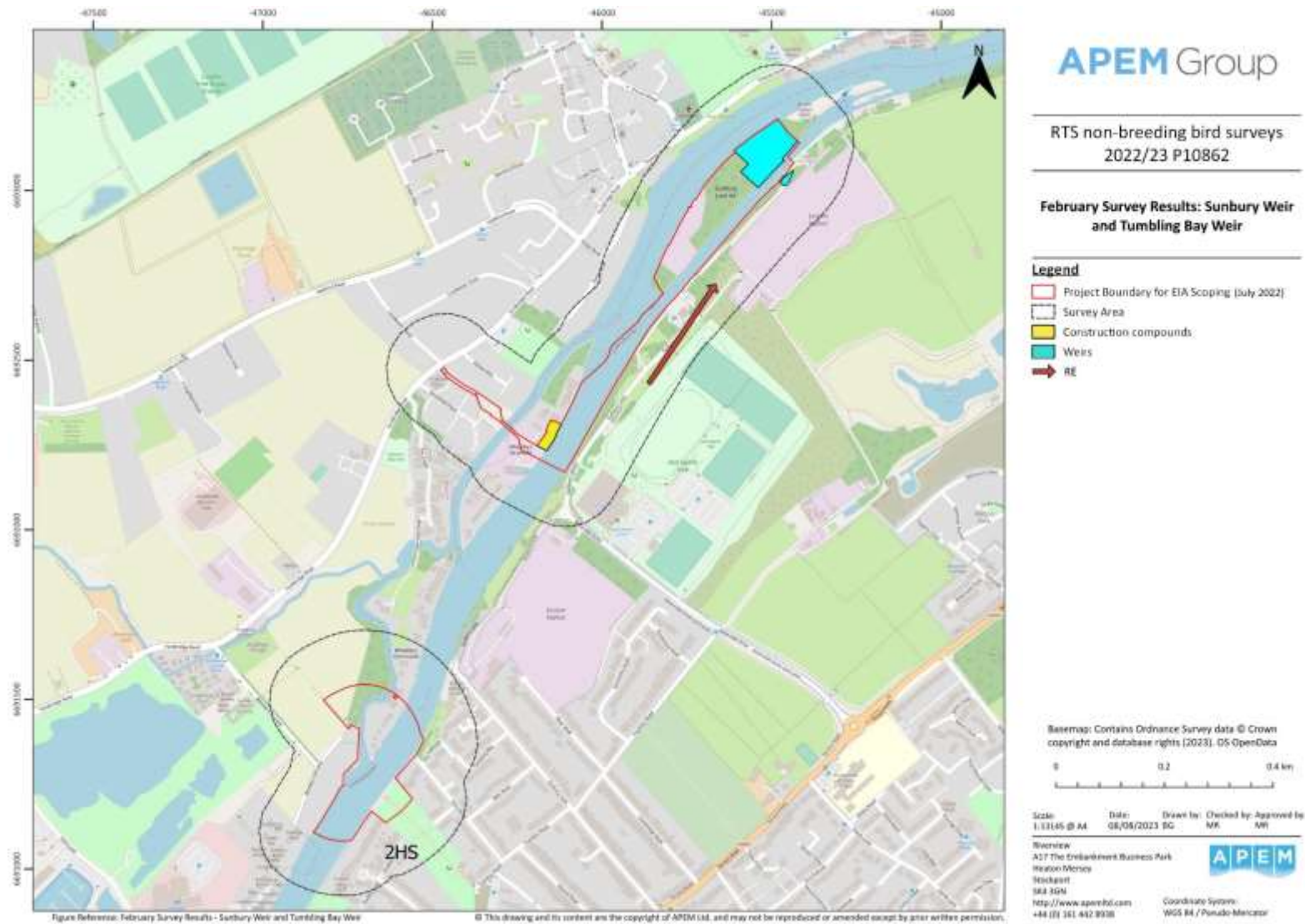




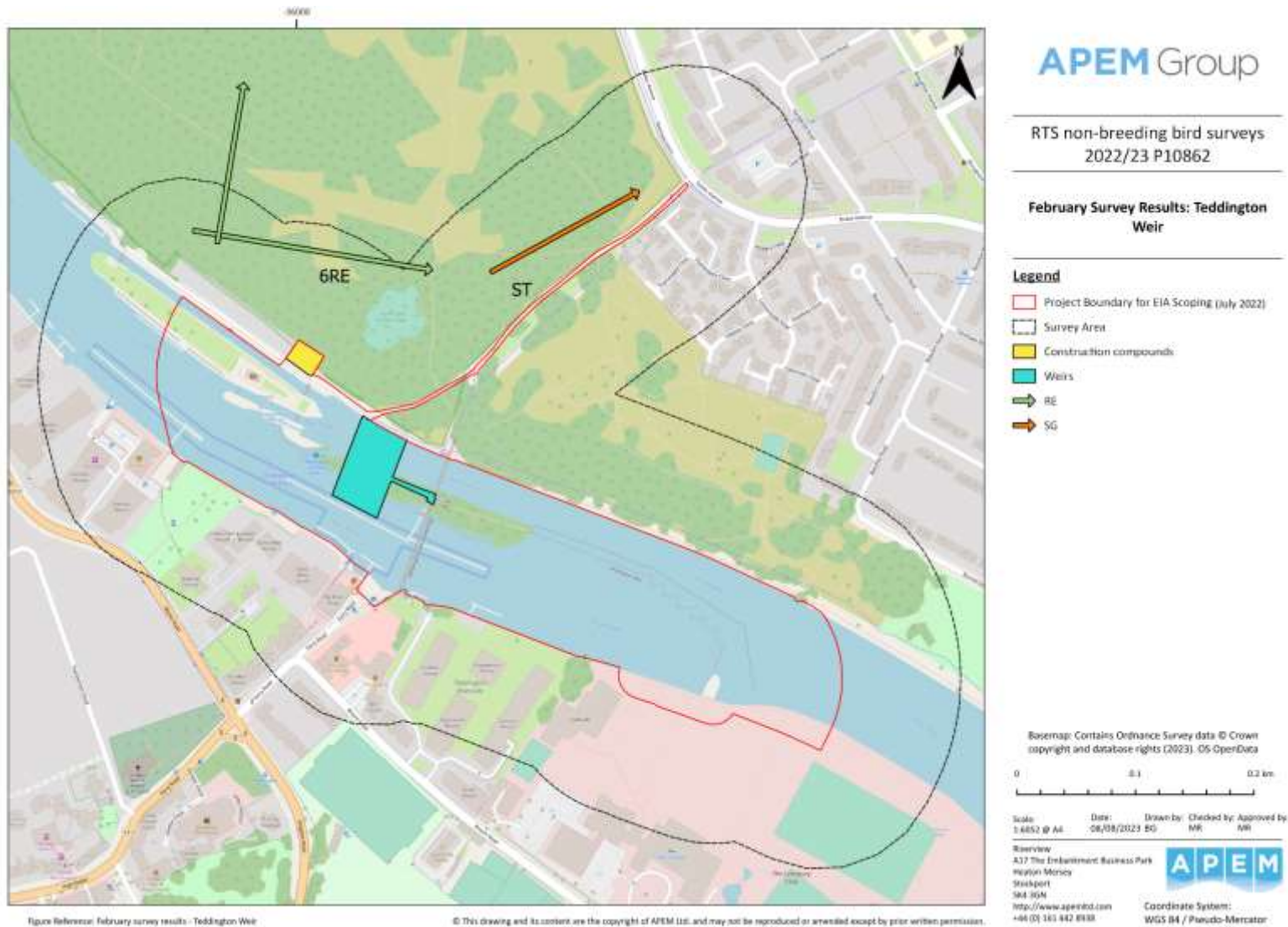


**Figure 37 February survey results for the east of the Main Site.**



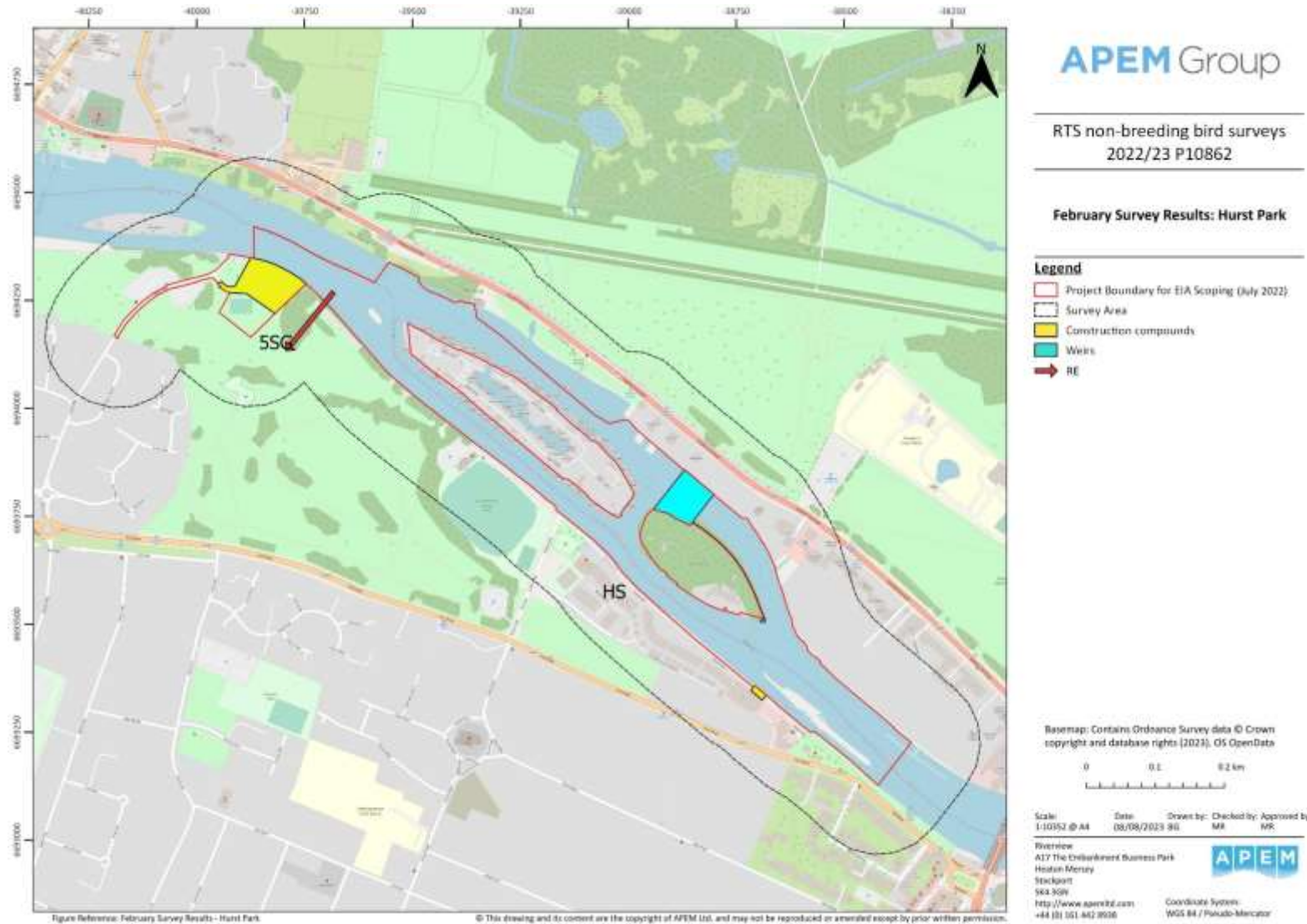


**Figure 38 February survey results for Sunbury Weir and Tumbling Bay Weir.**



**Figure 39 February survey results for Teddington Weir.**





**Figure 40 February survey results for Hurst Park.**

#### 4.2.5 Survey 5 (March 2023)

A total of 24 target species were recorded within the Survey Area during the March survey, as presented in **Table 6**.

**Table 6 Target bird species recorded during Survey 5 (March 2023).**

Species	Number recorded	Species	Number recorded
Gadwall	33	Skylark	10
Shoveler	33	Cetti's warbler	4
Wigeon	68	Starling	175
Pochard	29	Song thrush	17
Wood pigeon	103	Mistle thrush	3
Lapwing	15	Redwing	246
Snipe	26	Fieldfare	64
Black-headed gull	980	House sparrow	12
Common gull	45	Dunnock	5
Herring gull	27	Meadow pipit	39
Red Kite	27	Greenfinch	20
Kingfisher	6	Linnet	1

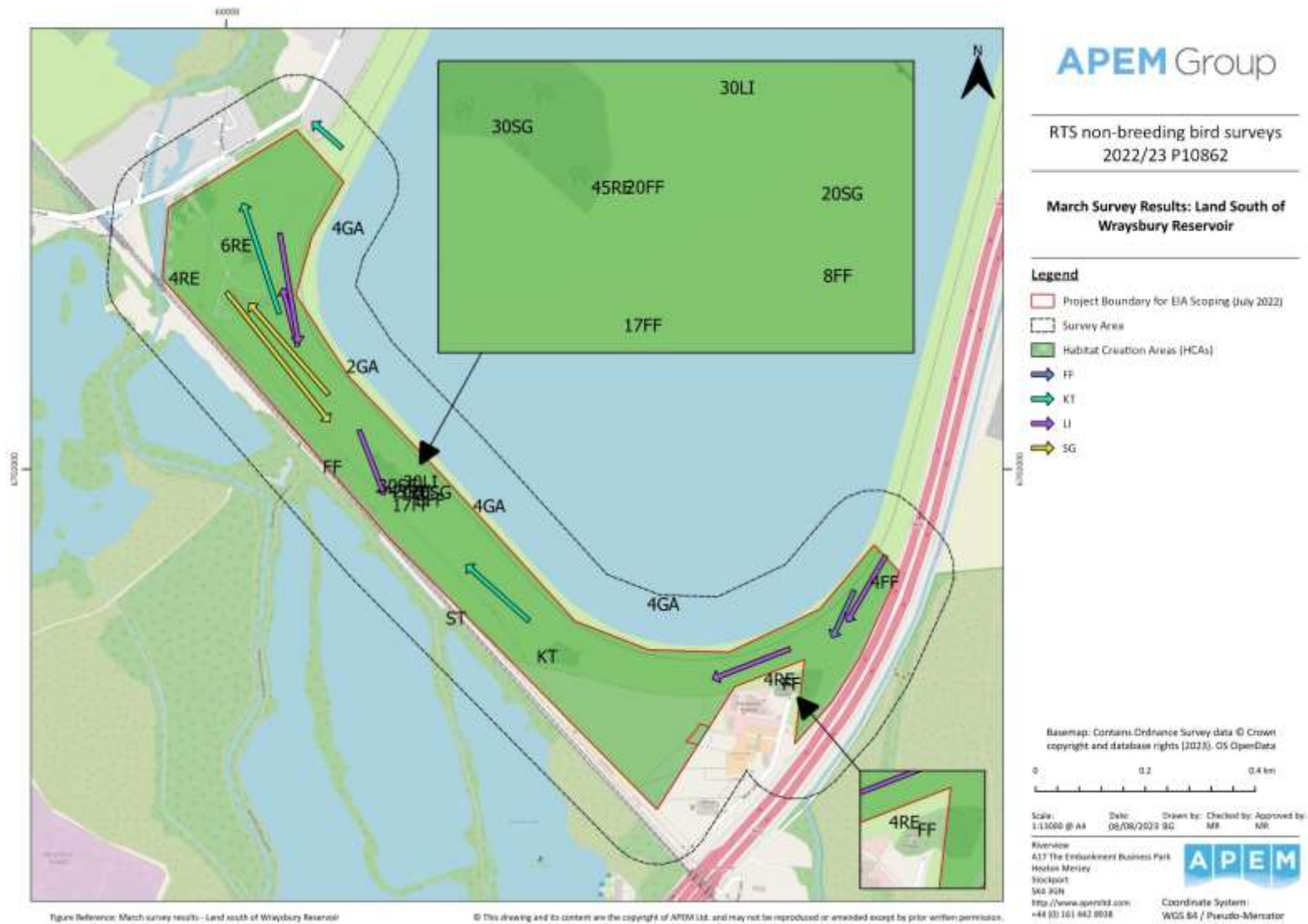
Target species were recorded throughout the Main Site as well as at all outlying Sites with the exception of Grove Farm during the March survey. Species diversity was highest in the west of the Main Site with 23 species recorded, followed by the centre of the Main Site with 12 target species recorded. The highest number of target species were recorded in the west of the Main Site with 1,224 birds recorded, followed by the centre of the Main Site with 358 birds.

The highest number of target species throughout the Survey Area were recorded on or adjacent to open grassland or on or adjacent to open water, chiefly made up of black-headed gull (n=980), redwing (n=246), starling (n=175) and woodpigeon (n=103).

Dunnock were recorded during the March survey only. The species was recorded on Desborough Island in the east of the Main Site, as well as at, Sunbury Lock, Hurst Park, and Teddington Lock. Snipe were present in aggregations of 20+ birds during the March survey only, recorded within Laleham Reach. Common gull was also only present in March, with a



group of 45 loafing at Affinity Water, adjacent to Former Laleham Golf Course in the west of the Main Site.



