Lot 1: Habitat Survey and Mapping

FULL REPORT

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NATURAL ENGLAND

Nottingham City Council

4EI

ecosulis

Natural Capital Strategy
Lot 1: Habitat Survey and Mapping

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1 INTRODUCTION

Nottingham City Council commissioned Ecosulis to produce a digital habitat baseline for the city (with 4EI) and undertake habitat surveys of key wildlife sites. This included semi-automated classification and targeted habitat survey of 73 key wildlife sites within the city. The methodologies used to complete both activities are provided in this report, alongside an overview of the habitats recorded during the surveys.

1.1 Objectives

The purpose of the work described in this report report is to provide a basemap of habitats present in the City of Nottingham to allow for detailed analysis of the City's natural resources as well as to provide an indication of the condition of habitats in Nottingham's key wildlife sites. The output produced will be a digital GIS habitat map for the City of Nottingham for use in GIS analysis and integrated master planning. Detail on the attributes recorded within this data is given in Annex C. This will then be applied to inform further biodiversity opportunity and natural capital mapping.

1.2 General Description of Sites

The City of Nottingham lies in the Trent Valley, with a broad, mostly flat valley floor contrasting with higher ground to the north and south. The area was historically forested, but by the industrial revolution, the city had become an internationally important hub of textile manufacture. The 73 sites included in this report comprise both recognised and candidate Local Wildlife Sites (LWS), Nature Reserves, and additional sites of ecological interest present within the Nottingham. These sites include formerly industrial sites (e.g., King's Meadow Grassland, and Beeston Sidings), coppice woodland sites noted for their ground flora diversity (e.g., Robin's Wood), inundated woodlands along the River Trent flood plain (e.g., Trent Carr), and established woodland sites (e.g., Clifton Wood).

2 HABITAT BASELINE

2.1 Overview

The habitat baseline for Nottingham was produced by 4 Earth Intelligence (4EI) in partnership with Ecosulis. The habitat baseline produced maps habitats within the City of Nottingham boundary to a resolution of UKHab Level 3[1] (i.e., deciduous woodland, coniferous woodland) with a minimum mapping unit (MMU) of 25 m^2.

The habitat baseline will be used in subsequent lots of the wider Nottingham Natural Capital Assessment project to build an understanding into Nottingham's biodiversity, natural capital, and tree stock.

2.2 Methodology

The habitat baseline was produced by 4EI, applying a semi-automated approach to classify habitats within the City of Nottingham to a minimum of UKHab Level 3. This approach applied a series of datasets which are either openly available or have been provided by Nottingham City Council. This process is outlined below:

1. Produce GIS layer containing contiguous topographic boundaries
2. Development of an automated decision tree to attribute polygons in topographic layer to a minimum of UKHab Level 2
3. Analysis of automated classification to apply additional data to further attribute habitats to a minimum of UKHab Level 3

4EI have used remote sensing techniques and a range of datasets provided by Nottingham City Council (NCC) to carry out this habitat mapping project. Existing datasets were investigated to assess their currency, spatial coverage over the area of interest (AOI), how well their attribution aligned with the information required for the UKHab classification, and the size of features they recorded. The use of existing datasets allows efficient surveying of the AOI as well as creating data consistency - many habitat boundaries are well delineated in existing data and thus it was prudent to attempt to maintain these were accurate. Datasets that were current, provided good (if not fully comprehensive) spatial coverage, were well attributed, and recorded small features were prioritised for inclusion in an automated rule-based classification.

Topographical boundaries from which the habitat baseline was built were initially developed from the vector data provided by Nottingham City Council (NCC). The core layer used here was Ordnance Survey (OS) MasterMap, which gives a high-resolution topography layer. Using OS MasterMap data here ensures that the habitat data aligns and can be efficiently integrated with existing data held by NCC and other parties. This provides a seamless, geographically contiguous area where the scale of data captured is appropriate to the density of the features -

[1] Butcher, B., Carey, P., Edmonds, R., Norton, L., and Treweek, J., 2020. *The UK Habitat Classification User Manual Version 1.1.* Available at: http://www.ukhab.org/

meaning the higher the number of features within an area, the larger the scale used to survey them. As such, this dataset provides a very detailed survey of urban areas such as Nottingham City Council administrative area. Due to the comprehensive nature of this dataset and the requirement for a 25m^2 Minimum Mapping Unit, this dataset was used as a 'base layer' upon which the classification was built.

An automated rule-based classification was built in the PostgreSQL PostGIS extension, relating existing attributes and spatial characteristics of data to classifying polygons that met set criteria into UKHab Primary Habitats. Where attribution was comprehensive and highly detailed, higher Primary classifications were able to be reached. At a minimum, the decision tree enabled an automated approach to reach classification Level 2.

