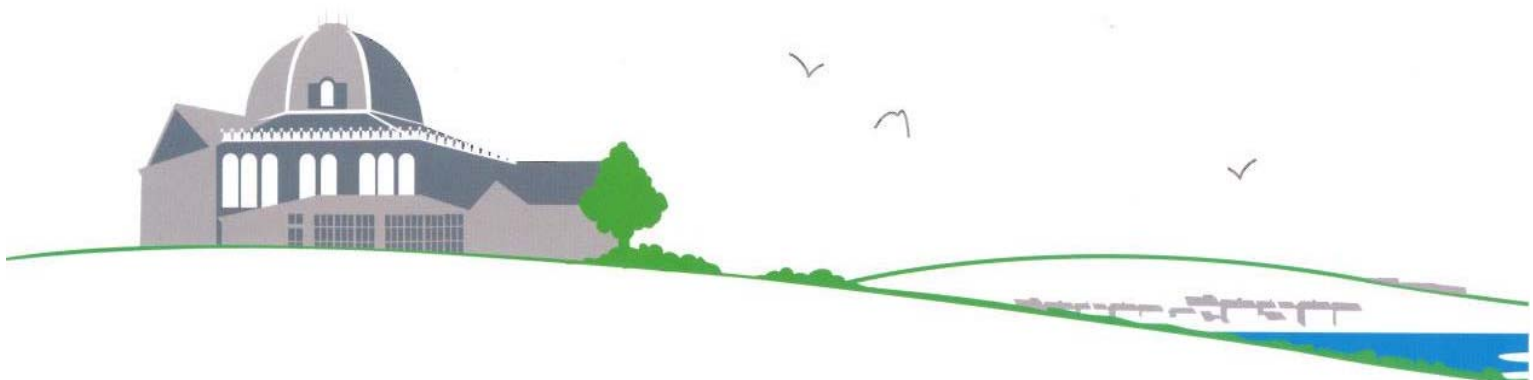




HDCO EPL3 LTD
SEEL STREET, LIVERPOOL
ECOLOGICAL ASSESSMENT
AND BUILDING INSPECTION FOR BATS



HDCO EPL3 LTD

SEEL STREET, LIVERPOOL

**ECOLOGICAL ASSESSMENT AND BUILDING INSPECTION
FOR BATS**

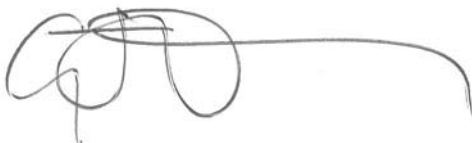
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August 2017

This project has been undertaken in accordance with PAA policies and procedures on quality assurance.



Signed: _____

CONTENTS

	Page
1. INTRODUCTION.....	1
Site Description	1
Legislative Context	1
Protected Species	2
Invasive Species.....	2
2. METHODS	3
Desk Study	3
Extended Phase 1 Habitat Survey	3
Bat Inspection Survey.....	3
Limitations	4
3. RESULTS	6
Desk Study	6
Internationally Designated Sites	6
Special Protection Areas (SPA).....	6
RAMSAR Sites	6
Statutory Protected Sites.....	6
Sites of Special Scientific Interest (SSSI).....	6
Non-Statutory Protected Sites	7
Local Sites	7
Protected and Notable Species	7
Bats.....	7
Section 41 Species	8
West European Hedgehog	8
Birds.....	8
Schedule 1 Bird Species	9
Phase 1 Habitat Survey.....	9
Target Notes	9
Target Note 1 (TN1)	9
Target Note 2 (TN2)	9
Target Note 3 (TN3)	10
Bat Inspection Survey.....	10

Summary.....	11
Other Protected Species	12
Evaluation.....	12
4. RECOMMENDATIONS.....	13
Bats.....	13
Breeding Birds	13
Other Protected Species	13
Habitat Enhancements	13
Native Species	13
Artificial Refugia.....	13
Bird Boxes	13
Bat Boxes	14
Bat Bricks.....	14
5. REFERENCES.....	15
6. ABBREVIATIONS.....	15

FIGURES

- 1 Phase 1 Habitat Survey Map
- 2 Building Inspection for Bats

TABLES

1 Building Assessment Criteria	4
2 Bat Records from Biobank	7
3 Seel Street Bat Building Inspection Results.....	10

PLATES

- 1 - 10

APPENDICES

- 1 Summary Legislation Relating to Bats and Breeding Birds
- 2 Desk Study from Biobank Merseyside
- 3 Mersey East Citation
- 4 Botanical Species List

1. INTRODUCTION

- 1.1 Penny Anderson Associates Ltd (PAA) was commissioned by HDCO EPL3 Ltd to carry out an ecological assessment of a building and land off Seel Street, Liverpool (hereafter referred to as the 'site').
- 1.2 The ecological assessment included a desk study for the site and the area within 1km of its centre. This examined all data records for protected sites, habitats and species held by Biobank Merseyside, the local biodiversity records centre for North Merseyside, and other web-based data repositories, in order to ecologically characterise and contextualise the site within the surrounding area.
- 1.3 This report details the results of the desk study, the site survey and the building inspection for bat roost potential, and evaluates the results in the context of the proposed re-development of the site, making recommendations for any further survey work as required.

Site Description

- 1.4 The site is bounded by Seel Street to the north-east, with David Lewis Street to the north-west and Gradwell Street to the south-west. It consists largely of a single building with hardstanding that is used for car parking. There is no open greenspace.

Legislative Context

- 1.5 A range of international and national legislation has been established in the UK to protect important nature conservation sites and priority species. At the international level, European Union (EU) Directives require individual member states to implement their conservation provisions nationally for the benefit of Europe as a whole. These Directives have been transposed into UK law by the Conservation of Habitats and Species Regulations 2010¹ (further amended in 2011 and 2012); further details can be obtained from the Joint Nature Conservation Committee (JNCC) website at www.jncc.defra.gov.uk.
- 1.6 Other international conventions include the Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979), which requires the maintenance of populations of wild flora and fauna, giving particular protection to endangered and vulnerable species; and the Bonn Convention on the Conservation of Migratory Species of Wild Animals (1979), which requires the protection of migratory species throughout their entire range. The above conventions are implemented in England and Wales via the Wildlife and Countryside Act (WCA) (1981) (as amended) and Countryside and Rights of Way (CROW) Act 2000. This legislation also protects important habitats and sites such as Sites of Special Scientific Interest (SSSI).
- 1.7 At the national level, the UK Post-2010 Biodiversity Framework published in 2012 is the Government's response to the Convention on Biological Diversity (2010). It describes the UK's biological resources, commits a detailed plan for the protection of these resources within the UK's devolved framework across England, Wales, Scotland and Northern Ireland. The document identifies future priorities for nature conservation and adopts a more strategic

¹ Please note: the text provides a brief summary of the legislation in England and Wales and the original Acts and any amendments should be referred to for the precise wording.

approach, including ecosystem services and sustainability alongside biodiversity. Despite administrative changes following devolution, there is still an underlying objective of protecting and enhancing a range of priority species and habitats, often still based on the objectives and classifications of the original UK Biodiversity Action Plan (BAP). Biodiversity 2020 is England's national biodiversity strategy. Building on the Natural Environment White Paper published in 2011, this provides a means of delivering the international and EU commitments to biodiversity. Under Biodiversity 2020, Priority Species and Habitats referred to are those of 'Principal Importance' for the conservation of biodiversity in England listed on Section 41 (England) of the Natural Environment and Rural Communities (NERC) Act 2006.

- 1.8 Finally, the National Planning Policy Framework (NPPF), published in 2012, provides guidance for local authorities on the content of the Local Plans and is a material consideration in determining planning applications. The NPPF has replaced much existing planning policy guidance, including Planning Policy Statement 9: Biological and Geological Conservation. Briefly, with an overall focus on sustainable development, the NPPF states that developments should aim to engender positive outcomes for biodiversity, with a particular focus on the maintenance and creation of ecological networks. Furthermore, the NPPF also states that any planning proposals for which significant negative impacts on biodiversity cannot be avoided, mitigated or compensated should be refused. Biodiversity 2020 Priority Species are also referred to as 'species of principal importance' for the conservation of biodiversity in England within Section 74 of the CRoW Act 2000, and Sections 41 (England) of the NERC Act 2006. The NPPF states that the planning system should contribute to and enhance the natural environment through a range of actions, including:

- a) protecting and enhancing valued landscapes, geological interests and soils;
- b) recognising the wider benefits of ecosystem services; and
- c) minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

Protected Species

- 1.9 Details of the protected species legislation relevant to this site can be found in Appendix 1.

Invasive Species

- 1.10 Certain non-native species that have been introduced into the UK are regarded as being a threat to native biodiversity. Legislative measures have, therefore, been put in place to prevent the spread of these invasive species in the wild.
- 1.11 Under section 14 of the WCA 1981 (as amended), it is illegal to introduce plants listed under Part II of Schedule 9 of the WCA into the wild or sell these species. Offences include causing the spread of viable plant material or neglecting to contain or appropriately manage non-native species.
- 1.12 Commonly introduced Schedule 9 species include non-native cotoneaster species, specifically, small-leaved cotoneaster (*Cotoneaster microphylla*) and wall cotoneaster (*C. horizontalis*), Himalayan balsam (*Impatiens glandulifera*) and Japanese knotweed (*Fallopia japonica*).

2. METHODS

Desk Study

- 2.1 A request for details of protected species and wildlife sites within 1km of the centre of the site was made to Biobank Merseyside (grid reference SJ3477290013). The desk study consisted of a consultation exercise to gather local and site-specific ecological information. The desk study data is used to assess the potential likely effect of the proposed development on the site and the surrounding areas.
- 2.2 It is important to note that the desk study results provide an indication of the species present in and around the site, but do not confirm current presence or absence of any particular species. Protected species are often under-recorded in county wildlife databases.

Extended Phase 1 Habitat Survey

- 2.3 The site habitat survey was undertaken by Ecologist Caroline Boffey on 22nd August 2017.
- 2.4 The survey followed standard methods as set out in the *Handbook for Phase 1 Habitat Survey* (JNCC 2010) for classifying and mapping British habitats. This entailed mapping, describing and identifying plant species.
- 2.5 The survey was 'extended' (Institute of Environmental Assessment 1995, CIEEM 2013) to include a general assessment for the presence or potential presence of protected species, noting any areas of suitable habitat, along with the location and type of any incidental field signs of protected species. In particular, this component of the field survey focused on the potential presence of bats and breeding birds, taking into account any contemporary, relevant desk study records.

Bat Inspection Survey

- 2.6 The building was inspected for bats and bat roost potential by Principal Ecologist Helen Hamilton (MCIEEM)² on 22 August 2017 following standard methodologies using a high-powered torch and binoculars, making detailed notes, taking photographs and following the best practice survey guidance of Collins (2016).
- 2.7 During the inspection, the exterior of the building was walked and examined for any signs of bats (such as staining or droppings on surfaces including walls and window ledges, feeding remains, as well as the bats themselves) or features suitable for roosting bats. Features of interest would include gaps around doorframes, beneath felt/lead flashing, at the wall plates and eaves of pitched roofs, and any crevices beneath fascia boards, barge boards, within soffits or created by missing mortar within the brickwork.
- 2.8 The bat inspection assigned an overall roost potential category, based on its suitability for supporting roosting bats and any evidence found, using criteria in Table 1 adapted from the *Bat*

² Member of the Chartered Institute of Ecology and Environmental Management.

Mitigation Guidelines (Mitchell-Jones 2004) and *Bat Surveys Good Practice Guidelines* (Collins 2016).

- 2.9 During the survey any evidence of the buildings being used by nesting birds (e.g. active nests or old nest material) was also investigated.

Limitations

- 2.10 No significant limitations to the assessment were encountered during the surveys and the surveys took place in fine weather during daylight hours, and all areas to be surveyed were accessible or easily viewed from outside the site perimeter. The building was found to be in good condition and a visual external and internal inspection was possible.

Table 1 Building Assessment Criteria

Roost Potential Category	Category Description	Indicator
Confirmed Roost	Building with evidence of current use by bats i.e. confirmed roost.	<ul style="list-style-type: none"> Sighting/hearing of bats (including emergence). Presence of fresh droppings/staining.
	Building with evidence of recent use by bats.	<ul style="list-style-type: none"> Small numbers of old droppings/old staining, smoothing and lack of cobwebs, feeding remains. Roosts identified by personal communication from reliable source (e.g. property owner).
High	Building has high potential to support bat roost(s).	<ul style="list-style-type: none"> Buildings of early or pre 20th century origin with numerous access points for bats e.g. gaps under eaves, loose lead flashing and/or roof tiles. Agricultural buildings of traditional, stone or timber construction and/or with exposed large wooden beams (>200mm thick) and mortise joints, cracks and holes. Large and complicated roof voids, with unobstructed flying spaces. Roof warmed by the sun, especially south facing roofs, free of strong draughts. Undisturbed roof spaces. Weatherboarding and/or hanging tiles with gaps. Buildings in proximity to each other providing a variety of roosting opportunities. Within 200m of good foraging habitat, particularly trees, parkland, woodland or waterbodies. Well connected to wider landscape through presence of continuous linear features such as hedgerows, watercourses, farm tracks etc.
Medium	Building has moderate potential to support bat roost(s)	<ul style="list-style-type: none"> Buildings with some of the above features but are considered to be less suitable on account of their age, location and disturbance levels.
Low	Building has low	<ul style="list-style-type: none"> Modern well maintained buildings with few or no access points

Roost Potential Category	Category Description	Indicator
	potential to support bat roost(s)	<p>for bats.</p> <ul style="list-style-type: none"> • Small cluttered roof space. • Buildings comprised predominantly of prefabricated steel and sheet materials. • Roof sections with a dense cover of cobwebs and no sections of clean ridge board. • High levels of regular disturbance • Buildings with exposed roosting features which are open to the elements. • Location with few or no mature trees, parkland, woodland or water features and isolated due to a lack of commuting routes.
None	Building has no potential to support bat roost(s)	<ul style="list-style-type: none"> • Buildings with no features that could be utilised by bats for roosting.

