EXTENDED PHASE 1 HABITAT SURVEY

Barrack Road, Northampton

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Prepared For

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EXECUTIVE SUMMARY

Lockhart Garratt Ltd was commissioned by Architecture Initiative on behalf of LGSS to carry out an Extended Phase 1 Habitat Survey including desk study on the former Royal Mail Sorting Office along Barrack Road, Northampton.

There were 16 non-statutory designated sites revealed within the desk study, all of which were over 600m from the development site. A variety of protected species records were the recorded within 2km of the study site, the majority of these are between 500-1000m from the site. The closest records related to grass snake, badger and common toad.

The Extended Phase 1 Survey was undertaken on 14th, 15th and 23rd May 2014. The predominant habitat was hard standing and buildings, both of these have a low habitat value. There were a number of scattered trees on site, defunct shrub beds and two small patches of semi-improved grassland with a mixture of species; these were considered to be of intermediate value providing nesting opportunities for birds. No evidence of roosting bats were found but two trees and the former Royal Sorting Office were identified as having roosting potential for these species.

The proposals for the site will impact on a number of trees, areas of scattered scrub and semi-improved grassland. Three of the four buildings will be demolished, with the remaining building modified as part of the proposals. Therefore recommendations have been made for mitigation and enhancement. These recommendations include:

- Retain as many mature trees where possible, with a focus on the most mature and best condition trees;
- Incorporate a wildlife friendly, native species based landscaping scheme;
- Installation of six bat boxes and seven bird boxes following construction phase;
- Further surveys for bat roosts in trees identified as having roosting potential
- Emergence/dawn re-entry surveys of the former Royal Mail sorting office (B1) to determine the presence/likely absence of bats;
- Implementation of measures to safeguard common mammals during demolition, construction phase;
- Appoint a suitably qualified and experienced pest control expert to advise on feral pigeon control and exclusion from former Royal Mail sorting office (B1) and vehicle depot (B2); and
- Clearance of any vegetation likely to support nesting bird to be done outside the breeding season (March – September inclusive) or to be supervised and guided by a suitably qualified and experienced ecologist.
1. INTRODUCTION

1.1 Terms of Instruction

1.1.1 This report has been commissioned by LGSS Property Services to provide an ecological assessment of a proposed development of a former Royal Mail sorting office to a through school with complementary mixed uses. The site is located on Barrack Road (see Appendix 1 for a site location plan).

1.1.2 The site has a central grid reference of SP 75272 61251. The site boundary is that shown on Phase 1 Habitat Plan presented in Appendix 2.

1.2 Report Limitations

1.2.1 This is an ecological report and as such no reliance should be given to comments relating to buildings, engineering, soils or other unrelated matters.

1.3 Documents Provided

1.3.1 As background information the following documentation was provided:

- Feasibility Study, Barrack Road, Architecture Initiative – April 2013
- URS Scott Wilson Report – Ref: 49312842, Royal Mail Group – August 2011

1.4 Proposals

1.4.1 The scheme proposes the re-use and conversion of the existing former Royal Mail sorting office building to provide a new through school and other mixed uses. Change of use to A3, D1, D2 and C3 uses.

1.4.2 Conversion and extension of the building to provide a 420 place primary school, 1500 place secondary school with 300 place 6th form, as well as a private nursery, cafe, gym and 7 residential units.

1.4.3 Works to the existing building include creation of new window openings, replacement of existing windows, over-cladding of first floor projection of existing building facing Barrack Road elevation, the infilling of the existing external courtyard to form a school sports hall space by building up a new façade off the existing structure, formation of new roof lights and the infilling of the southern portion of the under-croft car park to provide school accommodation.

1.4.4 Demolition includes removal of the existing metal transport shed structure at the west of the site, canopy and brick wall to loading bay, rear stair core and general site clearance to front and rear of the building.

1.4.5 External landscape works to create a shared public entrance plaza at the front of the building facing Barrack Road with existing paving and trees replaced. Existing vehicular access retained. Creation of new pedestrian and cycle access at north-west corner of site. Replacement of existing external metal boundary, including works on the boundary with the Barrack Road Conservation Area to the north-east of the site.