Grassland classifications are difficult to distinguish from the OS MasterMap layers. To further attribute grassland habitats to UKHab Level 3 the OS Green Space layer was used in conjunction with the British Geological Survey (BGS) data provided by NCC. The polygons to be classified as 'Modified grassland' were determined by the attribution of the Green Spaces layer, with attributes corresponding to land uses that would have resulted in modification to habitats used such as sports fields, school grounds, business amenity.

Further, all grasslands outside of surveyed sites were classed as modified grassland. This was due to limitations in the ability of geological data to accurately predict grassland type within the urban context. Geological data was then applied to identify areas of grassland with underlying geology of likelihood to support acidic or calcareous grassland. The results of this analysis were then applied to indicate types of grassland which may be present / or suited to the substrate. These values are stored within a separate '*Grassland_inferred*' attribute within the output GIS data.

Areas where grassland type was Inferred as acidic or calcareous grassland by the automated habitat classification are shown in Figure 1, below. Some areas were reclassified according to existing data held by NCC, namely the Local Wildlife Sites layer, which provided descriptions of different habitats present at specific locations including the type of grassland.

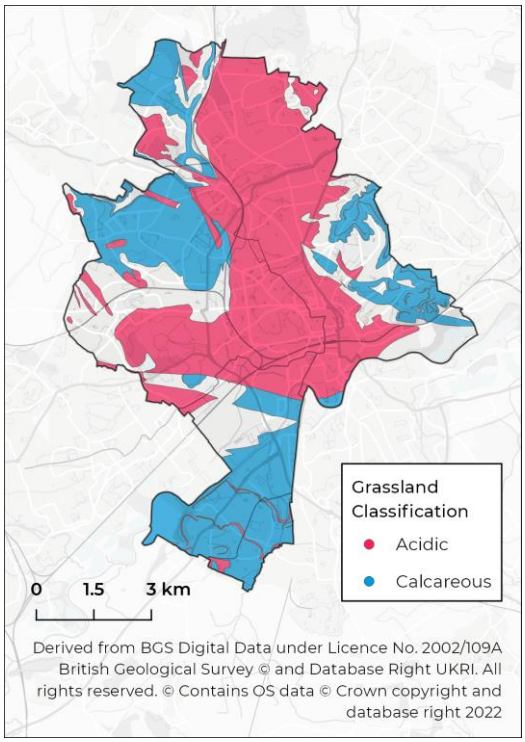


Figure 1.

Overview of areas where automated grassland classification has attributed grassland as acidic or calcareous grassland based on underlying geology.

The output of this automated classification was then analysed in correspondence with high resolution aerial imagery from BlueSky (2019), with analysts systematically working through the whole area of interest to identify and digitise additional habitats that had an area greater than that of the MMU. Existing polygons were also updated where required to accurately reflect the underlying aerial imagery. Once any additional features had been identified, analysts performed a semi-automated, desk-based interpretation of habitats to ensure that each polygon was classified up to UKHab Level 3.

Processing of the aerial imagery provided by NCC was then undertaken to calculate the Normalised Difference Vegetation Index (NDVI) to further classify vegetation within the area of interest. 4EI's remote sensing analysts then applied the processed aerial imagery in conjunction with the consolidated topography layer to conduct a semi-automated desk-based interpretation of habitats to UKHab Level 3 and Level 4 in key sites, for each polygon within the topography layer. This exercise ensured that during this stage of the data processing, any habitat boundaries observed to have changed from existing features were amended.

Following the completion of the digitisation, interpretation, and incorporation of field data, automatic quality checks were carried out to identify any invalid MMU polygons, attribute inconsistencies, and topology errors such as overlaps and gaps. Errors identified were manually corrected by senior remote sensing analysts.

Once the process of classifying habitats in Nottingham to UKHab Level 3 had been completed, a ground truthing exercise was undertaken to attribute habitats in key sites to Level 4.

3 HABITAT SURVEY

3.1 Sites Surveyed

A field survey of priority areas was completed for 73 priority sites using the UKHab Professional edition. achieving UKHab Level 4 applying secondary codes, and green infrastructure codes to identified features. Data from the field survey was used to update and refine the semi-automated classification where applicable, and to provide additional information about the priority areas.

To undertake these habitat surveys, Ecosulis worked with Nottingham-based Morph Ecological Consultants to undertake a survey of the 73 sites using the UKHab classification system. Habitats present were classified to UKHab Level 4 with appropriate secondary habitat codes also being allocated to identified features.

Sites surveyed are illustrated in Annex B and a full list (including primary habitats recorded as being present at each site) is given in Annex A. GIS data containing survey results has also been supplied as an accompaniment to this report.

3.2 Survey Methodology

Habitat surveys followed the UK Habitat Classification System methodology[2], which involves visiting each parcel of land to habitats present in consideration of vegetation communities, geography, geology, and hydrology. UKHab is a habitat classification system designed to label habitats in a consistent manner principally based on vegetation type, which is then further categorised by floristic, climactic and geographic differences.