3. RESULTS

Desk Study

- 3.1 Please note: the desk study results returned by Biobank Merseyside are presented in Appendix 2 and a summary of the results is given below.

Internationally Designated Sites

Special Protection Areas (SPA)

- 3.2 These sites are strictly protected in accordance with Article 4 of the European Commission (EC) Directive on the conservation of wild birds (79/409/EEC) for rare and vulnerable birds (also known as the Birds Directive).
- 3.3 There is one SPA within the search area: Mersey Estuary. The Mersey Estuary was classified as a SPA on 20 December 1995.
- 3.4 The Mersey is a large, sheltered estuary with large areas of saltmarsh and extensive intertidal sand and mudflats, with limited areas of brackish marsh, rocky shoreline and boulder clay cliffs, within a rural and industrial environment. The intertidal flats and saltmarshes provide feeding and roosting sites for large and internationally important populations of waterfowl. During the winter, the site is of major importance for duck and waders. The site is also important during spring and autumn migration periods, particularly for wader populations moving along the west coast of Britain.

RAMSAR Sites

- 3.5 RAMSAR sites are designated because they meet the criteria for identifying Wetlands of International Importance, especially as waterfowl habitat (the RAMSAR Convention).
- 3.6 The Mersey Estuary SPA is also designated a RAMSAR site.

Statutory Protected Sites

Sites of Special Scientific Interest (SSSI)

- 3.7 SSSIs are statutory sites designated to support species of plants and animals that find it more difficult to survive in the wider environment. They represent a selection of this country's best wildlife and geological sites and cover approximately 7% of the terrestrial area of the country (with over 4,000 separate sites in England).
- 3.8 The Mersey Estuary is also listed as a SSSI, being recognised as an internationally important site for wildfowl. The citation is presented in Appendix 3. Hale Marsh is an important roosting site for wildfowl and waders at high tide. In winter the estuary supports large numbers of wildfowl and waders. The birds feed on the rich invertebrate fauna of the intertidal sediments as well as plants and seeds from the salt-marsh and adjacent agricultural land.

Non-Statutory Protected Sites

Local Sites

- 3.9 Local Sites are non-statutory sites designated through Local Sites Partnerships and receive policy protection through Local Plans; these include both Local Wildlife Sites (LWS) and Local Geological Sites (LGS). Local Sites are designated due to substantive wildlife or geological interest.
- 3.10 There are four Local Geological Sites with the search area:
- Lime Street Railway Cutting;
 - St James Cemetery, Liverpool Anglican Cathedral;
 - Queens Walk Anglican Cathedral; and
 - Metropolitan Catholic Cathedral, Brownlow Hill.
- 3.11 The geology of Merseyside is largely dominated by Triassic sandstones and mudstones.

Protected and Notable Species

Bats

- 3.12 Table 2 below shows the number of each species of bat recorded in the search area. The most recorded species in the area are unspecified pipistrelle species.

Table 2 Bat Records from Biobank

Species		No. of Records
Common Name	Scientific Name	
Pipistrelle species		7
Brown long-eared	<i>Plecotus auritus</i>	3
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	2

- 3.13 The majority of the records returned are for pipistrelle species recorded in Liverpool city centre. There are two native species - common pipistrelle and soprano pipistrelle³. The common pipistrelle is one of the UK's most common bat species, found in a wide range of habitats including suburban and urban habitats. Soprano pipistrelle is also widely distributed across the UK. Where the distinction between the two species has not been made, they are recorded as

³ See Table 1 for scientific names of bat species

pipistrelle species. There are records for a brown long-eared bat (*Plecotus auritus*), which is found throughout the UK and is widespread in the rest of Europe.

Section 41 Species

- 3.14 Some of the rarest and most threatened species are listed under Section 41 (S41) of the 2006 Natural Environment and Rural Communities (NERC) Act and Species of Principal Importance. The Government's Biodiversity 2020 strategy has an ambition to ensure that by 2020 there will be an overall improvement in the status of wildlife and further extinctions of known threatened species. To achieve this, a range of actions have been identified to help in the recovery of S41 species.

West European Hedgehog

- 3.15 West European hedgehog (*Erinaceus europaeus*) is classed as a Species of Principal Importance under Section 41 (S41) of the NERC Act 2006. Surveys in urban and rural areas indicate falling numbers of hedgehogs.
- 3.16 There is a single record for West European hedgehog in the search area.

Birds

- 3.17 There are six S41 birds species recorded in the search area. These are dunno⁴, herring gull, house sparrow, common linnet, song thrush and common starling
- 3.18 Dunnock is amber listed⁵ because the breeding population or range has declined by 25 to 50% in the last 25 years.
- 3.19 Herring gull is red listed having suffered a moderate decline over the past 25 years with UK breeding sites now confined to ten sites in the UK.
- 3.20 The house sparrow population has experienced a severe decline in the UK dropping by 71% between 1977 and 2008 with substantial declines in both rural and urban populations and is consequently red listed.
- 3.21 Common linnet is red listed because numbers have dropped substantially over the past few decades, with the UK population estimated to have declined by 57% between 1970 and 2008.
- 3.22 Song thrushes are also red listed having suffered a serious decline in numbers nationally, with more than a 50% reduction since the 1970s.

⁴ Common names only are mentioned in text, please see Appendix 2 for scientific names

⁵ According to their population status of each species, is placed on one of three lists: red, amber or green. Red list species are of high conservation concern, having declined by 50% or more in population or breeding range in the last 25 years. Amber listed species are of medium conservation concern, having suffered between 25% and 49% reduction in breeding or non-breeding populations, breeding or wintering ranges. Green list species have a favourable conservation status (Eaton et al., 2015)

- 3.23 The common starling is red listed because of a significant population decline in although it remains one of the UK's commonest of garden birds.

Schedule 1 Bird Species

- 3.24 All breeding birds are protected under Section 1 of the Wildlife and Countryside Act (WCA) 1981 (as amended). This protection extends to killing and injuring, and to the destruction of nests, eggs or chicks. Additional protection is offered to bird species listed in Schedule 1 of the WCA 1981, which are protected, for example, from disturbance whilst nesting or attempting to make a nest. The Countryside and Rights of Way (CROW) Act 2000 makes it an offence to recklessly disturb, in addition to intentionally disturb, Schedule 1 species.
- 3.25 Records of one Schedule 1 species have been provided by Biobank in the search area of black redstart (*Phoenicurus ochruros*). This species is a rare breeder, passage migrant and winter visitor with a small population concentrated in London and the West Midlands. There are also records of black redstarts breeding in Greater Manchester and Sheffield.
- 3.26 The records date back to 1979 and 1999 and are for one count of a confirmed breeding pair at Canning and Liverpool Docks and the Liver building.

Phase 1 Habitat Survey

- 3.27 The site is based in Liverpool city centre and surrounded by buildings, tarmac and hardstanding, with little vegetation observed in adjacent areas surrounding the site.
- 3.28 Figure 1 is the Phase 1 survey map, which shows the car park and two other external areas surrounding the buildings were comprised of hardstanding, with a very sparse scattering of ephemeral/short perennial vegetation. The species present within the three areas are listed in Appendix 4 and consist mainly of small annual species, with occasional perennial species and seedlings of buddleia (*Buddleia davidii*), an introduced species. The species present occur commonly within this type of urban environment and no rare species were recorded.

Target Notes

- 3.29 Please refer to Figure 1.

Target Note 1 (TN1)

- 3.30 Tarmac car park. This area is largely devoid of plants, with a very sparse scattering of mainly small annual species and buddleia (*Buddleia davidii*) seedlings, mostly located at the interface between the wall and tarmac and around the drains (Plate 1). A tree which was located on the pavement just outside the car park gate has been very recently cut down, the stump removed and the area tarmaced (Plate 2).

Target Note 2 (TN2)

- 3.31 Narrow area of concrete hardstanding surrounded by a brick wall, located at the side of the building. It is used for refuse bin storage and as a fire escape area. The hardstanding has very few plants present – scarce ephemeral/short perennial vegetation, similar to that present in the other areas. Species include: Canadian fleabane (*Conyza canadensis*), buddlei seedlings (*Buddleia davidii*), rosebay willowherb (*Chamerion angustifolium*), groundsel (*Senecio vulgaris*), annual meadow-grass (*Poa annua*), procumbent pearlwort (*Sagina procumbens*) and ground-

ivy (*Glechoma hederacea*) present (Plate 3). A few pots of plants have been placed along the top of one wall.

Target Note 3 (TN3)

- 3.32 Frontage along Seel Street, with entrance to the building and car parking spaces, the hardstanding comprised bricks (Plate 4). There is a sparse scattering of ephemeral/short perennial vegetation in the cracks between the bricks, predominantly annual meadow-grass (*Poa annua*), with other ephemeral/short perennial species, seedlings of buddleia and common liverwort (*Marchantia polymorpha subsp. ruderalis*) which commonly occurs within these types of man-made environments.

Bat Inspection Survey

- 3.33 Please see Table 3 for the results of the building inspection for bats undertaken on 22nd August 2017, also refer to Figure 2.

Table 3 Seel Street Bat Building Inspection Results

Building Area	Exterior	Interior	Bat Roost Potential	Plate No.
1	Flat roof sealed with 'single ply' rubberised roofing to south-west end of building and lined with roofing felt in good condition along north-western frontage with David Lewis Street. Low, 0.6m parapet around whole, which is of brick construction but encased in metal sheet cladding where not rubberised. Roof is well maintained and well sealed. Vent structure in eastern corner is in constant use and fully sealed structurally, flat-roofed.	Shallow void above offices between ceiling and flat roof. Ducting and cabling. No access for bats (or people).	None	5
2	Pitched corrugated metal roof, hipped to south-west. Metal ridges. Superficial gaps are present, but material is unsuitable for bats. Also a highly urban location. Pale roof colour would make any accumulations of bat droppings very easy to see; none present. Cracked and weathered filler visible in some of the gaps and insulation present beneath roofing material.	No roof void, activity space open to insulated/boarded underside of roof.	None	6
3	Similar to 2	Similar to 2, offices.	None	6

Building Area	Exterior	Interior	Bat Roost Potential	Plate No.
4	Flat-roofed section on two levels, covered in well-maintained and sealed roofing felt. Exposed 1.2m brick wall with windows to offices below on both sides, with ply gutterboard on both sides. Very few gaps and no evidence of bat use - all cobwebbed or too small for entry.	No roof void - flat roof.	none	7
5	Seel Street frontage to building. Ground floor rendered brick, clad above with corrugated metal. Windows present. No gaps. A canopy has wooden ceiling, but few gaps are present and are cobwebbed where large enough for bat entry. Street frontage is busy and lit at night so generally low suitability for roosting.	NA	None	8
6	Frontage along David Lewis St. brick walls clad in corrugated metal. Few gaps and generally well-maintained with very low suitability for bats. Disturbed, lit, city centre location.	NA	None	9
7	Rear (south-western) elevation by car parking. Rear extension built out over car park in brick with corrugated metal cladding, with concrete floor, netted against pigeons. Few gaps in this well-maintained structure and negligible bat potential.	NA	None	10
8	No access - a new building has been constructed adjacent to the whole south-eastern elevation of the building and there is no possibility of access to examine this wall. However, given the condition of the rest of the structure, there is likely to be negligible bat potential in this area.	NA	None	NA

Summary

- 3.34 Overall, following the assessment criteria described in Table 1, the site and buildings at Seel Street were considered to have negligible potential for bat roosting.

Other Protected Species

- 3.35 No evidence of other protected species was found during the survey.
- 3.36 The building was not considered suitable for use by nesting or foraging black redstart, with no high song perches favoured by this species, few sheltered, quiet, high ledges for nesting, limited insect activity and a high degree of disturbance from the busy adjacent roads and construction works on the neighbouring site.
- 3.37 Furthermore, no areas of suitable foraging habitat are present on the site or immediately close by. On this basis it is considered very unlikely that black redstart are present on the site and no species-specific survey is recommended.

Evaluation

- 3.38 The desk study identified a number of protected sites and species within the search area. All sites and records of species returned during the desk study were considered sufficiently distant and isolated from the site not to be impacted by the development proposals.
- 3.39 There are no areas of habitat of nature conservation interest and no non-native invasive Schedule 9 listed plants were observed in the grounds of the building.
- 3.40 The survey identified negligible potential for roosting bats to be present within the building and no evidence of roosting was found during the building inspections. The surrounding habitats were considered to be of very low value to foraging and commuting bats.
- 3.41 No active or disused birds' nests were observed. The building was not considered suitable for use by nesting or foraging black redstart.
- 3.42 The building and site have very low ecological value.

4. RECOMMENDATIONS

Bats

- 4.1 No further survey or special measures are recommended in relation to bats and their roosts.
- 4.2 It would be considered good practice to repeat the bat survey at a suitable time of year (May to August inclusive) if building works have not commenced two years from the date of this survey. This is because buildings can become more suitable for bats over time and some species of bat are quick to make use of new roosting opportunities.

Breeding Birds

- 4.3 It is recommended that, prior to building works, a check is made by a qualified ecologist for active nests. All breeding birds are protected and pigeons can nest any time of the year if weather conditions are suitable. If nesting birds are confirmed to be present, then works should be postponed in the vicinity of the nest until young have fledged and/or nesting had been completed. It may be necessary to cordon off the nest and monitor it until work is completed.

Other Protected Species

- 4.4 Additional surveys or special measures for other protected species are not considered necessary.

Habitat Enhancements

- 4.5 The site presently is generally of low ecological value. Any habitat enhancements will be severely constrained by the lack of open space and the urban context. However, new buildings can present some opportunities to increase biodiversity and add ecological value although in this instance the opportunities are very limited. Below are a number of general considerations for enhancement measures.