1.4.6 To the rear of the building a new single storey deck is proposed with car parking at ground level and play/teaching space above. School play space includes landscaped play areas to the southern side and rear of the building including fenced and lit MUGA courts.
1.5 Qualifications

1.5.1 The authors of this report are detailed below:

- James Whiteford BSc (Hons) MCIEEM MSB Primary Author / Primary Surveyor
- Joanne Underwood BA (Hons) Secondary Author
- John Lockhart FRICS CEnv Project Director
- Simon Muddiman BA(Hons) Graphics

1.6 The Site

1.6.1 The site is approximately 1.6ha in size and comprises a series of buildings set within an area of existing hard standing. Small sections of linear habitat in the form of redundant ornamental shrub beds and lines of trees are present around the perimeter of the site (see Appendix 2).

1.6.2 The immediate landscape is urban and includes a mixture of residential housing and commercial property with supporting road infrastructure. The surrounding landscape to the north is residential housing with associated gardens, to the west closely mown fields and plays areas belonging to an existing primary school, east is a series of shops along Barrack Road with several two-three storey buildings to the south.

1.6.3 From an ecological perspective the local landscape is highly fragmented and lacking in semi-natural habitat.
2. APPROACH

2.1.1 To assess the ecological issues associated with the site and to inform any further assessments or mitigation, the following tasks were undertaken by ecologists from Lockhart Garratt in 2014:

- A Desk Study in April 2014;
- An Extended Phase 1 Habitat Survey in May 2014;
- Bat scoping survey – internal and external inspection of buildings in May 2014; and
- Ground-based inspection of trees within the site for potential bat roosts in May 2014.
3. METHODOLOGY

3.1 Desk Study

3.1.1 The purpose of the desk study was to collect baseline data held by statutory and non-statutory consultees and to obtain any views they may have about the proposals. A secondary purpose of the desk study was to collect records of species that may not be present at the time of survey and identify any protected species or habitats which may potentially be affected by the proposals.

3.1.2 This information was gathered from the following organisations (with the full information presented in Appendix I):
- Northamptonshire Biodiversity Records Centre
- Northants Bat Group

3.2 Extended Phase 1 Habitat Survey

3.2.1 A walkover ecological appraisal was conducted following an approach based upon the Extended Phase 1 Habitat Survey technique of the Joint Nature Conservation Committee (JNCC, 1993) as modified by the Institute of Environmental Assessment (IEA, 1995).

3.2.2 The aim of the walkover was to identify any material changes to the habitats present within the site since the original work was completed during 2007 and 2008 and to identify what ecological matters required further detailed investigation.

3.2.3 This information is presented in accordance with the standard Phase 1 Habitat Survey format with habitat descriptions and a habitat map (Joint Nature Conservation Committee, 2010) presented in Appendix 3. In addition Target Notes providing supplementary information, for example relating to species, composition, structure and management are also presented on the habitat map.

3.2.4 Throughout the Extended Phase 1 Survey, consideration was given to the actual or potential presence of protected species, such as, although not limited to those protected under the Wildlife and Countryside Act 1981 (as amended), the Protection of Badgers Act 1992 and the Conservation of Habitats and Species Regulations 2010 (as amended).

3.2.5 Such species included, but were not limited to badger, bats, great crested newt and bird species. Consideration was also given to the existence and use of the site by other notable fauna such as Northamptonshire’s Biodiversity Action Plan (LBAP), National Biodiversity Action Plan (UKBAP) or Red Data Book (RDB) species.

3.2.6 This assessment has followed the current baseline ecological survey guidance as set out Guidelines for Preliminary Ecological Appraisal (IEEM, 2012).

3.3 Habitat Assessment Evaluation Criteria

3.3.1 A five point evaluation scale has been applied to assist with the identification of key features of ecological significance in relation to the proposed development, following guidance outlined in IEEM (2006) guidelines. This is an arbitrary scale which experience has shown is effective at this level of assessment.
3.3.2 The five point scale is outlined below:

- Low value;
- Intermediate value;
- High value (Local/District importance e.g. Local Wildlife Site);
- Very high value (County importance e.g. Local Nature Reserve); and
- Exceptional value (National importance e.g. Site of Special Scientific Interest (SSSI)).

3.4 Protected species surveys (conducted as part of Extended Phase 1 survey)

Bat Tree Assessment

3.4.1 An external assessment of all suitable trees located on or immediately adjacent to the study area was undertaken to determine their potential to support roosting bats (for details on the location of trees with bat roost potential refer to highlighted trees on the plan in Appendix 2).