UKHab consists of two parts: (i) a primary habitat key, and (ii) a list of secondary codes, which together can classify and describe all UK terrestrial, fresh water and coastal habitats. The primary habitat key sets out a hierarchical system with five levels which an experienced ecologist can use to define a particular habitat. The five levels are:

Level 1: Major ecosystem, either terrestrial, freshwater or coastal

Level 2: One of nine ecosystem types (grassland, woodland, heathland/scrub, wetland, cropland, urban, sparely vegetated, rivers/lakes, and marine/transitional waters)

Level 3: 20 broad habitat types, corresponding with the UK Biodiversity Action Plan Broad Habitats and the European Nature Information System

Level 4: 80 habitat types which include 47 UK Biodiversity Action Plan Priority Habitats

Level 5: 104 detailed habitat types which are subdivisions of habitats defined in Level 4

[2] Butcher, B., Carey, P., Edmonds, R., Norton, L., and Treweek, J., 2020. *The UK Habitat Classification User Manual Version 1.1*. Available at: http://www.ukhab.org/

The list of secondary codes defines individual features in a habitat that describe additional characteristics of that habitat. These codes are used in conjunction with the Primary Habitat key to accurately describe the habitat and its features. Examples of secondary codes include those which describe habitat mosaics, land use and management, hydrological features, and green infrastructure. During these surveys habitats were classified to UKHab Level 4 with appropriate secondary habitat codes assigned where relevant. As per the UKHab guidance, secondary codes have been allocated for all habitat mosaics, all Annex 1 habitats which can be present within multiple primary habitats and all habitat origins.

In addition to the classification of vegetation communities as habitat types, an assessment of the habitat condition has also been undertaken. To complete this assessment the assessor applied a combination of their professional and local knowledge to label each habitat's condition as good, moderate or poor. This was then recorded in the attributes of the GIS data produced following the surveys.

4 NOTTINGHAM'S HABITAT BASELINE

4.1 Overview

Following the completion of the habitat field surveys, the habitat baseline for Nottingham produced via semi-automated classification was updated with the results of the habitat surveys. Attribution of polygons within the survey sites were updated to include the UKHab Level 4 classification as well as any appropriate secondary codes. Polygon boundaries were also divided where required. GIS data containing the Nottingham habitat baseline has been supplied as an accompaniment to this report (in Geopackage format). This habitat baseline is shown in Figure 2 below. For clarity of presentation, here the data has been visualised to UKHab Level 2.