**Figure 41** March survey results for the Land South of Wraysbury Reservoir.



**Figure 42** March survey results for Drinkwater Pit.



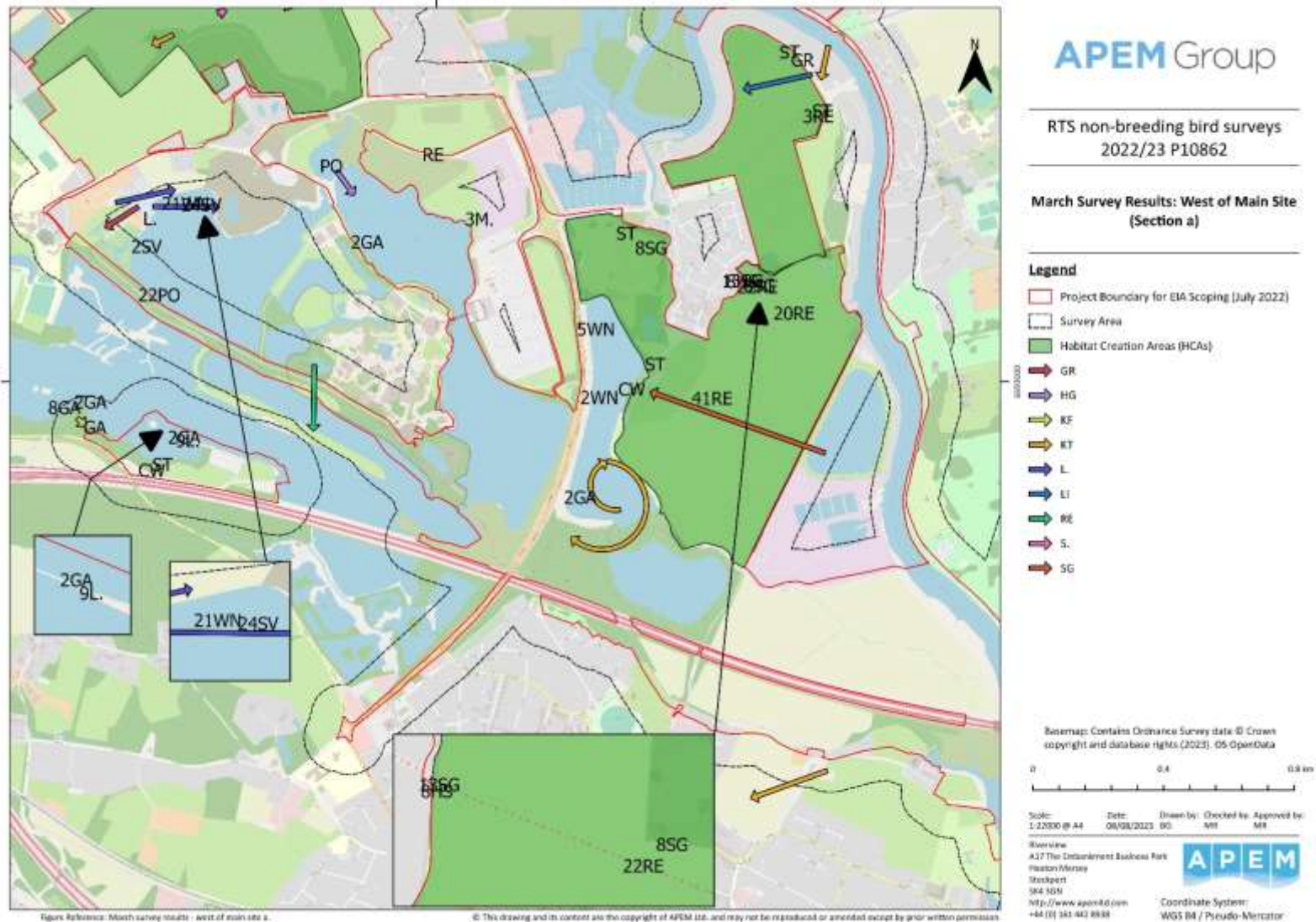
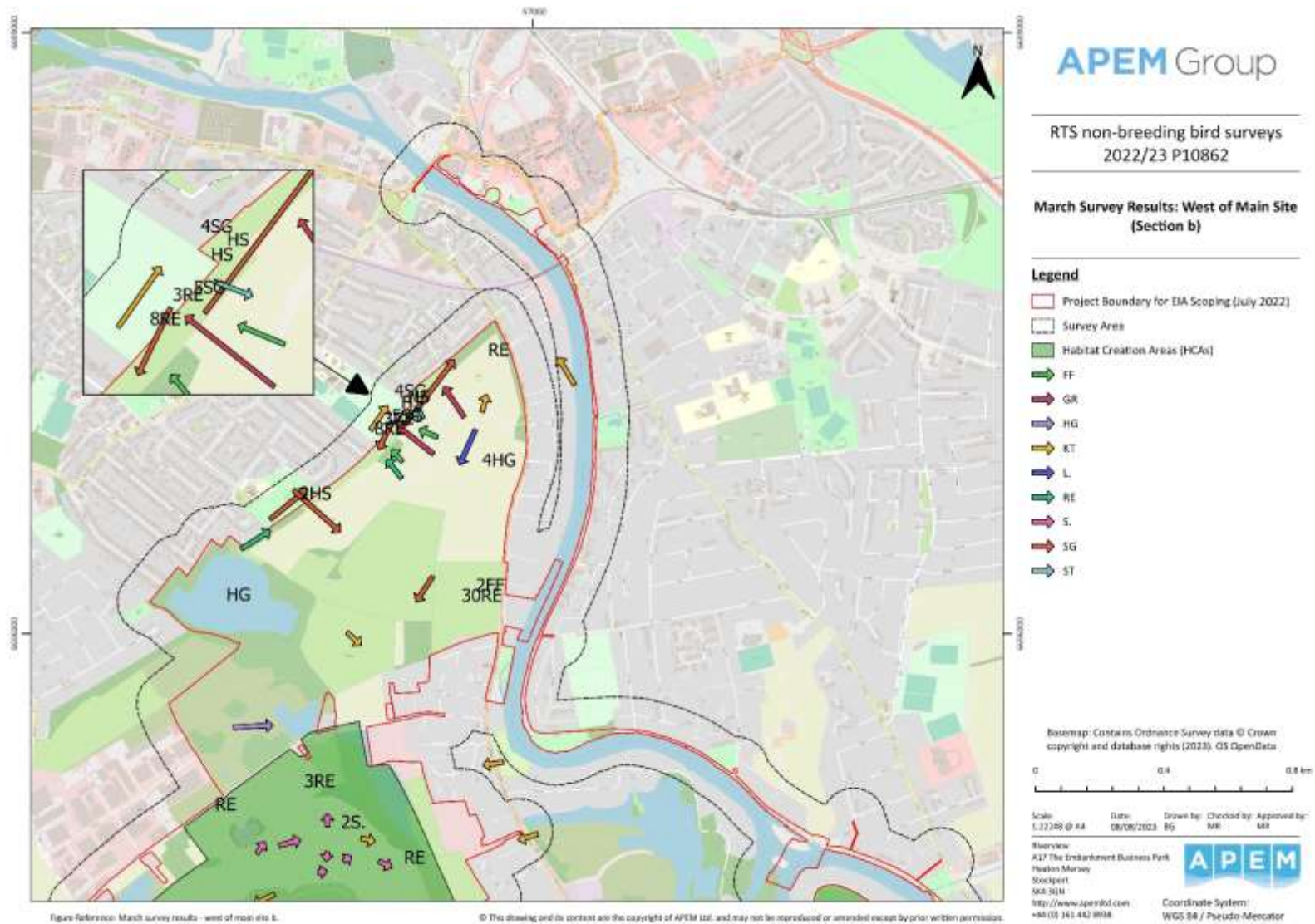
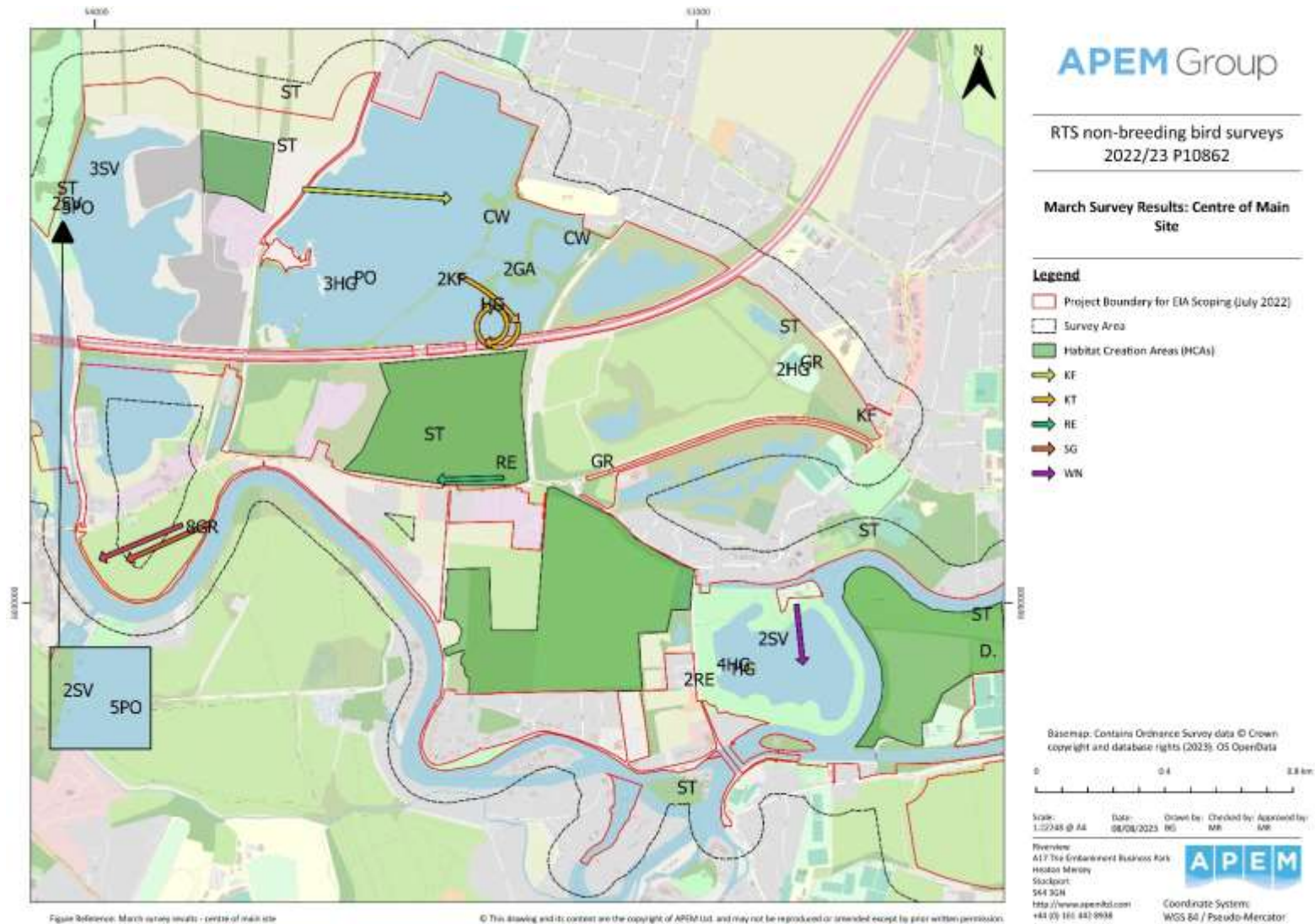


Figure 43 March survey results for the west of the Main Site (Section A).



