



Habitat Survey Report

DATE:	01 December 2025	CONFIDENTIALITY:	Public
SUBJECT:	City of Edinburgh Council Habitat Survey Report		
PROJECT:	CT2675 Lot Number 13; SOC667	AUTHOR:	DB
CHECKED:	JD	APPROVED:	SB

INTRODUCTION

The City of Edinburgh Council (CEC) engaged WSP UK Ltd (WSP) to complete habitat surveys of pre-identified areas across Edinburgh. The purpose of the surveys was to collect data to inform strategic planning and monitoring of development, land use change and nature conservation projects.

This technical note provides a description of the survey methodology and effort completed, including:

- Surveyor capabilities and design
- UK Habitat Classification (UKHab) and habitat condition assessment
- Data quality assurance process
- Survey limitations and assumptions
- Summary of mapped habitat types and condition, observed invasive non-native plant species, and other incidentally recorded ecological features.

METHODS

SURVEYOR CAPABILITIES & SURVEY DESIGN

Habitat surveys were completed primarily between July and October 2025, within the summer / late autumn survey season, with further access taken into November 2025 for a small number of locations. A team of eight surveyors undertook the surveys, who meet CIEEM competency standards^{1,2} of 'capable' or 'proficient' for preliminary habitat surveys, most of whom also have a Field Identification Skills Certificate (FISC) Level 3³. Surveyors also attended a bespoke woodland classification field training session led by Ben Averis⁴ (MPhil) during the survey window, focusing on identifying priority woodland communities and ancient woodland ground flora, improving consistency and accuracy in data recording.

The survey extent was agreed with CEC prior to surveys and included polygons identified from historic surveys and desktop assessment. For the purpose of allocating survey areas to surveyors, the predefined areas were grouped by WSP ecologists into eight broad geographical areas and surveyors were allocated to each area, referred to as Survey Areas 1 to 8. Surveyors worked in pairs to cover ground safely when working in the urban setting and again, support consistency in data recording.

¹ CIEEM (2024). Competency Framework, Version 3. Available: <https://cieem.net/resource/competency-framework/>

² CIEEM (2022). Competency Standard for Preliminary Habitat Survey. Available: <https://cieem.net/wp-content/uploads/2022/05/Preliminary-Habitat-Survey-Competency-Standard-May-2022.pdf>

³ Botanical Society of Britain & Ireland (online). What is a FISC? Available: <https://bsbi.org/learn/training/field-identification-skills-certificate>

⁴ Ben and Alison Averis – Botanists. Available: <https://www.benandalisonaveris.co.uk/>



Data was collected using Coreo and the UKHab Survey App⁵, an application designed specifically for digitally recording UKHab and condition assessment data using the prevailing guidance.

UK HABITAT CLASSIFICATION

A survey of all accessible terrestrial habitat polygons was undertaken, hereafter referred to as the 'UKHab Survey Area'. Habitats were described and mapped following UKHab Version 3.0⁶.

The UKHab system classifies habitats according to their vegetation types and structure, following a principal hierarchy of 'Primary Habitats'. Primary Habitats include ecosystems (Level 1), broad habitat types (Level 2s and 3); defined habitats, including UK Biodiversity Action Plan (UKBAP) Priority Habitats (Level 4); and further defined habitats, including EU Habitats Directive Annex I habitats (Level 5). Each Primary Habitat has an alpha-numeric code, unique to UKHab (i.e. different to other habitat survey methods such as Phase 1 and National Vegetation Classification).

A non-hierarchical system of numeric codes ('Secondary Codes') can then be used to provide more information on a habitat where appropriate; the Secondary Code should apply to the whole of the habitat feature. Secondary Codes available for use are separated into an 'Essential' and 'Additional' list, depending on the Primary Habitat. For the purposes of these surveys covering a substantial area and using a team of surveyors, Essential Secondary Codes were prioritised for use⁷.

A Primary Habitat code to Level 4 and – if appropriate – Level 5, plus any relevant Secondary Codes were assigned to each area-based polygon feature mapped within the UKHab Survey Area. Habitats were marked on a handheld mapping device using Geographical Information System (GIS) software.

Plant species were recorded for the majority of polygons. Plant nomenclature follows the New Flora of the British Isles⁸ and Mosses and Liverworts of the British Isles⁹. The DAFOR scale¹⁰ was used to describe species frequency.

HABITAT CONDITION ASSESSMENT

A Habitat Condition Assessment (HCA) of all Primary Habitats was completed concurrently with the UKHab survey. The HCA was completed using the condition assessment sheets and methodology developed to support the Statutory Metric¹¹. The following condition assessment sheets were utilised:

- 5A Grassland Low
- 6A Grassland Med High & Very High
- 20A Scrub
- 23A Wetland
- 24A Woodland

⁵ Natural Aptitude (online). Coreo & UKHab Survey App. Available: <https://coreo.io/>

⁶ UKHab Ltd (2023). UK Habitat Classification Version 2.0. Available: <https://www.ukhab.org>

⁷ Additional Secondary Codes may not have been applied consistently between surveyors because there is a vast number available for use; recording of polygon-specific species lists and condition data was prioritised.