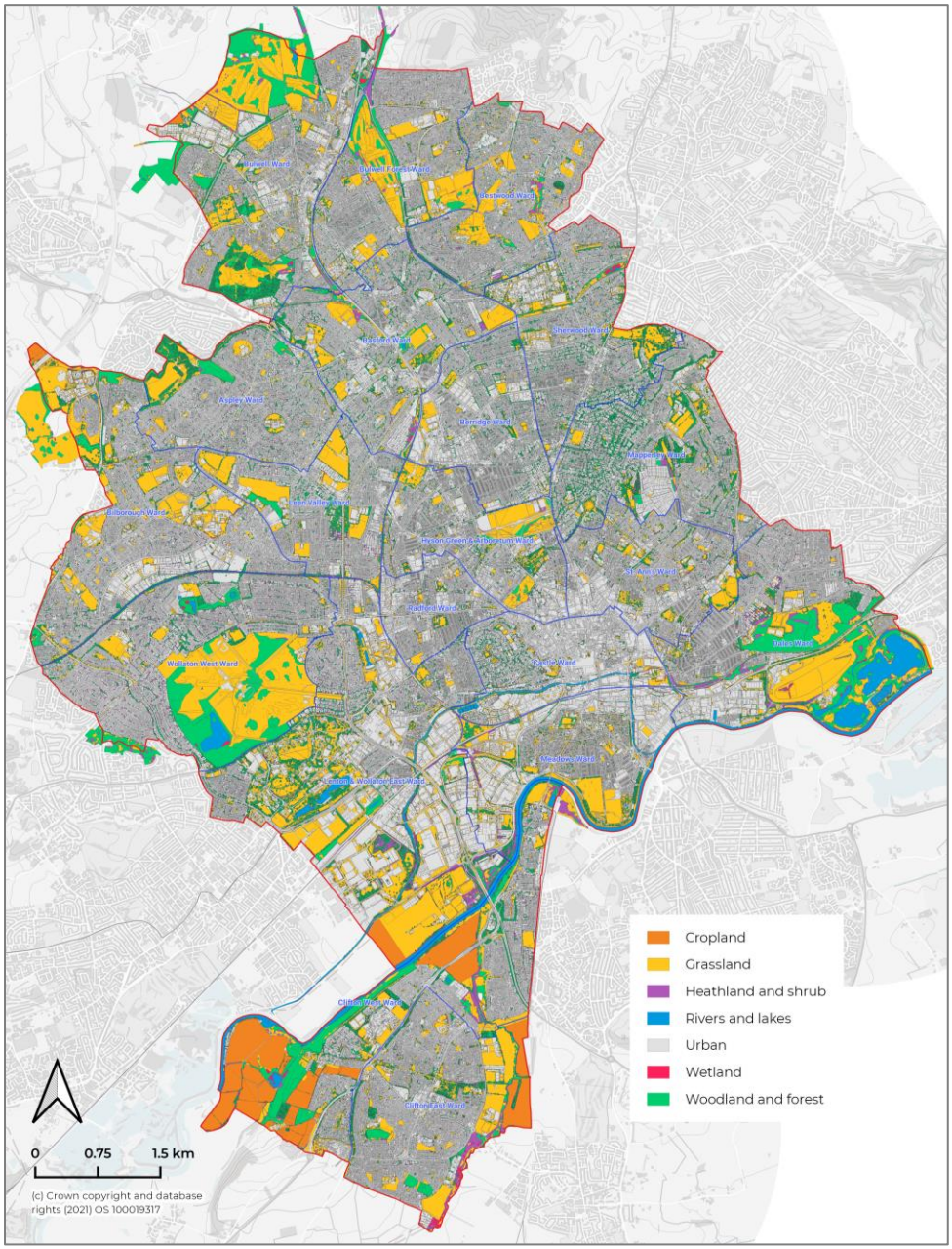


Figure 2.

UKHab Level 2 Classification of the City of Nottingham.

4.2 Distribution of Priority Habitats by City of Nottingham Wards

A table illustrating the distribution of priority habitats within each City of Nottingham Ward is shown in Table 1 below. Green shading indicates the wards with the greatest coverage of each priority habitat, where darker shades of green represent the highest coverage and lighter shades the lowest. Only priority habitats which have been recorded within the habitat basemap are shown in the image below. Priority grassland habitats are not shown to limitations in the remote mapping of these habitats.

Table 1: *Distribution of priority habitats in City of Nottingham wards*

	Area of priority habitat (m^2)										
Ward	Arable field margins	Upland flushes, fens, and swamps	Reedbeds	Dwarf shrub heath	Hedgerow	Eutrophic standing waters	Mesotrophic lakes	Rivers	Open mosaic on previously developed land	Wet woodland	Lowland mixed deciduous woodland
Aspley	0	0	0	0	0	0	0	0	0	1,609	72,420
Awsworth, Cossall & Trowell	0	0	0	0	0	0	0	0	0	0	0
Basford	0	0	175	0	0	4,907	0	0	0	11,269	14,669
Beeston Central	0	0	0	0	0	0	0	0	0	0	0
Beeston North	0	0	0	0	0	0	0	0	0	0	0
Beeston Rylands	0	0	0	0	0	0	0	0	0	0	0
Berridge	0	0	0	0	0	0	0	0	0	0	0
Bestwood St. Albans	0	0	0	0	0	0	0	0	0	0	23,976
Bestwood	0	0	0	0	0	0	0	0	0	0	27,520
Bilborough	0	0	0	0	165	3,828	0	0	0	0	58,496
Bramcote	0	0	0	0	0	0	0	0	0	0	2,029
Bulwell Forest	0	0	0	0	1,812	30	0	0	0	0	45,358
Bulwell	0	0	2,293	0	4,912	7,447	0	0	0	696	420,580
Carlton Hill	0	0	0	0	0	0	0	0	0	0	0

	Area of priority habitat (m^2)										
Ward	Arable field margins	Upland flushes, fens, and swamps	Reedbeds	Dwarf shrub heath	Hedgerow	Eutrophic standing waters	Mesotrophic lakes	Rivers	Open mosaic on previously developed land	Wet woodland	Lowland mixed deciduous woodland
Carlton	0	0	0	0	0	0	0	0	0	0	0
Castle	0	0	0	0	0	14,769	2,478	0	0	0	0
Clifton East	0	0	18,883	0	0	72	0	0	0	0	113,215
Clifton West	0	0	5,476	0	0	29,215	0	0	0	88,537	212,835
Colwick	0	0	0	0	0	5,419	0	0	0	0	0
Compton Acres	0	0	0	0	0	0	0	0	0	1,950	0
Dales	0	0	979	0	0	406,803	0	0	0	37,049	440,298
Daybrook	0	0	0	0	0	0	0	0	0	0	0
Gotham	0	0	154	0	0	0	0	0	0	0	0
Hucknall South	0	0	0	0	0	0	0	0	0	0	6,293
Hucknall West	0	0	0	0	2,522	2,994	0	0	0	0	44,567
Hyson Green & Arboretum	0	0	0	0	0	7,941	0	0	0	0	10,780
Leen Valley	0	0	0	0	0	32	0	0	0	0	54,265
Lenton & Wollaton East	0	79	0	513,630	0	87,750	0	0	4,266	0	0
Mapperley	0	0	0	0	0	0	0	0	0	0	0
Meadows	0	0	0	5,384	0	1,798	0	0	6,955	0	0
Nuthall East & Strelley	53	0	0	0	208	2,517	0	0	0	0	193,820
Porchester	0	0	0	0	0	0	0	0	0	0	0
Radford	0	0	0	0	0	0	0	0	0	0	0
Ruddington	0	0	21	0	0	0	0	0	0	0	0
Sherwood	0	0	8,237	0	0	2,706	0	0	0	0	0
St. Ann's	0	0	0	0	0	0	0	0	0	0	0
Wollaton West	0	0	3,422	0	0	85,792	0	0	0	52,891	1.42 km^2