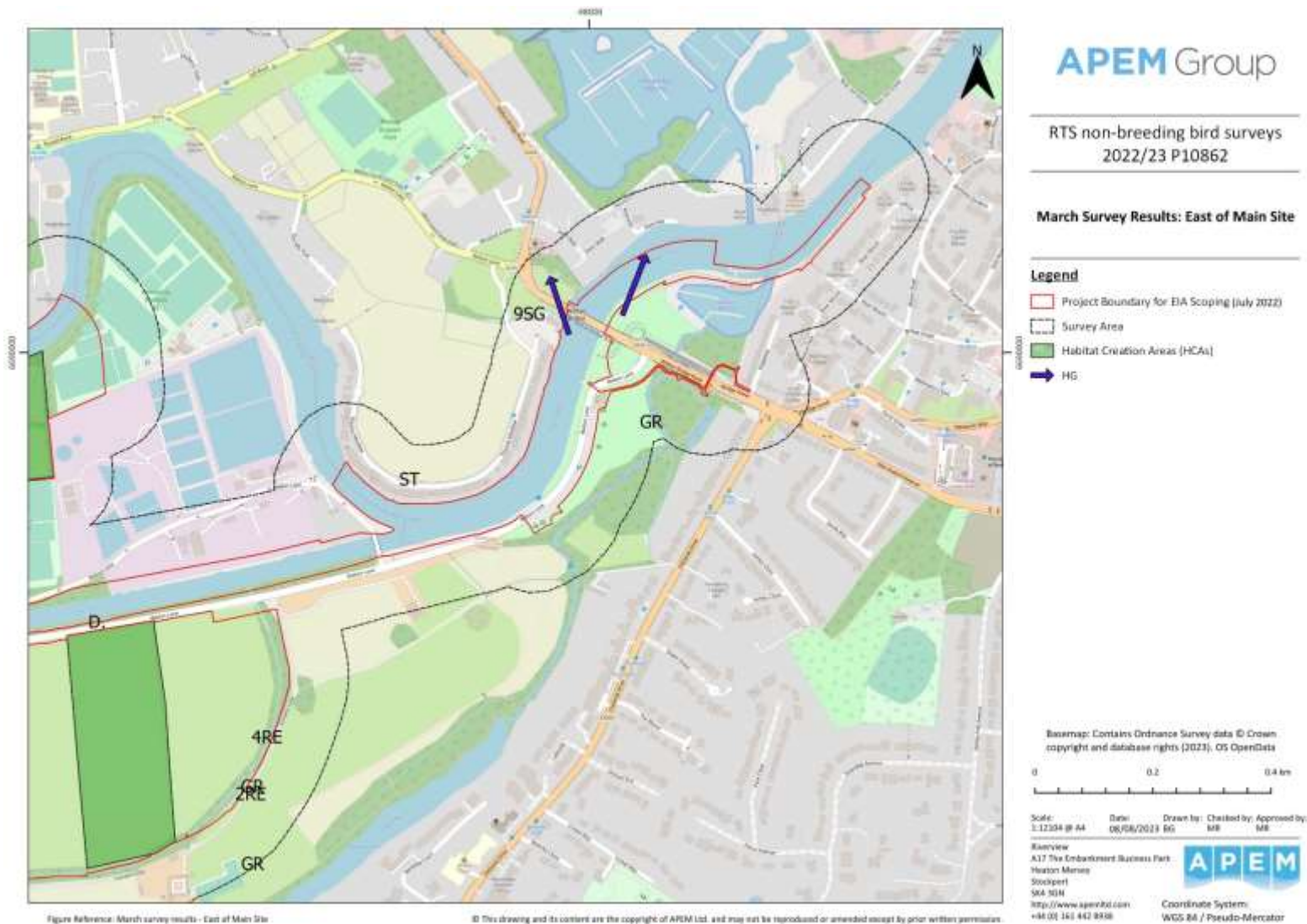
**Figure 44** March survey results for the west of the Main Site (Section B).