⁸ Stace C. A. (2019). New Flora of the British Isles. Fourth Edition. C&M Floristics, Suffolk.

⁹ Atherton, I., Bosanquet, S., Lawley, M. eds. (2010). Mosses and Liverworts of the British Isles: a field guide. British Bryological Society.

¹⁰ Dominant (>50%), Abundant (33-50%), Frequent (25-33%), Occasional (10-25%), Rare (0.1-10%).

¹¹ Department for Environment Food and Rural Affairs (DEFRA) (2025). The Statutory Biodiversity Metric – Technical Annex 1: Condition Assessment Sheets and Methodology. Version: July 2025 (v1.0.2). Available at: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>.

DESK-BASED ASSESSMENT

Where field survey was not possible due to access issues (e.g., no safe public access, landowner refused access), a desk-based assessment was completed using a combination of knowledge derived from accessing adjacent polygons and a review of available online habitat datasets. The following datasets were used to inform desk-based assessments:

- Aerial imagery
- Google Streetview¹²
- Google Earth¹³
- Native Woodland Survey of Scotland¹⁴
- Habitat Map of Scotland¹⁵

A UKHab Primary Habitat type and HCA was assigned for each pre-mapped polygon for which physical access was not feasible. For woodlands, where available data and imagery did not indicate priority habitat may be present, a precautionary approach was taken to assign woodland as w1g – Other broadleaved woodland.

HCA was assigned using available imagery and data or using the precautionary principle ('Moderate' or 'Pass') where available data was insufficient to confidently determine HCA.

All polygons that have been assessed using only a desk-based approach were identified with a 'Plausible' status and text description to reflect it was a desk-based assessment.

INVASIVE AND NON-NATIVE SPECIES

A full survey for invasive and non-native plant species (INNS¹⁶) has not been undertaken, however as agreed within the scope any occurrences were recorded as point features. Primary focus was given to noting occurrences of the four invasive plants which cause the most damage in Scotland: rhododendron (*Rhododendron ponticum*), Japanese knotweed (*Reynoutria japonica*), giant hogweed (*Heracleum mantegazzianum*), and Himalayan (Indian) balsam (*Impatiens glandulifera*).

MISCELLANEOUS FEATURES

Miscellaneous features such as incidental protected fauna observations (e.g. potential badger setts or other field signs, bat boxes or potential roost features) were recorded as point features. Spatial data of protected species is sensitive (particularly for badgers) and should be kept confidential; it should not be published to the public domain.

QUALITY ASSURANCE

A Quality Assurance (QA) exercise was undertaken by an experienced member of the habitat survey team following a standardised procedure to enable consistency and accuracy of recording. Approximately 50% of the Primary Habitat, Secondary Codes, and HCA data were checked to see if they aligned with the attached photos, species lists, and descriptions provided. The status of each record was updated to 'Correct' where all field data aligned well. If there were any discrepancies, the status was provisionally

¹² Google Streetview (online). Accessed November 2025. Available: <https://www.google.com/maps/>

¹³ Google Earth (online). Accessed November 2025. Available: <https://earth.google.com/web>

¹⁴ Scottish Forestry (online). Accessed November 2025. Available: <https://www.forestry.gov.scot/native-woodland-survey-scotland-data-explorer>

¹⁵ NatureScot (online). The Habitat Map of Scotland. Accessed November 2025. Available: <https://www.nature.scot/landscapes-and-habitats/habitat-data-and-habitat-map-scotland>

¹⁶ NatureScot (online). Invasive non-native plants. Available: <https://www.nature.scot/professional-advice/protected-areas-and-species/protected-species/invasive-non-native-species/invasive-non-native-plants>

marked as 'Likely' or 'Unlikely' depending on the queries, and the original surveyor asked to review and update their data or further justify decisions; the record was marked as 'Correct' when an agreeable outcome was reached.

The survey team attended a training event led by local habitat expert Ben Averis on woodland classification in September 2025 – an event that had been planned prior to the commission of these surveys. After this event, a workshop was held in which all surveyors were asked to reflect on their data with particular respect to the assessment of woodland type and condition where there is a component of non-native tree species such as sycamore, and where ground flora characteristics were atypical. The team were encouraged to make any updates retrospectively, as required.

Following detailed review of a substantial proportion of the data, bespoke training, and based on surveyor capabilities (e.g., FISC L3), the remainder of field survey records were considered 'Correct'.