3.4.2 All suitable features such as cracks and splits in limbs, hollows and cavities, natural holes, woodpecker holes, loose bark and thick-stemmed ivy were assessed using binoculars and high powered torches where appropriate. Evidence of bat roosts themselves, including droppings, feeding remains and urine staining were also searched for during the assessment. Where no direct or indirect evidence of roosting bats was confirmed, trees were categorised as being of high, medium, low or negligible potential to support roosting bats based on the type and number of suitable bat features present, in accordance with best practice guidance, Bat Conservation Trust (2012) Bat Surveys: Good Practice Guidelines. 2nd Edition.

i. High potential (Category 1*) – whereby no evidence of bats was observed but where the potential to support bats is noted due to a number of suitable features present, including most of the following: large number of suitable cracks and fissures, loose bark, woodpecker holes, dead limbs and ivy;

ii. Medium potential (Category 1) - whereby no evidence of bats was observed but where a limited number of suitable features is recorded considered likely support single bats. Such features typically include 2 to 3 of the following: high number of suitable cracks and fissures, loose bark, woodpecker holes, dead limbs, ivy;

iii. Low potential (Category 2) – whereby no evidence of bats was observed and where the potential for bats being present is considered unlikely. Some features may be present, including 1 or 2 of the following: suitable cracks and fissures, loose bark, woodpecker holes, dead limbs, ivy; however these are considered to be of limited potential only; and

iv. Negligible potential (Category 3) – whereby no evidence of bats was observed and no suitable features for bats are supported, such that their presence is considered negligible.
Bat Building Surveys

3.4.3 All the buildings within the study area were subject to an internal and external inspection during May 2014. These inspections were completed by a licenced bat worker (James Whiteford, Natural England Class 2 Bat Licence Holder).

3.4.4 The daytime inspections were conducted in line with BCT guidance and were informed by the findings of the URS survey conducted in July 2011.
4. DESK STUDY RESULTS

The full information collected during the desk study conducted in April 2014 is presented in Appendix 3 and summarised below.

4.1 Northamptonshire Biological Records Centre

Ecological designations

4.1.1 The records search identified no statutory designated sites and 16 non-statutory sites within 2km. These sites are summarised in Table 1.

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Designation</th>
<th>Proximity to Project</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kings Thorpe Meadows</td>
<td>LWS / NIA / WTR</td>
<td>1250m North West</td>
<td>A brook which runs into a man-made lake.</td>
</tr>
<tr>
<td>Storton’s Pits</td>
<td>WTR / LWS/ NIA / LNR</td>
<td>1950m South West</td>
<td>A large area of interlinked flooded gravel pits on the outskirts of Northampton</td>
</tr>
<tr>
<td>Dallington Old Tennis Courts &amp; Ponds</td>
<td>LWS/ NIA</td>
<td>1450m North West</td>
<td>A deep pool surrounded by woodland</td>
</tr>
<tr>
<td>Duston Gravel Pit</td>
<td>LWS/NIA</td>
<td>1900m South West</td>
<td>A recently flooded gravel pit in between the Nene and the Northampton Arm of the Grand Union Canal</td>
</tr>
<tr>
<td>Duston Junction Scrub</td>
<td>LWS/NIA</td>
<td>1850m South</td>
<td>A short embankment just North of the canal at Duston Junction West</td>
</tr>
<tr>
<td>Grand Union Canal – Northampton Arm</td>
<td>LWS/NIA</td>
<td>2000m South</td>
<td>A narrow arm of the Grand Union canal connecting the canal with the River Nene</td>
</tr>
<tr>
<td>Kingsthorpe Mire</td>
<td>LWS/NIA</td>
<td>730m North West</td>
<td>An area of NVC type M27 (Filipendula/Angelica mire) habitat</td>
</tr>
<tr>
<td>St James’ Lake</td>
<td>LWS/NIA</td>
<td>1390m South West</td>
<td>A lake owned by the Castle Angling Club, regularly fished and possibly stocked.</td>
</tr>
<tr>
<td>St James’ Park River Nene</td>
<td>LWS/NIA</td>
<td>1000m South</td>
<td>A relatively undisturbed urban stretch of the River Nene</td>
</tr>
<tr>
<td>Victoria Park Brook</td>
<td>LWS/NIA</td>
<td>830m West</td>
<td>A tributary to the Nene, which runs through Victoria Park, partly canalized</td>
</tr>
<tr>
<td>Becketts Park Island</td>
<td>PWS/NIA</td>
<td>1400m South</td>
<td>An island in the middle of the river Nene accessed by a footbridge at the west end and a road bridge at the east end</td>
</tr>
<tr>
<td>Kingsthorpe Embankment</td>
<td>PWS/NIA</td>
<td>740m North West</td>
<td>A steep embankment between the river and the railway line</td>
</tr>
<tr>
<td>Duston Flood Channel</td>
<td>PWS/NIA</td>
<td>2000m South West</td>
<td>Section of the Duston flood channel supporting wetland flora</td>
</tr>
<tr>
<td>Dallington Tennis Club Pond</td>
<td>PWS/NIA</td>
<td>1490m West</td>
<td>An historic fish pond close to the tennis club</td>
</tr>
<tr>
<td>Cloisters – Spring Boroughs</td>
<td>PP/NIA</td>
<td>640m South</td>
<td></td>
</tr>
<tr>
<td>Kingsthorpe New Churchyard</td>
<td>PP/NIA</td>
<td>1950m North</td>
<td></td>
</tr>
</tbody>
</table>