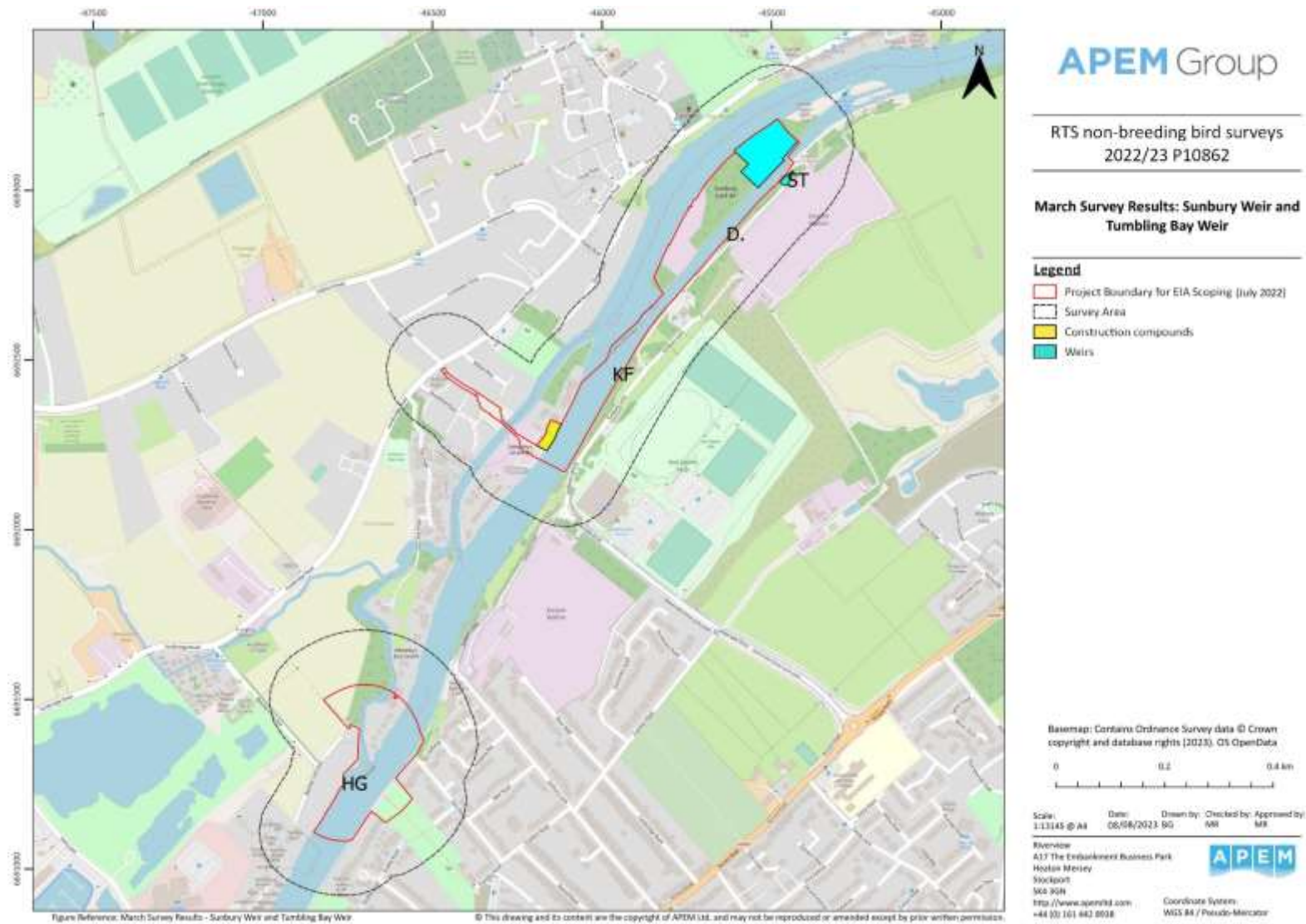


**Figure 45** March survey results for the centre of the Main Site.



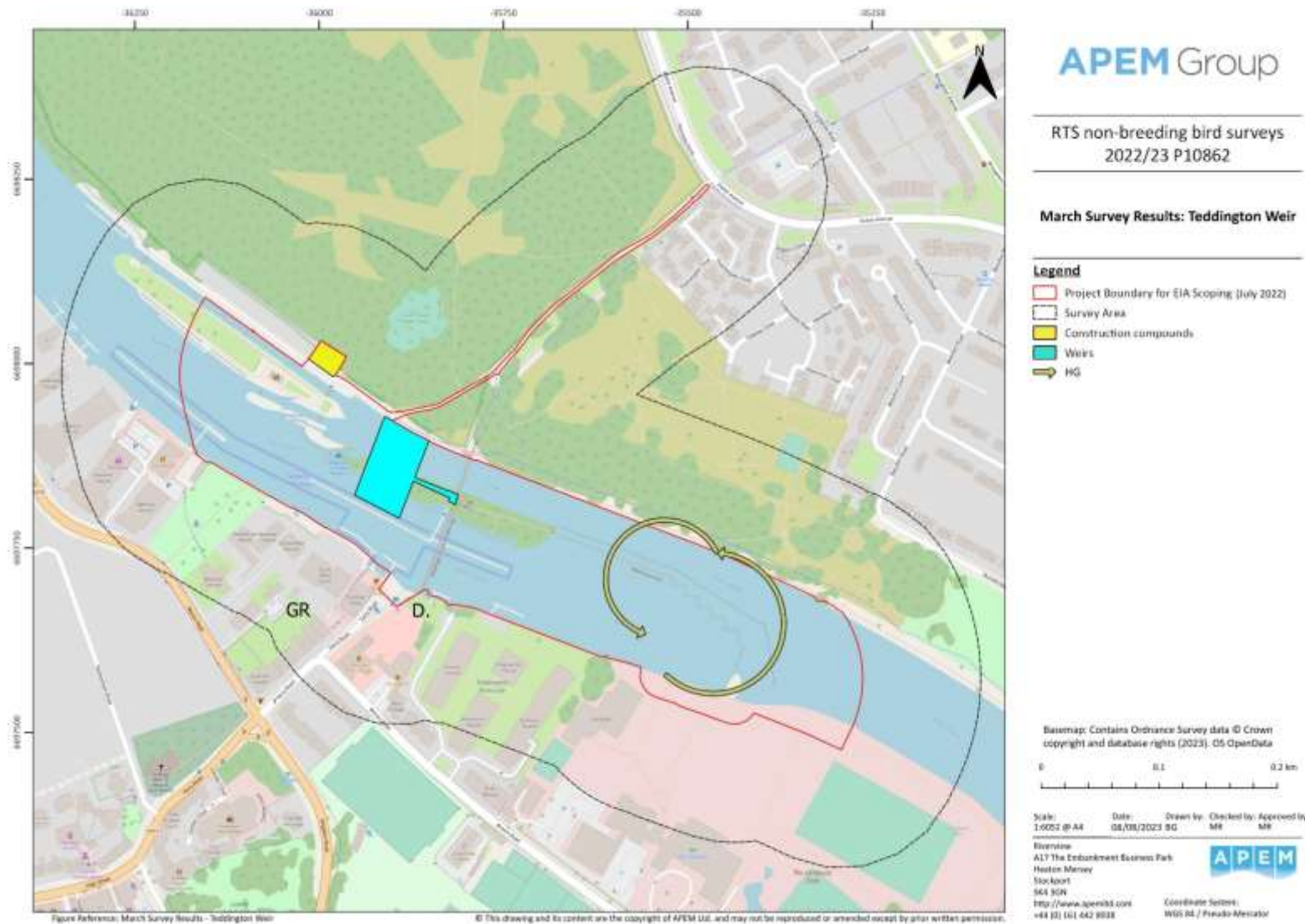


**Figure 46** March survey results for the east of the Main Site.



**Figure 47** March survey results for Sunbury Weir and Tumbling Bay Weir.





**Figure 48** March survey results for Teddington Weir.



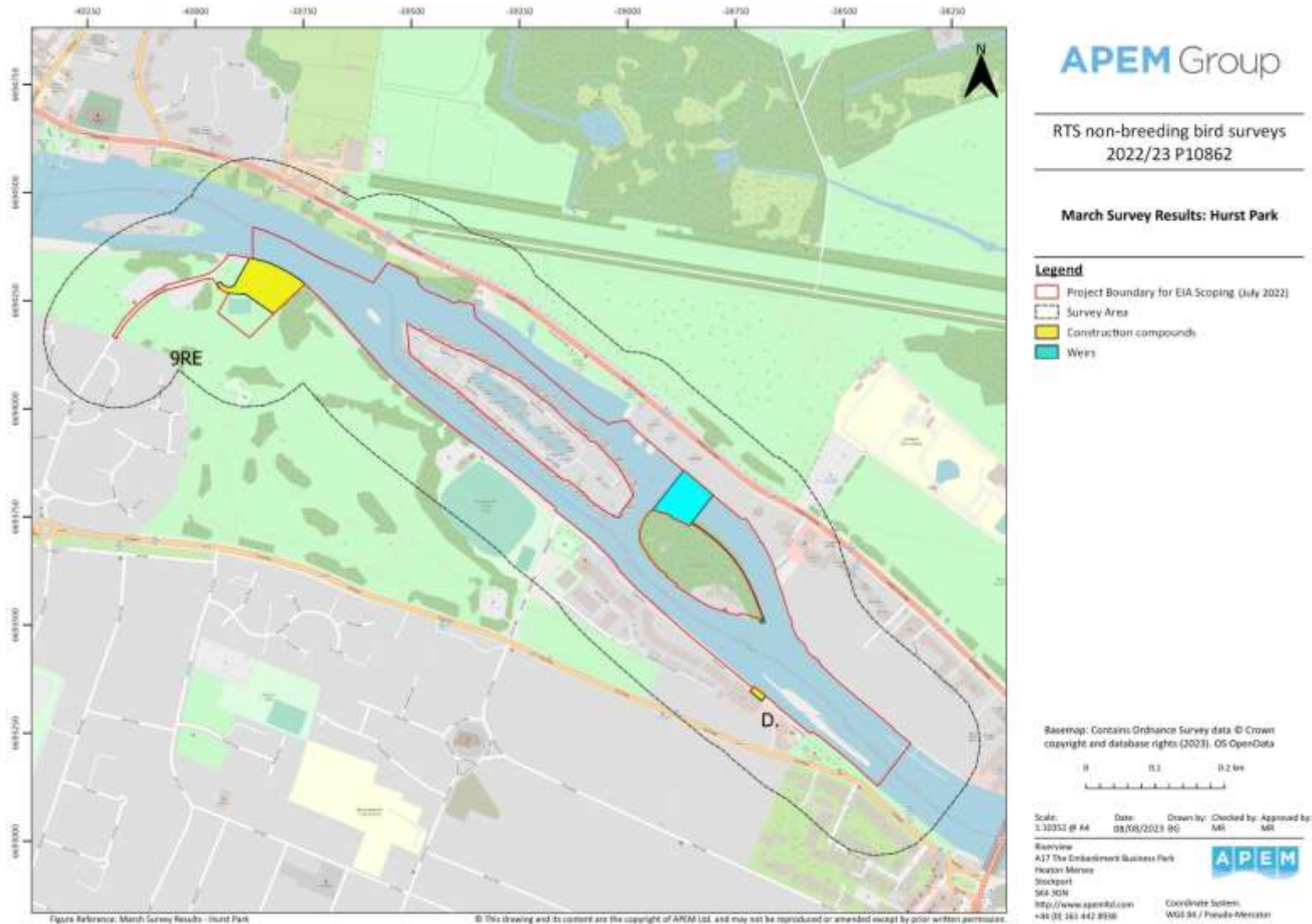


Figure 49 March survey results for Hurst Park.



## 5. Species summaries

### 5.1 Target species

#### 5.1.1 Shoveler

Shoveler is a dabbling duck on the BoCC5 amber list due to the UK supporting 20% of the north-west European population, and the species is described as a ‘common passage migrant and winter visitor and scarce breeder’ in the London Bird Report (2016). Wintering shoveler are a qualifying feature of the South West London Waterbodies SPA due to the designated site supporting a five-year peak mean (1993/4 to 1997/8) of 853 individuals at the time of citation (2.1% of the North-western/central European population) (English Nature, 2000). The UK wintering population of shoveler was estimated at 19,500 individuals in 2020 (Woodward *et al.*, 2020), which equates 4.4% of the UK wintering shoveler population being supported by the SPA. The UK 25-year non-breeding trend (1995/6 to 2020/21) shows a UK population increase of 53%, while the 10-year non-breeding trend (2010/11 to 2020/21) indicates an increase of 34% (Austin *et al.*, 2023).

All shoveler recorded during the non-breeding surveys were observed within the Main Site. Numbers peaked in December, with 43 individuals recorded within the Survey Area (equal to 5.04% of the South West London Waterbodies SPA population). The lowest count occurred in November (n=3), followed by January (n=15), February (n=32) and March (n=33). The mean number of shoveler recorded across the five months of survey equates to 25.2 individuals per month, or 2.95% of the SPA population. In the west of the Main Site the species was recorded on Manor Lake and Fleet Lake within the boundaries of Thorpe Park, on the small waterbody in the land north of Green Lane, and at the lake south of Green Lane. In the centre of the Main Site they were recorded on Ferry Lane West 1 Lake, while in the east of the Main Site they were recorded at the Desborough Sailing Club and at Manor Farm Lake.

#### 5.1.2 Gadwall

Gadwall is a dabbling duck on the BoCC5 amber list due to low numbers of breeding individuals in the UK, and the species is described as a ‘local breeding resident and common winter visitor’ in the London Bird Report (2016). Wintering gadwall are a qualifying feature of the South West London Waterbodies SPA due to the designated site supporting a five-year peak mean (1993/4 to 1997/8) of 710 individuals at the time of citation (2.4% of the North-western/central European population) (English Nature, 2000). The UK wintering population of gadwall was estimated to be 31,000 individuals in 2020 (Woodward *et al.*, 2020), which equates to 2.3% of the UK wintering population being supported by the SPA. The UK 25-year non-breeding trend (1995/6 to 2020/21) shows a UK population increase of 75%, while the 10-year non-breeding trend (2010/11 to 2020/21) indicates a decrease of 5% (Austin *et al.*, 2023).

Gadwall were recorded in seven locations throughout the Main Site as well as at Land south of Wraysbury Reservoir. Numbers peaked in January with 53 individuals recorded within the Survey Area (equating to 7.5% of the South West London Waterbodies SPA population). The lowest count occurred in December, with 22 gadwall present at the time of survey, followed

by November (n=26), February (n=30), and March (n=33). The mean number of gadwall recorded across the five months of survey equates to 32.8 individuals per month, or 4.6% of the SPA population. In the west of the Main Site gadwall were recorded in the lakes within the boundaries of Thorpe Park (Manor Lake, Fleet Lake, Abbey Lake, and St Ann's Lake) as well as within the lakes west and south-east of the Abbey River (Abbey 1 and 2). In the centre of the Main Site the species was recorded at Desborough Sailing Club, Littleton Lake at Littleton Sailing Club, and Sheepwalk Lakes (Lakes 1 and 2 on the West and East).

