



Appendix 7.3

WINTERING BIRDS



2022-2025 Wintering Bird Survey Summary

Broadwater Lake, Hillingdon

On behalf of London Borough of Hillingdon

Issue: 01

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1 Introduction

1.1 Background

Wintering Bird Surveys (WBS) have been undertaken at Broadwater Lake (the Site) during 2022, 2023, 2024 and 2025.

The surveys were required to support a planning application to develop a new outdoor, water-based activities centre (Hillingdon Water Sports Facility and Activities Centre – HWSFAC) at Broadwater Lake.

1.2 Purpose of this report

The wintering bird surveys were undertaken to establish the wintering bird assemblage for the lake and the population size of each species, using the standard survey methodology that is comparable with other available published data (for the Site, the Colne Valley Gravel Pits (CVGP) and for the UK).

This standalone report details the summary results for each year side by side, and pulls out the key findings. An assessment of the importance for the site for each species has been made using the full dataset.

A record of non-waterbird species present during winter was also undertaken in 2023 and 2024, to provide a complete wintering species list for the Site.

The raw data including weather data has been provided as a separate factual report:

- Harper Environmental Ltd (2025). 2022-2025 Wintering Bird Survey Factual Report.

1.3 The Site

The Site forms part of the Mid-Colne Valley SSSI and is designated for “*significant ornithological interest, particularly for the diversity of breeding woodland and wetland birds, and for the numbers of wintering wildfowl*”¹.

The whole Site covers an area of approximately 76 hectares (ha) and is approximately centred on National Grid Reference TQ 04396 89593. The Site comprises an access road from Moorhall Road, the lake itself with an associated lagoon (south-east corner of the lake), a peninsula at the south-east corner, an existing sailing club (Broadwater Sailing Club) at the north end of the lake, parts of the margins of the lake, and islands set within the lake. Part of the western and southern banks of the lake and adjacent open water lie just outside the red line boundary (these areas were included within the survey area). The site red line boundary and immediate surrounds are shown in Figure 1.1 below.

There are also two discrete land parcels that fall within the same ownership; a hawthorn woodland to the east, and a grassland field to the south. These lie outside the boundary of the SSSI. They were not included in the scope of surveys as breeding bird habitat within these areas will not be subject to impacts from proposed development.

¹ Available: [1003469.pdf \(naturalengland.org.uk\)](https://naturalengland.org.uk/1003469.pdf)

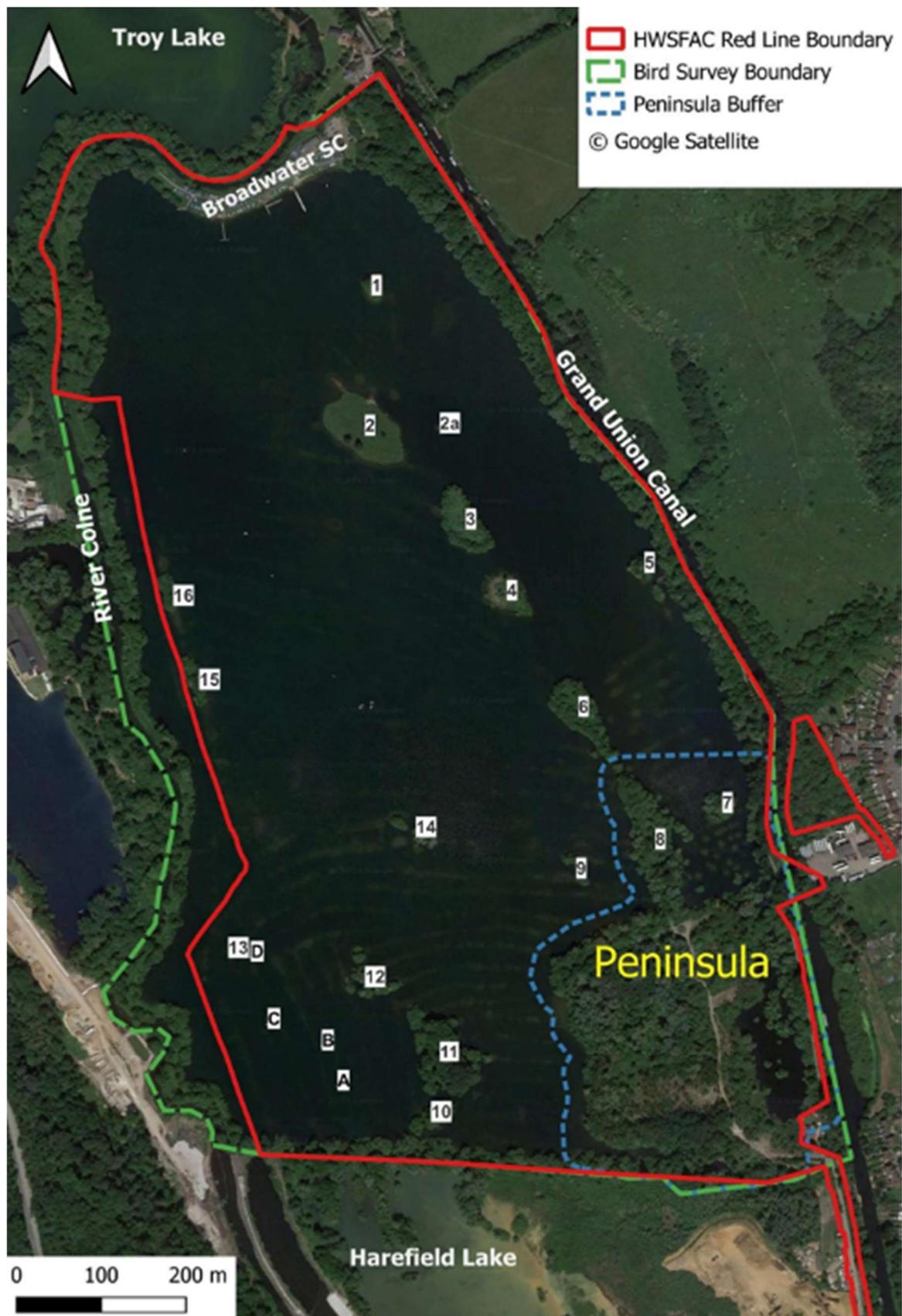


Figure 1.1 The site red line boundary, showing the numbering of islands.

1.4 Surveyors and Authors

The vast majority of the wintering bird surveys were carried out by Bill Haines, who also produced all the maps of the results and reviewed this report for accuracy. Bill, who has a Bachelor's degree in Environmental Sciences (BSc Hons), has over 25 years' experience in undertaking professional ornithological surveys and has worked in a wide variety of habitats in the UK including wetlands, urban and suburban, farmland, woodlands coastal and estuarine, and upland and lowland heathland, using a wide range of scientifically proven survey methodologies. He is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

Dr Jonty Denton also undertook some of the wintering bird surveys in 2022-2023. Dr Jonty Denton is a freelance Chartered Ecologist of over 30 years' experience, with Natural England licenses for Bats, Dormice, Great Crested Newt, Natterjacks, Sand Lizard, Smooth Snake, and White-clawed Crayfish. His clients include Natural England, the National Trust, Crown Estates, County Trusts, Butterfly Conservation, the Ministry of Defence, Royal Parks, and many County and District Councils, as well as the Environment Agency and Thames Water. Jonty is a highly experienced ornithologist having carried out ornithological surveys (for breeding and wintering birds), including pioneering studies of impact on birds of construction of bridge crossings and specialist surveys of impacts of piling works on Brent Geese in Langstone harbour. Jonty has travelled widely across all the continents and has seen over 50% of the world's avifauna.

This report was written by Dr Stephanie Harper. Stephanie has a BSc (Hons) and PhD in Environmental Sciences and holds a Natural England Level 1 class licence for bats. She has 18 years of experience in ecological survey and consultancy.

This report was reviewed by Martin Scott, Senior Director of Ornithology at RPS, who has over 25 years' experience in ornithological surveying in across offshore wind, road, rail, solar, nuclear, and tidal projects.

1.5 Constraints

The full site (whole red line boundary) plus adjacent offsite areas (namely much of the western edge of Broadwater Lake) was surveyed.

2 Legislation and Conservation Status

The Wildlife and Countryside Act 1981² (as amended) is the principal legislation affording protection to UK wild birds. Under this legislation all birds, their nests and eggs are protected by law and it is an offence, with certain exceptions to recklessly or intentionally:

- Kill, injure or take any wild bird;
- Take, damage or destroy the nest of any wild bird while in use or being built;
- Take or destroy the egg of any wild bird;

Species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) are specially protected at all times.

A number of birds feature on the Natural Environment and Rural Communities (NERC) Act, Section 41 (S41)³ as species which are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 41 of the NERC Act, to have regard to the conservation of biodiversity in England, when carrying out their normal functions. This Act supersedes the UK Biodiversity Action Plan (UK BAP) list of priority species.

2.1 Conservation Status of Birds

In addition to statutory protection, some bird species are classified according to their conservation status, such as their inclusion on the Red and Amber lists of Birds of Conservation Concern (BoCC) in the UK, 5 (Stanbury, et al 2021)⁴:

- Red list (high conservation concern) species are those that are Globally Threatened according to IUCN criteria; those whose population has declined rapidly (50% or more) in recent years; and those that have declined historically and not shown a substantial recent recovery;
- Amber list (medium conservation concern) species are those with an unfavourable conservation status in Europe; whose population or range has declined moderately (between 25% and 49%) in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations;
- Green list (low conservation concern) species fulfil none of the above criteria.

2.2 Key to Status of Species

As set out above, legal protection and conservation status are material considerations when identifying key species / ecological receptors.

Table 2.1 presents the key that has been applied to the results (in Section 4) to make this status clear.

² Available: <http://www.legislation.gov.uk/ukpga/1981/69>

³ <http://jncc.defra.gov.uk/page-5705>

⁴ Stanbury et al. December 2021. The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds*, 114; pp723-747.

Table 2.1 Key to legal and conservation status of bird species

| Key | Definition | Abbreviations |
|------------------|--|--|
| Bold type | Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) | WCA Schedule 1 species (Sch1) |
| | Conservation status - Red list of Birds of Conservation Concern (BoCC) in the UK, 5 (Stanbury, et al 2021) | Red list |
| | Conservation status - Amber list of Birds of Conservation Concern (BoCC) in the UK, 5 (Stanbury, et al 2021) | Amber list |
| * | Natural Environment and Rural Communities (NERC) Act, Section 41 | NERC-S41 listed species (NERC S41 or just S41) |
| No shading | Conservation status - Green list of Birds of Conservation Concern (BoCC) in the UK, 5 (Stanbury, et al 2021) | Green list |

2.3 SSSI Designated Species

As a unit of a SSSI, the site is designated in part for the variety of species that form its overwintering waterbird population. There are two designated features of relevance to this report:

- Aggregations of non-breeding birds - variety of wintering species; and
- Aggregations of non-breeding birds - population of tufted duck *Aythya fuligula*.

The definition of both of these designated features is: “Localities which regularly support 1% or more of the total British non-breeding population of any native species in any season and non-breeding waterbird assemblages of over 20,000 individuals will qualify for SSSI selection.”

The total number of wintering species present at Broadwater was mentioned within the original designation for the SSSI which stated:

*“The ornithological interest of the site is considerable, with over 70 breeding, and **80 wintering species** of bird regularly recorded. This high diversity reflects the close proximity of the wide range of habitats present: woodland, scrub, grassland, running and standing water, marginal fen and gravel banks.... Many species of wintering wildfowl are attracted to the extensive water areas; the numbers of tufted duck frequently reach levels of national importance, and pochard and shoveler occasionally reach levels of similar significance. In winter Broadwater’s island are also the site of a large cormorant roost.”*

3 Methodology

The method of evaluation is set out below. Results are presented in Section 4. Interpretation and a brief discussion is presented in Section 5.

3.1 Desk Study

At the start of the surveys (2022) protected species records within 2km of the Site were obtained from:

- Greenspace Initiative for Greater London (GiGL);
- Herts Biological Records Centre (HBRC); and
- Buckinghamshire and Milton Keynes Environment Records Centre (BMERC).

3.2 Standard Observation Method

The standard methodology for the wintering bird surveys broadly followed the ‘look-see’ method used for the Wetland Bird Survey (WeBS)⁵ and the species monitored were those recorded for WeBS.

For all surveys, the number of birds of each species was counted and each bird (or groups of birds in the case of a tight or a loose flock) spatially mapped in the field.

The data was subsequently digitised in QGIS (a free and open-source geographical information system).

Birds that were seen overflying the site and not interacting with it (e.g. not looking to land) were excluded from any totals and subsequent analyses.

3.3 Timing and Survey Effort

Counts were undertaken on days when no sailing occurred (‘non-sailing’ days) and also (in 2022-23 and 2023-24) prior to any sailing activities occurring, to establish the baseline without sailing disturbance.

A single observer (or sometimes two observers) walked around the perimeter of the lake and mapped the distribution and numbers of birds. This was done once each ‘non-sailing’ visit.

Standard wintering surveys may be undertaken by a single surveyor as the changes to the number of birds and species composition are relatively discrete and low in frequency.

The times of day that these counts were carried out varied, with some counts being made in the mornings and others in the afternoon, the latter generally finishing at about sunset. These afternoon counts were to attempt to ascertain the presence and composition of any gull roost that may have been present on the lake. No specific surveys were conducted for gulls, as it was found that any potential gull-roost counts could be observed during or after a waterbird count on the same day.

⁵ https://www.bto.org/sites/default/files/webs_methods.pdf

3.4 Weather

On each visit weather details were noted. As the surveys were undertaken across a whole season, a range of weather conditions were encountered. There were no days where visibility caused surveys to be abandoned, though during some visits, visibility was somewhat reduced temporarily, either due to mist or heavy rain. This did not constrain the survey results on those days due to the level of survey effort.