Native Species

- 4.6 Planting schemes used in urban environments often include non-native species. These may be selected for their aesthetic appeal, pollution tolerance, evergreen foliage and low maintenance, and many nectar-bearing exotic species do support insects and provide foraging and nesting opportunities for birds. However, native species, preferably of local provenance, tend to support greater biodiversity as they have evolved to the local conditions. It is recommended that, wherever practical, native trees and shrubs are selected for landscape designs

Artificial Refugia

Bird Boxes

- 4.7 It is recommended that, where practical, bird boxes should be installed, targeted towards species currently known to utilise the site and its surrounds, to potentially accommodate a range of small birds. Traditional nest boxes should be attached in various locations around the site on the south-west or south-eastern side of the building.

Bat Boxes

- 4.8 It is recommended that various bat boxes facing south-west, south-east and north are erected to provide additional roosting opportunities for commuting/feeding bats in various weather conditions. Recommended bat boxes include Schwegler 2F for smaller bats and 2FN for larger bats. The addition of traditional wooden bat boxes may reduce the number of small birds attempting to use boxes provided for bats.
- 4.9 High levels of lighting around site may have important implications for bats. High densities of bats are often detected near white street lamps (mercury lamps) and, as a consequence, such street lighting may offer enhanced feeding opportunities for various species (Bat Conservation Trust, 2007). This has proved beneficial for certain species, including pipistrelle bats that forage on invertebrates drawn to the lights. Both low-flying species and those feeding at lights are, however, more vulnerable to collisions with traffic. Other species, particularly long-eared bats, actively avoid bright lights. Consequently, continuous external lighting may also function as a barrier to species movement, thereby effectively increasing habitat fragmentation. It is, therefore, suggested that directional lighting is carefully designed to limit unnecessary excess illumination. With regard to potential health risks associated with bats, these are considered to be minimal.

Bat Bricks

- 4.10 Bat bricks can be incorporated within the structure of new buildings in place of the usual building bricks (e.g. Bioquip www.bioquip.net/acatalog/boxes_for_building.html). These would be best placed on the south-west or south-east side of the building.

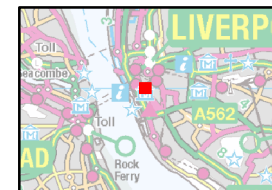
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6. ABBREVIATIONS

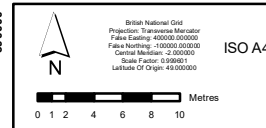
BAP	Biodiversity Action Plan
CRoW	Countryside and Rights of Way
EU	European Union
GMEU	Greater Manchester Ecology Unit
JNCC	Joint Nature Conservation Committee
NERC	Natural Environment and Rural Communities
NPPF	National Planning Policy Framework
PAA	Penny Anderson Associates Ltd
SAC	Special Area of Conservation
SBI	Site of Biological Importance
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
WCA	Wildlife and Countryside Act

FIGURES



Legend

- Application Site
- Habitat**
- Buildings
- Hardstanding
- Wall
- Ephemeral/short perennial - sparse
- Target note



Penny Anderson Associates Ltd, Parkies, 60 Park Road, Buxton, Derbyshire, SK17 6SN. Telephone 01296 27085		Penny Anderson Associates Ltd 120000 1000000 120000 1000000	
Phase 1 Habitat Survey Map			
Project Name: Seel Street, Liverpool			
Discipline: Ecology			
Scale: 1:500		Drawing No.: Figure 1	
Drawn By: CC		Originator: HH	
Date: 8/31/2017		Revision: A	



PLATES



Plate 1 Car park at rear of building.



Plate 2 Location of former tree.



Plate 3 Concrete area at side of building.



Plate 4 Frontage along Seel Street.



Plate 5 Roof area.

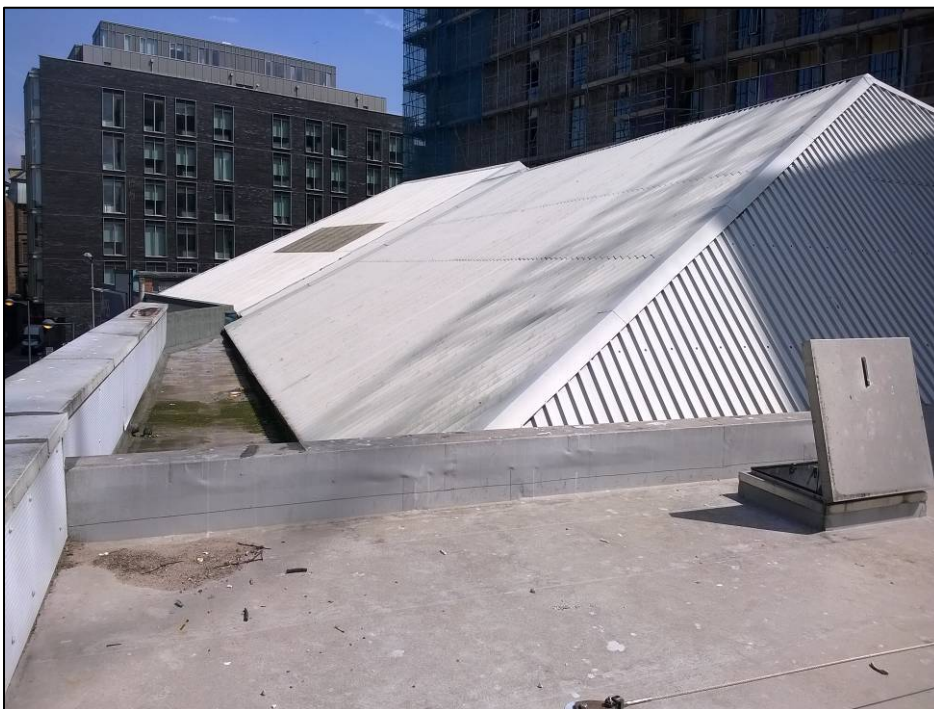


Plate 6 Roof area.



Plate 7



Plate 8



Plate 9



Plate 10

APPENDICES

APPENDIX 1

Summary Legislation Relating to Bats and Breeding Birds

SUMMARY OF THE LEGISLATION RELATING TO BREEDING BIRDS

All wild species of breeding birds and their nests are protected under Part 1 of the Wildlife and Countryside Act (WCA) 1981, as amended by later legislation including the Countryside and Rights of Way (CROW) Act 2000. This legislation applies in England and Wales.

Part 1 (Section 1:1) of the WCA states that:

'If any person intentionally,

- (a) kills, injures or takes any wild bird;
- (b) takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or
- (c) takes or destroys an egg of any wild bird,

he shall be guilty of an offence.'

Part 1 (Section 1:5) of the WCA (amended by the CROW Act 2000) refers to specific birds listed on Schedule 1 of the WCA, and states that:

'If any person intentionally or recklessly,

- (a) disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or
- (b) disturbs dependent young of such a bird,

he shall be guilty of an offence and liable to a special penalty.'

Schedule 1 includes birds such as barn owl (*Tyto alba*), black redstart (*Phoenicurus ochruros*), wood lark (*Lullula arborea*) and Cetti's warbler (*Cettia cetti*). Please refer to the WCA for a complete list of Schedule 1 species.

Some provisions are made to allow the killing and taking of certain species under certain circumstances, as follows:

- Birds listed on Schedule 2 (Part 1) of the Act may be taken or killed outside of the 'close season' for each individual species (the 'close season' is defined by the Act). This includes various wild duck and geese species.
- Birds listed on Schedule 2 (Part 2) of the Act may be killed or taken by authorised persons at all times. This includes species such as carrion crow (*Corvus corone*), black-billed magpie (*Pica pica*), feral pigeon (*Columba livia*) and greater Canada goose (*Branta canadensis*). An 'authorised person' is defined as a person who has written authorisation to undertake the act from the relevant statutory authority. The written authority is in the form of a licence, either a general licence which covers a number of the more typical 'pest' species, or an individual licence for other individual species. In England these licences are issued by Natural England and in Wales by the Welsh Assembly Government.

Please note: the above text provides a brief summary of the legislation in relation to breeding birds in England and Wales and the original Act and any amendments should be referred to for the precise wording.

SUMMARY OF THE LEGISLATION RELATING TO BATS

All wild species of bat are protected under the Wildlife and Countryside Act (WCA) 1981, which has also been amended by later legislation, including the Countryside and Rights of Way (CROW) Act 2000 and the Conservation of Habitats and Species Regulations 2010, and this legislation is applicable to England and Wales. Bats are listed on Schedule 5 of the WCA and are therefore subject to some the provisions of Section 9 which, with the amendments, make it an offence to:

- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection (S9:4b).
- Intentionally or recklessly obstruct access to any structure or place used for shelter or protection by a bat (S9:4c).

There are additional offences in relation to buying and selling (S9:5) any live or dead animal of this species or anything derived from them.

Bat species are also listed under Annexes IIa and IVa of the EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora, also known as the 'Habitats Directive'. Inclusion on Annex IVa means they are consequently identified as European Protected Species (EPS) and protected under the Conservation of Habitats and Species Regulations 2010.

The Conservation of Habitats and Species Regulations 2010¹ state that a person commits an offence if they:

- (a) deliberately capture, injure or kill any wild animal of a European protected species,
- (b) deliberately disturb wild animals of any such species, in such a way as –
 - (i) to impair their ability to survive, to breed or reproduce, or to rear their young, or
 - (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate, or
 - (iii) to affect significantly the local distribution or abundance of the species to which they belong;
- (c) deliberately take or destroy the eggs of such an animal, or
- (d) damage or destroy a breeding site or resting place of such an animal.

Under these Regulations it is an offence to damage or destroy a breeding site or resting place whether the animal is in occupation or not, and protection extends to all life stages of the animal in question. There are additional offences relating to possession, control and sale of a live or dead bat or part of such an animal.

In addition, seven native British bat species, including the soprano pipistrelle (*Pipistrellus pygmaeus*) and the brown long-eared bat (*Plecotus auritus*), that are frequently found in buildings, are listed as a 'Priority Species' under the 2011 biodiversity strategy for England, *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*, under the 2012 UK Post-2010 UK Biodiversity Framework. These Priority Species are also referred to as 'species of principal importance' for the conservation of biodiversity in England and Wales within Section 74 of the CROW Act 2000, and Sections 41 (England) and 42 (Wales) of the Natural Environment and Rural Communities (NERC) Act 2006. Section 11 of the National Planning Policy Framework (NPPF) states that the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and providing net gains in biodiversity where possible. The NPPF also includes the requirement to contribute to the Government's commitment to halt the overall decline in biodiversity and to promote the reservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets. Reference is made to Circular 06/2005 *Biodiversity and*

¹ These regulations have been slightly amended by The Conservation of Habitats and Species Regulations 2012

Geological Conservation - Statutory Obligations and Their Impact within the Planning System in respect of statutory obligations for biodiversity and geodiversity conservation.

Local authorities in England are required to ensure that where significant harm resulting from development cannot be avoided (through locating on alternative sites with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, planning permission is refused. The commitment to preserving, restoring or enhancing biodiversity is further emphasised for England and Wales in Section 40 of the NERC Act 2006.

Please note: the above text provides a brief summary of the legislation in relation to bats in England and Wales and the original Acts, Regulations and any amendments should be referred to for the precise wording.

APPENDIX 2

Desk Study from Biobank Merseyside



Biodiversity Information Report 08/08/2017

MBB reference: 2264-PennyAnderson

Site: off Seel Street

Your Ref: None supplied
Your contact: Gerard Hawley

MBB Ref: 2264-PennyAnderson
MBB Contact: Ben Deed

Date: 08/08/2017

Merseyside BioBank biodiversity information report

These are the results of your data request relating to **an area at off Seel Street defined by a buffer of 1000 metres around the centre of grid reference SJ3477290013.**

You have been supplied with the following:

- records of **protected** taxa that intersect the search area
- records of **BAP** taxa that intersect the search area
- records of **Red Listed** taxa that intersect the search area
- records of other '**notable**' taxa that intersect the search area
- records of WCA schedule 9 taxa (including '**invasive plants**') that intersect the search area
- a map showing the location of monad and tetrad references that overlap the search area
- a list of all **designated sites** that intersect your search area
- citations, where available, for intersecting Local Wildlife Sites
- a list of **other sites of interest** (e.g. Ancient Woodlands) that intersect your search area
- a map showing such sites
- a list of all **BAP habitats** which intersect the search area
- a map showing BAP habitats
- a summary of the area for all available mapped **Phase 1 and/or NVC habitats** found within 500m of your site
- a map showing such habitats

Merseyside BioBank (MBB) is the Local Records Centre (LRC) for North Merseyside. We collect and collate biological and environmental information and make it available to people and organisations that have need to access such information in North Merseyside. We promote the North Merseyside Biodiversity Action Plan and wider participation in conservation through education, community involvement and by supporting the biological recording community of North Merseyside.

Merseyside BioBank is an information node of the National Biodiversity Network (NBN) and integrate records from our own databases with those of the NBN Gateway.

The handling charge for this data request is not a charge for the data themselves, but rather a partial charge for the staff time required to service the request. Our annual income from data requests is something less than 20% of our total running costs.

Species records

The biological records held by Merseyside BioBank come from a variety of sources; from large organisations to individual amateur naturalists. Merseyside BioBank operates as managers or custodians of these records but the individuals and groups, who provide their records free of charge, retain copyright on their data. Without their contribution, we would not be able to provide the records included in this report. Their efforts, expertise and goodwill make a substantial contribution to the protection of North Merseyside's biodiversity.

You may only use the records in this document subject to our access terms and conditions which can be found in Appendix 1. Non-adherence to these terms and conditions will be viewed as a breach of contract, which may result in legal redress being sought.

This report also integrates records from the NBN Gateway. Some NBN data providers give us permission to download and integrate their records at a higher resolution than available through public access in order to contribute to the protection of North Merseyside's biodiversity.

Details of the biological records summarised in the following tables, and the sources from which they are derived, are included in appendix 2 of this report. Note that the date ranges in the summary tables (headed 'Dates') show the earliest and latest years for which records have been summarised for each taxon.