### 5.1.3 Wigeon

Wigeon is a medium-sized dabbling duck that is BoCC5 amber-listed due to the presence of a large number of wintering birds at a limited number of sites in the UK, with the UK wintering population estimated to be 450,000 individuals in 2020 (Woodward *et al.*, 2020). The UK 25-year non-breeding trend (1995/6 to 2020/21) shows a UK population decrease of 11%, while the 10-year non-breeding trend (2010/11 to 2020/21) indicates a decrease of 6% (Austin *et al.*, 2023). The London Bird Report (2016) describes wigeon as a 'common visitor with occasional summer records'.

Wigeon were recorded in aggregations of 20+ individuals at five locations within the Main Site. Numbers peaked in February, with 83 individuals recorded. The lowest numbers of wigeon were recorded in November (n=33), followed by December (n=53), January (n=62), and March (n=68).

### 5.1.4 Pochard

Pochard is a medium-sized diving duck that is BoCC5 red-listed due to recent severe winter population decline and recent moderate breeding range decline, with the UK wintering population estimated to be 29,000 individuals in 2020 (Woodward *et al.*, 2020). The UK 25-year non-breeding trend (1995/6 to 2020/21) shows a UK population decrease of 73%, while the 10-year non-breeding trend (2010/11 to 2020/21) indicates a decrease of 39% (Austin *et al.*, 2023). Pochard is described as a 'common winter visitor and migrant, scarce breeder' in the London Bird Report (2016).

Pochard were recorded at nine locations within the Main Site. Numbers peaked in December, with 153 individuals recorded. The lowest numbers of pochard were recorded in March (n=29), followed by February (n=38), January (n=69), and November (n=87).

### 5.1.5 Goldeneye

Goldeneye is a medium-sized diving duck that is on the BoCC5 red list due to declines in the UK non-breeding population, estimated to be 21,000 individuals in 2020 (Woodward *et al.*, 2020). The UK 25-year non-breeding trend (1995/6 to 2020/21) shows a UK population decrease of 55%, while the 10-year non-breeding trend (2010/11 to 2020/21) indicates a decrease of 23% (Austin *et al.*, 2023). The London Bird Report 2016 describes goldeneye as a 'common winter visitor'.

Goldeneye was recorded within the west of the Main Site on St Ann's Lake during the December survey only (n=3).



### 5.1.6 *Woodpigeon*

Woodpigeon is a large pigeon species that is BoCC5 amber-listed due to the UK birds making up an important breeding population. The UK population was estimated to comprise 5,150,000 breeding pairs in 2020, an increase of 153% since 1967 (Woodward *et al.*, 2020). Woodpigeon is described as an ‘abundant breeding resident, passage migrant and winter visitor’ in the London Bird Report (2016).

Woodpigeon were recorded in aggregations of 20+ twice throughout the survey programme, during the March survey only. Both records were from within the centre of the Main Site (n=30 and n=62).

### 5.1.7 *Lapwing*

Lapwing are a large wader species, red-listed in the BoCC5 due to population decline as a consequence of grassland management. Lapwing are also a priority species under Section 41 of the NERC Act 2006, with a UK wintering population estimated at 635,000 individuals in 2020 (Woodward *et al.*, 2020). The UK 25-year non-breeding trend (1995/6 to 2020/21) shows a UK population decrease of 47%, while the 10-year non-breeding trend (2010/11 to 2020/21) indicates a decrease of 9% (Austin *et al.*, 2023). The London Bird Report (2016) describes lapwing as a ‘widespread breeding species, common winter visitor and passage migrant’.

Lapwing were recorded at nine locations within the Main Site as well as at Sunbury Lock. Numbers peaked in December, with 153 individuals recorded. The lowest numbers of Lapwing were recorded in March (n=15), followed by November (n=16), February (n=35), and January (n=115). The species was often recorded in flight. When not in flight, lapwing were observed within areas of open grassland or adjacent to large waterbodies.

### 5.1.8 *Snipe*

Snipe is a medium-sized wader that is BoCC5 amber-listed due to the moderate declines in recent years of their preferred lowland wet grassland habitat. The estimated UK wintering population of snipe in 2020 was 1,100,000 individuals (Woodward *et al.*, 2020). The UK 25-year non-breeding trend (1995/6 to 2020/21) shows a UK population decrease of 37%, while the 10-year non-breeding trend (2010/11 to 2020/21) indicates a decrease of 11% (Austin *et al.*, 2023). The London Bird Report (2016) describes snipe as a ‘common winter visitor and passage migrant’.

Snipe were recorded once in aggregations of 20+ individuals (n=26, March 2022) in the west of the Main Site within an area of rough grassland and tall ruderal mosaic with large ephemeral puddles.

### 5.1.9 *Black-headed gull*

Black-headed gull is a small gull, BoCC5 amber-listed due to a recent moderate winter population decline, as well as UK birds making up an important non-breeding population. The UK wintering population was estimated to be 2,200,000 individuals in 2020 (Woodward *et al.*, 2020). The UK 25-year non-breeding trend (1995/6 to 2020/21) shows a UK population

decrease of 31%, while the 10-year non-breeding trend (2010/11 to 2020/21) indicates a decrease of 18% (Austin *et al.*, 2023). The species is described as a 'very common winter visitor and passage migrant, increasing breeder' in the London Bird Report (2016).

Black-headed gulls were recorded in aggregations of 20+ at 19 locations across the Main Site, as well as at Sunbury Lock, Hurst Park, and Teddington Lock. Numbers peaked in March, with 957 individuals recorded. The lowest numbers were recorded in November (n=509), followed by December (n=512), January (n=584), and February (n=746). The species was primarily recorded adjacent to waterbodies / watercourses and within open grassland in flocks ranging from 20 to 163 birds.

#### 5.1.10 Common gull

Common gull is a medium-sized gull, BoCC5 amber-listed due to the UK non-breeding population being of international importance. The UK wintering population was estimated at 710,000 individuals in 2020 (Woodward *et al.*, 2020). The UK 25-year non-breeding trend (1995/6 to 2020/21) shows a UK population decrease of 43%, while the 10-year non-breeding trend (2010/11 to 2020/21) indicates a decrease of 34% (Austin *et al.*, 2023). The London Bird Report (2016) described common gull as a 'common winter visitor and passage migrant'.

Common gull were recorded once in an aggregation of 20+ individuals (n=45, March 2023) in the west of the Main Site.

#### 5.1.11 Herring gull

Herring gull is a large gull species which is BoCC5 red-listed due to long-term severe breeding population declines, recent severe winter population declines, and the UK birds making up an important regional population. Herring gulls are also a priority species under Section 41 of the NERC Act (2006). The UK non-breeding population was estimated to be 740,000 in 2020 (Woodward *et al.*, 2020). The UK 25-year non-breeding trend (1995/6 to 2020/21) shows a UK population decrease of 4%, while the 10-year non-breeding trend (2010/11 to 2020/21) indicates a decrease of 10% (Austin *et al.*, 2023). Herring gull is described as 'common, most regular in winter; breeds in small numbers' in the London Bird Report (2016).

Herring gulls were recorded across the Main Site. Numbers peaked in January, with 45 individuals recorded. The lowest numbers of herring gull were recorded in both November and February (n=11), followed by March (n=27), and December (n=43). The species was primarily recorded within urban surrounds in proximity to large waterbodies and watercourses.

#### 5.1.12 Red kite

Red kite is a large raptor species included within both Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and Annex I of the Birds Directive. The British population was estimated at 4,350 pairs in 2020 (Woodward *et al.*, 2020). The UK 26-year breeding trend (1995 to 2021) shows a UK breeding population increase of 2,105% (Harris *et al.*, 2022). Red kite is described as an 'increasingly common resident, and scarce breeder, in the north and west of the area, fairly regular migrant elsewhere' in the London Bird Report (2016).

Red kites were recorded within the Main Site as well as at Land South of Wraysbury Reservoir and Drinkwater Pit. All records, bar one, were of birds in flight. Numbers peaked in March, with 27 individuals recorded. The lowest numbers of red kite were recorded in December (n=5), followed by January (n=8), November (n=9), and February (n=18). The species was seen to favour open grassland and arable fields with boundary tree lines and scattered trees.

#### 5.1.13 Kingfisher

Kingfisher is a small, semi-aquatic, near-passerine species, which is BoCC5 amber-listed due to its status as vulnerable in the European Red-list of Birds (Birdlife, 2015). Kingfisher is included on Schedule 1 and Annex I. The British population was estimated at 3,650-6,100 pairs in 2020 (Woodward *et al.*, 2020), with no major breeding population change in the UK between 1995 and 2020 (Harris *et al.*, 2022). Kingfisher is described as a 'locally common breeding resident with additional birds in winter' in the London Bird Report (2016).

Kingfishers were recorded at six locations within the Main Site as well as at Teddington Lock and Sunbury Lock. Numbers peaked in December, with seven individuals recorded. The lowest numbers of kingfisher were recorded in November (n=1), followed by January (n=3), February (n=4), and March (n=6). All records were either of birds flying over waterbodies or present next to them.

#### 5.1.14 Peregrine

Peregrine is a medium-sized falcon listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). The wintering population of peregrine in the UK was estimated to be 1,750 individuals in 2020 (Woodward *et al.*, 2020). The UK 26-year breeding trend (1995 to 2021) shows a UK breeding population decrease of 44%, while the 10-year breeding trend (2011 to 2021) shows a 22% decrease (Harris *et al.*, 2022). The London Bird Report (2016) describes peregrine as a 'scarce but increasingly regular breeding resident and winter visitor'.