3.5 Evaluation Method

The BTO website⁶ identifies the evaluation of internationally and nationally important species levels as follows:

*"Criteria for assessing the international importance of wetlands have been agreed by the Contracting Parties to the Ramsar Convention on Wetlands of International Importance (Ramsar Convention Bureau 1988). Under criterion 6, a wetland is considered **internationally important** if it regularly holds at least 1% of the individuals in a population of one species or subspecies of waterbird, while criterion 5 states that any site regularly supporting 20,000 or more waterbirds also qualifies. Britain and Ireland's wildfowl belong, in most cases, to the northwest European population and the waders to the east Atlantic flyway population (Wetlands International 2012). A wetland in Britain is considered **nationally important** if it regularly holds 1% or more of the estimated British population of one species or subspecies of waterbird."*

The evaluation methodology is an extension of that used for the evaluation of national and international wetland sites, and is as follows:

1. Using the survey data, the peak count and median count of each species of wintering bird at the Site is established and the highest number regularly present at the Site is identified;
2. This number is then calculated as a percentage of the official estimated UK national population levels (BTO);
3. The percentage is compared to a series of arbitrary bands to produce a classification of importance for each species, using a geographic scale. The bands used for each classification are given in Table 3.1.

⁶ [Species Threshold Levels | BTO - British Trust for Ornithology](#)

Table 3.1 Importance criteria used to assess each bird species.

| Percentage of GB wintering population | Importance |
|---|---|
| >1% | National |
| >0.5% | Regional |
| >0.1% | Borough (equivalent to County, Metropolitan etc) |
| >0.01% | Local |
| <0.01% ^(s) | Local |
| <0.01% ^(g) | Zone of influence (Zol) (insignificant) i.e. important within the site only |
| ^(s) Species with special status (Sch 1, S41 or Amber or Red listed) | |
| ^(g) Birds of low / no conservation concern - green list species or common species not assessed for conservation status | |

The importance for each year and the overall importance (highest importance recorded across the 3 years) have been shown in Table 4.1.

This method has been updated for this report.

If a species is considered to be non-native then the evaluation defaults to 'Zone of Influence / non-native' (e.g. Canada goose, Egyptian goose).

Birds not "regularly present" (defined here as present on less than 3 monitoring dates and / or present only in 1 or 2 months across the 6-month monitoring period) may be regarded as not forming a component part of the wintering assemblage. Gulls are somewhat of an exception as these typically arrive at the Site through the afternoon and overnight on the open water, therefore they are typically under-recorded.

Kingfisher has also been assessed although there is no published data for the wintering population - kingfisher are present all year round and therefore the breeding UK population figure has been adopted as the same number present during the winter.

Hybrids are not a species and usually occur infrequently in very small numbers. These have not been assessed or reported.

3.6 Recording of non-waterbird species

During the winter 2023-24 surveys, records were kept of non-water bird species encountered (seen or heard) at the Site in January and / or February.

During the winter 2024-25 surveys, records of non-water bird species were made each month.

Land birds are much more cryptic in winter so establishing their numbers as individuals or pairs was not possible, however it was possible to record a tally of species.

A species was considered to be a regular member of the wintering assemblage if it was present on three or more survey visits in either of the monitoring years.

4 Results

Table 4.1 below provides the maximum counts per winter of each regularly present species over the 3 years of monitoring, and the importance per year as well as the overall importance (highest evaluation over the 3 years).

| Species information | | | Maximum count per winter | | | % of the GB wintering population | | | Regularly present? | Importance | | | |
|--------------------------|---------|-------------|--------------------------|---------|---------|----------------------------------|---------|---------|--------------------------------|-----------------|-----------------|----------------|----------------------------|
| Species (English) | Abbrev. | GB 1% (BTO) | 2022-23 | 2023-24 | 2024-25 | 2022-23 | 2023-24 | 2024-25 | | 2022-23 | 2023-24 | 2024-25 | Highest value over 3 years |
| Black-headed Gull | BH | 22000 | 919 | 425 | 250 | 0.042 | 0.019 | 0.011 | Yes | Local | Local | Local | Local |
| Cormorant | CA | 620 | 40 | 40 | 269 | 0.065 | 0.065 | 0.434 | Yes | Local | Local | Borough | Borough |
| Canada Goose | CG | Non-native | 75 | 105 | 40 | | | | Yes | Zol | Zol | Zol | Zol |
| Common Gull | CM | 7000 | 44 | 5 | 5 | 0.006 | 0.001 | 0.001 | Yes | Local | Local | Local | Local |
| Coot | CO | 2000 | 75 | 131 | 363 | 0.038 | 0.066 | 0.182 | Yes | Local | Local | Borough | Borough |
| Egyptian Goose | EG | Non-native | 16 | 25 | 6 | | | | Yes | Zol | Zol | Zol | Zol |
| Gadwall | GA | 310 | 26 | 14 | 16 | 0.084 | 0.045 | 0.052 | Yes | Local | Local | Local | Local |
| Great Crested Grebe | GG | 170 | 14 | 12 | 47 | 0.082 | 0.071 | 0.276 | Yes | Local | Local | Borough | Borough |
| Greylag Goose | GJ | 1400 | 110 | 57 | 91 | 0.079 | 0.041 | 0.065 | Yes | Local | Local | Local | Local |
| Goldeneye | GN | 190 | 13 | 18 | 2 | 0.068 | 0.095 | 0.011 | Yes | Local | Local | Local | Local |
| Grey Heron | H. | 450 | 18 | 12 | 21 | 0.040 | 0.027 | 0.047 | Yes | Local | Local | Local | Local |
| Herring Gull* | HG | 7300 | 40 | 27 | 7 | 0.005 | 0.004 | 0.001 | Yes | Local | Local | Local | Local |
| Kingfisher* | KF | 7700* | 2 | 3 | 3 | 0.000 | 0.000 | 0.000 | Yes | Local | Local | Local | Local |
| Lapwing* | L. | 6200 | 65 | 38 | 29 | 0.010 | 0.006 | 0.005 | Occasional visitor all 3 years | Local | Local | Local | Local |
| Lesser Black-backed Gull | LB | 1200 | 20 | 12 | 14 | 0.017 | 0.010 | 0.012 | Yes | Local | Local | Local | Local |
| Little Grebe | LG | 150 | 7 | 3 | 2 | 0.047 | 0.020 | 0.013 | Yes | Local | Local | Local | Local |
| Mallard | MA | 6700 | 26 | 38 | 26 | 0.004 | 0.006 | 0.004 | Yes | Local | Local | Local | Local |
| Moorhen | MH | 3000 | 10 | 16 | 12 | 0.003 | 0.005 | 0.004 | Yes | Local | Local | Local | Local |
| Mute Swan | MS | 500 | 4 | 4 | 12 | 0.008 | 0.008 | 0.024 | Yes | Zol | Zol | Local | Local |
| Oystercatcher | OC | 2900 | 2 | 2 | 3 | 0.001 | 0.001 | 0.001 | Occasional visitor all 3 years | Local | Local | Local | Local |
| Pochard | PO | 230 | 302 | 145 | 72 | 1.313 | 0.630 | 0.313 | Yes | National | Regional | Borough | National |
| Red-crested Pochard | RQ | Non-native | 6 | 1 | 4 | | | | Occasional visitor all 3 years | Zol | Zol | Zol | Zol |
| Shoveler | SV | 190 | 315 | 30 | 73 | 1.658 | 0.158 | 0.384 | Yes | National | Borough | Borough | National |
| Teal | T. | 4300 | 25 | 6 | 0 | 0.006 | 0.001 | 0.000 | Yes (but none 2024-5) | Local | Local | Local | Local |
| Tufted Duck | TU | 1300 | 455 | 467 | 237 | 0.350 | 0.359 | 0.182 | Yes | Borough | Borough | Borough | Borough |
| Wigeon | WN | 4500 | 77 | 12 | 3 | 0.017 | 0.003 | 0.001 | Yes | Local | Local | Local | Local |

* Kingfisher GB 1% not reported; resident breeding population 3850 pairs (2016) (assume GB wintering population is 7700)

Table 4.2 provides the species list for non-waterbirds during winter 2023-4 and 2024-5.

| Common Name | 2023-24 | 2024-25 | Regularly recorded? |
|--------------------------|------------|----------------------------|---------------------|
| Blackbird | X | X | Y |
| Blackcap | X | X | Y |
| Blue Tit | X | X | Y |
| Buzzard | X | 1 record | Y |
| Carrion Crow | X | X | Y |
| Chiffchaff | X | X | Y |
| Collared Dove | X | Offsite only | Y |
| Chaffinch | X | X | Y |
| Coal Tit | X | NR | Y |
| Cetti's Warbler | X | X | Y |
| Dunnock* | X | X | Y |
| Firecrest | 1 record | NR | |
| Fieldfare | X | NR | Y |
| Feral Pigeon | X | NR | Y |
| Green Woodpecker | X | 1 record onsite +2 offsite | Y |
| Goldcrest | X | X | Y |
| Grey Wagtail | X | X | Y |
| Goldfinch | X | X | Y |
| Greenfinch | X | Overflying only | Y |
| Great Spotted Woodpecker | X | X | Y |
| Great Tit | X | X | Y |
| Jay | X | X | Y |
| Jackdaw | X | X | Y |
| Kestrel | 1 record | NR | |
| Kingfisher | X | X | Y |
| Red Kite | X | X | Y |
| Lesser Redpoll* | X | 1 record | Y |
| Long-tailed Tit | X | X | Y |
| Mistle Thrush | X | NR | Y |
| Magpie | X | X | Y |
| Meadow Pipit | 1 record | NR | |
| Marsh Tit | X | X | Y |
| Nuthatch | 1 record | X | Y |
| Pied Wagtail | X2 (March) | NR | |
| Robin | X | X | Y |
| Reed Bunting* | X | NR | Y |
| Redwing | X | X | Y |
| Ring-necked Parakeet | X | X | Y |
| Skylark | NR | Overflying only (Oct) | |
| Stock Dove | X | X | Y |
| Starling* | 1 record | Offsite only | |
| Sparrowhawk | X | NR | Y |

| Common Name | 2023-24 | 2024-25 | Regularly recorded? |
|---|---------|---------|---------------------|
| Siskin | X | X | Y |
| Song Thrush* | X | X | Y |
| Treecreeper | X | X | Y |
| Woodpigeon | X | X | Y |
| Wren | X | X | Y |
| Total number of species: 47 | | | |
| Total number of species recorded regularly: 41 | | | |

4.1 Evaluation

4.1.1 Wintering waterbirds

Overall 26 waterbird species were counted as being regularly present at Broadwater Lake over the three winters of monitoring.

The trend is generally for declining numbers – in 2022-3 pochard and shoveler were recorded at Nationally important levels (above 1% of the UK population) but neither have been recorded above 1% in the two winters since. Numbers of other ducks (teal, goldeneye, wigeon) have decreased significantly over the monitoring period. Tufted duck numbers were also down 50% in 2024-25 compared with the previous 2 years. The use of the Site by gulls was also recorded to decline.

Increasing numbers of some species were recorded, for cormorant, coot, great crested grebe, grey heron and mute swan.

Taken over three years, the Site is assessed as having value at the National level, given the recorded numbers of pochard and shoveler above 1% of the GB wintering population in 2022-23.

In 2023-24 the highest value of the Site was at the Regional level and in 2024-25 at the Borough level.

4.1.2 Total wintering assemblage

Overall 66 bird species were recorded using the Site regularly during the winter in 2023-25.

This compares with 1985 when the SSSI designation recorded over 80 species regularly using the SSSI.

Species recorded occasionally and not considered to be regularly using the Site (so not included in Table 4.2) were firecrest, kestrel, meadow pipit, pied wagtail, skylark and starling.



2022-2025 Wintering Bird Survey Factual Report

Broadwater Lake, Hillingdon

On behalf of London Borough of Hillingdon

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Written by: Stephanie Harper

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1 Introduction

1.1 Background

Wintering Bird Surveys (WBS) have been undertaken at Broadwater Lake (the Site) during 2022, 2023, 2024 and 2025.

The surveys are required to support a planning application to develop a new outdoor, water-based activities centre (Hillingdon Water Sports Facility and Activities Centre – HWSFAC) at Broadwater Lake.

1.2 Purpose of this Factual Report

This standalone report provides the details of site visit dates and weather, maps and tables of data with no interpretation.

A summary report has been produced separately providing the summary results for each year side by side, and pulls out the differences. An assessment of the importance for the site for each species has been made using the full dataset.

- Harper Environmental Ltd (2025). 2022-2025 Wintering Bird Survey Summary Report.

1.3 The Site

The Site forms part of the Mid-Colne Valley SSSI and is designated for “*significant ornithological interest, particularly for the diversity of breeding woodland and wetland birds, and for the numbers of wintering wildfowl*”¹.

The whole Site covers an area of approximately 76 hectares (ha) and is approximately centred on National Grid Reference TQ 04396 89593. The Site comprises an access road from Moorhall Road, the lake itself with an associated lagoon (south-east corner of the lake), a peninsula at the south-east corner, an existing sailing club (Broadwater Sailing Club) at the north end of the lake, parts of the margins of the lake, and islands set within the lake. Part of the western and southern banks of the lake and adjacent open water lie just outside the red line boundary (these areas were included within the survey area). The site red line boundary and immediate surrounds are shown in Figure 1.1 below.

There are also two discrete land parcels that fall within the same ownership; a hawthorn woodland to the east, and a grassland field to the south. These lie outside the boundary of the SSSI. They were not included in the scope of surveys as breeding bird habitat within these areas will not be subject to impacts from proposed development.

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Figure 1.1 The site red line boundary, showing the numbering of islands.

1.4 Surveyors and Authors

The surveys were led by Bill Haines, who also collated all the data and produced maps of the results. Bill, who has a Bachelor's degree in Environmental Sciences (BSc Hons), has over 25 years' experience in undertaking professional ornithological surveys and has worked in a wide variety of habitats in the UK including wetlands, urban and suburban, farmland, woodlands coastal and estuarine, and upland and lowland heathland, using a wide range of scientifically proven survey methodologies. He is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

This report was written by Dr Stephanie Harper. Stephanie has a BSc (Hons) and PhD in Environmental Sciences and holds a Natural England Level 1 class licence for bats. She has 18 years of experience in ecological survey and consultancy.

1.5 Constraints

The full site (whole red line boundary) plus adjacent offsite areas (namely much of the western edge of Broadwater Lake) was surveyed.

Weather constraints are noted in the weather tables below. As the surveys were undertaken across a whole season, a range of weather conditions were encountered. There were no days where visibility caused surveys to be abandoned, though during some visits, visibility was somewhat reduced temporarily, either due to mist or heavy rain. This did not constrain the survey results on those days due to the level of survey effort.