	Area of priority habitat (m^2)										
Ward	Arable field margins	Upland flushes, fens, and swamps	Reedbeds	Dwarf shrub heath	Hedgerow	Eutrophic standing waters	Mesotrophic lakes	Rivers	Open mosaic on previously developed land	Wet woodland	Lowland mixed deciduous woodland
Woodthorpe	0	0	0	0	0	0	0	0	0	0	0
River Leen (multiple wards)	0	0	0	0	0	0	0	58,415	0	0	0

5 LIMITATIONS OF SURVEY AND REPORT

The habitat basemap represents a snapshot in time and consideration should be given when using the data to the fact that some habitat polygons are likely to have changed since the input data applied to the habitat mapping was produced. The habitat data is readily updatable and may be updated as required to reflect this.

Where survey data is unavailable, grassland habitats have been attributed using geological data. The use of geological data here is useful to indicate likely grassland type in these areas, however, it should be noted that this attribution is made with lower confidence than other habitats in the habitat mapping. For this reason, it has been provided as an additional '*inferred_grassland*' attribute.

Each site was surveyed once, and as a result of this there will be some species that were not seen at time of survey, and thus not recorded. As UKHab is principally designed around vegetation types to categorise habitats, having an accurate record of species present in a habitat is vital for its implementation. The sites surveyed were visited in the winter, posing a greater challenge to the surveying ecologist to identify all present species. To mitigate this, Ecosulis worked with surveyors with existing knowledge of Nottingham's wildlife sites.

The habitat surveys will not record any plants or animals that may appear at other times of the year and were therefore not evident at the time of visit. Some species that might use the site or be apparent at other times of year, or only in certain years, would not have been detected. In addition, one site (Lenton Triangle) was unable to be surveyed due to access constraints – the site is surrounded by active rail lines, which prevented access for surveyors.

ANNEX A: OVERVIEW OF SURVEY SITES AND SURVEY RESULTS

The following 73 sites have been classified to level 3 and 4 of UKHab and any features have also been given secondary codes. For ease of use, this report has split the 73 survey sites by ward. Each table in this section covers all the site surveys in each ward, organised in alphabetical order. Each site in the table below is mapped in Annex B and labelled with the IDs given in the below table.