UK Protected Species

'UK Protected species' are those taxa specifically identified by UK legislation including: Wildlife & Countryside Act 1981 (as amended); Protection of Badgers Act 1992; Conservation of Habitats and Species Regulations 2010. The latter regulations enact the European Union's (EU) Habitats Directive (92/43/EEC) in the UK and supercede The Conservation Regulations 1994. In our list of protected species, you may see designations that refer to schedules in the 1994 regulations, but these remain unchanged under the 2010 regulations.

Some protected species may not be legally disturbed unless you are in possession of an appropriate license. If you are in any doubt as to whether or not a license is required, you should contact Natural England.

The following tables detail the protected species that were recorded in the search area.

Group	Common Name	Scientific Name	Records	Dates	Designations
amphibian	Common Frog	<i>Rana temporaria</i>	2	2000-2006	WCA5/9.5a
bird	Black Redstart	<i>Phoenicurus ochruros</i>	5	1979-1999	WCA1i
flowering plant	Bluebell	<i>Hyacinthoides non-scripta</i>	4	1983-1997	WCA8
marine mammal	Bottle-Nosed Dolphin	<i>Tursiops truncatus</i>	1	2000	HabRegs2,WCA5/9.5a
	Common Porpoise	<i>Phocoena phocoena</i>	4	2004-2012	HabRegs2,WCA5/9.5a
terrestrial mammal	Bats	<i>Chiroptera</i>	2	1985-1993	HabRegs2,WCA5/9.4b,WCA5/9.5a,WC A5/9.4c
	Brown Long-eared Bat	<i>Plecotus auritus</i>	3	1986-1991	HabRegs2,WCA5/9.4b,WCA5/9.5a,WC A5/9.4c
	Common Pipistrelle	<i>Pipistrellus pipistrellus</i>	2	2009-2010	HabRegs2,WCA5/9.4b,WCA5/9.5a,WC A5/9.4c
	Eurasian Red Squirrel	<i>Sciurus vulgaris</i>	1	1970	WCA5/9.2,WCA5/9.4.a,WCA5/9.4b,WC A5/9.5a,WCA5/9.4c
	Pipistrelle Bat species	<i>Pipistrellus</i>	7	1980-1992	HabRegs2,WCA5/9.4b,WCA5/9.5a,WC A5/9.4c

Desig. Code	Desig. Name	Designation Description
WCA5/9.5a	Wildlife and Countryside Act 1981 (Schedule 5 Section 9.5a)	Section 9.5 Animals which are protected from being sold, offered for sale or being held or transported for sale either live or dead, whole or part.
WCA1i	Wildlife and Countryside Act 1981 (Schedule 1 Part 1)	Birds and their young, for which it is an offence to intentionally or recklessly disturb at, on or near an active nest. They are protected by special penalties at all times.
WCA8	Wildlife and Countryside Act 1981 (Schedule 8)	Plants which are protected from intentional picking, uprooting or destruction (Section 13 1a); selling, offering for sale, possessing or transporting for the purpose of sale (live or dead, part or derivative) (Section 13 2a); advertising (any of these) for buying or selling (Section 13 2b).

HabRegs2	The Conservation (Natural Habitats, &c.) Regulations 2010 (Schedule 2)	Schedule 2- European protected species of animals.
WCA5/9.4b	Wildlife and Countryside Act 1981 (Schedule 5 Section 9.4b)	Section 9.4 Animals which are protected from intentional disturbance while occupying a structure or place used for shelter or protection.
WCA5/9.4c	Wildlife and Countryside Act 1981 (Schedule 5)	Animals which are protected from their access to any structure or place which they use for shelter or protection being obstructed.
WCA5/9.2	Wildlife and Countryside Act 1981 (Schedule 5 Section 9.2)	Section 9.2 Animals which are protected from being possessed or controlled (live or dead).
WCA5/9.4.a	Wildlife and Countryside Act 1981 (Schedule 5 Section 9.4, subdivision a)	Section 9.4 subdivision a - Animals which are protected from intentional damage or destruction to any structure or place used for shelter or protection.

North Merseyside BAP Species

The North Merseyside Biodiversity Action Plan (NM BAP) was published in September 2001 and last reviewed in 2008. Like other Local Biodiversity Action Plans (LBAPs) its purpose is to focus local conservation on national priority species and habitats. However, LBAPs also embrace the idea of 'local distinctiveness' and species which are not considered UK conservation priorities can be catered for by LBAPs if they are of particular local significance. Such is the case with the NM BAP which currently names 74 species of which 57 are not conservation priority species but are included because their conservation is considered to be a priority in North Merseyside.

The following tables detail the North Merseyside BAP species that were recorded in the search area.

Group	Common Name	Scientific Name	Records	Dates	Designations
bird	House Sparrow	<i>Passer domesticus</i>	6	1998-2001	LBAP
	Song Thrush	<i>Turdus philomelos</i>	5	1998-1999	LBAP
	Starling	<i>Sturnus vulgaris</i>	3	1998-1999	LBAP
	Swift	<i>Apus apus</i>	1	1998	LBAP
flowering plant	Bluebell	<i>Hyacinthoides non-scripta</i>	4	1983-1997	LBAP
	Willow	<i>Salix viminalis x repens = S. x friesiana</i>	1	1981	LBAP
insect - dragonfly (Odonata)	Blue-tailed Damselfly	<i>Ischnura elegans</i>	1	2006	LBAP
	Brown Hawker	<i>Aeshna grandis</i>	4	1940-2006	LBAP
	Common Blue Damselfly	<i>Enallagma cyathigerum</i>	1	2006	LBAP
	Common Darter	<i>Sympetrum striolatum</i>	1	2010	LBAP
	Emperor Dragonfly	<i>Anax imperator</i>	1	2006	LBAP
	Southern Hawker	<i>Aeshna cyanea</i>	1	2006	LBAP
terrestrial mammal	Bats	<i>Chiroptera</i>	2	1985-1993	LBAP
	Brown Long-eared Bat	<i>Plecotus auritus</i>	3	1986-1991	LBAP
	Common Pipistrelle	<i>Pipistrellus pipistrellus</i>	2	2009-2010	LBAP
	Eurasian Red Squirrel	<i>Sciurus vulgaris</i>	1	1970	LBAP
	Pipistrelle Bat species	<i>Pipistrellus</i>	7	1980-1992	LBAP

Desig. Code	Desig. Name	Designation Description
LBAP	North Merseyside BAP	Species that are incorporated within the North Merseyside Biodiversity Action Plan. These species may or may not also be UK BAP species. Some species have their own action plans within the NM BAP, others are members of group species action plans.

NM BAP species: Urban Birds (*Passer domesticus*; *Sturnus vulgaris*; *Apus apus*)

The four species covered by the NM BAP Urban Birds Species Action Plan (House Martin, Swift, House Sparrow and Starling) are considered to be in significant decline across the UK. In North Merseyside House Sparrows and Starlings currently breed in all urban areas, while House Martins are

restricted to areas nearer sources of mud for nest-building. Swifts occurred in only 55 tetrads during 1997-2000.

Urban bird numbers are thought to relate strongly to the availability of prey species, and nesting opportunities.

Declines are most likely caused by the reduction in the diversity and abundance of invertebrate prey species resulting from increased 'tidiness' in our parks and gardens, the use of pesticides and other changes in farm practices. The exclusion of urban birds from breeding in or around modern buildings reduces nesting opportunities for urban birds.

NM BAP species: Song Thrush (*Turdus philomelos*)

Although still widespread, Song Thrush declined sharply by around 73% in farmland (mid 1970s) and 49% in woodland (1968-1993), while overall UK numbers fell by 50% between 1970 and 2005. The North of the UK is thought to have been hit hardest.

In North Merseyside, though thinly distributed, Song Thrush still breed in most areas with an estimated 500 pairs during 1997-2000. Highest breeding concentrations were found to occur in suburban areas where abundant garden and parkland habitats were present.

Song Thrush are reliant on a variety of habitats to meet their needs at different times of the year and loss of these habitats causes a reduction in numbers.

Local factors in the decline of the species include changes in farm practices that remove nesting habitat (hedgerows and dense scrub), limit the abundance of winter food (changes in sowing, cropping and use of herbicides/molluscicides) or cause the loss of feeding habitat (use of pesticides/herbicides and monocropping).

NM BAP species: Bluebell (*Hyacinthoides non-scripta*)

British Bluebells make up about 20% of the global population of *Hyacinthoides non-scripta* and are often found in humid woodland habitat, along hedgerows and on occasion along the coast. Locally there are a number of good colonies.

Local threats to the species include possible over-shading in un-managed woodlands, localised trampling by the public in popular areas and hybridisation with the Spanish Bluebell. On a national scale declines are caused by the loss of woodland habitat, grazing by introduced Muntjac, collection of plants and hybridisation with Spanish Bluebell.

NM BAP species: Sefton Coast Rare Plants (*Salix viminalis x repens* = *S. x friesiana*)

A number of rare plants of the Sefton Coast are recognised as declining on a national scale, with some found in very few other locations. They are all rare locally and in some cases declining. Threats include development causing loss of habitat and destruction of populations, encroachment of scrub which both outcompetes species and reduces suitable habitat. In some cases rabbit grazing, sand-blow and other changes in the local conditions have detrimental effects.

Due to the small size of many of the populations they are highly vulnerable to any damage or disturbance.

NM BAP species: Dragonflies (*Ischnura elegans*; *Aeshna grandis*; *Enallagma cyathigerum*; *Sympetrum striolatum*; *Anax imperator*; *Aeshna cyanea*)

Twentyone species of dragonfly and damselfly are included in the NM BAP Dragonflies Species Action Plan. These include vagrant species and some which are thought to be undergoing range expansions in the UK. Eighteen of these species are known to breed in our local area, with significant breeding sites in St Helens and Sefton.

Local causes of decline in this include the destruction or damage of essential wetland habitat through development, waste-tipping and agricultural run-off. Removal of nearby feeding habitats such as woodlands, hedgerows and tall vegetation is also detrimental.

NM BAP species: Bats (*Plecotus auritus*; *Pipistrellus pipistrellus*)

The NM BAP Bats Species Action Plan covers all species found in North Merseyside since all are considered to be locally threatened.

Bat Species are found throughout North Merseyside, with Pipistrelles (Common/Soprano) most often encountered and Brown Long-eared and Noctules less common. Daubenton's are also frequently encountered in suitable wetland habitat. Whiskered, Brandt's and Natterers are considered rare locally.

Bat species will roost in many locations that are warm, dark, sheltered and little undisturbed. Such places can include derelict buildings, barns, roof spaces and tree hollows.

Factors causing declines in these species include the loss of prey insects due to the increased use of pesticides and general park/garden 'tidiness', loss and fragmentation of habitat mosaics, loss of winter roosts in old trees and buildings and intentional exclusion from buildings by people.

NM BAP species: Red Squirrel (*Sciurus vulgaris*)

Over the last 100 years the UK range Red Squirrel has contracted massively. In most areas the species of Britain it has vanished and most populations are now restricted to areas of Scotland and North England. North Merseyside has a relatively stable population on the Sefton Coast with small numbers across Knowsley and St Helens.

Threats include the Grey Squirrel which carries the squirrel pox virus that appears to have been the main cause of the red squirrel decline in Britain. In addition the fragmentation of woodland has reduced suitable habitat and increased road mortality as individuals try to move between pockets of habitats. Locally, over-maturation of trees will soon greatly reduce the Red Squirrels food source.

NERC Act Section 41 Species

Known also as 'Species of Principle Importance in England' and the 'England Biodiversity List' this list was developed to meet the requirements of Section 40 of the Natural Environment and Rural Communities Act (2006). The list is derived, almost wholly, from the 2007 revised list of UK BAP priority species. (So called 'research only' moth species have been excluded from the report.) The section 41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006 'to have regard' to the conservation of biodiversity in England, when carrying out their normal functions. In particular:

- Regional Planning Bodies and Local Planning Authorities must use it to identify the species that should be afforded priority when applying the requirements of National Planning Policy Framework (NPPF) to maintain, restore and enhance species and habitats.
- Local Planning Authorities must use it to identify the species that require specific consideration in dealing with planning and development control, recognising that under NPPF the aim of planning decisions should be to minimise impacts on biodiversity and geodiversity.
- All Public Bodies must use it to identify species that should be given priority when implementing the NERC Section 40 duty.

The following tables detail the NERC Section 41 species that were recorded in the search area.

Group	Common Name	Scientific Name	Records	Dates	Designations
bird	Dunnock	<i>Prunella modularis</i>	3	1998-1999	Sect.41.suppl
	Herring Gull	<i>Larus argentatus</i>	3	1997-1999	Sect.41.suppl
	House Sparrow	<i>Passer domesticus</i>	6	1998-2001	Sect.41
	Linnet	<i>Linaria cannabina</i>	1	2000	Sect.41.suppl
	Song Thrush	<i>Turdus philomelos</i>	5	1998-1999	Sect.41.suppl
	Starling	<i>Sturnus vulgaris</i>	3	1998-1999	Sect.41.suppl
bony fish (Actinopterygii)	European Eel	<i>Anguilla anguilla</i>	4	1986-2016	Sect.41
	Whiting	<i>Merlangius merlangus</i>	1	2012	Sect.41
flowering plant	Cornflower	<i>Centaurea cyanus</i>	1	2004	Sect.41
	Darnel	<i>Lolium temulentum</i>	1	1977	Sect.41
insect - butterfly	Wall	<i>Lasiommata megera</i>	1	1993	Sect.41
marine mammal	Bottle-Nosed Dolphin	<i>Tursiops truncatus</i>	1	2000	Sect.41
	Common Porpoise	<i>Phocoena phocoena</i>	4	2004-2012	Sect.41
terrestrial mammal	Bats	<i>Chiroptera</i>	2	1985-1993	Sect.41
	Brown Long-eared Bat	<i>Plecotus auritus</i>	3	1986-1991	Sect.41
	Eurasian Red Squirrel	<i>Sciurus vulgaris</i>	1	1970	Sect.41
	Pipistrelle Bat species	<i>Pipistrellus</i>	7	1980-1992	Sect.41
	West European Hedgehog	<i>Erinaceus europaeus</i>	1	2010	Sect.41

Desig. Code	Desig. Name	Designation Description
Sect.41.suppl	Supplementary list to deal with S41 bird sub-sp problems	Bird species corresponding to British sub-species listed in section 41 (England) of the NERC Act (2006).
Sect.41	Natural Env. and Rural Communities Act 2006. Species of Principal Importance in England (section 41)	Species "of principal importance for the purpose of conserving biodiversity" covered under section 41 (England) of the NERC Act (2006) and therefore need to be taken into consideration by a public body when performing any of its functions with a view to conserving biodiversity.