2 2022-3 Survey Dates and Weather

| Visit No. | Date | Activity | Personnel | | Survey Times | Weather | | | | | Additional Weather Notes |
|----------------|------------|-----------------|--------------|--------|--------------|----------------|-----------------------------------|-----------------------|------------|-----------------|--|
| | | | | | | Cloud (oktars) | Wind (Direction and Beaufort No.) | Precip ⁿ . | Temp. (°C) | Visibility | |
| Scoping Survey | 13/11/2022 | Sailing Day | JD | Start | 08:20 | 0/8 | Calm | 0 | N/R | Moderate / Poor | Misty from start - 10:00, clearing by 11:10 |
| | | | | Finish | 09:00 | 0/8 | Calm | 0 | N/R | Moderate / Poor | |
| | | | | Start | N/R | 0/8 | Calm | 0 | N/R | Moderate | |
| | | | | Finish | N/R | 0/8 | Calm | 0 | N/R | Good | |
| 1 | 19/11/2022 | Non-sailing Day | JD/BH | Start | 08:30 | 7/8 | NW 1 | 0 | 8 | Good | |
| | | | | Finish | N/R | 7/8 | NW 1 | 0 | 10 | Good | |
| 2 | 27/11/2022 | Sailing Day | JD/(MC) | Start | N/R | 8/8 | N 1-2 | YES | N/R | Moderate | |
| | | | | Finish | N/R | 8/8 | N 1-2 | YES | N/R | Moderate | |
| | | | | Start | N/R | 8/8 | N 1-2 | YES | N/R | Moderate | |
| | | | | Finish | N/R | 8/8 | N 1-2 | YES | N/R | Moderate | |
| 3 | 04/12/2022 | Sailing Day | JD/BH | Start | 08:20 | 8/8 | NNE 1 | 1 | 4 | Moderate | Slight mist throughout |
| | | | | Finish | 09:30 | 8/8 | NNE 1 | 0 | 5 | Moderate | |
| | | | | Start | 09:30 | 8/8 | NNE 1 | 0 | 5 | Moderate | |
| | | | | Finish | 10:40 | 8/8 | NNE 1 | 0 | 5 | Moderate | |
| 4 | 08/12/2022 | Non-sailing Day | BH | Start | 11:05 | 0/8 | NNW 1-2 | 0 | 2 | Excellent | |
| | | | | Finish | 14:25 | 0/8 | NNW 1 | 0 | 2 | Excellent | |
| 5 | 18/12/2022 | Sailing Day | JD /BH/MC/JH | Start | 08:30 | 8/8 | SE 1 | 0 | 1.5 | Good | Lake >80% frozen - No Sailing Sleet showers at end of survey |
| | | | | Finish | 11:00 | 8/8 | SE1 | 2 | 2 | Good | |
| 6 | 24/12/2022 | Non-sailing Day | JD | Start | N/R | 7/8 | Calm | 0 | N/R | Good | |
| | | | | Finish | N/R | 7/8 | Calm | 0 | N/R | Good | |
| 7 | 08/01/2023 | Sailing Day | JD/BH/MC/JH | Start | 08:25 | 2/8 | W 2-3 | 0 | 8 | Good | Showers, then heavy rain from ca 09:30 - end of survey. Visibility poor at times |
| | | | | Finish | 09:20 | 6/8 | W 1 | 0 | 14 | Good | |
| | | | | Start | 11:20 | 8/8 | W 1 | 4 | 14 | Moderate/ Poor | |
| | | | | Finish | 12:00 | 8/8 | W 1 | 4 | 14 | Moderate/Poor | |
| 8 | 13/01/2023 | Non-sailing Day | BH | Start | 10:40 | 2/8 | W 4-5 (6) | 0 | 9 | Excellent | Mostly sunny, dry but with a stong, gusty W wind |
| | | | | Finish | 15:00 | 4/8 | W 3-4 (5) | 0 | 9 | Excellent | |
| 9 | 24/01/2023 | Non-sailing Day | JD | Start | N/R | 7/8 | Calm | 0 | N/R | Good | Southern & Eastern parts of Lake still iced over |
| | | | | Finish | N/R | 7/8 | Calm | 0 | N/R | Good | |
| 10 | 26/01/2023 | Non-sailing Day | JD | Start | N/R | 0/8 | NE 4-5 | 0 | N/R | Excellent | Cool, with strong breeze, Some of southern area still iced-over |
| | | | | Finish | N/R | 0/8 | NE 4-5 | 0 | N/R | Excellent | |
| 11 | 29/01/2023 | Sailing Day | JD/BH/JH | Start | 08:15 | 8/8 | SW 1-2 | 0 (1) | 4 | Good | |
| | | | | Finish | 09:15 | 8/8 | SW 1-2 | 0 | 4 | Good | |
| | | | | Start | 10:45 | 8/8 | WSW 2-3 | 0 | 5 | Good | |
| | | | | Finish | 11:45 | 8/8 | WSW 2-3 | 0 | 6 | Good | |
| 12 | 07/02/2023 | Non-sailing Day | BH | Start | 13:40 | 0/8 | SSW 1 | 0 | 5 | Excellent | |
| | | | | Finish | 17:00 | 0/8 | ENE 1 | 0 | 4 | Excellent | |
| 13 | 12/02/2023 | Sailing Day | BH/JD/JH/MC | Start | 08:10 | 8/8 | SSE 1-2 | 0 | 7 | Moderate/Good | Dull & overcast throughout |

| | | | | | | | | | | | |
|----|------------|-----------------|----------|---------------|-------|-----|---------|-----|-----|----------------|---|
| | | | | Finish | 08:50 | 8/8 | calm | 0 | 7 | Moderate/Good | |
| | | | | Start | 11:30 | 8/8 | SSE 1-2 | 0 | 8 | Moderate/Good | |
| | | | | Finish | 12:10 | 8/8 | SSE 1-2 | 0 | 8 | Moderate/good | |
| 14 | 19/02/2023 | Sailing Day | BH/JD/JH | Start | 08:00 | 6/8 | WNW 1-2 | 0 | 8 | Good | |
| | | | | Finish | 09:10 | 3/8 | WNW 1-2 | 0 | 9 | Excellent | |
| | | | | Start | 11:10 | 6/8 | WNW 1-2 | 0 | 9 | Excellent | |
| | | | | Finish | 12:00 | 5/8 | WNW 1-2 | 0 | 10 | Excellent | |
| 15 | 23/02/2023 | Non-sailing Day | JD | Start | N/R | N/R | N/R | N/R | N/R | N/R | |
| | | | | Finish | N/R | N/R | N/R | N/R | N/R | N/R | |
| 16 | 12/03/2022 | Sailing Day | BH/JD/JH | Start | 08:10 | 1/8 | WSW 2-3 | 0 | 8 | Excellent | |
| | | | | Finish | 08:55 | 6/8 | WSW 2 | 0 | 8 | Excellent | |
| | | | | Start | 11:15 | 8/8 | W 2-3 | 0 | 9 | Good | |
| | | | | Finish | 11:55 | 8/8 | W 2 | 0 | 10 | Good | |
| 17 | 14/03/2023 | Non-sailing Day | BH | Start | 13:25 | 6/8 | W2-3 | 0 | 8 | Good/Excellent | Sun-glare on water |
| | | | | Finish | 15:50 | 7/8 | W 1-2 | 0 | 8 | Excellent | |
| 18 | 19/03/2023 | Sailing Day | JD/JH/MC | Start | 08:30 | 6/8 | SE 1 | 0 | 9 | Excellent | |
| | | | | Finish | 10:00 | 6/8 | SE 1 | 0 | 9 | Excellent | |
| | | | | Start | 11:10 | 7/8 | S 2 | 0 | 10 | Good | |
| | | | | Finish | 12:30 | 7/8 | S 2 | 0 | 10 | Good | |
| 19 | 24/03/2023 | Non-sailing Day | JD | Start | 10:00 | 2/8 | SW 1-2 | 0 | N/R | Excellent | Torrential downpours at 12:00 & 123:00 on strengthening SW wind |
| | | | | Finish | 14:00 | 8/8 | SW 4-5 | 3 | N/R | Moderate/Good | |

3 2022-3 Results

| English Vernacular Name | Visit No. | | | | | | | | | | | | | | | | | | | Max no. | Median | |
|--------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | Max no. | Median |
| Black-headed Gull | 5 | 21 | 2 | 40 | 91 | 260 | 4 | 50 | 240 | 300 | 60 | 90 | 100 | 100 | 250 | 400 | 260 | 150 | 150 | 50 | 400 | 95.5 |
| Cormorant | 4 | 7 | 8 | 4 | 3 | 2 | 1 | 1 | | | | 4 | 12 | 15 | 19 | 8 | 25 | 16 | 34 | 28 | 34 | 8 |
| Canada Goose | 4 | 10 | 1 | 10 | | 2 | 1 | 8 | | | 1 | 12 | | 8 | 13 | | 18 | 2 | 10 | 6 | 18 | 8 |
| Common Gull | | 2 | | 2 | 1 | 5 | 1 | 1 | 10 | 40 | | 1 | 6 | 32 | 1 | 3 | 10 | 2 | 15 | 5 | 40 | 3 |
| Coot | 6 | 8 | 6 | 6 | 2 | 32 | 3 | 7 | 11 | 4 | 4 | 18 | 6 | 5 | 10 | 20 | 14 | 11 | 14 | 4 | 32 | 6.5 |
| Egyptian Goose | 1 | | | 2 | 2 | 2 | 2 | 12 | 1 | | | 2 | 1 | 4 | 2 | 2 | 2 | | 2 | 2 | 12 | 2 |
| Gadwall | 12 | 1 | | 4 | 4 | 24 | 22 | 1 | 2 | 6 | 1 | | 3 | 4 | 4 | | 4 | 3 | 4 | 2 | 24 | 4 |
| Great Black-backed Gull | 1 | | | | | 4 | | 3 | | 2 | | | | | | | | | | | 4 | 2.5 |
| Goosander | | | | | | | | | | | 1 | | | | | | | | | | 1 | 1 |
| Great Crested Grebe | 6 | 6 | 1 | 3 | 2 | 9 | 1 | 2 | 1 | 1 | | 1 | 1 | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 9 | 2 |
| Greylag Goose | | | | | 110 | 8 | | | | | | 6 | 1 | 1 | 3 | 1 | 4 | | 8 | 2 | 110 | 3.5 |
| Goldeneye | 1 | 1 | 4 | 2 | 1 | 5 | 1 | 3 | 5 | 2 | | 9 | 2 | 5 | 5 | 4 | 10 | 1 | 8 | 6 | 10 | 4 |
| Grey Heron | | | | 1 | 1 | | 1 | 1 | 1 | 1 | | 4 | 3 | 1 | 4 | 8 | 10 | 3 | 4 | | 10 | 2 |
| Herring Gull | | | 6 | | | 3 | | | | 40 | | | | | | | 1 | | | | 40 | 4.5 |
| Kingfisher | | | | | 1 | | | | | | | | 1 | | | | | | 1 | | 1 | 1 |
| Lapwing | 31 | | | 1 | | | | | 2 | | | | | 52 | | | | | | | 52 | 16.5 |
| Lesser Black-backed Gull | | | 2 | | 2 | | | | | 20 | | | 1 | | | 1 | 1 | 1 | 2 | | 20 | 1.5 |
| Little Grebe | 4 | 5 | 1 | 1 | 4 | 1 | | 2 | 2 | | 1 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | | 5 | 1 |
| Mallard | 8 | 4 | 6 | 4 | 6 | 10 | 14 | 5 | 4 | 6 | 8 | 6 | 9 | 8 | 4 | 4 | 4 | 2 | 4 | 4 | 14 | 5.5 |
| Moorhen | 1 | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 3 | 1 | 3 | 1 |
| Mandarin Duck | | | | | | | | | | | | | | | | | 1 | | 1 | | 1 | 1 |
| Mute Swan | | 1 | | | | | 1 | | | | | | | | | | | | 2 | | 2 | 1 |
| Oystercatcher | | | | | | | | | | | | | 1 | 2 | 2 | 2 | 2 | | 2 | | 2 | 2 |
| Pochard | 14 | 48 | 128 | 161 | 158 | 94 | 80 | 101 | 50 | 62 | 32 | 26 | 27 | 19 | 34 | 3 | 54 | 30 | 32 | 14 | 161 | 41 |
| Pintail | 2 | | | | | | | | | | | | | | | | | | | | 2 | 2 |
| Red-crested Pochard | | | | | | 4 | 4 | 6 | | 3 | | | 5 | 5 | | | | | | | 6 | 4.5 |
| Snipe | | | | | | | | | | | | | | | | | | 1 | | | 1 | 1 |
| Shoveler | 50 | 26 | 22 | 34 | 16 | 119 | 39 | 26 | 174 | 60 | 115 | 85 | 76 | 126 | 114 | 60 | 11 | 16 | 20 | 2 | 174 | 44.5 |
| Smew | | | | | | 1 | 1 | 1 | 1 | | | 1 | | | | | | | | | 1 | 1 |
| Teal | 4 | 1 | | | | 19 | | | | 6 | 2 | | | | | | | | 2 | | 19 | 3 |
| Tufted Duck | 54 | 89 | 190 | 168 | 28 | 191 | 70 | 28 | 195 | 24 | 20 | 36 | 44 | 61 | 129 | 12 | 63 | 20 | 104 | 18 | 195 | 57.5 |
| Water Rail | | | | | | | | | | 1 | | | | | | | | | | | 1 | 1 |
| Wigeon | 4 | | | | 1 | 5 | | 4 | 9 | 28 | 38 | 20 | 22 | 26 | 19 | 6 | 26 | 20 | 10 | 2 | 38 | 14.5 |
| Hybrid Goose | | | | | | | | | | | | | 1 | | | | | | | | 1 | 1 |
| Mallard x domestic duck hybrid | | 2 | | | | | | | | | | | | | | | 2 | | | | 2 | 2 |
| Totals | 212 | 233 | 378 | 444 | 434 | 803 | 247 | 263 | 709 | 608 | 285 | 325 | 377 | 430 | 618 | 538 | 526 | 282 | 435 | 148 | 803 | 404 |
| No. of Species | 19 | 17 | 14 | 17 | 19 | 22 | 18 | 20 | 17 | 19 | 13 | 18 | 23 | 20 | 19 | 18 | 23 | 18 | 24 | 16 | 24 | 18.5 |