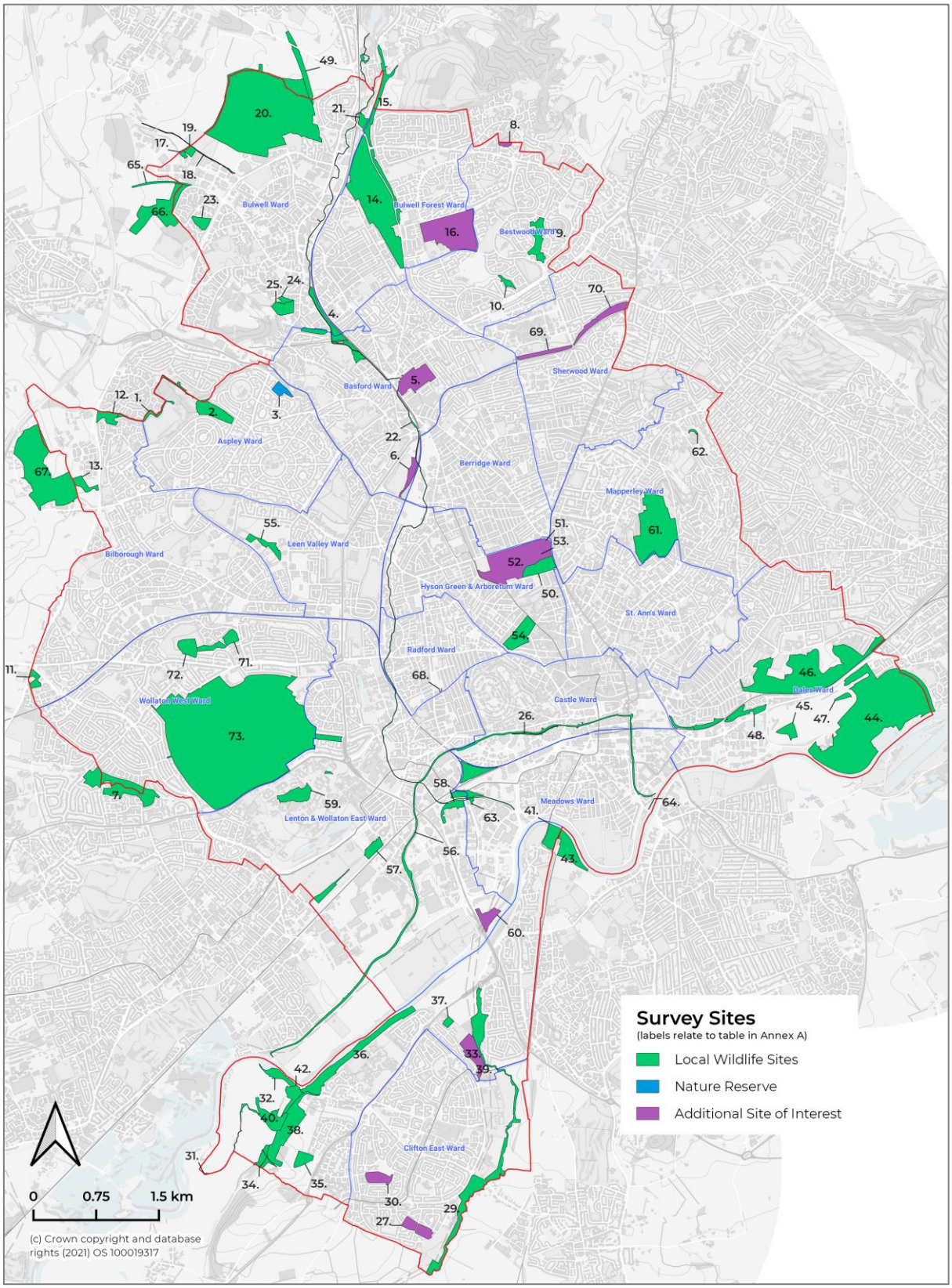
Ward	ID	Site Name	Survey Date	Area (ha)	Habitats Present (UKHab code)
Aspley Ward	1	Broxtowe District Boundary Hedge	11/12/2021	3.22	g1c, g3c, g4, h3d, h3h, w1g, w1h
	2	Broxtowe Wood	11/12/2021	6.1	g3c, h3d, h3h, w1d, w1f, w1g
	3	Quarry Holes Nature Reserve		2.22	g3a, g3c, h3d, h3h, w1f, w1g
Basford Ward	4	Basford Junction	03/12/2021	7.37	f2d, g1c, g2a, g3a, g3c, g4, h3b, h3d, h3h, u1b, w1f, w1g
	5	Vernon Park	17/12/2021	8.8	f2d, f2e, g3a, g3c, g4, h3h, r1a, u1b, u1e, w1d, w1g
	6	Whitemoor Nature Reserve (River Leen 11) - 1	17/12/2021	2.57	f2f, g3c, h3d, h3g, h3h, r1a, u1c, w1d, w1g
Beeston North Ward	7	Alexandria Plantation	09/12/2021	15.03	g1a, g1c, g1d, g3c, g4, h3d, h3e, h3h, u1b, u1e, w1f, w1g, w1h
Bestwood Ward	8	Churchfield Plantation	02/12/2021	0.79	h3d, u1b, w1f
	9	Sandy Banks	02/12/2021	5.64	g1c, g1d, g3c, g4, h3d, h3e, h3h, u1c, w1g
	10	Sunrise Hill	02/12/2021	1.09	g1a, g3c, h2b, h3d, h3h, w1f
Bilborough Ward	11	Balloon Woods	09/12/2021	1.77	g1c, g3c, h2a, h3d, r1a, w1f, w1g
	12	Chilwell Dam Plantation	11/12/2021	2.77	h3h, w1g
	13	Stonepit Plantation	15/12/2021	2.39	g3c, h3d, h3h, w1f
Bulwell Forest Ward	14	Bulwell Forest Golf Course		40.09	g1c, g1d, g3c, g4, h2b, h3a, h3d, h3e, h3h, u1b, u1c, u1e, w1f, w1g, w1h
	15	Hucknall Disused Railway	02/12/2021	8.53	g3c, g4, h2b, h3d, h3f, h3h, u1c, w1f
	16	Southglade Park	02/12/2021	22.66	g1d, g3c, g4, h2a, h2b, h3d, h3h, u1b, u1c, u1d, u1e, w1g, w2b
Bulwell Ward	17	Blenheim Farm	01/12/2021	0.52	g4, h2b, w1f
	18	Blenheim Lane Hedgerows	01/12/2021	0.61	g3c, h2a, h2b, h3d, h3h, u1b, u1c, w1g
	19	Blenheim Lane Quarry	01/12/2021	1.18	g2a, g3c, g4, h2b, h3d, h3h, w1f, w1g