Key: LNR: Local Nature Reserve
LWS: Local Wildlife Site
NIA: Nature Improvement Area
PWS: Potential Wildlife Site
PP: Pocket Park
WTR: Wildlife Trust Reserve

Table 1: Summary of Ecological Designations
Protected Species

4.1.2 Table 2 summarises the protected species which were found within 2km of the study site. It should be noted that the absence of records should not be taken as confirmation that a species is absent from the search area.

<table>
<thead>
<tr>
<th>Species/Group</th>
<th>No. of records</th>
<th>Date of latest Record</th>
<th>Proximity to Project</th>
<th>Legislation / Conservation Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Herpetofauna</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common toad <em>Bufo bufo</em></td>
<td>8</td>
<td>2007</td>
<td>425m</td>
<td>NERC S.41, UK BAP, WCA (S9(5)) (Sale, barter or exchange)</td>
</tr>
<tr>
<td>Great crested newt <em>Triturus cristatus</em></td>
<td>1</td>
<td>1985</td>
<td>2000m</td>
<td>NERC S.41, UK BAP, WCA 5 S9(5), EPS</td>
</tr>
<tr>
<td>Grass snake <em>Natrix natrix</em></td>
<td>9</td>
<td>2007</td>
<td>380m</td>
<td>NERC S.41, UK BAP, WCA 5 S9(5) (killing/injuring)</td>
</tr>
<tr>
<td>Common Lizard <em>Lacerta vivipara</em></td>
<td>2</td>
<td>2011</td>
<td>1650m</td>
<td>NERC S.41, UK BAP, WCA 5 S9(5) (killing/injuring)</td>
</tr>
<tr>
<td><strong>Mammals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water vole <em>Arvicola terrestris</em></td>
<td>7</td>
<td>2013</td>
<td>1300m</td>
<td>NERC S.41, UK BAP, WCA 5 S9(5)</td>
</tr>
<tr>
<td>Hedgehog <em>Erinaceus europaeus</em></td>
<td>7</td>
<td>2009</td>
<td>970m</td>
<td>NERC S.41, UK BAP</td>
</tr>
<tr>
<td>Otter <em>Lutra lutra</em></td>
<td>7</td>
<td>2012</td>
<td>1750m</td>
<td>NERC S.41, UK BAP, WCA 5 S9(5)</td>
</tr>
<tr>
<td>Badger <em>Meles meles</em></td>
<td>2</td>
<td>2005</td>
<td>600m</td>
<td>PBA</td>
</tr>
</tbody>
</table>

Key:
WCA 1i: Wildlife and Countryside Act (1981) (as amended); Birds protected by special penalties at all times, species specific.
WCA 5 S9(5): Wildlife and Countryside Act (1981) (as amended); Protected animals (other than birds). Protection limited to selling, offering for sale, processing or transporting for purpose of sale, or advertising for sale, any live or dead animal, or any part of, or anything derived from, such animal.
UK BAP: United Kingdom Biodiversity Action Plan
NERC S.41: Natural Environment and Rural Communities Act 2006, Section 41: Habitats and Species of Principal Importance in England
PBA: Protection of Badgers Act (1992)

Table 2: Summary of Protected Species

4.1.3 There were a large number of bird species mostly farmland and woodland bird species; including barn owl *Tyto alba* (Schedule 1 of the Wildlife and Countryside Act (1981)).
4.2 Northants Bat Group

*Bat sightings and roost records*

4.2.1 The full information collected during the desk study completed in 2014 is presented in Appendix 3 and summarised in Table 3 below.