Peregrine were recorded in the east of the Main Site, as well as at Land south of Wraysbury Reservoir. Numbers peaked in February with three individuals recorded, followed by January (n=1). Peregrine were not observed during the November, December and March surveys. In the east of the Main Site, peregrines were recorded in January (n=2) and February (n=2), circling above grassland habitats in the vicinity of Walton Bridge. A single bird was also noted at the Land south of Wraysbury Reservoir, perched on a pylon during the February survey.

#### 5.1.15 Skylark

Skylark are medium-sized passerines listed on Section 41 of the NERC Act (2006). The species is also BoCC5 red-listed due to severe breeding population declines in the UK. The UK breeding population was estimated to be 1,500,000 pairs in 2020 (Woodward *et al.*, 2020). The UK 26-year breeding trend (1995 to 2021) shows a UK breeding population decrease of 14%, while the 10-year breeding trend (2011 to 2021) shows a 9% increase (Harris *et al.*, 2022). Skylark is described as a 'common breeding resident, winter visitor and passage migrant' in the London Bird Report (2016).



Skylarks were recorded in the east of the Main Site during November, February and March only. Numbers peaked in February, with 12 individuals noted. The lowest numbers of skylark were recorded in November (n=1), followed by March (n=10). Evidence of the early commencement of breeding activity was noted, with 17 instances of singing birds recorded throughout the February and March visits. Skylark were recorded within or flying above areas of open grassland and, on one occasion, arable fields.

#### 5.1.16 Cetti's warbler

Cetti's warblers are medium-sized passerines listed under Schedule 1 of the Wildlife and Countryside Act 1981. The UK population was estimated to be 3,450 pairs in 2020 (Woodward *et al.*, 2020). The UK 26-year breeding trend (1995 to 2021) shows a UK breeding population increase of 626%, while the 10-year breeding trend (2011 to 2021) shows a 278% increase (Harris *et al.*, 2022). Cetti's warbler is described as a 'scarce migrant and winter visitor but increasing breeder' in the London Bird Report (2016).

Cetti's warblers were recorded in the east and centre of the Main Site during all survey months except December. All individuals were recorded in song, indicative of the species holding territory throughout the winter months. Numbers peaked in February and March, with four individuals noted during each. The lowest numbers of Cetti's warbler were recorded in January (n=2), followed by November (n=3). The species was recorded within vegetation surrounding large waterbodies.

#### 5.1.17 Starling

Starlings are medium-sized passerines listed under Section 41 of the NERC Act (2006). The species is also BoCC5 red-listed due to severe breeding population declines in the UK. The UK population was estimated at 1,650,000 pairs in 2020 (Woodward *et al.*, 2020). The UK 26-year breeding trend (1995 to 2021) shows a UK breeding population decrease of 54%, while the 10-year breeding trend (2011 to 2021) shows an 8% decrease (Harris *et al.*, 2022). Starling is described as a 'common, but continued declining, breeding resident, passage migrant and winter visitor' in the London Bird Report (2016).

Starlings were recorded widely across the Main Site in all months. They were also recorded at Land south of Wraysbury Reservoir in February and March, Drinkwater Pit in January and March, Hurst Park in November, January and February, Tumbling Bay Weir in January, and Teddington Weir in February. Numbers across the Survey Area peaked in February, with 239 individuals noted. The lowest numbers of starling were recorded in December (n=126), followed by March (n=175), January (n=195), and November (n=225). Starlings were recorded in a range of habitats comprising open grassland, hedgerows, scrub, and residential buildings with associated gardens.

#### 5.1.18 Song thrush

Song thrush are a medium-sized passerine listed under Section 41 of the NERC Act (2006). In addition, the species is BoCC5 amber-listed due to breeding population declines in the UK. The UK population was estimated at 1,200,000 pairs in 2020 (Woodward *et al.*, 2020). The UK

26-year breeding trend (1995 to 2021) shows a UK breeding population increase of 29%, while the 10-year breeding trend (2011 to 2021) shows a 20% increase (Harris *et al.*, 2022). Song thrush is described as a ‘common, but locally declining, breeding resident, passage migrant and winter visitor’ in the London Bird Report (2016).

Song thrush were recorded across all three sections of the Main Site, as well as at Land south of Wraysbury Reservoir, Teddington Lock, and Sunbury Lock. Numbers across the Survey Area peaked in February, with 19 individuals noted. The lowest numbers of song thrush were recorded in November (n=3), followed by December (n=4), January (n=8), and March (n=17). The species was recorded in areas of woodland edge, treelines, or in scattered trees within areas of open grassland. All birds recorded were singing, indicating that they were holding territory throughout the winter months.

#### 5.1.19 Mistle thrush

Mistle thrush are medium-sized passerines that are BoCC5 red-listed due to severe breeding population declines in the UK. The British population was estimated at 150,000 pairs in 2020 (Woodward *et al.*, 2020). The UK 26-year breeding trend (1995 to 2020) shows a breeding population decrease of 29%, while the 10-year breeding trend (2011 to 2021) shows a 6% decrease (Harris *et al.*, 2022). Mistle thrush is described as a ‘common breeding resident’ in the London Bird Report (2016).

Mistle thrush were recorded within the Main Site during all five survey months as well as at Hurst Park in December. Numbers peaked in December, with nine individuals noted across the Survey Area. The lowest numbers of mistle thrush were recorded in February (n=1), followed by March (n=3), January (n=7), and November (n=8). Mistle thrush favoured open grassland and tree lines or hedgerows on the peripheries of grassland habitats.

#### 5.1.20 Redwing

Redwing are medium-sized passerines listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). They are also BoCC5 amber-listed due to recent moderate breeding population decline and due to being a rare breeding species. The UK wintering population was estimated to be 690,000 individuals in 2020 (Woodward *et al.* 2020). Redwing is described as a ‘common passage migrant and winter visitor’ in the London Bird Report (2016).

Redwing were recorded across the Main Site in all months and at all Outlying Sites (with the exception of Grove Farm) in at least two of the five months. Numbers peaked in March with 246 individuals noted. The lowest numbers of redwing were recorded in November (n=54), followed by January (n=180), February (n=186), and December (n=206). The species favoured open grassland with scattered trees / scattered scrub, hedgerows and tree lines.

#### 5.1.21 Fieldfare

Fieldfare are medium-sized passerines listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). They are also BoCC5 red-listed due to recent severe breeding population declines, recent severe breeding range declines, and being a rare breeder. The UK wintering population was estimated to be 720,000 individuals in 2020 (Woodward *et al.*,

2020). Fieldfare is described as a 'regular passage migrant and winter visitor' in the London Bird Report (2016).

Fieldfare was recorded throughout the Main Site across all months as well as at Land south of Wraysbury Reservoir in February and March, and Drinkwater Pit in December and March. Numbers peaked in November, with 71 individuals noted. The lowest numbers of fieldfare were recorded in January (n=7), followed by February (n=24), December (n=45), and March (n=64). Fieldfare were recorded in areas of open grassland with boundary treelines, hedgerows and scrub.

#### 5.1.22 House sparrow

House sparrows are small passerines listed under Section 41 of the NERC Act (2006). They are also BoCC5 red-listed due to severe breeding population declines in the UK. The British population was estimated at 5,150,000 pairs in 2020 (Woodward *et al.*, 2020). The UK 26-year breeding trend (1995 to 2020) shows a breeding population decrease of 4%, while the 10-year breeding trend (2011 to 2021) shows a 2% decrease (Harris *et al.*, 2022). House sparrow is described as a 'breeding resident, declined severely since 1990s' in the London Bird Report (2016).

House sparrows were recorded across the Main Site, as well as at Tumbling Bay Weir and Hurst Park. Numbers peaked in December, with 48 individuals noted. The lowest numbers of house sparrow were recorded in March (n=12), followed by November (n=14), February (n=40), and December (n=48). House sparrow sightings included flocks of up to 20 birds, favouring dense scrub or hedgerows within or adjacent to residential buildings and gardens.

#### 5.1.23 Dunnock

Dunnocks are small passerines listed under Section 41 of the NERC Act (2006). They are also BoCC5 amber-listed due to moderate breeding population declines in the UK. The British population was estimated at 2,350,000 pairs in 2020 (Woodward *et al.*, 2020). The UK 26-year breeding trend (1995 to 2020) shows a breeding population increase of 12%, while the 10-year breeding trend (2011 to 2021) shows a 7% decrease (Harris *et al.*, 2022). Dunnock is described as a 'abundant breeding resident' in the London Bird Report (2016).

Dunnock was recorded within the Main Site, as well as at Sunbury Lock, Hurst Park, and Teddington Lock. The species was recorded widely in woodland, tree lines, and open grassland with associated boundary vegetation.

#### 5.1.24 Meadow pipit

Meadow pipit is a medium sized passerine species which is BoCC5 amber-listed due to long term population declines in the UK. The UK wintering population of meadow pipit was estimated at 2,450,000 individuals in 2020 (Woodward *et al.*, 2020). The UK 26-year breeding trend (1995 to 2021) shows a UK breeding population decrease of 22%, while the 10-year breeding trend (2011 to 2021) shows an 11% decrease (Harris *et al.*, 2022). The London Bird Report (2016) describes meadow pipit as a 'common passage migrant and winter visitor and localised breeder'.



Meadow pipit was recorded within both the Main Site and Land south of Wraysbury Reservoir. Numbers peaked in February, with 44 birds noted. The lowest numbers of meadow pipit were recorded in December (n=22) and March (n=39), with no birds recorded during the November and January surveys. This species favoured areas of open grassland.

#### 5.1.25 Greenfinch

Greenfinch is a small passerine species that is BoCC5 red-listed due to recent severe breeding population declines in the UK. The UK breeding population was estimated to be 785,000 pairs in 2020 (Woodward *et al.*, 2020). The UK 26-year breeding trend (1995 to 2021) shows a UK breeding population decrease of 68%, while the 10-year breeding trend (2011 to 2021) shows a 62% decrease (Harris *et al.*, 2022). Greenfinch is described as a 'common breeding resident and passage migrant' in the London Bird Report (2016).