4 2023-4 Survey Dates and Weather

| Visit No. | Date | Activity | Surveyors | | Survey Times | Weather | | | | | Additional Weather Notes |
|-----------|------------|-----------------|-------------------------|--------|--------------|---------|-----------------------------------|-----------------------|------------|-----------------|---|
| | | | | | | Weather | Wind (Direction and Beaufort No.) | Precip ⁿ . | Temp. (°C) | Visibility | |
| 1 | 03/10/2023 | Non-Sailing | BH | Start | 10:00 | 1/8 | W 2-3 | 0 | 14 | Excellent | Light shower 13:30 - 13:35 |
| | | | | Finish | 14:10 | 6/8 | W 3 (4) | 0 | 17 | Excellent | |
| 2 | 15/10/2023 | Sailing Day | JD/MC | Start | 07:30 | ? | ? | ? | 6 | ? | |
| | | | | Finish | ? | ? | ? | ? | ? | ? | |
| | | | | Start | 12:00 | ? | N 1 | ? | 6 | ? | |
| | | | | Finish | ? | ? | N 1 | ? | ? | ? | |
| 3 | 24/10/2023 | Non-sailing Day | MC | Start | | | | | | | |
| | | | | Finish | | | | | | | |
| 4 | 27/10/2023 | Non-sailing Day | BH | Start | 09:30 | 8/8 | SSE 1 | 2 (3) | 10 | Moderate | Slight Mist at start; Rain clearing by 10:00 |
| | | | | Finish | 13:30 | 6/8 | S 2 | | 14 | Good | |
| 5 | 29/10/2023 | Sailing Day | BH/JD/MC/SH/JP | Start | 08:20 | 2/8 | S 1-2 | 0 | 11 | Good | Heavy rain during post-sailing count easing towards end of survey |
| | | | | Finish | 09:00 | 5/8 | S 1 | 0 | 11 | Good | |
| | | | | Start | 11:20 | 8/8 | SW 1-2 | 4 | 10 | Moderate / Good | |
| | | | | Finish | 12:05 | 8/8 | SW 1-2 | 2 | 10 | Moderate / Good | |
| 6 | 31/10/2023 | Non-sailing Day | MC | Start | ? | ? | ? | ? | ? | ? | |
| | | | | Finish | ? | ? | ? | ? | ? | ? | |
| 7 | 09/11/2023 | Non-sailing Day | BH | Start | 09:00 | 4/8 | SW 2 | 0 | 8 | Good | |
| | | | | Finish | 12:40 | 5/8 | SW 2 | 0 | 10 | Good | |
| 8 | 12/11/2023 | Sailing Day | BH/JD/TS | Start | 08:20 | 8/8 | E 1 | 1 | 5 | Moderate | |
| | | | | Finish | 09:00 | 8/8 | E 1 | 1 | 6 | Moderate | |
| | | | | Start | 10:45 | 8/8 | E 1 | 1 | 8 | Moderate / Good | |
| | | | | Finish | 11:30 | 8/8 | E 1 | 0 | 10 | Moderate / Good | |
| 9 | 24/11/2023 | Non-sailing Day | BH | Start | 09:00 | 7/8 | NW 3-4 | 0 | 8 | Good | Windy & Cool |
| | | | | Finish | 12:50 | 6/8 | NNW 3 | 0 | 8 | Good | |
| 10 | 26/11/2023 | Sailing Day | BH/JD/TS/MC/SH/PM/SL/GB | Start | 08:30 | 6/8 | SW 1 | 0 | 0 | Good | Light Drizzle at end of post-sail survey |
| | | | | Finish | 09:25 | 8/8 | SW 1 | 0 | 1 | Good | |
| | | | | Start | 11:55 | 8/8 | SSE 1 | 0 | 2 | Good | |
| | | | | Finish | 12:40 | 8/8 | SSE 1 | 1 | 2 | Good | |
| 11 | 05/12/2023 | Non-sailing Day | BH | Start | 10:50 | 8/8 | N 2-3 | 1 | 6 | Good | Occasional light rain |
| | | | | Finish | 14:20 | 8/8 | N 1-2 | 1 (2) | 9 | Good | |
| 12 | 10/12/2023 | Sailing Day | BH/JD/DW/MC/TS/ JH | Start | 08:15 | 6/8 | SSW 2 | 0 | 8 | Good | Heavy Rain & a stiff breeze during post-sailing survey |
| | | | | Finish | 09:25 | 6/8 | SSW 2-3 | 0 | 9 | Good | |
| | | | | Start | 11:10 | 8/8 | SW 4 | 4 | 8 | Moderate | |
| | | | | Finish | 11:45 | 8/8 | SW 4 | 3 | 9 | Moderate | |

| | | | | | | | | | | | |
|----|------------|-----------------|-------------------|--------|-------|-----|-----------|-------|----|-----------------|--|
| 13 | 17/12/2023 | Sailing Day | BH/JD/MC/TS | Start | 08:50 | 7/8 | SSW 3-4 | 0 | 9 | Moderate / Good | |
| | | | | Finish | 09:45 | 6/8 | SSW 3-4 | 0 | 9 | Good | |
| | | | | Start | 11:15 | 7/8 | SW 3-4 | 0 | 9 | Good | |
| | | | | Finish | 11:40 | 8/8 | SW 3-4 | 0 | 10 | Good | |
| 14 | 18/12/2023 | Non-Sailing Day | BH | Start | 09:40 | 8/8 | SW2 | 0 | 10 | Good | |
| | | | | Finish | 13:20 | 8/8 | SW2 | 0 | 11 | Good | |
| 15 | 09/01/2024 | Non-Sailing Day | BH | Start | 08:30 | 7/8 | ENE 2 | 0 | 1 | Good | |
| | | | | Finish | 12:15 | 1/8 | ENE 3 | 0 | 3 | Excellent | |
| 16 | 14/01/2024 | Sailing Day | BH/MC/SL/TS/PM/JH | Start | 08:25 | 6/8 | W 1 | 0 | 2 | Good | |
| | | | | Finish | 09:30 | 6/8 | W1 | 0 | 3 | Good | |
| | | | | Start | 11:10 | 6/8 | WNW 1-2 | 0 | 4 | Good | |
| | | | | Finish | 11:45 | 5/8 | WNW 1 | 0 | 4 | Good | |
| 17 | 21/01/2024 | Sailing Day | BH/JD/TS/SL | Start | 08:30 | 6/8 | SW 3-4 | 0 | 8 | Good | 20% ice Cover |
| | | | | Finish | 09:15 | 6/8 | SW 3-4 | 0 | 8 | Good | 15% ice cover |
| | | | | Start | 11:10 | 8/8 | WSW 4 | 0 | 8 | Good | |
| | | | | Finish | 12:00 | 8/8 | WSW 4 | 0 | 9 | Good | |
| 18 | 25/01/2024 | Non-Sailing Day | BH/MC | Start | 12:10 | 8/8 | SW 1-2 | 0 | 12 | Good | |
| | | | | Finish | 14:50 | 8/8 | SW 2 | 0 | 12 | Good | |
| 19 | 06/02/2024 | Non-Sailing Day | BH | Start | 08:30 | 8/8 | WSW 3 (4) | 0 | 12 | Good | |
| | | | | Finish | 11:55 | 7/8 | WSW 3 (4) | 0 | 12 | Good | |
| 20 | 11/02/2024 | Sailing Day | BH/MC/SL/TS/PM/JH | Start | 08:30 | 8/8 | NNW 1 | 3 | 7 | Moderate / Good | Heavy rain for first part of survey |
| | | | | Finish | 09:30 | 6/8 | NNW 1 | 0 | 7 | Good | |
| | | | | Start | 11:20 | 6/8 | WNW 2 | 0 | 8 | Good | |
| | | | | Finish | 12:05 | 5/8 | WNW 2 | 0 | 10 | Good | |
| 21 | 18/02/2024 | Sailing Day | BH/JD/MC/TS | Start | 08:35 | 7/8 | NW 1 | 0 | 11 | Good | Heavy overnight rain |
| | | | | Finish | 09:20 | 7/8 | NW 1 | 0 | 11 | Good | |
| | | | | Start | 11:15 | 7/8 | WNW 2 | 0 | 12 | Good | |
| | | | | Finish | 12:00 | 7/8 | WNW 2 | 0 | 12 | Good | |
| 22 | 29/02/2024 | Non-Sailing Day | BH | Start | 07:25 | 8/8 | SSW 2 | 0 (1) | 10 | Moderate | Raining for most of survey, sometimes heavy |
| | | | | Finish | 10:45 | 8/8 | SSW 2 | 3 (4) | 11 | Moderate / Poor | |
| 23 | 11/03/2024 | Non-Sailing Day | BH | Start | 08:00 | 8/8 | N 1-2 | 0 (1) | 7 | Moderate | Slught drizzle at start, dull, cool, overcast |
| | | | | Finish | 12:15 | 8/8 | N 1-2 | 0 | 9 | Moderate | |
| 24 | 17/03/2024 | Sailing Day | BH/JD/MC | Start | 08:30 | 8/8 | S 2 | 3 | 10 | Moderate | Persistent moderate/ heavy rain during pre-sail survey |
| | | | | Finish | 09:20 | 8/8 | S 2 | 3 | 11 | Good | |
| | | | | Start | 11:20 | 8/8 | SSW 2 | 0 (1) | 11 | Good | |
| | | | | Finish | 12:10 | 8/8 | SSW 2 | 0 | 11 | Good | |

5 2023-4 Results

| English name | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Max | |
|--------------------------|-----|----|----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|
| Black-headed Gull | 166 | 14 | 42 | 30 | 6 | 35 | 153 | 32 | 369 | 4 | 1 | 2 | 12 | 122 | 6 | 2 | 4 | 65 | 161 | 7 | 77 | 64 | 375 | 425 | 425 | |
| Cormorant | 4 | 14 | 21 | 5 | 5 | 40 | 10 | 1 | 3 | 8 | 2 | 11 | | 7 | 1 | 8 | 9 | 15 | 23 | 23 | 17 | 8 | 20 | 24 | 40 | |
| Canada Goose | 105 | 7 | | | | 27 | | 2 | 4 | | 46 | 4 | 10 | 7 | 4 | 12 | 5 | 4 | 44 | 76 | 21 | 60 | 33 | 32 | 105 | |
| Common Gull | | | 1 | 2 | 2 | | 5 | 1 | | 2 | | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 3 | 1 | 2 | 1 | 3 | 3 | 5 | |
| Coot | 131 | 84 | 72 | 87 | 107 | 79 | 78 | 79 | 85 | 51 | 62 | 55 | 60 | 73 | 72 | 76 | 115 | 72 | 55 | 72 | 44 | 89 | 70 | 52 | 131 | |
| Egyptian Goose | | 11 | | | 11 | | 6 | | 3 | 10 | | 25 | 16 | 4 | 4 | 5 | 4 | 4 | 3 | 3 | 8 | 3 | 7 | 5 | 1 | |
| Gadwall | 14 | 14 | 6 | 7 | 11 | 1 | 2 | 2 | 4 | 4 | 4 | 9 | 5 | 1 | 1 | 1 | 3 | 4 | 3 | 5 | 4 | 4 | 3 | 14 | 7 | |
| Great Crested Grebe | 12 | 6 | 1 | 5 | 4 | 2 | | | | | | 1 | | | | | | | | | 3 | 3 | | 5 | 6 | 25 |
| Greylag Goose | 21 | | | | | | | | 57 | | 44 | | 1 | | 1 | | | | | | 1 | 1 | 1 | 3 | 6 | 3 |
| Goldeneye | | | | | | | 1 | | | 3 | 4 | 7 | 6 | 11 | 7 | 9 | 18 | 8 | 4 | 7 | 3 | 6 | 2 | | 14 | |
| Grey Heron | 4 | 1 | 3 | 2 | 5 | | | 1 | 1 | | 1 | | 2 | 3 | | 2 | 3 | 7 | 4 | 12 | 9 | 1 | 3 | 12 | 12 | |
| Herring Gull | 6 | 1 | 27 | 11 | 15 | 6 | 8 | | 3 | | | | 3 | 3 | | | | | 2 | 4 | | 2 | | | 57 | |
| Kingfisher | 1 | | | 2 | | | | 1 | | | | | | | | | | | | 2 | 3 | 1 | 2 | | 2 | 18 |
| Lapwing | | | | | | | 21 | | | | | 38 | 36 | 8 | 2 | | | | | | | | | | | 12 |
| Lesser Black-backed Gull | 7 | 3 | 1 | 12 | 2 | 3 | 4 | | 2 | | | | 1 | 2 | | | | 1 | 3 | | | | | 4 | 2 | 27 |
| Little Grebe | 2 | 1 | | 1 | | | | 1 | | | | 2 | | | | | | 2 | 1 | 3 | 2 | | | | | 3 |
| Mallard | 9 | 6 | 7 | 12 | 19 | 14 | 6 | 9 | 1 | 5 | 11 | 4 | 6 | 3 | 7 | 17 | 7 | 7 | 12 | 23 | 37 | 26 | 15 | 38 | 38 | |
| Moorhen | 16 | 2 | | 6 | 3 | 3 | 5 | 5 | 6 | 3 | 11 | 4 | 3 | 5 | 5 | | 1 | 5 | 5 | 4 | 3 | 7 | 9 | 2 | 12 | |
| Mandarin Duck | | | | | | | | | | | | | 1 | | | | | | | | | | | | | 3 |
| Mute Swan | | 1 | 2 | 2 | | 1 | 2 | 2 | | 2 | 4 | | | | | | | | 2 | | 3 | 3 | | | | 38 |
| Oystercatcher | | | | | | | | | | | | | | | 1 | 1 | | | | 1 | 1 | 1 | | | | 16 |
| Pochard | | | | | | | | | | | | | | | | | | | | 2 | | 2 | | | | 1 |
| Pintail | 6 | | 12 | 26 | 48 | 32 | 145 | 141 | 89 | 84 | 89 | 114 | 89 | 83 | 41 | 61 | 121 | 57 | 1 | 6 | 4 | 44 | 73 | 54 | 4 | |
| Red-crested Pochard | | | 1 | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Snipe | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | 2 |
| Shoveler | 12 | 3 | 9 | 12 | 14 | | 30 | 8 | 4 | 13 | 8 | 9 | 6 | 17 | 3 | | | 12 | 8 | 1 | 16 | 11 | 11 | 12 | 19 | 145 |
| Smew | 2 | | | | 2 | | | | | | 2 | | | | | | | | | 1 | 6 | | | 1 | | 1 |
| Teal | 186 | 99 | 79 | 130 | 170 | 90 | 109 | 149 | 275 | 210 | 187 | 302 | 228 | 300 | 207 | 159 | 467 | 163 | 42 | 45 | 48 | 187 | 162 | 151 | 1 | |
| Tufted Duck | | | | | | | | | | | | | | | | | | 1 | | | | | | | | 3 |
| Water Rail | | | | 10 | 7 | | | | | | 1 | 5 | | | | | 4 | 12 | 10 | 2 | 2 | 4 | 3 | 8 | | 30 |
| Wigeon | | | | | | | 1 | | | | | | | | | | | 1 | | | | | | | | 6 |
| Hybrid Goose | 1 | | | | | | | | | | | | | | | | | | | | | | | | | 467 |