IUCN Red-listed Species

The IUCN Red List of Threatened Species (sometimes called 'Red Data Book' species) indicates the conservation status of plants and animals that have been globally evaluated using the IUCN Red List Categories and Criteria. The system is designed to determine the relative risk of extinction, and the main purpose of the IUCN Red List is to catalogue and highlight those plants and animals that are facing a higher risk of global extinction (i.e. those listed as Critically Endangered, Endangered and Vulnerable). The IUCN Red List also includes information on plants and animals that are categorized as 'Extinct' or 'Extinct in the Wild'; on taxa that cannot be evaluated because of insufficient information ('Data Deficient'); and on plants and animals that are either close to meeting the threatened thresholds or that would be threatened were it not for an ongoing taxon-specific conservation programme ('Near Threatened').

The following tables detail the IUCN Red-listed species that were recorded in the search area.

Group	Common Name	Scientific Name	Records	Dates	Designations
flowering plant	Box	<i>Buxus sempervirens</i>	1	2013	RLGB.DD
	Corn Marigold	<i>Glebionis segetum</i>	6	2004-2007	RLGB.VU
	Corn Spurrey	<i>Spergula arvensis</i>	5	1981-2007	RLGB.VU
	Creeping Willow	<i>Salix repens</i>	1	1981	RLGB.Lr(NT)
	Crosswort	<i>Cruciata laevipes</i>	1	2017	RLGB.Lr(NT)
	Darnel	<i>Lolium temulentum</i>	1	1977	RLGB.CR
	Field Woundwort	<i>Stachys arvensis</i>	3	1981	RLGB.Lr(NT)
	Heather	<i>Calluna vulgaris</i>	1	2015	RLGB.Lr(NT)
	Prickly Poppy	<i>Papaver argemone</i>	2	2007	RLGB.EN,RLGB.VU
insect - butterfly	Wall	<i>Lasiommata megera</i>	1	1993	RLGB.Lr(NT)
mollusc	Large Black Slug	<i>Arion (Arion) ater</i>	4	1998-2007	RLGB.DD

Desig. Code	Desig. Name	Designation Description
RLGB.DD	IUCN (2001) - Data Deficient	A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known, but appropriate data on abundance and/or distribution are lacking. Data Deficient is therefore not a category of threat or Lower Risk. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that future research will show that a threatened category is appropriate.
RLGB.VU	IUCN (2001) - Vulnerable	A taxon is Vulnerable when it is not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium term future.
RLGB.Lr(NT)	IUCN (2001) - Lower risk - near threatened	Taxa which do not qualify for Lower Risk (conservation dependent), but which are close to qualifying for Vulnerable. In Britain, this category includes species which occur in 15 or fewer hectads but do not qualify as Critically Endangered, Endangered or Vulnerable.
RLGB.CR	IUCN (2001) - Critically endangered	A taxon is Critically Endangered when it is facing an extremely high risk of extinction in the wild in the immediate future, as defined by any of the criteria A to E.
RLGB.EN	IUCN (2001) - Endangered	A taxon is Endangered when it is not Critically endangered but is facing a very high risk of extinction in the wild in the near future.

Nationally Notable Species

These are plants and animals which do not fall within red-list categories but which are none-the-less uncommon in Great Britain.

The following tables detail the Nationally Notable species that were recorded in the search area.

Group	Common Name	Scientific Name	Records	Dates	Designations
flowering plant	Box	<i>Buxus sempervirens</i>	1	2013	NR-excludes
	Darnel	<i>Lolium temulentum</i>	1	1977	NR-excludes
	Northern Yellow-cress	<i>Rorippa islandica</i>	2	1977	NS-excludes
	Rock Stonecrop	<i>Sedum forsterianum</i>	1	1981	NS-excludes
insect - beetle (Coleoptera)	Anommatus duodecimstriatus	<i>Anommatus duodecimstriatus</i>	1	2007	Na
	Polydrusus (Chrysophis) formosus	<i>Polydrusus (Chrysophis) formosus</i>	1	2006	Na
insect - hymenopteran	Red-tailed (Hill) Cuckoo Bee	<i>Bombus (Psithyrus) rupestris</i>	1	1971	Nb

Desig. Code	Desig. Name	Designation Description
NS-excludes	Nationally Scarce. Excludes Red Listed taxa	Nationally Scarce - Occurring in 16-100 hectads in Great Britain. Excludes rare species qualifying under the main IUCN criteria
NR-excludes	Nationally Rare. Excludes Red Listed taxa	Nationally Rare - Occurring in 15 or fewer hectads in Great Britain. Excludes rare species qualifying under the main IUCN criteria.

Na	Nationally Notable A	Taxa which do not fall within RDB categories but which are none-the-less uncommon in Great Britain and thought to occur in 30 or fewer 10km squares of the National Grid or, for less well-recorded groups, within seven or fewer vice-counties. Superseded by Nationally Scarce, and therefore no longer in use.
Nb	Nationally Notable B	Taxa which do not fall within RDB categories but which are none-the-less uncommon in Great Britain and thought to occur in between 31 and 100 10km squares of the National Grid or, for less-well recorded groups between eight and twenty vice-counties. Superseded by Nationally Scarce, and therefore no longer in use.

WCA schedule 9 species (including non-native invasive plants)

Schedule 9 of the Wildlife & Countryside Act (amended 2010) lists species of plants and animals for which it is a specific offence to plant or otherwise cause to grow in the wild (plants) or release or allow to escape into the wild (animals). Many of these are invasive non-native plants and animals, but there are also a number of native animals on the list (e.g. Barn Owl) which cannot be released into the wild in England without a license from Natural England.

The following tables detail the WCA Schedule 9 species recorded in the search area.

Group	Common Name	Scientific Name	Records	Dates	Designations
flowering plant	Indian Balsam	<i>Impatiens glandulifera</i>	1	1977	MBB-WCA-S9
	Japanese Knotweed	<i>Fallopia japonica</i>	7	1977-2007	MBB-WCA-S9
	Rhododendron ponticum	<i>Rhododendron ponticum</i>	1	2015	MBB-WCA-S9
terrestrial mammal	Black Rat	<i>Rattus rattus</i>	9	1889-1986	MBB-WCA-S9
	Eastern Grey Squirrel	<i>Sciurus carolinensis</i>	3	2007-2012	MBB-WCA-S9

Desig. Code	Desig. Name	Designation Description
MBB-WCA-S9	Wildlife and Countryside Act 1981 (Variation of Schedule 9) (England and Wales) Order 2010	Species on Schedule 9 (part 2) as revised 2010. Under section 14 of the Act it is illegal to release into the wild any animal or allow to grow in the wild any plant which is not ordinarily resident in GB or which is a known threat and is listed on Schedule 9 of the Act.

BAP priority habitats

In 2007 the Local Biodiversity Manager (responsible for the North Merseyside Biodiversity Action Plan) undertook a review of the extent of UK BAP priority habitats in North Merseyside and produced GIS layers to show their extents. In most cases these inventories were derived from two main sources: the latest Phase 1 habitat surveys which were conducted for the four North Merseyside local authorities between 1996 and 2007; and an NVC survey of the Sefton Coast carried out between 2003 and 2004. A separate NVC survey of the Ribble estuary carried out in 2002 (which also included saltmarsh at the Alt) was also useful as were one or two other sources. Because of the diverse nature of habitat classifications, it was not always possible to produce inventories with a one-to-one correspondence with UK BAP priority habitats. The table below shows the BAP habitat inventories for North Merseyside and their correspondence with UK BAP priority habitats.

North Merseyside habitat inventory	Correspondence with UK BAP priority habitats
Lowland Acid Grassland	Lowland Dry Acid Grassland
Lowland Heathland	Lowland Heathland
Lowland Raised Bog	Lowland Raised Bog
Neutral Grassland	Incorporates the UK BAP habitat Lowland Meadows but also, in North Merseyside, includes a lot of amenity grassland, road verges etc.
Calcareous Grassland	Calcareous Grassland
Ponds	Ponds
Lakes	Eutrophic lakes
Reedbeds	Reedbeds
Hedgerows	Hedgerows

Saltmarsh	Coast Saltmarsh
Sand Dune	Coastal Sand Dune
All Woodland	It was not possible, from the available data, to produce separate inventories for different woodland types in North Merseyside, so this inventory incorporates elements of several UK BAP priority habitats such as Lowland Mixed Deciduous Woodland, Wet Woodland and Wood Pasture & Parkland.

Note that the 'Ponds' BAP inventory was derived locally using water bodies less than two hectares in extent from Ordnance Survey data. The 'Lakes' BAP inventory is a nationally supplied inventory, but the lakes are only represented in this as points. Therefore any water body over two hectares in extent will only be represented on our habitat maps by a point and will not show the extent of the lake. However, ponds will be indicated by polygons showing their extent. Occasionally a large pond – though still less than two hectares in extent – will be represented in both the 'Lake' and 'Pond' inventories.

Habitat	Amount	Units
All Woodland	1.24	hectares

The table above indicates the extent of each of the BAP habitat inventories (see previous table) occurring within your search area (see appendix 3 for maps).

Designated Areas

There are a number of types of 'designated areas' in North Merseyside. These types are shown in the table below together with the total number of North Merseyside sites for each.

Type of area	No. of sites
Site of Special Scientific Interest	6
Special Protection Area (Natura 2000)	3
Marine Special Protection Area	1
Special Area of Conservation (Natura 2000)	1
RAMSAR (wetland of international importance)	3
National Nature Reserve	3
Local Nature Reserve	57
Knowsley Local Wildlife Site	23
Sefton Local Wildlife Site	55
St Helens Local Wildlife Site	121
Liverpool Local Wildlife Site (current)	28
Liverpool Local Wildlife Site (proposed)	30
Merseyside Ancient Woodland Inventory	11
RSPB/LWT Windfarm Alert Map	1
Red Squirrel Protection Area	1

The following table indicates the results of the intersection between the search area and designated areas detailed above (see appendix 3 for maps).

Name	Type
Lime Street Railway Cutting	Liverpool Local Geological Site
St James Cemetery, Liverpool Anglican Cathedral	Liverpool Local Geological Site
Queens Walk, Anglican Cathedral	Liverpool Local Geological Site
Metropolitan Catholic Cathedral, Brownlow Hill	Liverpool Local Geological Site
Mersey Estuary	Nature Improvement Area

Interpretation and caveats

Merseyside BioBank records included

All relevant non-confidential records managed by Merseyside BioBank which intersect the search area are included in this report, except where excluded by one or more of the conditions described in the rest of this section.

NBN Gateway records included

All relevant records available to Merseyside BioBank from the NBN Gateway are included in this report, except where excluded by one or more of the conditions described in the rest of this section. NBN Gateway records are accessed live *via* web-services at the time of report generation.

Merseyside BioBank often has access to NBN records at higher resolution than the standard 'public' access. These records have been downloaded and used with the permission of the data providers, but are subject to normal NBN Gateway terms and conditions. You must not use them beyond the specific purposes for which this report was provided to you and you must adhere, at all times, to the NBN Gateway terms and conditions.

Record location and dates

If a record can only be located to a relatively low precision (e.g. 1 km or 2 km square), then it is possible that the unrecorded precise location of the animal or plant might have been outside of the search area. Sometimes the location name column can be useful in deciding whether or not this was likely to have been the case. In records from our own database, we have replaced all digits with the '#' character in the location field to people's privacy where addresses have been used as location names.

Records which are only available to us at less than 2 km square (tetrad) precision are excluded from the report. We report dates at the highest precision available to us. Records for which no date is available are excluded from the report.

Absence of records and 'negative records'

The absence of biological records for an area, or the presence of 'negative records', is not proof that taxa are not present.

Duplicate records

Although we do our very best to avoid reporting the same record more than once ('duplicate records') this is sometimes unavoidable for records that have entered the biological records network *via* more than one route. In particular, there may be some record duplication between records from Merseyside BioBank's database and records from the NBN Gateway datasets (though, of course, we do not report on NBN Gateway records which originate from Merseyside BioBank).

Validity of records

Whilst Merseyside BioBank continually strives to verify the records that we manage, we accept no responsibility for any errors subsequently discovered. Merseyside BioBank accepts no responsibility for errors in data derived from the NBN Gateway.

Bird records

Only bird records with a recorded status of proven, probable and possible breeding have been included in this data search. Bird records with other statuses are not included. The most recent bird records for North Merseyside included, e.g. those generated for the ongoing breeding and wintering atlas projects, since these data have yet to undergo verification by the County Bird Recorder. It is possible for you to



***The Local Biodiversity
Records Centre
for North Merseyside***

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Roby Road, Liverpool
L16 3NA
Tel: 0151 737 4150
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contact the County Bird Recorder independently for his interpretation of the most recent data with respect to your search area. The contact details are:

Steve White
stevewhite102@btinternet.com

Please note that if this is a commercial data request you will be invoiced by **Sefton Borough Council**, which is the hosting authority for Merseyside BioBank LRC.

Appendix 1: Terms and conditions of use

Merseyside BioBank receives data from a variety of sources, from large organisations to amateur naturalists. With Merseyside BioBank operating as custodians, these individuals and groups, who provide their records free of charge, retain copyright on their data.

All data passed to a third party (users) by Merseyside BioBank are subject to these access terms and conditions. Non-adherence to these terms and conditions will be viewed as a breach of contract, which may result in legal redress being sought.