Greenfinch were recorded across the Main Site, as well as at Land south of Wraysbury Reservoir and Teddington Lock. Numbers peaked in February, with 36 birds noted. The lowest numbers of greenfinch were recorded in November (n=2), followed by January (n=3), December (n=10), and March (n=20). The species favoured treelines adjacent to open grassland and arable farmland.

#### 5.1.26 Linnet

Linnets are small passerines listed under Section 41 of the NERC Act (2006). They are also BoCC5 red-listed due to severe breeding population declines in the UK. The UK 26-year breeding trend (1995 to 2021) shows a UK breeding population decrease of 23%, while the 10-year breeding trend (2011 to 2021) is stable, showing a 0% change (Harris *et al.*, 2022). Linnet is described as a 'common but declining breeding resident and passage migrant' in the London Bird Report (2016).

Linnet were recorded within the Main Site as well as at Land south of Wraysbury Reservoir. There were none recorded during the January and February surveys. Numbers peaked in December, with 22 individuals noted, followed by November (n=8) and March (n=1). Linnets favoured areas of open grassland and arable farmland.

## 6. Discussion and Conclusion

In total, 26 target species were recorded across the survey area during the 2022-23 non-breeding season. Of those recorded, one is listed on Annex I of the Birds Directive (red kite), six on Schedule 1 of the WCA 1981 (Cetti's warbler, fieldfare, kingfisher, peregrine, red kite, and redwing), eight on Section 41 of the NERC Act 2006 (dunnock, herring gull, house sparrow, lapwing, linnet, skylark, song thrush and starling), and 11 are Red Listed BoCC5 species (fieldfare, goldeneye, greenfinch, herring gull, house sparrow, lapwing, linnet, mistle thrush, pochard, skylark and starling).

Gadwall numbers peaked in January (n=53) and shoveler counts peaked in December (n=43) along with pochard (n=153). Lapwing, the only red-listed wader species recorded, peaked in December (n=125). Redwing numbers peaked in March (n=246) with the highest count among the Schedule 1 species recorded and the highest peak count for any passerine, followed by starlings in February (n=239). Herring gull, the only red-listed gull species recorded, peaked in January (n=45), while red kite numbers peaked in March (n=27), the highest among all raptors recorded.

The peak count for shoveler from the survey programme equates to 5.04% of the South West London Waterbodies SPA citation population, while the peak count for gadwall equates to 7.5% SPA citation population. Shoveler were recorded within both the Main Site as well as Land South of Wraysbury Reservoir, while gadwall were recorded within the Main Site only. As the Survey Area supports greater than 1% of the functionally linked SPA citation population of these species, these are considered key constraints. High peak counts of both redwing (n=246) and fieldfare (n=71) were recorded within both the Main Site and Outlying Sites, in addition to a peak count of 27 red kites and 125 lapwings are also noteworthy.

The results presented within this baseline report serve to inform the future Environmental Impact Assessment (EIA) and should be considered in conjunction with the results of any previous and future bird surveys associated with the project. It is anticipated that this report will be submitted within an appendix to the future EIA.

We consider that, despite the limitations, these results are robust and are a true representation of the target species abundance and diversity within the Survey Area.

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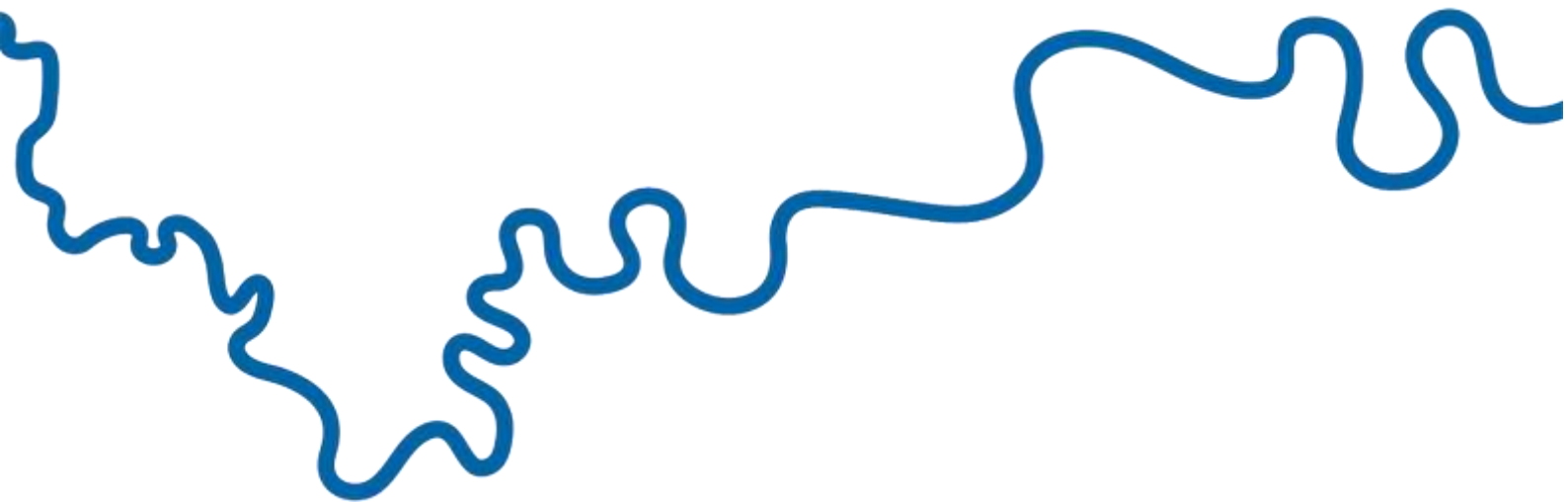
## Appendix 1 Weather conditions

Visit	Survey date	Weather conditions
1	21/11/2022	5°C; 6/8 CC; G visibility; light-heavy rain
1	22/11/2022	3-4/8 CC; no precipitation
1	23/11/2022	7/8 CC; light rain
1	24/11/2022	4-8/8 CC; light rain
2	12/12/2022	0°C; 0 wind; 8/8 CC; G visibility; no precipitation
2	13/12/2022	0 to -2°C; 0 wind; 7-8/8 CC; G visibility; no precipitation
2	14/12/2022	0 to -2°C; 0 wind; 2-8/8 CC; G visibility; no precipitation
2	15/12/2022	1 to -6°C; 0-1/8 CC; G visibility; no precipitation
3	16/01/2023	3-5°C; 0-2 wind; 2-8/8 CC; G visibility; no precipitation-dry
3	17/01/2023	2 to -4°C; 0-1 wind; 3-7/8 CC; G visibility; no precipitation
3	18/01/2023	0-1°C; 0-1 wind; 0-4/8 CC; G visibility; no precipitation
3	19/01/2023	0-3°C; 0-1 wind; 0-4/8 CC; G visibility; no precipitation
4	20/02/2023	8-12°C; 0-1 wind; 4-8/8 CC; G visibility; no precipitation
4	21/02/2023	8°C; 0 wind; 8/8 CC; G visibility; no precipitation
4	22/02/2023	6-8°C; 0 wind; 8/8 CC; G visibility; no precipitation - light rain
4	23/02/2023	4-5°C; 5-10 wind; 6-8/8 CC; G visibility; no precipitation
4	24/02/2023	4°C; 5 wind; 7/8 CC; G visibility; no precipitation
5	13/03/2023	11-14°C; 5-15 wind; 5-7/8 CC; G visibility; no precipitation - light rain
5	14/03/2023	4-10°C; 2-11 wind; 0-8/8 CC; G -VG visibility; no precipitation – light rain
5	15/03/2023	0-7°C; 1 wind; 7-8/8 CC; G visibility; no precipitation

## Appendix 2 Species Names

Species	Scientific name	BTO code	Species	Scientific name	BTO code
Shoveler	<i>Spatula clypeata</i>	SV	Peregrine	<i>Falco peregrinus</i>	PE
Gadwall	<i>Mareca strepera</i>	GA	Skylark	<i>Alauda arvensis</i>	S.
Wigeon	<i>Anas penelope</i>	WN	Cetti's warbler	<i>Cettia cetti</i>	CW
Pochard	<i>Aythya ferina</i>	PO	Starling	<i>Sturnus vulgaris</i>	SG
Goldeneye	<i>Bucephala clangula</i>	GN	Song thrush	<i>Turdus philomelos</i>	ST
Woodpigeon	<i>Columba palumbus</i>	WP	Mistle thrush	<i>Turdus viscivorus</i>	M.
Lapwing	<i>Vanellus vanellus</i>	L.	Redwing	<i>Turdus iliacus</i>	RE
Snipe	<i>Gallinago gallinago</i>	SN	Fieldfare	<i>Turdus pilaris</i>	FF
Black-headed gull	<i>Chroicocephalus ridibundus</i>	BH	House sparrow	<i>Passer domesticus</i>	HS
Common gull	<i>Larus canus</i>	CM	Dunnock	<i>Prunella modularis</i>	D.
Herring gull	<i>Larus argentatus</i>	HG	Meadow pipit	<i>Anthus pratensis</i>	MP
Red kite	<i>Milvus milvus</i>	KT	Greenfinch	<i>Chloris chloris</i>	GR
Kingfisher	<i>Alcedo atthis</i>	KF	Linnet	<i>Linaria cannabina</i>	LI





The River Thames Scheme represents a new landscape-based approach to creating healthier, more resilient and more sustainable communities by reducing the risk of flooding and creating high quality natural environments.