<table>
<thead>
<tr>
<th>Species/Group</th>
<th>No. of records</th>
<th>Date of most recent record</th>
<th>Closest¹ known roost to project (m)</th>
<th>Closest¹ records for fallen/foraging bat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipistrelle</td>
<td>34</td>
<td>2007</td>
<td>400m</td>
<td>330m</td>
</tr>
<tr>
<td><em>Pipistrellus sp.</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common Pipistrelle</td>
<td>4</td>
<td>2009</td>
<td>2860m</td>
<td>1200m</td>
</tr>
<tr>
<td><em>Pipistrellus pipistrellus</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soprano pipistrelle</td>
<td>2</td>
<td>2009</td>
<td>1900m</td>
<td>1700m</td>
</tr>
<tr>
<td><em>Pygmaeus pipistrelle</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brown long eared bat</td>
<td>8</td>
<td>2004</td>
<td>1750m</td>
<td>1250m</td>
</tr>
<tr>
<td><em>Plecotus auritus</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daubenton’s bat</td>
<td>2</td>
<td>2004</td>
<td>N/a</td>
<td>1750m</td>
</tr>
<tr>
<td><em>Myotis daubentonii</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whiskered bat</td>
<td>1</td>
<td>2001</td>
<td>N/a</td>
<td>1850m</td>
</tr>
<tr>
<td><em>Myotis mystacinus</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noctule</td>
<td>3</td>
<td>1985</td>
<td>N/a</td>
<td>1300m</td>
</tr>
<tr>
<td><em>Nyctalus noctula</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leisler’s bat</td>
<td>1</td>
<td>2008</td>
<td>N/a</td>
<td>3000m</td>
</tr>
<tr>
<td><em>Nyctalus leisleri</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3: Bat Species Records

¹ Records supplied by Northants Bat Group were provided in 4 figure GB Grid References. At this scale the records have a resolution of approximately 1km.
5. EXTENDED PHASE 1 HABITAT SURVEY RESULTS

5.1.1 The Extended Phase 1 survey was conducted by James Whiteford on 14th, 15th and 27th May 2014 in suitable weather conditions (11-22°C, full - overcast sunshine, and slight easterly breeze – strong westerly gusts).

5.2 Habitat Descriptions

5.2.1 The habitats identified during the Phase 1 habitat survey are detailed below in alphabetical order below:

- Buildings
- Hardstanding
- Introduced shrub
- Scattered scrub
- Scattered tree (coniferous and broadleaved)
- Semi-improved grassland (neutral)

5.2.2 The full Phase 1 Habitat Survey Map detailing the location of the above habitats and other features of ecological interest is presented at Appendix 2. The habitat descriptions below should be read in conjunction with this plan, associated target notes and the photo record in Appendix 4.

Buildings

5.2.3 The location of the buildings is shown on the Phase 1 habitat plan. A detailed breakdown of the internal and external inspections for roosting bats is presented in Table 4 in the bat section below.

5.2.4 There are four structures onsite;

- Building 1 (B1) – This is the former Royal Mail Sorting Office. This structure is 4-5 storeys high. The exterior of the building has been partially boarded and is in reasonable condition, the interior of the building is in exceptionally poor condition with collapsed ceilings and water on several of the floors. The interior is occupied by feral pigeons, with evidence of breeding by these species within the basement and first floor. Dead pigeons are scattered throughout the upper stories. Evidence of urban fox activity in the ground and first floor was recorded.

- Building 2 (B2) – This is the former vehicle servicing depot for the Royal Mail Sorting Office. The two storey structure is of all metal construction with the interior sub-divided in to separate offices by breeze block walls in two areas. The structure does not have any enclosed roof voids and is in reasonable condition. This structure is also used as a roosting and breeding site by feral pigeons.

- Building 3 (B3) – This is an open sided petrol filling station. The structure has two brick pillars supporting a flat roof above. The structure is open and has no enclosed roof voids.

- Building 4 (B4) – This is a very small structure containing the gas and electricity meters for the wider site. The structure supports brick walls to the west, south and north. The east face formerly supported wooden doors but these had been damaged and were open at the time of the assessment.
Habitat Value: B2-B4 – Negligible, B1 – Low-Moderate depending upon further assessment

**Hard standing**

5.2.5 Areas of hardstanding form curtilage and access routes to the buildings onsite. In areas where the concrete and tarmac has begun to breakdown a range of common plant and shrub species have begun to colonise. Species recorded growing within the areas of hard standing included common ragwort *Senecio vulgare*, Buddleja *Buddleja davidii*, yarrow *Achillea millefolium*, chickweed *Stellaria sp.* and perennial rye grass.