1. Users agree that data released by Merseyside BioBank, in any format and on any media, will only be used for the purpose for which it was originally requested and for any time period originally agreed upon (See note 3 below).
2. Users agree that data released by Merseyside BioBank will not be added to any permanent database system (electronic or paper based) unless by written agreement with Merseyside BioBank.
3. Users understand that following the end of the agreed time period, or 12 months from the enquiry date, the received data must be deleted from any electronic system (See note 2 above). Use of the data beyond this period must be preceded by a further request to Merseyside BioBank.
4. Users agree that data retrieved from Merseyside BioBank will not be passed on to or communicated with third parties except as aggregated data within reports, or as anonymised data in the form of maps etc., which constitute a part of the agreed reason for the original enquiry.
5. Merseyside BioBank disclaims any responsibility for the accuracy of the information within its reports and accepts no liability for any result of using these data.
6. Any biological record is specific to the date of the recording and does not necessarily imply the continuance of the species at that site.
7. The lack of species and/or habitat information for a geographically defined area does not necessarily imply a low biodiversity value for that area. It may simply be unrecorded.
8. While the information from Merseyside BioBank in itself will remain free, Merseyside BioBank reserves the right to charge a reasonable fee to cover administration and a proportion of overheads as detailed in our charging policy.
9. A copy of any report, or other product, produced using the data from Merseyside BioBank would be gratefully received if provided without cost.
10. Merseyside BioBank must be acknowledged within any report, or other product produced, using data provided by Merseyside BioBank.

Appendix 2: Full species records

The following records for protected, BAP, red-listed, notable and invasive species were found to intersect the search area. (Appendix 3 includes a map to show the location of 1 km and tetrad grid references.) The source of each record is shown in the final column (BioBank = Merseyside BioBank; NBN = NBN Gateway).

GridRef	Location Name	Common Name	Scientific Name	Group	Abundance or Status	Date	Comment	Source
SJ347899	Liverpool City Centre walk	Common Frog	<i>Rana temporaria</i>	amphibian		30/03/2000	Spawn in the artificial pond in the Anglican Cathedral Cemetery	1
SJ354895	Anglican Cathedral Cemetery, Liverpool	Common Frog	<i>Rana temporaria</i>	amphibian		18/04/2006	Spawn in the ornamental pond	2
SJ3489	Canning Dock	Black Redstart	<i>Phoenicurus ochruros</i>	bird	1 Count of Confirmed breeding	1979		3
SJ39F	Liverpool Docks	Black Redstart	<i>Phoenicurus ochruros</i>	bird	1 Count of Confirmed breeding	1997		3
SJ39F	Liver Building	Black Redstart	<i>Phoenicurus ochruros</i>	bird	1 Count of Possible breeding	1999	Singing male, same as SJ39K	3
SJ39K		Black Redstart	<i>Phoenicurus ochruros</i>	bird	1 Count of Possible breeding	1999		3
SJ39K		Black Redstart	<i>Phoenicurus ochruros</i>	bird	1 Count of Possible breeding	1999	Singing male, same as SJ39F	3
SJ38P		Dunnock	<i>Prunella modularis</i>	bird	1 Count of Confirmed breeding	1998		3
SJ39F		Dunnock	<i>Prunella modularis</i>	bird	1 Count of Confirmed breeding	1999		3
SJ39K		Dunnock	<i>Prunella modularis</i>	bird	1 Count of Confirmed breeding	1998		3
SJ38P		Herring Gull	<i>Larus argentatus</i>	bird	1 Count of Confirmed breeding	1998		3
SJ39F		Herring Gull	<i>Larus argentatus</i>	bird	1 Count of Confirmed breeding	1999		3
SJ39K	Liverpool City Centre	Herring Gull	<i>Larus argentatus</i>	bird	1 Count of Confirmed breeding	1997		3
SJ350890		House Sparrow	<i>Passer domesticus</i>	bird	1 Proven Count of Confirmed breeding	07/05/2001		3
SJ354895		House Sparrow	<i>Passer domesticus</i>	bird	2 Proven Count of Confirmed breeding	2001		3
SJ356896		House Sparrow	<i>Passer domesticus</i>	bird	2 Proven Count of Confirmed breeding	2001		3
SJ38P		House Sparrow	<i>Passer domesticus</i>	bird	1 Count of Confirmed	1998		3

The Local Biodiversity Records Centre for North Merseyside

					breeding			
SJ39F		House Sparrow	<i>Passer domesticus</i>	bird	1 Count of Possible breeding	1999		3
SJ39K		House Sparrow	<i>Passer domesticus</i>	bird	1 Count of Confirmed breeding	1998		3
SJ38P		Linnet	<i>Linaria cannabina</i>	bird	1 Count of Confirmed breeding	2000		3
SJ38P		Song Thrush	<i>Turdus philomelos</i>	bird	1 Count of Confirmed breeding	1998		3
SJ38P		Song Thrush	<i>Turdus philomelos</i>	bird	2 Count of Confirmed breeding	1999		3
SJ39F		Song Thrush	<i>Turdus philomelos</i>	bird	1 Count of Confirmed breeding	1999		3
SJ39K		Song Thrush	<i>Turdus philomelos</i>	bird	1 Count of Confirmed breeding	1998		3
SJ39K		Song Thrush	<i>Turdus philomelos</i>	bird	2 Count of Confirmed breeding	1999		3
SJ38P		Starling	<i>Sturnus vulgaris</i>	bird	1 Count of Confirmed breeding	1998		3
SJ39F		Starling	<i>Sturnus vulgaris</i>	bird	1 Count of Possible breeding	1999		3
SJ39K		Starling	<i>Sturnus vulgaris</i>	bird	1 Count of Confirmed breeding	1998		3
SJ38J		Swift	<i>Apus apus</i>	bird	1 Count of Confirmed breeding	1998		3
SJ339902	Stanley Dock, Leeds to Liverpool canal remainder section	European Eel	<i>Anguilla anguilla</i>	bony fish (Actinopterygii)		1986		1
SJ340897	The Albert dock outside, The Bugworld Experience	European Eel	<i>Anguilla anguilla</i>	bony fish (Actinopterygii)	1 Count of Adult	19/09/2009	</RecordC	5
SJ341896	Albert Dock	European Eel	<i>Anguilla anguilla</i>	bony fish (Actinopterygii)	1 Count	29/10/2016	certain	4
SJ341903	Albert Dock, Liverpool	European Eel	<i>Anguilla anguilla</i>	bony fish (Actinopterygii)	2 Count	09/09/2016	certain	4
SJ3389	Out from Woodside Offices	Whiting	<i>Merlangius merlangus</i>	bony fish (Actinopterygii)	P Count of shoal	04/05/2012		6
SJ353898	Ruin of St. Andrews Church, Liverpool	Bluebell	<i>Hyacinthoides non-scripta</i>	flowering plant		01/05/1996	Had Red Dead-nettle growing amongst it.	2
SJ354894	St James Cemetery Gardens, Anglican Cathedral, Liverpool	Bluebell	<i>Hyacinthoides non-scripta</i>	flowering plant		01/07/1983		8
SJ354894	St. James' Cemetery (Anglican Cathedral, Liverpool)	Bluebell	<i>Hyacinthoides non-scripta</i>	flowering plant	1 Count	01/07/1983		8
SJ39K		Bluebell	<i>Hyacinthoides non-scripta</i>	flowering plant	1 Count of Present	1997		7

The Local Biodiversity Records Centre for North Merseyside

SJ343891	Liverpool exhibition centre	Box	<i>Buxus sempervirens</i>	flowering plant	Present Count	January 2013		9
SJ354895	Anglican Cathedral Cemetery, Liverpool	Corn Marigold	<i>Glebionis segetum</i>	flowering plant	1 Count	15/06/2007		2
SJ354895	Anglican Cathedral Cemetery, Liverpool	Corn Marigold	<i>Glebionis segetum</i>	flowering plant		15/10/2004	Still in flower	2
SJ354895	Anglican Cathedral Cemetery, Liverpool	Corn Marigold	<i>Glebionis segetum</i>	flowering plant	1 Count	23/07/2007	Alongside footpath	2
SJ354895	Anglican Cathedral Cemetery, Liverpool	Corn Marigold	<i>Glebionis segetum</i>	flowering plant		23/11/2004	In flower	2
SJ354895	Anglican Cathedral Cemetery, Liverpool	Corn Marigold	<i>Glebionis segetum</i>	flowering plant		27/07/2004	In the cemetery: probably introduced and was flowering, attracting numerous small bees and hoverflies	2
SJ354895	Anglican Cathedral Cemetery, Liverpool	Corn Marigold	<i>Glebionis segetum</i>	flowering plant		28/07/2004	Several bees on this plant which was flowering still	2
SJ3489	Liverpool City Centre, various waste sites.	Corn Spurrey	<i>Spergula arvensis</i>	flowering plant	1 Count	22/09/1981		8
SJ3490	Liverpool City Centre, various sites	Corn Spurrey	<i>Spergula arvensis</i>	flowering plant	1 Count	22/09/1981		8
SJ3490	Liverpool City Centre - various waste sites/car parks/pavements/derelict allotments and gardens	Corn Spurrey	<i>Spergula arvensis</i>	flowering plant	1 Count	22/09/1981		8
SJ354895	Anglican Cathedral Cemetery, Liverpool	Corn Spurrey	<i>Spergula arvensis</i>	flowering plant	1 Count	15/06/2007	Common on Upper Parliament Street	2
SJ354895	Anglican Cathedral Cemetery, Liverpool	Corn Spurrey	<i>Spergula arvensis</i>	flowering plant		17/08/2004	Lots on Upper Parliament Street	2
SJ354895	Anglican Cathedral Cemetery, Liverpool	Cornflower	<i>Centaurea cyanus</i>	flowering plant		27/07/2004	In the cemetery: probably introduced and was flowering	2
SJ3489	Liverpool City Centre, various waste sites.	Creeping Willow	<i>Salix repens</i>	flowering plant	1 Count	22/09/1981		8
SJ34849076	Liverpool	Crosswort	<i>Cruciata laevipes</i>	flowering plant		21/04/2017		10
SJ3589	Falkner Nursery - waste ground, grassland	Darnel	<i>Lolium temulentum</i>	flowering plant		1977		8
SJ3489	Liverpool City Centre, various waste sites.	Field Woundwort	<i>Stachys arvensis</i>	flowering plant	1 Count	22/09/1981		8
SJ3490	Liverpool City Centre - various waste sites/car parks/pavements/derelict allotments and gardens	Field Woundwort	<i>Stachys arvensis</i>	flowering plant	1 Count	22/09/1981		8
SJ3490	Liverpool City Centre, various sites	Field Woundwort	<i>Stachys arvensis</i>	flowering plant	1 Count	22/09/1981		8
SJ35358948	St James Mount and Gardens, Upper Duke Street, Liverpool, South Lancashire	Heather	<i>Calluna vulgaris</i>	flowering plant	occasional Count	27/02/2015	Record GUID (from Gilbert 21): 53e830	11

SJ3589	Falkner Nursery - waste ground, grassland	Indian Balsam	<i>Impatiens glandulifera</i>	flowering plant		1977		8
SJ345894	Anglican Cathedral Lower	Japanese Knotweed	<i>Fallopia japonica</i>	flowering plant	1 Count	February 1982		8
SJ3489	Liverpool City Centre, various waste sites.	Japanese Knotweed	<i>Fallopia japonica</i>	flowering plant	1 Count	22/09/1981		8
SJ354893	Cathedral Grounds	Japanese Knotweed	<i>Fallopia japonica</i>	flowering plant	LA DAFOR	19/09/1995		12
SJ354894	St James Cemetery Gardens, Anglican Cathedral, Liverpool	Japanese Knotweed	<i>Fallopia japonica</i>	flowering plant		01/07/1983		8
SJ354895	Anglican Cathedral Cemetery, Liverpool	Japanese Knotweed	<i>Fallopia japonica</i>	flowering plant	1 Count	15/06/2007		2
SJ3589	Falkner Nursery - waste ground, grassland	Japanese Knotweed	<i>Fallopia japonica</i>	flowering plant		1977		8
SJ3590	Prescot Road/Pembroke Place	Japanese Knotweed	<i>Fallopia japonica</i>	flowering plant	1 Count	02/07/1981		8
SJ3490	Liverpool Town centre	Northern Yellow-cress	<i>Rorippa islandica</i>	flowering plant	1 Count	1977		8
SJ3490	Liverpool Town Centre - waste land, roadsides, lawns, flowers beds	Northern Yellow-cress	<i>Rorippa islandica</i>	flowering plant	1 Count	1977		8
SJ354895	Anglican Cathedral Cemetery, Liverpool	Prickly Poppy	<i>Papaver argemone</i>	flowering plant	1 Count	15/06/2007		2
SJ354895	Anglican Cathedral Cemetery, Liverpool	Prickly Poppy	<i>Papaver argemone</i>	flowering plant	1 Count	23/07/2007	Alongside footpath	2
SJ354089 29	St James Mount and Gardens, Upper Duke Street, Liverpool, South Lancashire	Rhododendron ponticum	<i>Rhododendron ponticum</i>	flowering plant	local Count	27/02/2015	Record GUID (from Gilbert 21): 080747	11
SJ3489	Liverpool City Centre, various waste sites.	Rock Stonecrop	<i>Sedum forsterianum</i>	flowering plant	1 Count	22/09/1981		8
SJ3590	Prescot Road/Pembroke Place	Willow	<i>Salix viminalis</i> x <i>repens</i> = <i>S. x friesiana</i>	flowering plant	1 Count	02/07/1981		8
SJ354895	Anglican Cathedral Gardens, Liverpool	Anommatus duodecimstriatus	<i>Anommatus duodecimstriatus</i>	insect - beetle (Coleoptera)	2 Count of Adult	12/03/2007	2 on a piece of Elder wood at south end near entrance. This is a rare species in Britain	2
SJ354895	Anglican Cathedral Cemetery, Liverpool	Polydrusus (Chrysophis) formosus	<i>Polydrusus (Chrysophis) formosus</i>	insect - beetle (Coleoptera)	3 Count	04/07/2006		2
SJ3491	Leeds Street Liverpool	Wall	<i>Lasiommata megera</i>	insect - butterfly	2-9 Count	19/08/1993		13
SJ39K	Leeds & Liverpool Canal Walk - Burlington Street to Stanley Road	Blue-tailed Damselfly	<i>Ischnura elegans</i>	insect - dragonfly (Odonata)	present Count	24/07/2006		14
SJ341903	Brunswick Street, Liverpool 2	Brown Hawker	<i>Aeshna grandis</i>	insect - dragonfly (Odonata)		1940		8
SJ341903	brunswick street, L2	Brown Hawker	<i>Aeshna grandis</i>	insect - dragonfly (Odonata)		1940	pre 1940	8
SJ353908	Lambert Street, Liverpool L3	Brown Hawker	<i>Aeshna grandis</i>	insect - dragonfly (Odonata)	1 Count	1940		8