Records added as a desk-based exercise are marked 'Plausible' to differentiate these from those fully assessed using field-based means. As combination of different resources has been utilised as discussed above, it is felt that the accuracy of desk-based classifications is of a suitable standard.

LIMITATIONS

While all reasonable effort was made to visit each survey polygon, a portion of the sites were unable to be accessed due to polygons falling outside of publicly accessible areas (e.g. private gardens, live construction activity observed, rail corridor) or landowners refusing access. In these instances, a desk-based assessment was completed following the methodology described earlier in this report. A total of 85 polygons were desk assessed.

A portion of the UKHab survey was undertaken outside of the optimal period (May to August), therefore it is likely that flowering plants have been under-recorded for these features – including ancient woodland indicator species and other woodland ground flora which is typically most evident between April and May.

Further to this, it is possible that INNS may have died back, or may be the process of doing so, and the full extent of INNS spread (which includes below-ground roots and rhizomes) might not have been obvious; INNS known to occur amongst some of Edinburgh's woodland and non-native riparian ground flora may have been under-recorded (e.g., three-cornered leek). It was still possible to identify the dominant species and vegetation structure and to use these to assign a UKHab Primary Habitat. A precautionary approach was taken when answering questions within the HCA in relation to ground flora, which may have resulted in a higher condition score, e.g., where INNS have not been readily visible.

Ecological survey data are typically valid for 18 months unless otherwise specified, for example if conditions are likely to change more quickly due to ecological processes or anticipated changes in management¹⁷.

Plant species lists were not recorded for 169 polygons. This is because they were either reviewed as part of the desk-based assessment where no access was available, were not directly accessible during field surveys but viewed from a boundary/ adjacent area, or due to time constraints where priority was given to recording the Primary Habitat and HCA. In the latter instances, photos are available as supportive evidence, and all data was recorded by surveyors with a minimum 'capable' competency meaning data recording was reliable. Plant species lists were recorded for 599 polygons (i.e., a vast majority).

¹⁷ CIEEM (2019). Advice Note on the Lifespan of Ecological Reports and Surveys. Available: <https://cieem.net/resource/advice-note-on-the-lifespan-of-ecological-reports-and-surveys/>

Due to some issues with software compatibility on portable recording devices, some photographs could not successfully be uploaded for two sites (at Murrayfield and Carrick Knowe). These photos can be shared manually on request.

In addition to the area habitats mapped, a short line of hedgerow, h2b Non-native and ornamental hedgerow was recorded. This was provided as a polygon but would typically be mapped as a line feature. This well-maintained ornamental hedgerow was recorded along the edge of formally maintained grounds at Holyrood Palace.

The dataset of predefined polygons provided by CEC totalled an area of approximately 321 hectares, with 927 polygons with unique reference numbers. The dataset returned by WSP covers an approximate total area of 320 hectares, comprising 768 polygons. The same spatial area has been assessed in the field (or at the desk) however some polygons have been merged by WSP where the Primary Habitat and HCA of adjacent polygons were consistent across the area, and these appeared to have a similar composition and management. In these instances, a single CEC reference number of the underpinning CEC polygons has been selected (typically, the reference number associated with the largest polygon). It should also be noted that the CEC dataset included a few polygons with the same unique reference number, as well as polygons with spatial overlaps. WSP ecologists made minor edits to spatial extent of polygons where there was a clear distinction in the underlying habitats, e.g., an area of modified grassland was separated from wider scrub. In these instances, the same CEC reference number has been given to both polygons covering the same original spatial extent.

RESULTS

OVERVIEW

Four broad categories of habitat were identified over the course of the survey: wetland (2%), grassland (8%), scrub (7%), and woodland (81%).

A summary of mapped UKHab types as shown in Table 1 below. All data is included in the following which have been provided to CEC separately:

- Shapefiles:
 - UKHab_Polygons_V1_251201
 - TargetNotes_V1_251201
- Spreadsheets:
 - Habitats Data (V1)
 - Species List (V1)
- Photos.

Descriptions of the three most common woodland habitats identified, and summary of overall HCA results have been provided in this section.

Table 1 - Summary of habitat types (field survey and desk-based assessment)

Primary Habitat Type	Level 3/4/5 UKHab Classification	Number of polygons	Area (ha)
Wetland	f2d - Aquatic marginal vegetation	2	0.10
	f2e - Reedbeds	2	0.18
	f2f - Other wetlands	12	1.00
Grassland	g1c - Bracken	4	0.86