Habitat Value: Negligible

**Introduced shrub**

5.2.6 A number of overgrown shrub beds supporting a mixture of non-native species including cotoneaster *Cotoneaster sp.*, firethorn *Pyracantha sp.*, laurel *Laurus sp.* and Buddleja as well as an assortment of other non-natives are located around the boundaries of the site. In areas where ground cover is less several native species have begun to colonise including common ragwort and dandelion *Taraxacum agg.*

Habitat Value: Low

**Scattered scrub**

5.2.7 Patches of scattered scrub are located beneath a line of trees near the eastern boundary (G3, see scattered tree section below) and between an existing retaining wall and the southern edge of B1.

5.2.8 The species of scrub recorded were common to the areas of introduced shrub and including several tree saplings from trees growing in the study area. Buddleja was the most common scrub species. Other scrub species included laurel, elder *Sambucus nigra*, garden privet *Ligustrum ovalifolium* and honeysuckle *Lonicera periclymenum* as well as several London plane saplings.

Habitat Value: Low

**Scattered tree**

5.2.9 A mixture of mature coniferous and broadleaved trees were recorded within the study area. A full breakdown of the tree resource on site is provided in the accompanying aboricultural report (Ref: 14-0152).

5.2.10 Species recorded as part of the assessment included European lime *Tilia europaeus*, red horse chestnut *Aesculus x carnea*, sycamore *Acer pseudoplatanus*, London plane *Platanus x hispanica* and alder *Alnus sp.* A line of Leylandii x *Cupressocyparis leylandii* is located along the northern boundary to the west of B1.

5.2.11 Areas of dead wood were noted in association with the line of European lime (G3) near the eastern boundary of the study area. Several trees were identified as being of low to moderate bat roosting potential (see further detail below).

Habitat Value: Moderate
Semi-Improved grassland (Neutral)

5.2.12 An area of largely defunct amenity grassland is located to the east of Building 1. This has been left unmanaged and has been encroached by the beds of introduced shrub located to the south.

5.2.13 Species recorded within the sward included a mixture of sown and naturally colonising grass species including perennial rye grass *Lolium perenne*, barren brome *Anisantha sterilis*; cocks foot *Dactylis glomerata*, red fescue *Festuca rubra*, barley *Hordeum sp.* and meadow foxtail *Alopecurus pratensis*.

5.2.14 This habitat has been classified as semi-improved owing to the good range of herbaceous species it now supports including at least two neutral grassland indicators for Northamptonshire\(^2\) - bulbous buttercup *Ranunculus bulbosus*, common birds foot trefoil *Lotus corniculatus*.

Habitat Value: Moderate

\(^2\) Northamptonshire Wildlife Trust, Local Wildlife Site Criteria. Appendix 4 – Neutral grassland indicators
5.3 Protected species surveys (completed as part of Extended Phase 1 Habitat Survey)

Bat Scoping Survey - Buildings

<table>
<thead>
<tr>
<th>Building</th>
<th>Survey findings</th>
<th>Overall bat potential</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B1</strong> Former Royal Mail Sorting Office</td>
<td><strong>Internal Survey</strong> – Survey severely restricted by strong feral pigeon activity meaning that signs of bats in the form of droppings, or feeding remains may be masked. Numerous broken windows and open doorways permitting bat access to and from the interior. No signs found and generally interior is cluttered and lacking enclosed, or sheltered roost sites for bats.  <strong>Exterior Survey</strong> – Balance of the exterior brick is in good condition. Potential crevice dwelling roost sites noted on all elevations of the buildings. These take the form of vertical slits either forming drainage channels, or ‘puc’ scaffolding holes. Those accessible on western, and 1\textsuperscript{st} and 2\textsuperscript{nd} floor of eastern elevation were searched. South and western faces considered to be most likely potential roosting areas for bats. No signs found as part of the daytime inspection, but potential for usage, particularly within the drier summer months by bats considered possible.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low – Moderate</td>
<td></td>
</tr>
<tr>
<td><strong>B2</strong> Vehicle Depot</td>
<td><strong>Internal Survey</strong> – Survey hindered by strong feral pigeon activity. Balance of the interior space considered to be of low to negligible bat roosting potential as structure is open, light (no enclosed roof voids) and of all metal construction. Breeze block walls are fully intact, with no signs of bat usage found.  <strong>External survey</strong> – Balance of the structure is in good condition and owing to nature of construction (flat roof, uninsulated metal cladding around exterior) considered unlikely to provide roosting opportunities for bats. Exterior of the building is also secure further reducing potential for bats to roost within the interior.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Negligible</td>
<td></td>
</tr>
<tr>
<td><strong>B3</strong> Fuel station</td>
<td><strong>Daytime Survey</strong> – Building does not support any enclosed roof voids or cavity walls. Some areas of damage, but structure is not considered to offer potential roosting sites for bats.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Negligible</td>
<td></td>
</tr>
<tr>
<td><strong>B4</strong> Electrical substation/meter box</td>
<td><strong>Daytime Survey</strong> – Building does not support any enclosed roof voids and exterior is in good condition and lacks potential roosting sites.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Negligible</td>
<td></td>
</tr>
</tbody>
</table>