The Local Biodiversity Records Centre for North Merseyside

SJ39K	Leeds & Liverpool Canal Walk - Burlington Street to Stanley Road	Brown Hawker	<i>Aeshna grandis</i>	insect - dragonfly (Odonata)	present Count	24/07/2006		14
SJ39K	Leeds & Liverpool Canal Walk - Burlington Street to Stanley Road	Common Blue Damselfly	<i>Enallagma cyathigerum</i>	insect - dragonfly (Odonata)	present Count	24/07/2006		14
SJ3589	Liverpool Anglican Cathedral	Common Darter	<i>Sympetrum striolatum</i>	insect - dragonfly (Odonata)	1 Count of Total	09/10/2010		14
SJ39K	Leeds & Liverpool Canal Walk - Burlington Street to Stanley Road	Emperor Dragonfly	<i>Anax imperator</i>	insect - dragonfly (Odonata)	1 Count of ovipositing; 1 Count of Female; Several Count of Total; Several Count of Male	24/07/2006		14
SJ39K	Leeds & Liverpool Canal Walk - Burlington Street to Stanley Road	Southern Hawker	<i>Aeshna cyanea</i>	insect - dragonfly (Odonata)	present Count	24/07/2006		14
SJ349908	Museum Building, William Brown Street	Red-tailed (Hill) Cuckoo Bee	<i>Bombus (Psithyrus) rupestris</i>	insect - hymenopteran	1 Count of worker	1971		8
SJ3390	Off Mersey ferries	Bottle-Nosed Dolphin	<i>Tursiops truncatus</i>	marine mammal	1 Count of Adult	May 2000		7
SJ3389	Out from Woodside Offices	Common Porpoise	<i>Phocoena phocoena</i>	marine mammal	3 Count	04/05/2012		6
SJ3389	Out from Woodside Offices	Common Porpoise	<i>Phocoena phocoena</i>	marine mammal	3 Count	2010		6
SJ3390	Liverpool Pier Head	Common Porpoise	<i>Phocoena phocoena</i>	marine mammal	1 Count of Adult	14/05/2004	From Mersey ferry	7
SJ3390	Liverpool Pier Head	Common Porpoise	<i>Phocoena phocoena</i>	marine mammal	12 Count of Adult	15/05/2004	6 fins in sight at any one time, right across the Mersey	7
SJ353892	Anglican Cathedral Cemetery, Liverpool	Large Black Slug	<i>Arion (Arion) ater</i>	mollusc		23/12/1998		16
SJ354895	Anglican Cathedral Cemetery, Liverpool	Large Black Slug	<i>Arion (Arion) ater</i>	mollusc	1 Count of Adult	15/06/2007	1 rufous form was under a stone	2
SJ354895	Anglican Cathedral Cemetery, Liverpool	Large Black Slug	<i>Arion (Arion) ater</i>	mollusc	1 Count	25/06/2007		2
SJ354895	Anglican Cathedral Cemetery, Liverpool	Large Black Slug	<i>Arion (Arion) ater</i>	mollusc	1 Count of Adult	30/06/2005		2
SJ3490	Liverpool, Derby Square	Bats	<i>Chiroptera</i>	terrestrial mammal		1985		18
SJ353894	Liverpool Anglican Cathedral, St. James Mount, Liverpool	Bats	<i>Chiroptera</i>	terrestrial mammal		02/08/1993	Bat found crawling up the aisle, planned to let it go at dusk, but it died. Might have droppings present.	17
SJ3490	central station, liverpool	Black Rat	<i>Rattus rattus</i>	terrestrial mammal		13/12/1928	female pale, fawn/grey, pink eyes	20
SJ3490	Liverpool City Centre, Merseyside	Black Rat	<i>Rattus rattus</i>	terrestrial mammal	1 Count of Present	1951		19
SJ3490	Birkenhead Docks, Birkenhead	Black Rat	<i>Rattus rattus</i>	terrestrial mammal	1 Count of Present	1961		19
SJ3590	Birkenhead Docks, Birkenhead	Black Rat	<i>Rattus rattus</i>	terrestrial mammal	17073 Count	1924		19

The Local Biodiversity Records Centre for North Merseyside

SJ3590	Birkenhead Docks, Birkenhead	Black Rat	<i>Rattus rattus</i>	terrestrial mammal	16300 Count	1930		19
SJ3590	Birkenhead Docks, Birkenhead	Black Rat	<i>Rattus rattus</i>	terrestrial mammal	15813 Count	1931		19
SJ3590	Birkenhead Docks, Birkenhead	Black Rat	<i>Rattus rattus</i>	terrestrial mammal	14975 Count	1932		19
SJ3590	Birkenhead Docks, Birkenhead	Black Rat	<i>Rattus rattus</i>	terrestrial mammal	1 Count	1986		19
SJ3590	Birkenhead Docks, Birkenhead	Black Rat	<i>Rattus rattus</i>	terrestrial mammal	1 Count	26/01/1889		19
SJ346903	School, School Lane, Liverpool 1, Merseyside	Brown Long-eared Bat	<i>Plecotus auritus</i>	terrestrial mammal		Summer 1986		21
SJ3590	Merseyside, Liverpool, City Centre Liverpool Dental Hospital	Brown Long-eared Bat	<i>Plecotus auritus</i>	terrestrial mammal	1 Count of Roosting	26/11/1991	Telephone record to Martin Mere W.W.T of what sounded very much like a grounded Long-Eared bat but it crawled off and they lost it	21
SJ3590	Liverpool Dental Hospital	Brown Long-eared Bat	<i>Plecotus auritus</i>	terrestrial mammal		26/11/1991		18
SJ350907	Merseyside	Common Pipistrelle	<i>Pipistrellus pipistrellus</i>	terrestrial mammal	1 Male Count of Adult	14/09/2010	Record of dead bat through VLA passive monitoring, reference number: Bat 10/1171	22
SJ351909	Merseyside	Common Pipistrelle	<i>Pipistrellus pipistrellus</i>	terrestrial mammal	1 Male Count of Adult	05/06/2009	Record of dead bat through VLA passive monitoring, reference number: Bat 10/060	22
SJ3491	Scotland Road	Eastern Grey Squirrel	<i>Sciurus carolinensis</i>	terrestrial mammal	1 Count of Present	2012	Lots.	23
SJ354893	St James park/gardens. Anglican cathedral., South Lancashire	Eastern Grey Squirrel	<i>Sciurus carolinensis</i>	terrestrial mammal	Present Count	21/09/2012		24
SJ354895	Anglican Cathedral Cemetery, Liverpool	Eastern Grey Squirrel	<i>Sciurus carolinensis</i>	terrestrial mammal	4 Count of Adult	27/01/2007	4 together foraging in the leaf litter	2
SJ3590	Liverpool City Centre, Merseyside	Eurasian Red Squirrel	<i>Sciurus vulgaris</i>	terrestrial mammal	1 Count of Present	1970		19
SJ3489	Liverpool City Centre	Pipistrelle Bat species	<i>Pipistrellus</i>	terrestrial mammal		19/08/1980		18
SJ3489	Liverpool City Centre	Pipistrelle Bat species	<i>Pipistrellus</i>	terrestrial mammal	1 Count	1980	stray bat	1
SJ3489	Merseyside, Liverpool, City Centre	Pipistrelle Bat species	<i>Pipistrellus</i>	terrestrial mammal	1 Count	September 1980	One found in building block in September 1980	21
SJ348903	Merseyside, Liverpool, City Centre, Clayton Square	Pipistrelle Bat species	<i>Pipistrellus</i>	terrestrial mammal	1 Count of Roosting	10/01/1992	Found by a window cleaner tucked into door framed. recieved via R.S.P.C.A relased at original site on 15th january 1992	21
SJ348905	Liverpool, Clayton Square	Pipistrelle Bat species	<i>Pipistrellus</i>	terrestrial mammal		10/01/1992		18

SJ3490	Merseyside, Liverpool, City Centre, Derby Square	Pipistrelle Bat species	<i>Pipistrellus</i>	terrestrial mammal	1 Count	1985	One found on floor, possibly sick, some droppings present	21
SJ3490	derby square, liverpool	Pipistrelle Bat species	<i>Pipistrellus</i>	terrestrial mammal		1985	one on floor (possibly sick) & droppings	20
SJ348907	City Centre	West European Hedgehog	<i>Erinaceus europaeus</i>	terrestrial mammal	1 Count	20/06/2010	Dead on road.	25

Data sources/providers for the records in the table(s) above are given below. For records that are sourced from Merseyside BioBank's database, the type is 'BioBank' and the name of the dataset is given. For records that are sourced from the NBN Gateway, the type is 'NBN' and the name of the data provider is given.

Source key	Dataset or data provider	Type
1	EAS Dataset	BioBank
2	Chris Felton's Notebooks 1993-2007	BioBank
3	BIRDS - LCFS Records	BioBank
4	Sally Tapp Marine	BioBank
5	RODIS 2009-2010	BioBank
6	Ad hoc 2012	BioBank
7	Lancashire Wildlife Trust Dataset	BioBank
8	Liverpool Museum	BioBank
9	Report Harvest 2016	BioBank
10	iRecord combined surveys	BioBank
11	RODIS General Steve McWilliam	BioBank
12	Phase 1 surveys 1995	BioBank
13	Butterfly Conservation Butterflies	BioBank
14	Lancashire and Cheshire Fauna Society Odonata	BioBank
15	Lancashire Moth Group macro-moths	BioBank
16	Ad hoc before 2010	BioBank
17	Louise Wisniewski Bats	BioBank
18	Liverpool Museum Bats	BioBank
19	Cheshire rECOrd Overlap	BioBank
20	Mammal Society	BioBank
21	Merseyside & West Lancs Bat Group	BioBank



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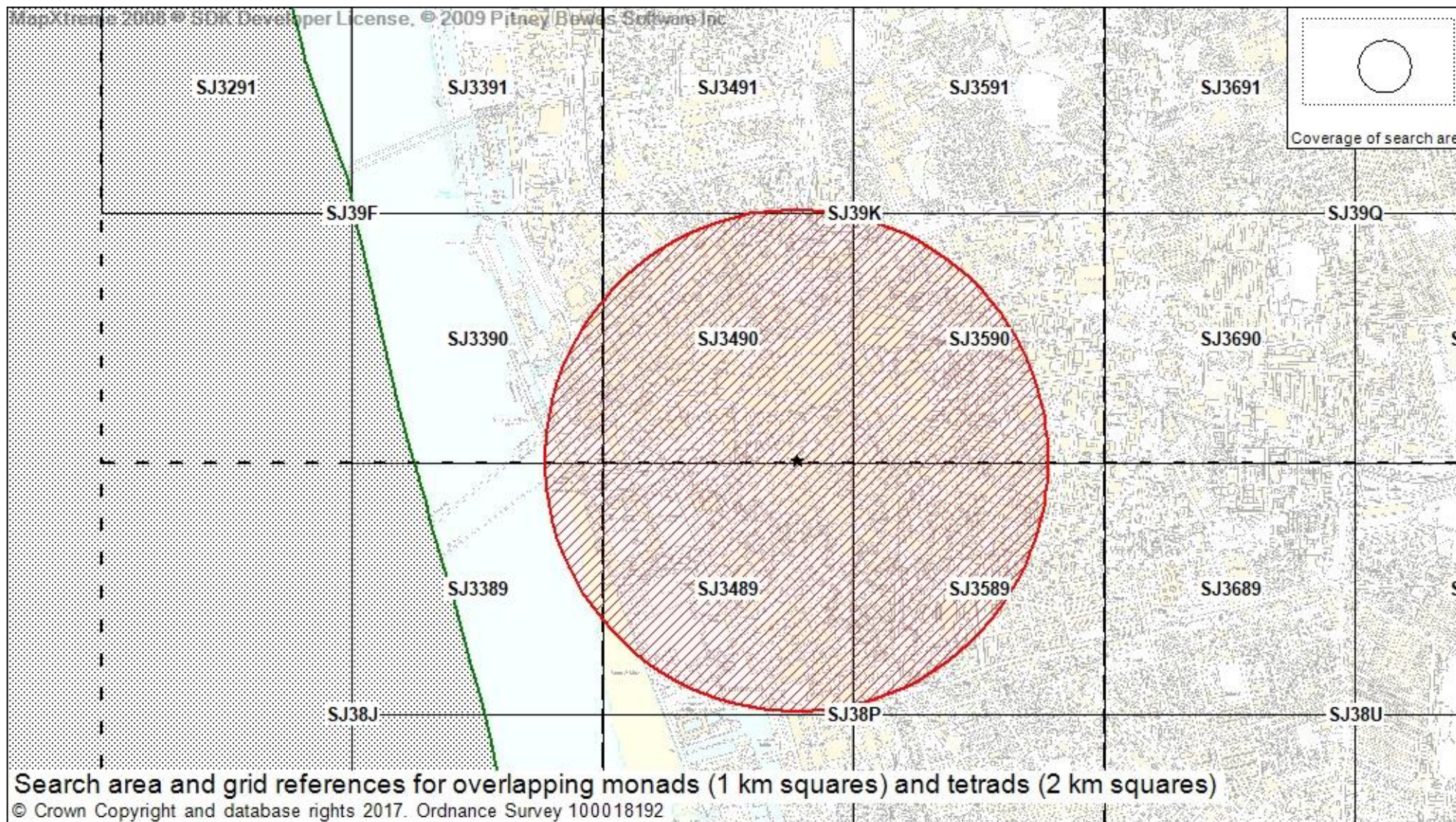
Merseyside BioBank,
Estate Barn, Court Hey Park
Roby Road, Liverpool
L16 3NA
Tel: 0151 737 4150
Info@MerseysideBiobank.org.uk