6 2024-5 Survey Dates and Weather

| Visit No. | Date | Activity | Surveyors | | Survey Times | Weather | | | | | | Additional Weather Notes | |
|-----------|------------|-------------|-----------|--|--------------|---------|---------------|---------------------------------|---------------------|------------|------------|--------------------------|---|
| | | | | | | Weather | Cloud (oktas) | Wind (Direction & Beaufort No.) | Precip ⁿ | Temp. (°C) | Visibility | | |
| 1 | 13/09/2024 | Non-Sailing | BH | | Start | 07:45 | | 1/8 | NNW 1 | Dry | 6 | Excellent | None |
| | | | | | Finish | 12:30 | | 3/8 | NNW 1-2 | Dry | 15 | Excellent | |
| 2 | 18/10/2024 | Non-Sailing | BH | | Start | 11:40 | | 7/8 | SW 1 | Dry | 14 | Good | None |
| | | | | | Finish | 15:00 | | 4/8 | SW1 | Dry | 16 | Good | |
| 3 | 21/11/2024 | Non-Sailing | BH | | Start | 09:45 | | 8/8 | NE 1-2 | Dry | 1 | Good | Cold and a heavy overnight frost; Lake ice-free |
| | | | | | Finish | 13:15 | | 6/8 | N 1-2 | Dry | 3 | Good | |
| 4 | 14/12/2024 | Non-Sailing | BH | | Start | 09:40 | | 7/8 | NW 2-3 | Dry | 6 | Good | None |
| | | | | | Finish | 13:15 | | 2/8 | WNW 3 | Dry | 9 | Excellent | |
| 5 | 25/01/2025 | Non-Sailing | BH | | Start | 09:30 | | 0/8 | WSW 1-2 | Dry | 4 | Excellent | None |
| | | | | | Finish | 14:10 | | 6/8 | WSW 1 | Dry | 9 | Excellent | |
| 6 | 27/02/2025 | Non-Sailing | BH | | Start | 08:30 | | 4/8 | NW 3 | Dry | 4 | Good | None |
| | | | | | Finish | 12:10 | | 2/8 | NW 2-3 | Dry | 10 | Excellent | |
| 7 | 06/03/2025 | Non-Sailing | BH | | Start | 12:15 | | <1/8 | S 2 | Dry | 15 | Excellent | None |
| | | | | | Finish | 16:10 | | 6/8 | S 3-4 | Dry | 13 | Excellent | |

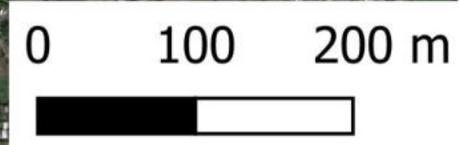
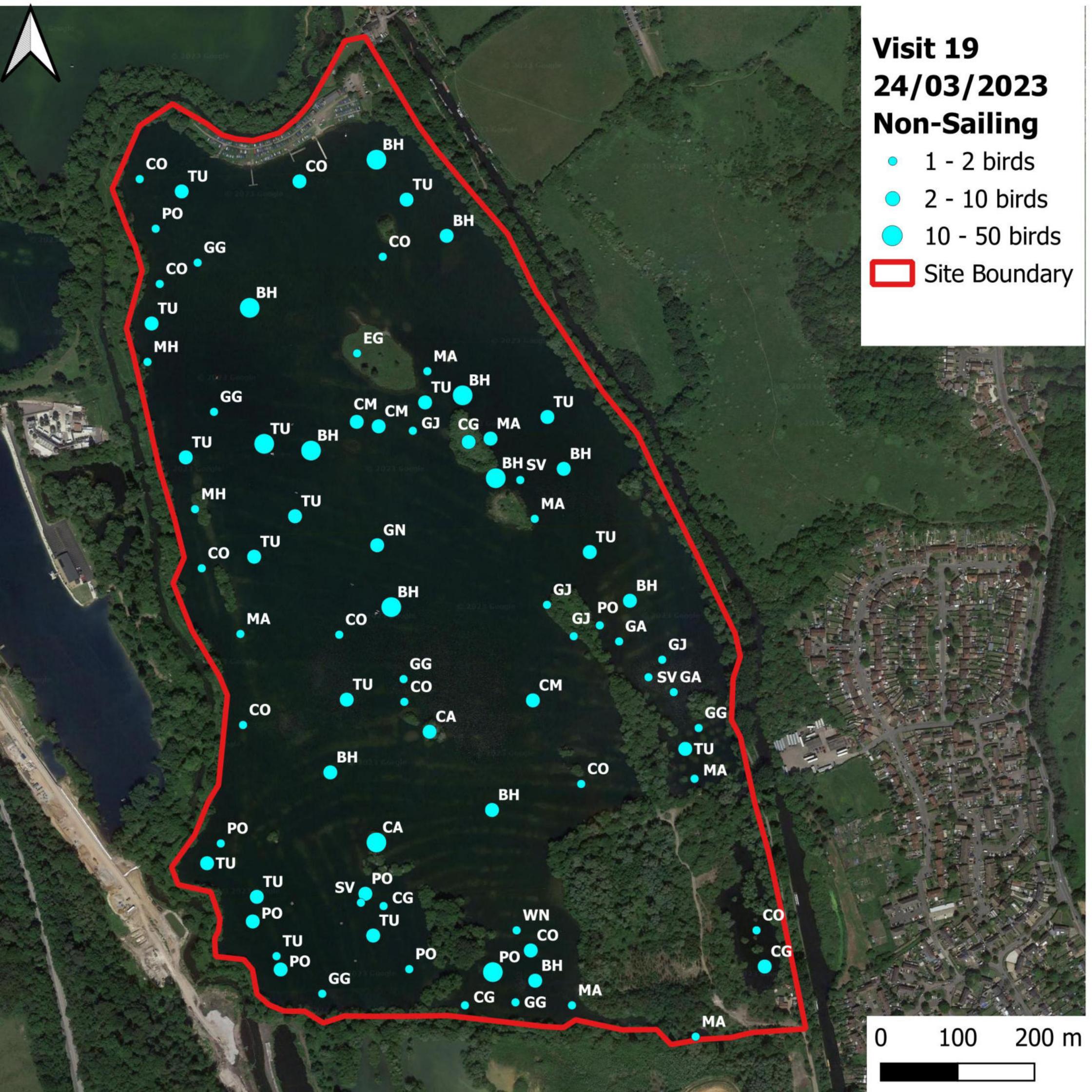
7 2024-5 Results

| English vernacular name | Survey visit | | | | | | | Statistics | | |
|--------------------------|--------------|-----|-----|-----|-----|-----|-----|------------|-------|--------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Max | Mean | Median |
| Black-headed Gull | 81 | 58 | 94 | 76 | 70 | 250 | 37 | 250 | 95.1 | 76 |
| Cormorant | 269 | 100 | 5 | 5 | 22 | 12 | 25 | 269 | 62.6 | 22 |
| Canada Goose | | 10 | | | 3 | 40 | | 40 | 17.7 | 10 |
| Common Gull | | 3 | 2 | 4 | 5 | 3 | | 5 | 3.4 | 3 |
| Coot | 272 | 320 | 349 | 363 | 204 | 82 | 77 | 363 | 238.1 | 272 |
| Egyptian Goose | 1 | 2 | | 2 | 3 | 6 | 2 | 6 | 2.7 | 2 |
| Little Egret | 64 | 14 | | | | | | 64 | 39.0 | 39 |
| Gadwall | 15 | 5 | 16 | | | 1 | | 16 | 9.3 | 10 |
| Great Black-backed Gull | | 1 | | | 1 | | | 1 | 1.0 | 1 |
| Great Crested Grebe | 47 | 43 | 15 | 7 | 7 | 23 | 26 | 47 | 24.0 | 23 |
| Greylag Goose | | 19 | | | 91 | | 2 | 91 | 37.3 | 19 |
| Grey Wagtail | 1 | | | | | | | 1 | 1.0 | 1 |
| Goldeneye | | | | 2 | 2 | 2 | 2 | 2 | 2.0 | 2 |
| Grey Heron | 21 | 13 | 1 | 7 | 2 | 7 | 6 | 21 | 8.1 | 7 |
| Herring Gull | 1 | 7 | 2 | 3 | | 4 | 1 | 7 | 3.0 | 2.5 |
| Hobby | 1 | | | | | | | 1 | 1.0 | 1 |
| Kingfisher | | 3 | 1 | 1 | 1 | 1 | 2 | 3 | 1.5 | 1 |
| Red Kite | | | | | 1 | | | 1 | 1.0 | 1 |
| Lapwing | | | | 29 | | | | 29 | 29.0 | 29 |
| Lesser Black-backed Gull | 3 | 14 | | 1 | 3 | 2 | 3 | 14 | 4.3 | 3 |
| Little Grebe | 2 | 1 | 1 | | 2 | 1 | 1 | 2 | 1.3 | 1 |
| Mallard | 16 | | 6 | 5 | 20 | 10 | 26 | 26 | 13.8 | 13 |
| Moorhen | 12 | 6 | 7 | 2 | 6 | 5 | 7 | 12 | 6.4 | 6 |
| Mute Swan | 12 | 7 | 6 | 1 | 1 | | 5 | 12 | 5.3 | 5.5 |
| Oystercatcher | | | | | | 3 | 2 | 3 | 2.5 | 2.5 |
| Pochard | 2 | 5 | 25 | 72 | 69 | 35 | 21 | 72 | 32.7 | 25 |
| Red-crested Pochard | | | | | | | 4 | 4 | 4.0 | 4 |
| Red-necked Grebe | | | | | | | 1 | 1 | 1.0 | 1 |
| Sparrowhawk | | | | 1 | | | | 1 | 1.0 | 1 |
| Shoveler | 73 | 60 | 2 | 23 | 10 | 20 | 59 | 73 | 35.3 | 23 |
| Tufted Duck | 134 | 204 | 147 | 163 | 237 | 141 | 148 | 237 | 167.7 | 148 |
| Water Rail | | | 1 | | | | | 1 | 1.0 | 1 |
| Wigeon | | | | | 3 | | | 3 | 3.0 | 3 |

Appendices - Maps

Visit 19
24/03/2023
Non-Sailing

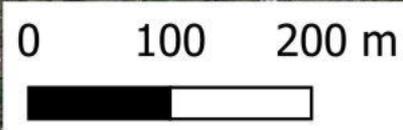
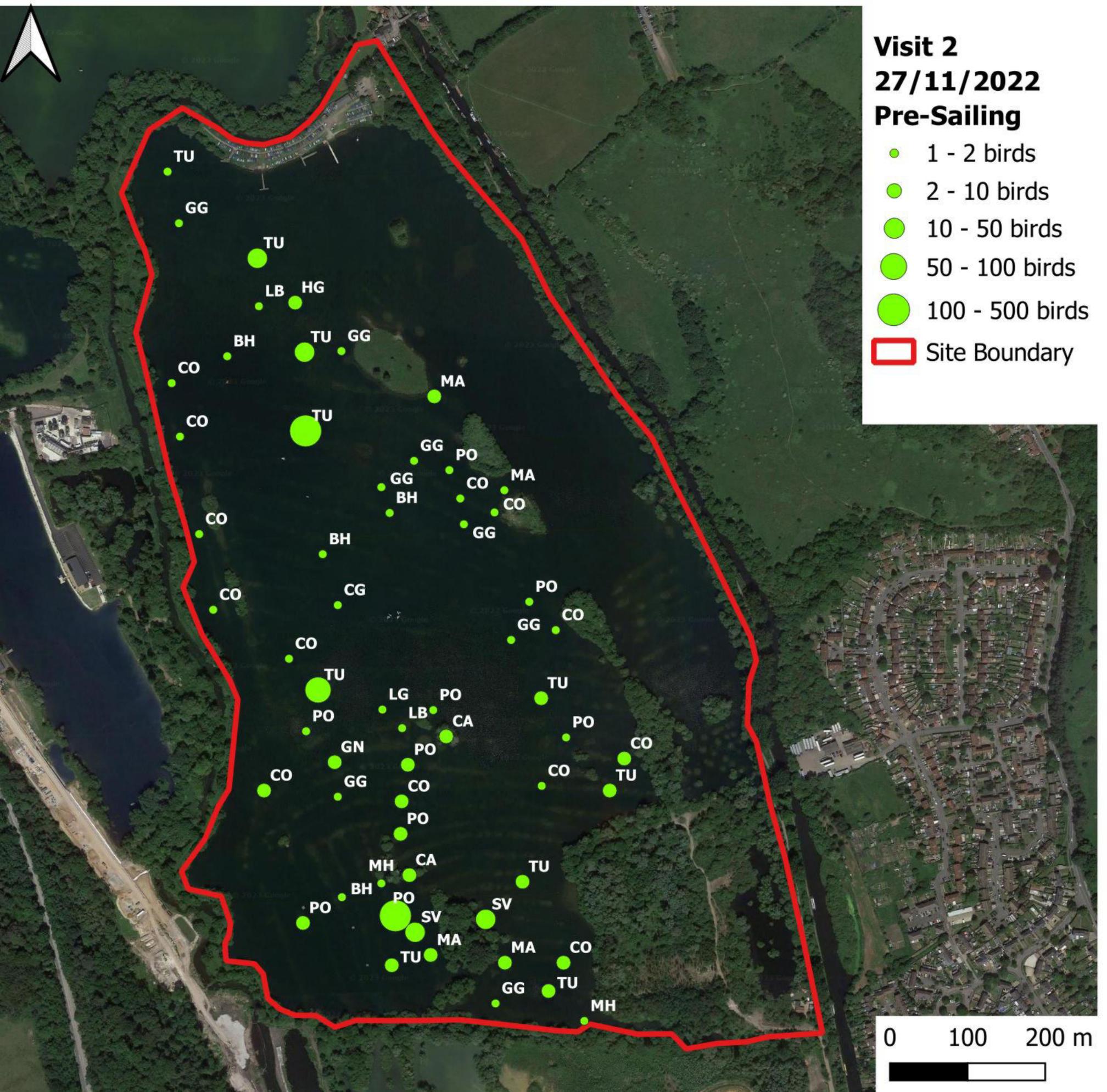
- 1 - 2 birds
- 2 - 10 birds
- 10 - 50 birds
- Site Boundary