**Table 4:** Bat Survey – Buildings - Daytime Inspection
Bat Scoping Survey - Trees

5.3.1 A number of trees with bat potential were noted during the habitat survey (refer to Appendix 3) for a plan of the location of these trees and refer to Table 5 for details.

<table>
<thead>
<tr>
<th>Tree No.</th>
<th>Tree Tag No.</th>
<th>Species</th>
<th>Features of interest</th>
<th>Potential</th>
<th>Climbable</th>
<th>Further Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>T5</td>
<td>0780</td>
<td>London plane</td>
<td>Knothole west face at 3.5m. Filled with slugs shallow.</td>
<td>Low potential – Category 2</td>
<td>Yes – Accessible using ladder</td>
<td>Yes - Shallow cavity to be checked by licenced bat worker prior to removal.</td>
</tr>
<tr>
<td>T6</td>
<td>0778</td>
<td>London plane</td>
<td>Large vertical split at 3m on south face. Cavity found to be moist, full of slugs – c.40cm deep.</td>
<td>Moderate potential – Category 1</td>
<td>Yes – Accessible using ladder</td>
<td>Yes – Cavity to be subject to check using endoscope by licenced bat worker/and-or emergence survey prior to removal</td>
</tr>
<tr>
<td>G3</td>
<td>0786</td>
<td>European lime</td>
<td>Extensive necrotic tissue at base of pollarded section. Open cavity to east at 4m full of slugs/draughty.</td>
<td>Low potential Category 2</td>
<td>Yes – Accessible using ladder</td>
<td>Yes - Open cavity to be checked by licenced bat worker prior to removal.</td>
</tr>
<tr>
<td>G3</td>
<td>0785</td>
<td>European lime</td>
<td>4 recessed knotholes at pollarding joint. 4m high on west face. Currently wet, slug filled.</td>
<td>Moderate potential – Category 1</td>
<td>Yes – accessible using ladder</td>
<td>Yes – Cavity to be subject to check using endoscope by licenced bat worker/and-or emergence survey prior to removal</td>
</tr>
<tr>
<td>G3</td>
<td>0784</td>
<td>European lime</td>
<td>Extensive necrotic tissue at coppice head. Minimal suitable features noted</td>
<td>Low potential Category 2</td>
<td>Yes – accessible using ladder</td>
<td>Yes – Necrotic tissue to be checked by licenced bat worker prior to removal.</td>
</tr>
</tbody>
</table>

Table 5: Bat Survey – Buildings - Daytime Inspection

Fauna

5.3.2 During the survey, some common species of birds were observed including wren *Troglydotes troglodytes*, carrion crow *Corvus corone*, blackbird *Turdus merula* and woodpigeon *Columbus palumbus*.

5.3.3 Historic usage of the basement and first floor by urban foxes was noted.

5.3.4 Feral pigeons are roosting and breeding within B1 and B2.
6. DISCUSSION & CONCLUSIONS

6.1 Nature Conservation Sites

6.1.1 There are no statutory sites within 2km of the development site. Due to the distance between the study site and the non-statutory designated sites it is anticipated that there will be no negative impact on any of them or their status.

6.2 Habitats

Direct Impacts

6.2.1 The proposals will result in the following direct impacts:

- Loss of semi-improved neutral grassland;
- Loss of mature trees (T1, T2, T4, T5, T7, G3 and G9);
- Removal of B2-B4, works to interior and exterior of B2; and
- Loss of scattered scrub.