Ward	ID	Site Name	Survey Date	Area (ha)	Habitats Present (UKHab code)
	20	Bulwell Hall Park		94.2	f2d, g3a, g3c, g4, h2b, h3d, h3h, r1a, u1b, u1c, u1e, w1f, w1g, w1h, w2b, w2c
	21	Moorbridge Pond	01/12/2021	1.29	f2f, g1c, g3c, h3d, h3h, u1e, w1d, w1f, w1g
	22	River Leen (Part)	07/01/22 & 12/01/22	7.13	f2d, f2f, g3c, h3d, h3h, r1a, r2a
	23	Snape Wood	12/12/2021	2.27	w1f
	24	Springhead Woodland	03/12/2021	0.84	u1e, w1f, w1g
	25	Stanton Pond and Pasture	03/12/2021	3.34	f2e, g3a, g3c, h3d, h3h, r1a, w1f, w1g
Castle Ward	26	Tinker's Leen	18/01/2022	0.42	f2d, g4, h3h, r1b, u1e, w1g
Clifton East Ward	27	Brecks Plantation (a)	06/12/2021	1.97	g3c, g4, h3d, h3h, w1g
	28	Brecks Plantation (b)	06/12/2021	2.33	g3c, g4, h3d, h3h, w1f, w1g, w1h, w2c
	29	Fairham Brook Nature Reserve	08/12/2021	10.88	f2d, f2e, g3c, h3d, h3h, r2b, w1g
	30	Glapton Wood	06/12/2021	3.58	g3c, g4, h2b, h3d, h3h, w1f, w1g, w1h
Clifton West Ward	31	Barton-in-Fabis Pond and Drain	10/12/2021	0.45	f2f, g3c, h3d, h3h, r1a, w1d
	32	Beeston Weir River Deposits	10/12/2021	2.95	g3c, g4, h3d, h3h, r2b, u1e, w1d, w1g
	33	Brooksby Lane Open Space	06/12/2021	6.27	g3c, g4, h3d, h3h, u1b, w1g
	34	Burrows Farm Grassland	10/12/2021	1.7	f2f, g3c, g4, h3d, h3h, r1a, w1g
	35	Clifton Fox Covert	10/12/2021	2.78	g3c, w1f, w1g, w2b
	36	Clifton Grove		13.59	g3c, w1d, w1f, w1g
	37	Clifton Spinney Pond	21/12/2021	0.97	h3d, r1a, u1b, w1d, w1g
	38	Clifton Wood	10/12/2021	13.1	f2f, g3c, h3d, h3h, r1a, w1f, w1g, w1h
	39	Fairham Brook (North of Fairham Bridge)	08/12/2021	13.83	c1c, g3c, g4, h3d, h3h, no code, r2b, u1b, u1e, w1g
	40	Holme Pit	10/12/2021	6.43	f2e, f2f, g3c, g4, h2b, h3d, h3h, r1a, w1d, w1f, w1g
	41	Iremonger Pond	14/12/2021	3.81	f2d, g3c, g4, h3a, h3d, h3h, r1a, r2b, u1e, w1d, w1g
	42	Trent Carr, Clifton	10/12/2021	3.35	g3c, no code, u1e, w1d, w1g
Compton Acres Ward	43	Trentside, West Bridgford	14/12/2021	6.64	f2d, g3c, g4, h3d, h3h, u1b, w1d, w1g
Dales Ward	44	Colwick Country Park	14/12/2021	89.37	f2d, f2e, f2f, g3c, g4, h3d, h3h, r1a, r2b, u1b, u1c, u1e, w1d, w1f, w1g