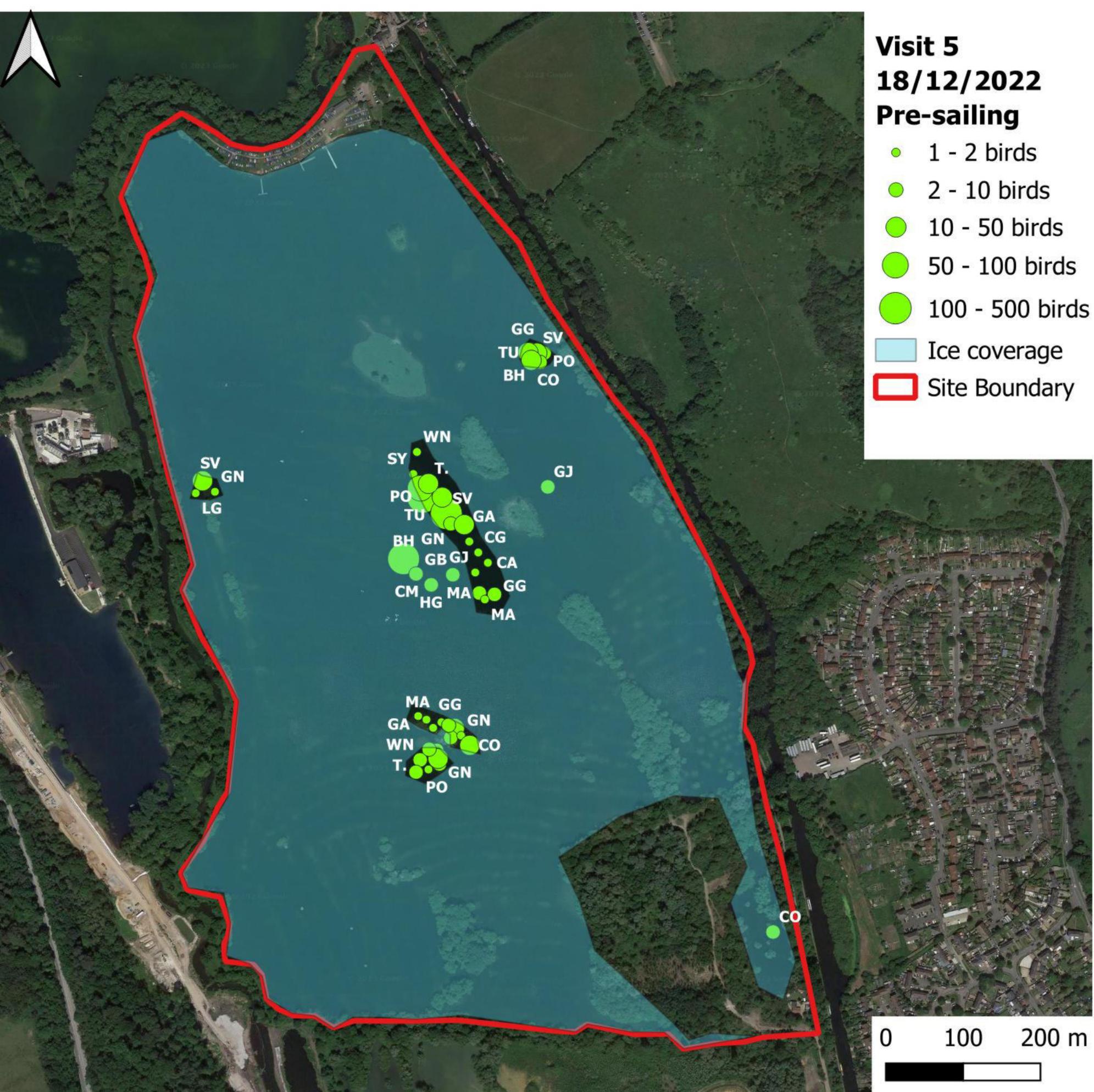
Visit 2
27/11/2022
Pre-Sailing

-  1 - 2 birds
-  2 - 10 birds
-  10 - 50 birds
-  50 - 100 birds
-  100 - 500 birds
-  Site Boundary



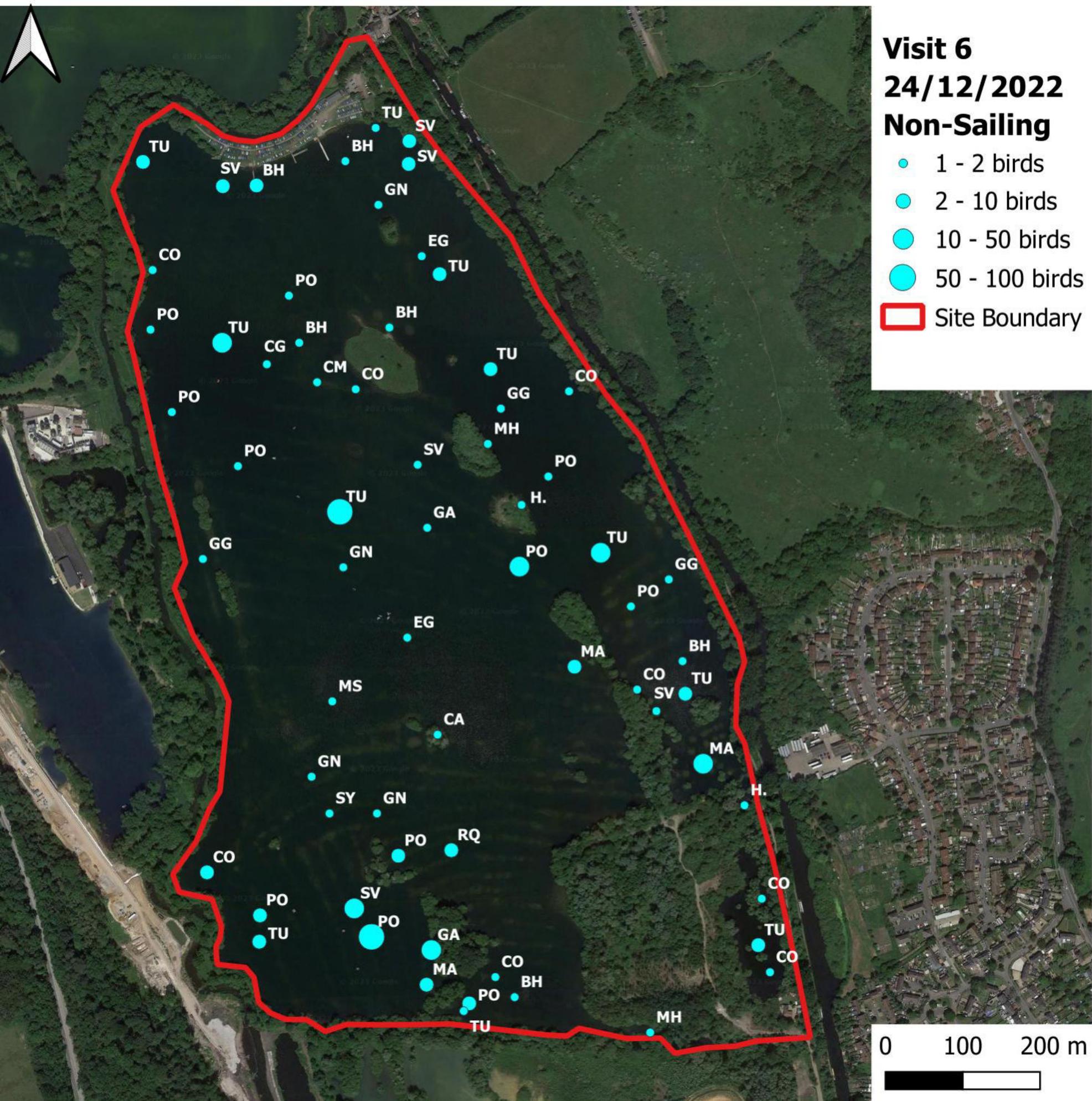
Visit 5
18/12/2022
Pre-sailing

- 1 - 2 birds
- 2 - 10 birds
- 10 - 50 birds
- 50 - 100 birds
- 100 - 500 birds
- Ice coverage
- Site Boundary



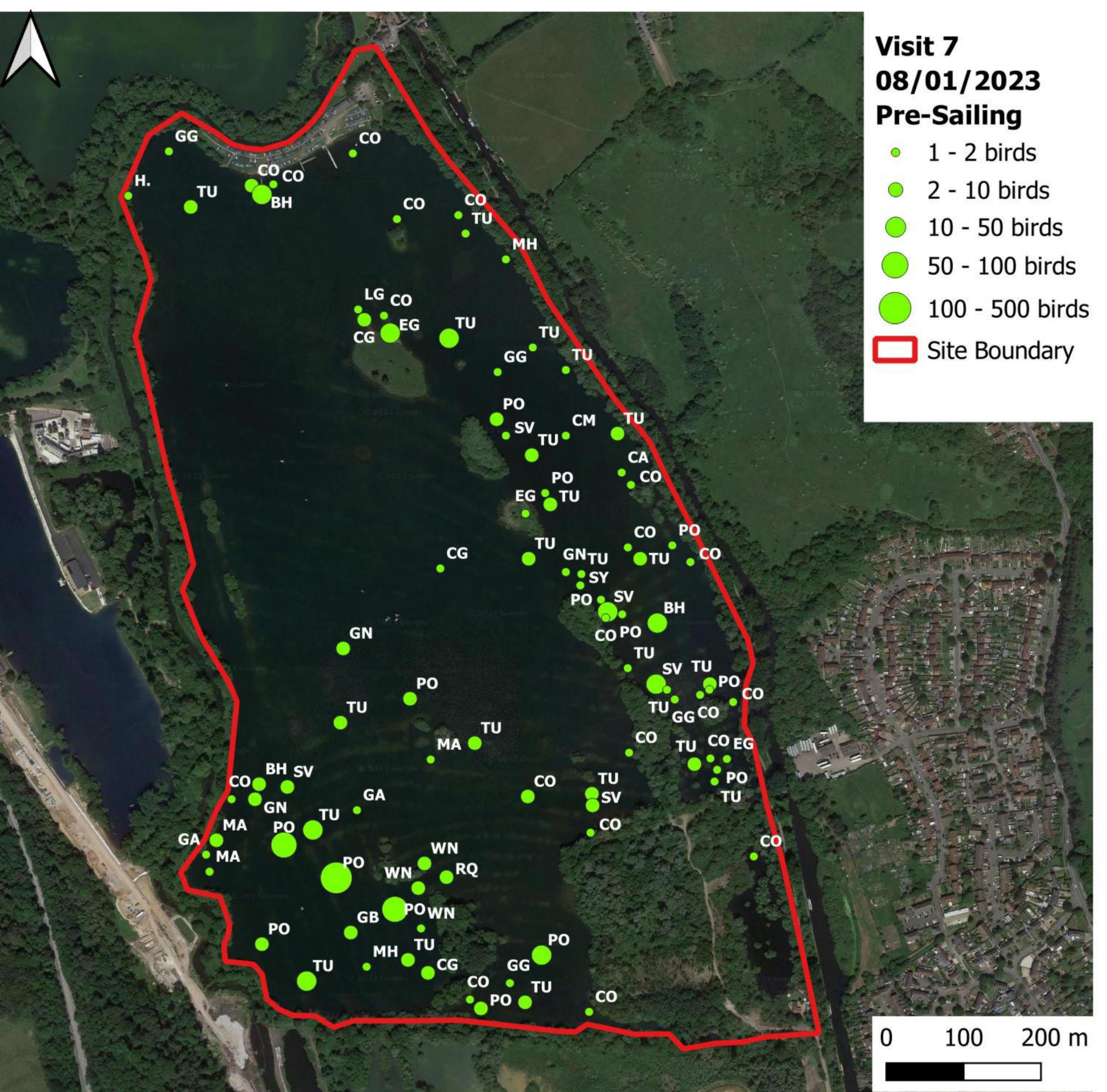
Visit 6
24/12/2022
Non-Sailing

- 1 - 2 birds
- 2 - 10 birds
- 10 - 50 birds
- 50 - 100 birds
- Site Boundary



Visit 7
08/01/2023
Pre-Sailing

- 1 - 2 birds
- 2 - 10 birds
- 10 - 50 birds
- 50 - 100 birds
- 100 - 500 birds
- Site Boundary