Primary Habitat Type	Level 3/4/5 UKHab Classification	Number of polygons	Area (ha)
	g1d - Other lowland acid grassland	7	9.65
	g2c - Other calcareous grassland	1	0.36
	g3 - Neutral grassland	3	0.12
	g3c - Other neutral grassland (including g3c5 & g3c7)	21	11.44
	g4 - Modified grassland	36	10.41
Scrub	h2b - Hedgerows (should be a linear feature)	1	0.03
	h3 - Dense scrub	1	0.02
	h3d - Bramble scrub	2	0.01
	h3e - Gorse scrub	33	6.15
	h3f - Hawthorn scrub	2	0.13
	h3g - Rhododendron scrub	1	0.06
	h3h - Mixed scrub	12	1.31
	h3j - Willow scrub	1	0.05
Woodland	w - Woodland and forest	1	0.13
	w1 - Broadleaved and mixed woodland	1	0.02
	w1c - Lowland beech and yew woodland	1	0.10
	w1d - Wet woodland	11	9.81
	w1e - Upland birchwoods	6	2.37
	w1f - Lowland mixed deciduous woodland (including w1f7)	221	114.74
	w1g - Other broadleaved woodland	311	120.4
	w1h - Other woodland – mixed (including w1h5 & w1h6)	72	31.07
	w2b - Other Scot's Pine woodland	1	0.01
	w2c - Other coniferous woodland	2	0.14

HABITAT CONDITION SUMMARY

A summary of HCA results has been provided in Table 2 and Chart 1 below.

Table 2 Habitat Condition Assessment results summarised by survey area.

Condition	Count	Area (ha)	% of area
Good	54	45.56	14.2%
Moderate	433	184.61	57.6%
Poor	268	89.27	27.8%
Grand Total	768*	320.73*	100.00%*

* 0.4% of assessed features (13 features, 1.28 ha total) were very low / low distinctiveness habitats (i.e. bracken, rhododendron scrub) are excluded from the HCA and assessed as 'Condition Assessment N/A'.

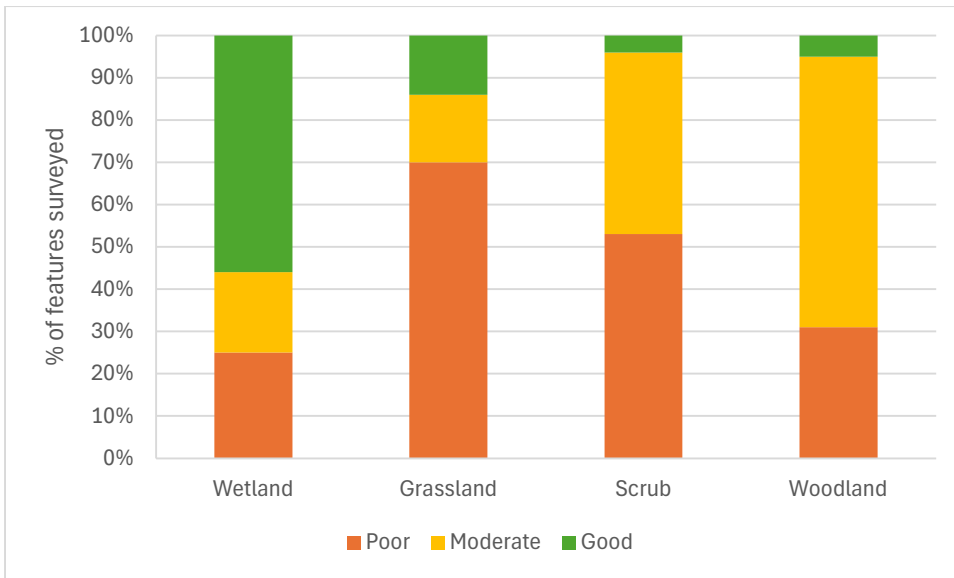


Chart 1 - Habitat condition assessment results summarised by UKHab Level 2 habitat types

INVASIVE AND NON-NATIVE SPECIES OF PLANT

A total of 226 INNS point features, and 14 species were recorded. The most frequently observed species included:

- Rhododendron
- Japanese knotweed
- Giant hogweed
- Himalayan (Indian) balsam
- Cherry laurel (*Prunus laurocerasus*)
- Butterfly bush (*Buddleja davidii*)
- Giant butterbur (*Petasites japonicus*).

A full list of INNS observations is provided in the Target Notes shapefile provided with this report.

ANY OTHER RECORDS

Several badger setts and signs of badger activity (e.g. latrines, snuffles) were recorded. A bat box was also recorded.

These observations have been provided in the Target Notes shapefile provided with this report. Spatial data of protected species is sensitive and confidential; this should not be published to the public domain.

Conclusion

The collected survey information provides a comprehensive database and good representation of habitats around Edinburgh. Information of habitat condition, priority habitats, and invasive species records will support CEC to provide context for how management of the most valuable habitats present could be approached. The database highlights habitats that should be protected or have potential to be enhanced and will allow CEC to efficiently target resources to provide positive ecological outcomes. The database will also serve as a valuable baseline should additional surveys be completed in future to track the effectiveness of enhancement actions.