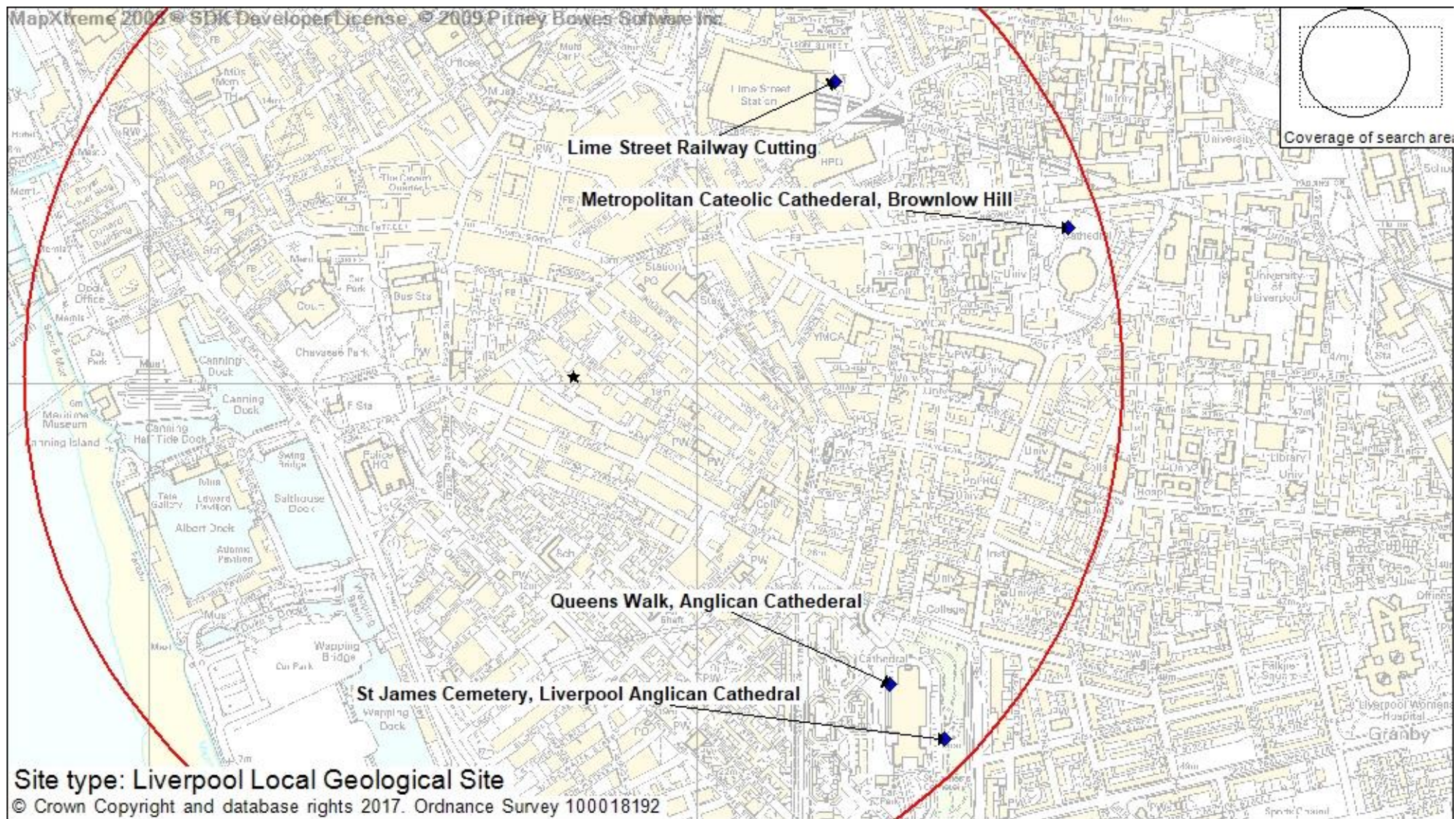
22	BCT VLA Passive Surveillance 2005-2010	BioBank
23	MBB Online - Mole Patrol	BioBank
24	RODIS Admin	BioBank
25	Report Harvest 2010 07-09	BioBank

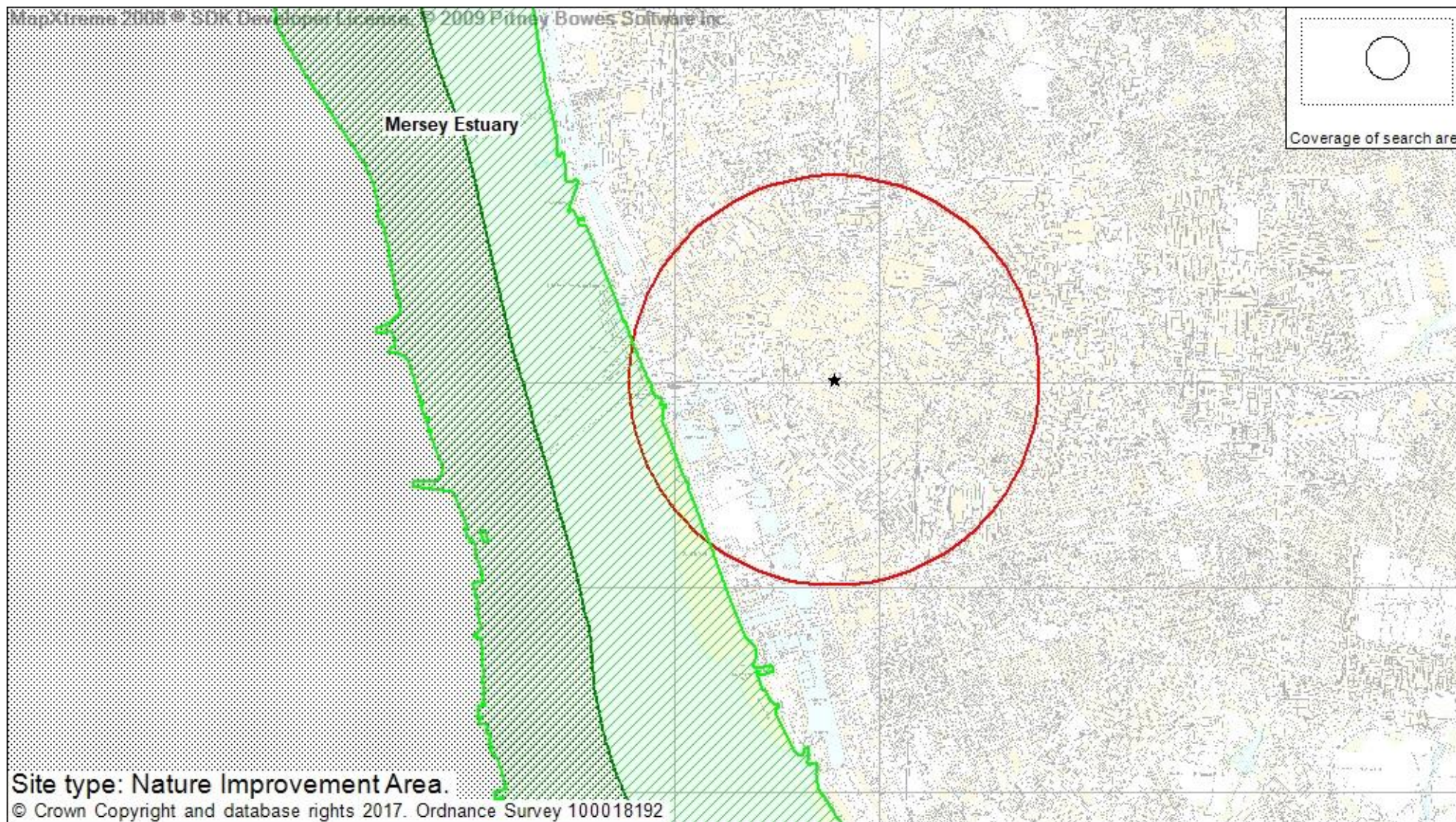
Appendix 3: Maps

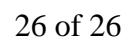
The following page(s) include maps to illustrate some of the results of your data request. They should be viewed in the context of the results supplied in the main body of the report.

The Ordnance Survey mapping included in the maps provided by Merseyside BioBank under Sefton Council's licence from Ordnance Survey. These maps are provided to assist decision-makers in the effective and sustainable management of land, species and habitats. Ordnance Survey should be contacted directly if any of these maps are to be used in another document.









APPENDIX 3

Mersey East Citation

County:	Cheshire/Merseyside	Site Name:	Mersey Estuary
District:	Ellesmere Port/Vale Royal/Halton/Wirral/ Liverpool		
Status:	Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act, 1981.		
Local Planning Authority:	Cheshire County Council Merseyside Metropolitan County Ellesmere Port and Neston Borough Council Vale Royal District Council Halton Borough Council Wirral Metropolitan District Council Liverpool Metropolitan District Council		
National Grid Reference:	SJ 440800	Area:	6,702.14 (ha) 16,561 (ac)
Ordnance Survey Sheet 1:50 000	108, 117	1:10 000	SJ 37 NE SJ 38 NE, SE SJ 47 NE, NW SJ 48 SE, SW SJ 57 NW SJ 58 SW
Date Notified (Under 1949 Act):	1951	Date of Last Revision:	1979
Date Notified (Under 1981 Act):	1984	Date of Last Revision:	1985

Other Information:

1. Hale Duck Decoy is a scheduled Ancient Monument and is managed as a reserve by Cheshire Conservation Trust.
2. Boundary modified at renotification by extensions and deletions.

Reasons for Notification:

The Mersey Estuary is an internationally important site for wildfowl and consists of large areas of intertidal sand and mudflats. The site also includes an area of reclaimed marshland, salt-marshes, brackish marshes and boulder clay cliffs with freshwater seepages. The Manchester Ship Canal forms part of the southern boundary of the site and separates a series of pools from the main estuary. These pools together with Hale Marsh are important roosting sites for wildfowl and waders at high tide. Throughout the winter the estuary supports large numbers of wildfowl and waders. The birds feed on the rich invertebrate fauna of the intertidal sediments as well as plants and seeds from the salt-marsh

and adjacent agricultural land. The estuary is also a valuable staging post for migrating birds in spring and autumn.

In 1980–81 the estuary had the highest monthly count of wildfowl of any British site; 57,700 birds. The most important species over the period 1978–83 were pintail *Anas acuta* (17% of the total western European population), teal *Anas crecca* (12%), shelduck *Tadorna tadorna* (7%) and wigeon *Anas penelope* (2%). In 1982–83 the estuary had the 16th highest monthly count of waders of any British site: 26,593 birds. The most important species over the period 1978–83 was dunlin *Calidris alpina* (1%). However, nationally important numbers of curlew *Numenius arquata*, redshank *Tringa totanus* and golden plover *Pluvialis apricaria* were also recorded.

Several areas of salt-marsh are present. These form important feeding and roosting sites for birds. Glasswort *Salicornia* spp. is widespread on the outer margins whilst sea Poa *Puccinellia maritima* is dominant over the rest. Unlike the other salt-marshes in the estuary, Stanlow Banks has not been grazed by sheep or cattle, and consequently has a more diverse flora. Sea aster *Aster tripolium* and hastate orache *Atriplex prostrata* are widespread throughout this area. Sea plantain *Plantago maritima*, annual seablite *Suaeda maritima* and scurvy-grass *Cochlearia* spp. also occur.

In a number of areas the salt-marsh grades into brackish marsh dominated by common reed *Phragmites australis* with sea arrow-grass *Triglochin maritima* and great reedmace *Typha latifolia* also present in some areas. On the sandy foreshore sea sandwort *Honkenya peploides* occurs with sea milkwort *Glaux maritima*. At the inner edge of the salt-marsh and along the strand line, mud rush *Juncus gerardi*, sand sedge *Carex arenaria* and curled dock *Rumex crispus* occur.

On the north side of the estuary, part of the coastline is formed by boulder clay cliffs. Portions of the cliff have become exposed by slumping, and in these areas a number of unusual species occur including yellow-wort *Blackstonia perfoliata* and bristly oxtongue *Picris echioides*, both of which are at the northern limits of their distribution.

APPENDIX 4

Botanical Species List

Appendix 4 - Botanical Species List

English Name	Scientific Name	DAFOR
Woody species	Woody species	
Butterfly-bush	<i>Buddleja davidii</i> (seedlings)	R
Herbs, grasses and ferns	Herbs, grasses and ferns	
Annual meadow-grass	<i>Poa annua</i>	R
Broad-leaved willowherb	<i>Epilobium montanum</i>	R
Canadian fleabane	<i>Conyza canadensis</i>	R
Common chickweed	<i>Stellaria media</i>	R
Dandelion	<i>Taraxacum officinale</i> agg.	R
Ground-ivy	<i>Glechoma hederacea</i>	R
Groundsel	<i>Senecio vulgaris</i>	R
Hairy bitter-cress	<i>Cardamine hirsuta</i>	R
Nipplewort	<i>Lapsana communis</i>	R
Oxford ragwort	<i>Senecio squalidus</i>	R
Procumbent pearlwort	<i>Sagina procumbens</i>	R
Rosebay willowherb	<i>Chamerion angustifolium</i>	R
Smooth sow-thistle	<i>Sonchus oleraceus</i>	R
Liverworts	Liverworts	
Liverwort sp.	<i>Marchantia polymorpha</i> subsp. <i>ruderalis</i>	R

DAFOR Key:

D - dominant
 A = abundant
 F = frequent
 O = occasional
 R = rare

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