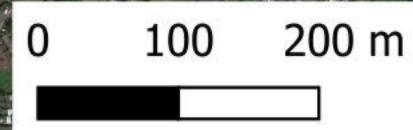
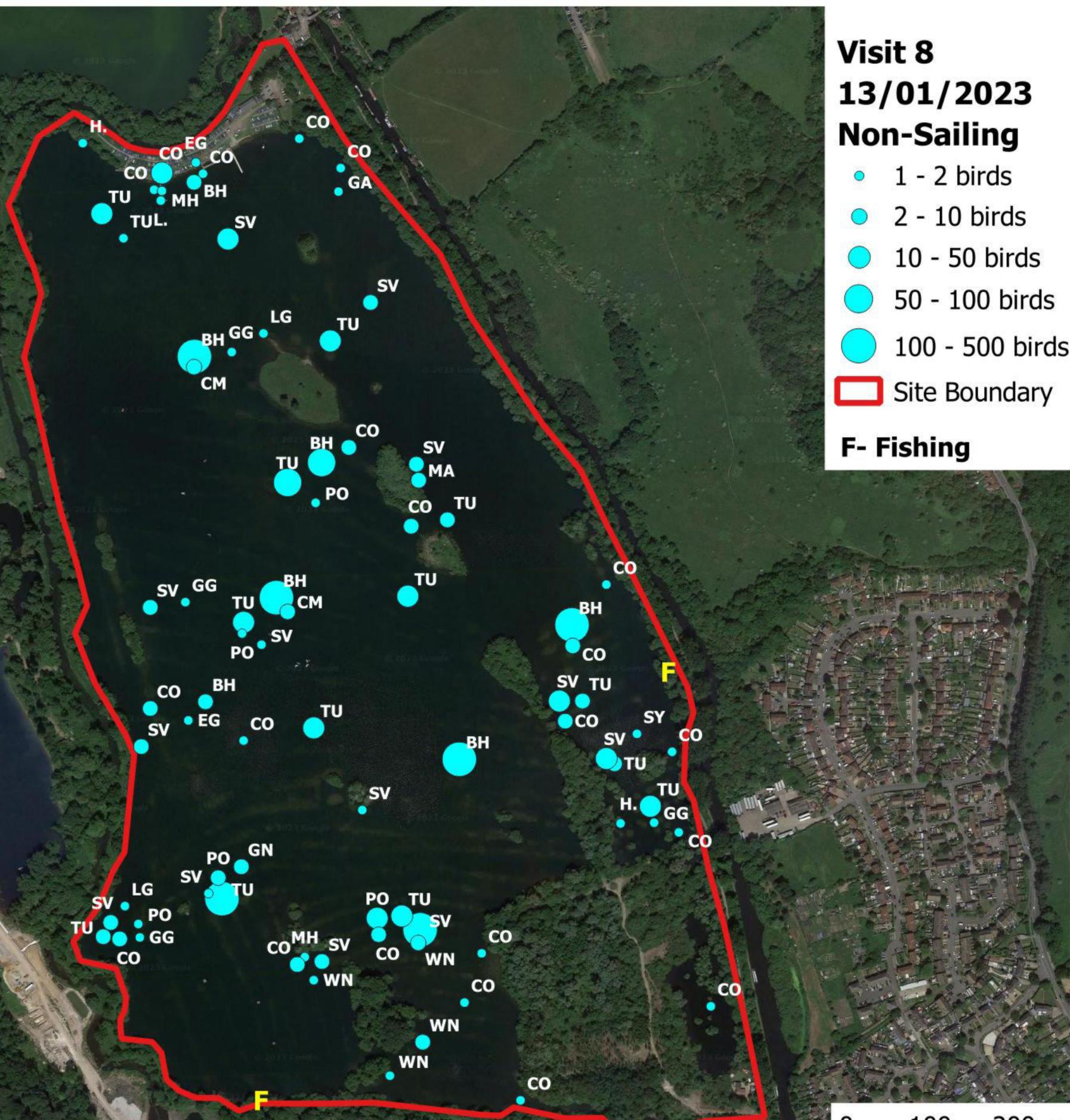




Visit 8
13/01/2023
Non-Sailing

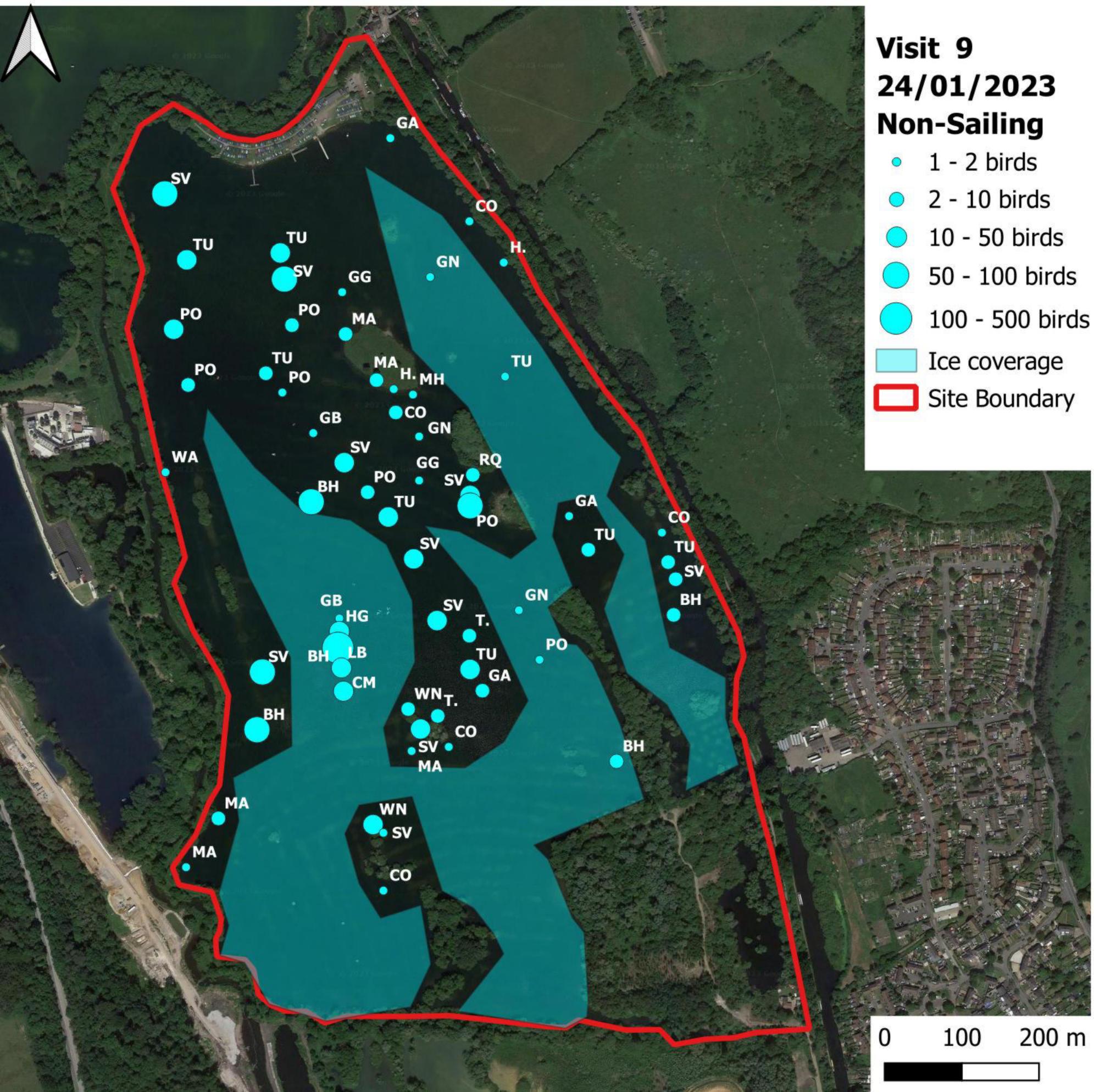
- 1 - 2 birds
- 2 - 10 birds
- 10 - 50 birds
- 50 - 100 birds
- 100 - 500 birds
- Site Boundary

F- Fishing



Visit 9
24/01/2023
Non-Sailing

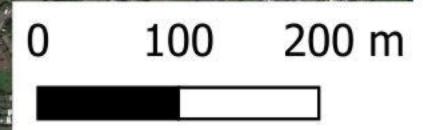
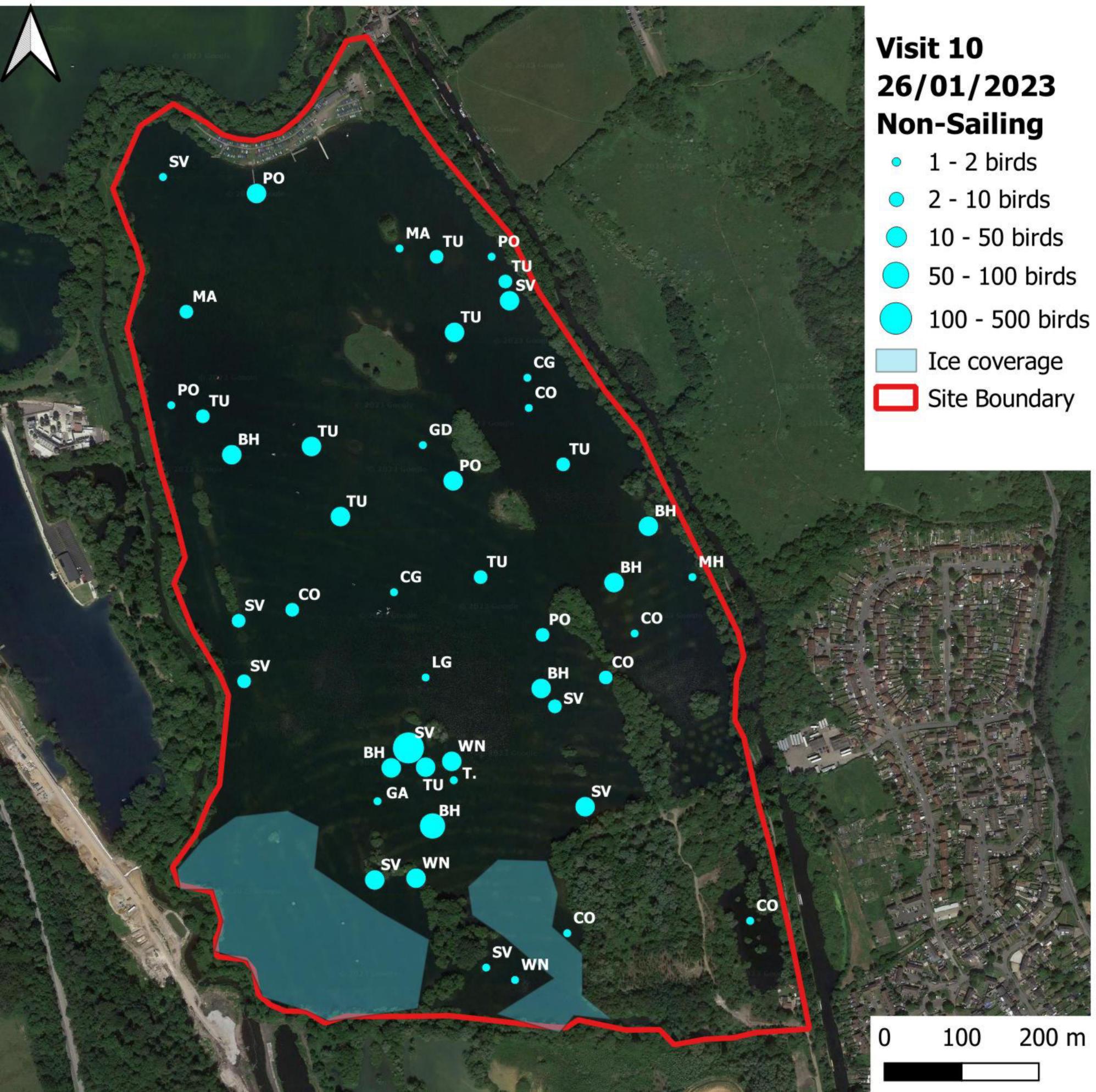
- 1 - 2 birds
- 2 - 10 birds
- 10 - 50 birds
- 50 - 100 birds
- 100 - 500 birds
- Ice coverage
- Site Boundary





Visit 10
26/01/2023
Non-Sailing

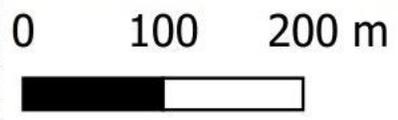
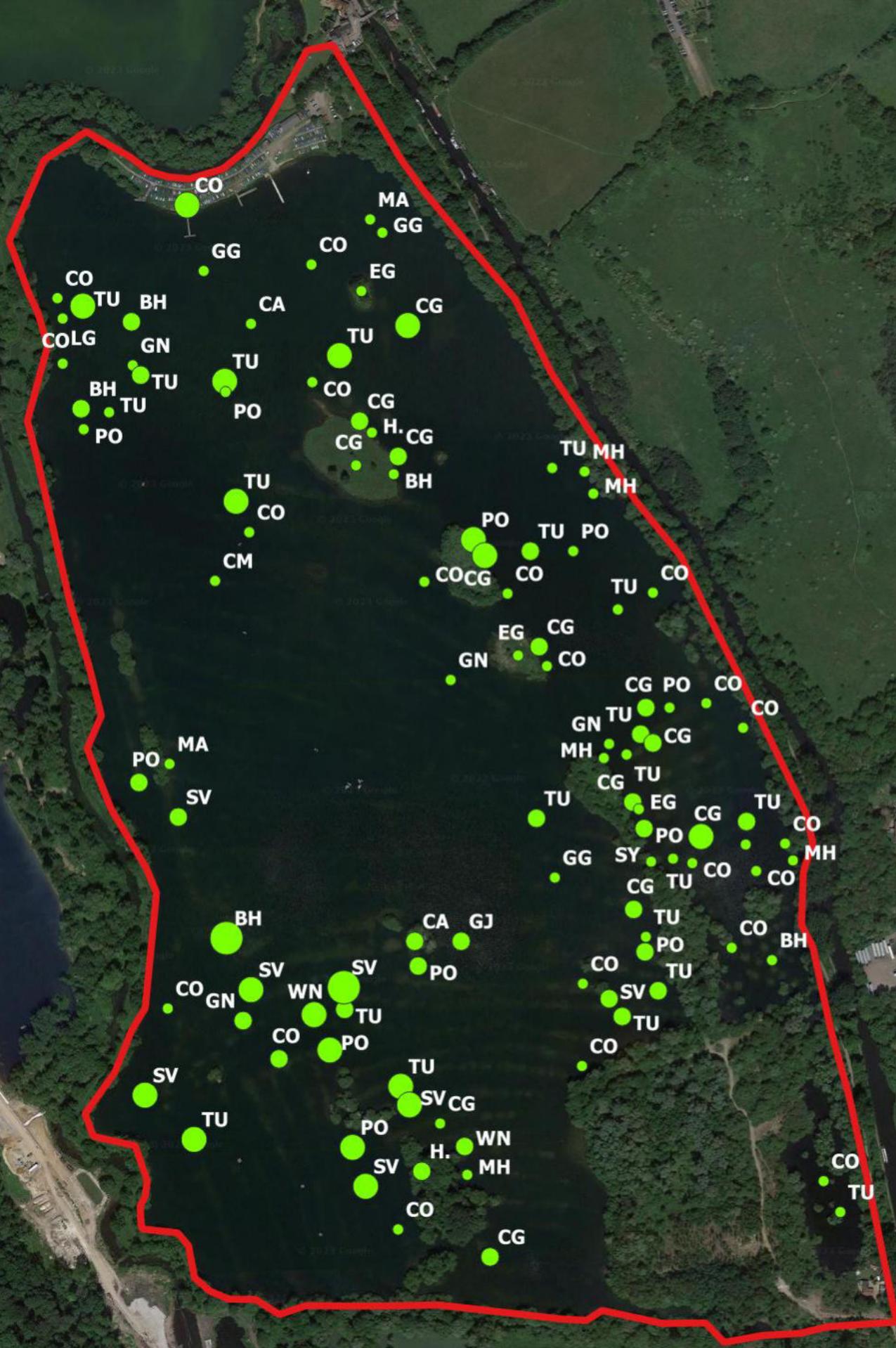
- 1 - 2 birds
- 2 - 10 birds
- 10 - 50 birds
- 50 - 100 birds
- 100 - 500 birds
- Ice coverage
- Site Boundary