Ward	ID	Site Name	Survey Date	Area (ha)	Habitats Present (UKHab code)
	45	Colwick Racecourse Wetland		2.56	f2d, g3c, g4, h3d, h3h, r1a, u1b
	46	Colwick Wood	13/12/2021	43.62	g3a, g3c, g4, h3d, h3h, u1c, w1f, w1g
	47	Nottingham Racecourse Drain and Grassland		0.85	g3c, h3h, r1a
	48	Sneinton Railway Lands	15/12/2021	5.79	g3c, g4, h3a, h3d, h3h, u1b, u1e, w1g
Hucknall West Ward	49	Farley's Disused Railway	02/12/2021	4.72	g3c, h3d, h3h, u1c, w1f, w1g
Hyson Green & Arboretum Ward	50	Church Rock Cemetery	01/12/2021	5.24	g1a, g1d, g3c, h2b, h3d, h3e, h3h, u1b, u1c, u1e, w1g, w1h
	51	Forest Grassland	01/12/2021	0.26	g3c, w1g
	52	Forest Recreation Ground	01/12/2021	24.62	g3c, g4, h2b, h3d, h3h, u1, u1b, u1c, u1d, u1e, w1f, w1g
	53	Forest Recreation Ground Wall	01/12/2021	0.04	u1e
	54	Nottingham General Cemetery	17/12/2021	7.08	g2c, g3c, g4, h3d, h3h, u1e, w1g
Leen Valley Ward	55	Robin's Wood	14/02/2021	2.95	r1a, r2b, w1f
Lenton & Wollaton East Ward	56	Beeston Canal	17/01/2022	14.93	f2c, f2d, f2f, g3c, g4, h3d, h3h, r1a, r1e, u1c, u1e, w1g
	57	Beeston Sidings		4.75	g3c, r1a, u1d, u1e, w1f
	58	Central Studio's Grassland		2.37	g3c, g4, h3d, h3h, u1b, w1h, w2c
	59	Nottingham University Downs	11/12/2021	5.38	g1a, g3c, u1e
	60	Queens Drive Park & Ride	17/12/2021	3.66	g3a, g3c, g4, h3d, h3h, u1b, u1c, w1g
Mapperley Ward	61	Hungerhill Gardens	15/12/2021	28.63	g3a, g3c, g4, h2b, h3b, h3h, u1c, u1d, u1e, w1g
	62	Mapperley Hospital Bank	10/02/2022	0.26	g3c, u1e, w1g
Meadows Ward	63	King's Meadow Grassland		2.65	g3c, h3d, h3h, u1a, u1b, u1e, w1g
	64	Trent Bridge North	18/01/2022	0.09	g3c, u1b, u1c
Nuthall East & Strelley Ward	65	Blenheim Disused Railway	20/12/2021	1.44	c1a, g3c, h3d, h3h, w1f, w1g
	66	Seller's Wood	20/12/2021	13.81	f2d, g1c, g3a, r1a, w1f
	67	Strelley Hall Park	21/12/2021	35.88	g1d, g3c, g4, h2a, h2b, h3d, h3h, r1a, w1f, w1g
Radford Ward	68	Lenton Methodist Church Walls	11/12/2021	0	u1e
Sherwood Ward	69	Valley Road Park	02/12/2021	4.47	g3c, g4, h3d, h3h, r2a, r2b, u1b, u1c, w1g

Ward	ID	Site Name	Survey Date	Area (ha)	Habitats Present (UKHab code)
	70	Valley Road Park (Water Meadow)		3	f2e, g3c, h3a, h3d, h3h, r1a, r2b, u1b, w1g
Wollaton West Ward	71	Harrison's Plantation	09/12/2021	4.28	f2d, g3c, h2b, r1a, r2b, u1, u1e, w1d, w1f, w1g
	72	Martin's Pond	09/12/2021	3.89	f2d, f2f, g2c, g3c, g4, h2b, h3h, r2b, u1e, w1d, w1g
	73	Wollaton Park		204.38	f2d, f2e, g1c, g1d, g3c, g4, h3g, r1a, r2b, u1b, u1c, u1d, u1e, w1d, w1f, w1g, w1h, w2b

ANNEX B: SURVEY SITE MAP



ANNEX C: GIS METADATA

The table below contains key metadata for the UKHab surveys described within this report.

Attribute	Data Type
Scope and purpose of survey	Survey of key wildlife sites within the City of Nottingham.
UKHab Edition	Professional (survey sites) Basic (semi-automated classification)
Minimum mapping unit	25 m^2
Highest level of UKHab hierarchy recorded	Level 4
Additional attributes recorded	Condition
Map projection	EPSG:27700 (OSGB 1936)
Dates of survey	September 2021 – February 2022

The below table contains attributes stored within the city-wide habitat mapping GIS data supplied alongside this report. The attribute name, data type, and a description of the attribute are included.

Attribute	Data Type	Description
fid	Integer	ID of each feature
L2_name	String	UKHab Level 2 label
L3_name	String	UKHab Level 3 label
L4_name	String	UKHab Level 4 label
Label	String	Label of highest UKHab Level
Primary	String	UKHab primary code
Secondary	String	UKHab secondary code
Condition	String	Habitat condition (where surveyed)
Local_name	String	Name of survey site (where surveyed)
Area	Real	Area of polygon feature (m^2)
Ward_name	String	Name of ward with largest overlap with feature
Grassland_inferred	String	Habitat class inferred from geological data