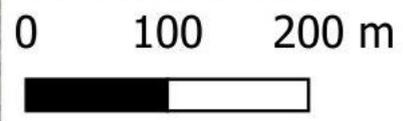
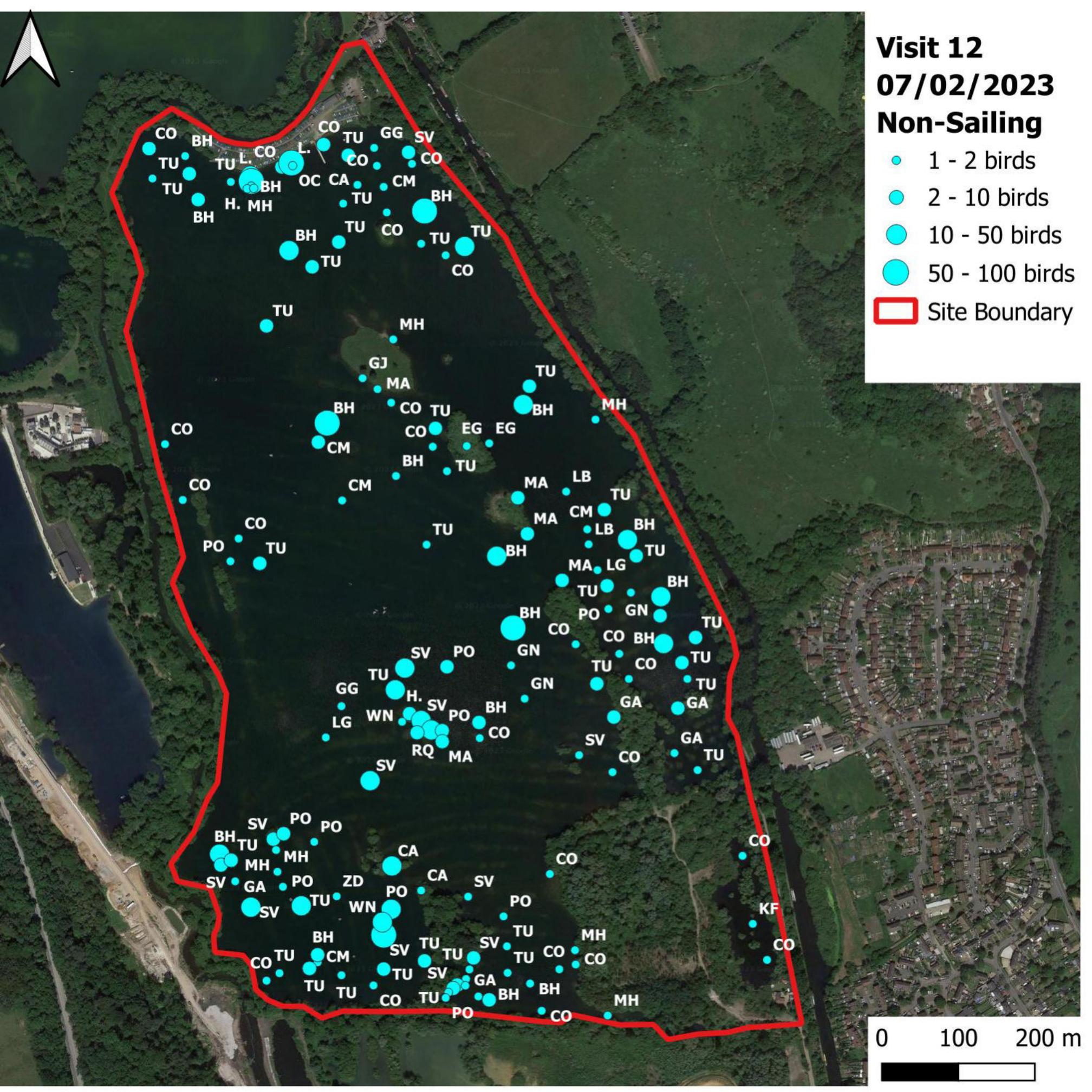
Visit 11
29/01/2023
Pre-sailing

- 1 - 2 birds
- 2 - 10 birds
- 10 - 50 birds
- 50 - 100 birds
- Site Boundary



Visit 12
07/02/2023
Non-Sailing

- 1 - 2 birds
- 2 - 10 birds
- 10 - 50 birds
- 50 - 100 birds
- Site Boundary

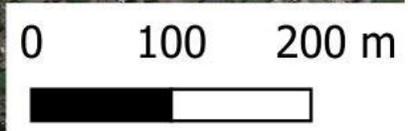
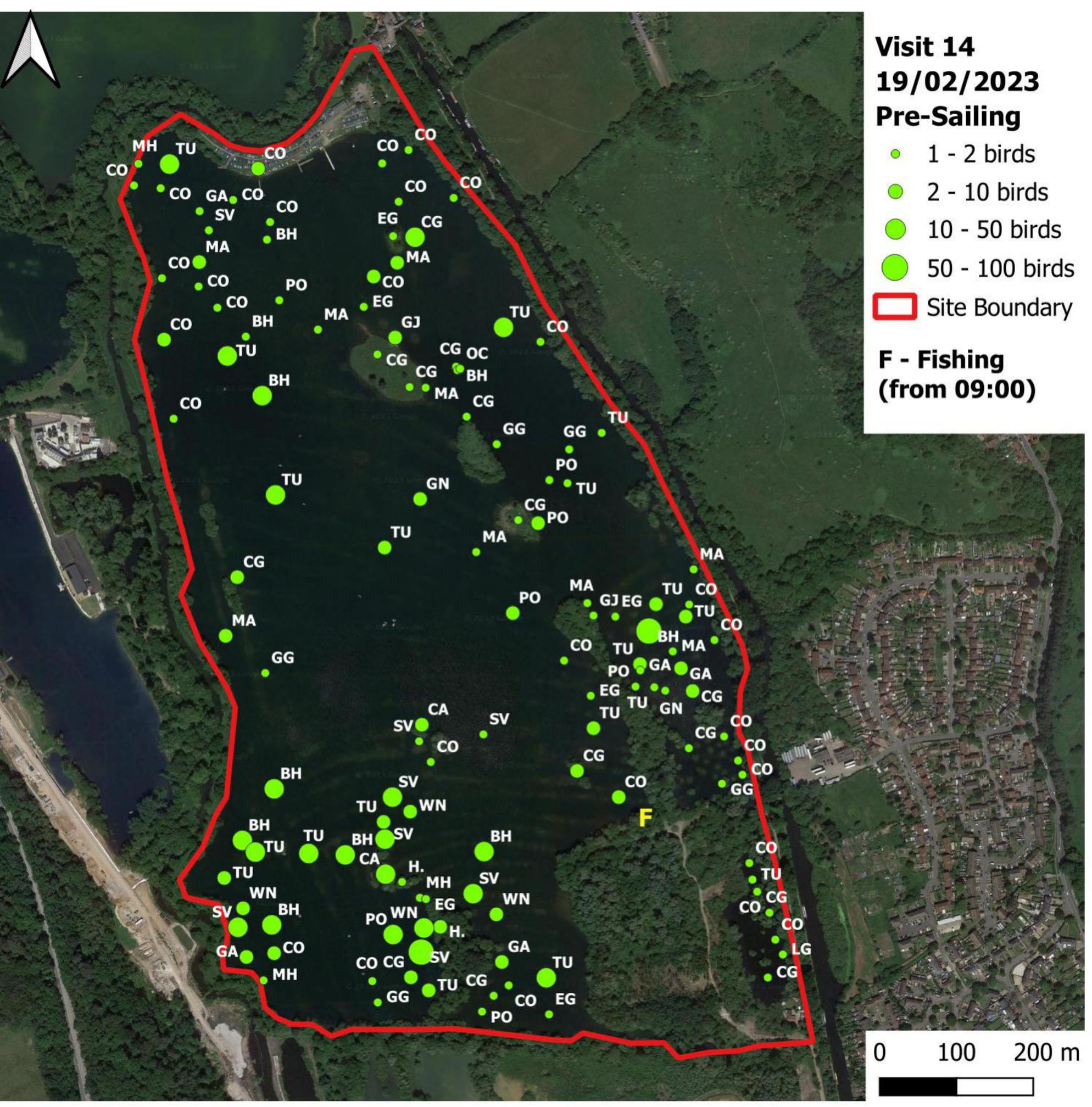




Visit 14
19/02/2023
Pre-Sailing

- 1 - 2 birds
- 2 - 10 birds
- 10 - 50 birds
- 50 - 100 birds
- Site Boundary

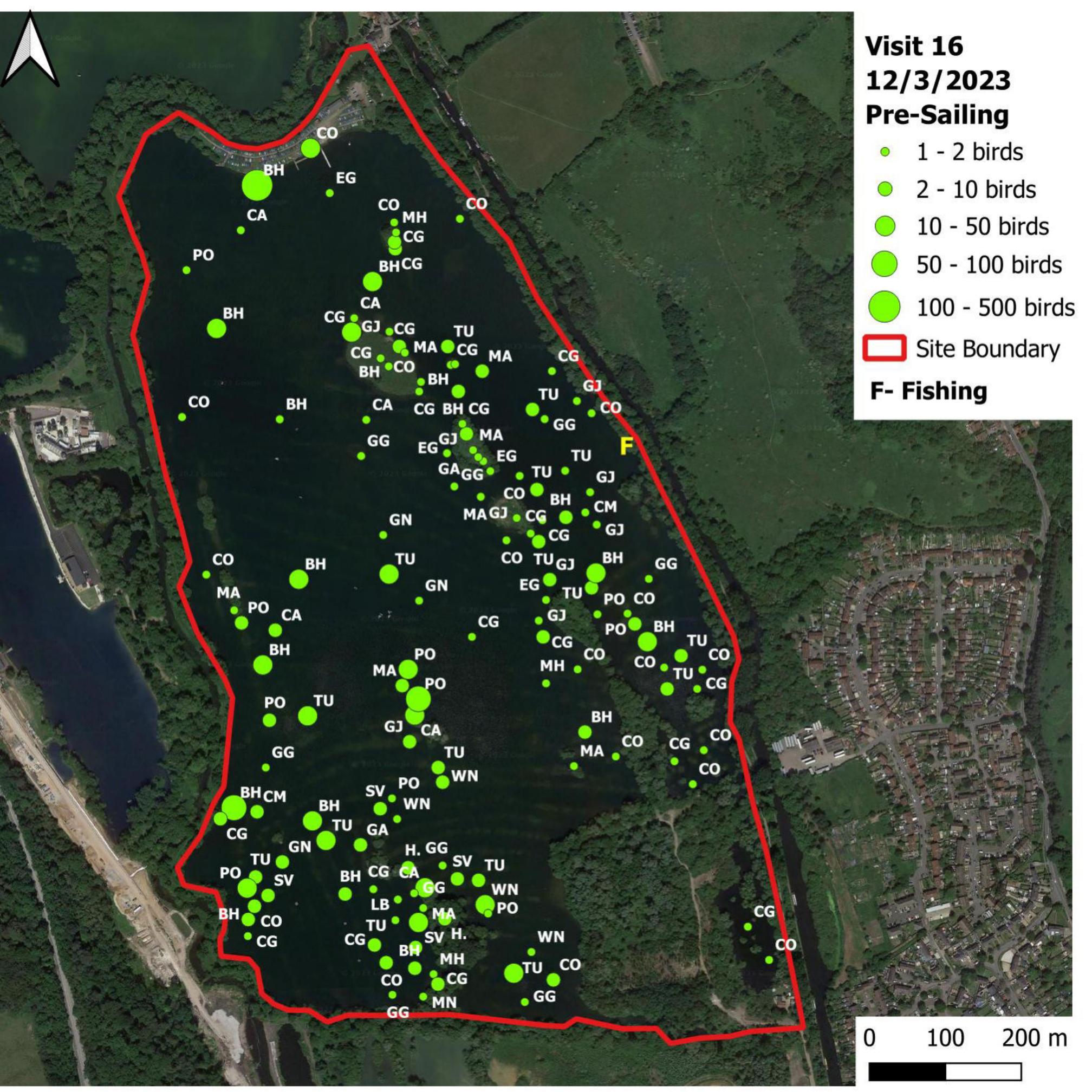
F - Fishing
(from 09:00)



Visit 16
12/3/2023
Pre-Sailing

- 1 - 2 birds
- 2 - 10 birds
- 10 - 50 birds
- 50 - 100 birds
- 100 - 500 birds
- Site Boundary

F- Fishing



0 100 200 m



Visit 18
19/03/2023
Pre-Sailing

- 1 - 2 birds
- 2 - 10 birds
- 10 - 50 birds
- 50 - 100 birds
- Site Boundary