6.2.2 As the areas of semi-improved neutral grassland to be lost are small and already subject to regular disturbance, this loss is not considered to be ecological significant. Landscaping within the newly developed areas in the form of green roofs, or planting around the curtilage of the new development would provide opportunities to offset this loss.

6.2.3 The loss of the lines of mature lime trees and others within the site including those identified as having bat roosting potential may reduce roosting and opportunities for bats and birds in the local area.

6.2.4 Removal of the trees with bat roosting potential will require further assessment to ensure that any works are completed in the absence of bats, and if in the event any roosts are discovered these is sufficient mitigation in place to offset these impacts (e.g. alternative roost provision as part of a European Protected Species Licence).

6.2.5 New landscape planting incorporating a range of native broadleaved tree species will be required, with the design providing opportunities for these trees to develop in to specimens large enough to provide breeding opportunities for bats in future.

6.2.6 B2, B3 and B4 are considered to be of negligible ecological value. Removal of these buildings is not considered likely to have a significant ecological impact. Direct impacts on feral pigeons will inevitably occur and so a licence from Natural England will need to be sought to exclude these birds from B2 will be required before works commence.

6.2.7 As B1 is considered to have some potential for roosting bats further assessment will be required to confirm that bats are not roosting within the interior, or exterior of the building. Further assessment is required as bats will be excluded from the building in the long term and to also ensure that any exterior works to not lead to any exclusion of bats from existing roost sites or entrance points (e.g. drainage slits/Puc holes). As feral pigeons breed within the interior of B2 a licence from Natural England will also need to be sought to exclude them from the structure, no alternative roosting sites are likely to be required as this is a pest species.

6.2.8 The loss of scattered scrub is not considered likely to have a significant ecological impact except on nesting birds. The species comprising these habitats are common
and invasive. Vegetation clearance will need to take full account of the potential for nesting birds.

**Indirect impacts**

6.2.9 The existing site is already developed and sits within a very urban landscape. As a result existing levels of fragmentation and disturbance by light, noise and pollution are already high.

6.2.10 The main potential indirect impacts of the proposals relate to exterior lighting as currently the building is unlit. Light throw on to mature trees, or buildings (e.g. B1) to be retained may reduce their suitability as potential foraging/roosting sites for bats and potential nesting sites for birds.

6.3 **Protected Species**

6.3.1 The desk study identified a range of protected species records in the local area including great crested newts and reptiles (see Table 2 and details at Appendix 3). Table 6 provides an evaluation of the potential impacts on protected species from the proposed development.
<table>
<thead>
<tr>
<th>Taxon</th>
<th>Recorded in desk study</th>
<th>Evidence on site</th>
<th>Potential onsite to support presence</th>
<th>Impact on species</th>
<th>Relevant legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amphibians</td>
<td>Yes - several records of common toads and one record of a great crested newt 2000m from the site</td>
<td>None</td>
<td>None – there was no standing water on site and residential properties and major roads restrict connectivity to the wider area</td>
<td>Negligible – as there is no potential on site or connections to habitat beyond the site</td>
<td>WCA 5 S9(5), CHSR, NERC</td>
</tr>
<tr>
<td>Badgers</td>
<td>Yes – there were two records, with the closest being 600m away</td>
<td>None</td>
<td>Low – Balance of the site is already hardstanding and so prevents sett establishment, with very little suitable foraging habitat for these species</td>
<td>Low – Negligible – Balance of the site is unsuitable for these species, no sets or significant foraging habitat will be lost as part of the proposals</td>
<td>PBA</td>
</tr>
<tr>
<td>Bats</td>
<td>Yes – there are a number of records for different species of bats within the area with the closest being under 400m away</td>
<td>None</td>
<td>Yes – Several of the mature trees (see Table 5) identified as having features of low to moderate bat roosting potential. The majority of the buildings (B2-B4) are considered unlikely to support roosting bats. The interior and exterior of B1 has some roosting potential for these species. The lines of Leyland cypress and lime trees could also provide some limited commuting and foraging opportunities for these species.</td>
<td>Unconfirmed – B1 has been identified as having bat roosting potential and requires further assessment. Several trees have low to moderate bat roosting potential, with no evidence found to date. Loss of lines of trees not anticipated to significantly reduce local foraging and commuting opportunities as surrounding habitat already highly fragmented.</td>
<td>WCA 5 S9(5), CHSR, NERC</td>
</tr>
<tr>
<td>Birds</td>
<td>Yes – a large number of farmland and woodland birds</td>
<td>Yes – a small number of common birds. Numerous feral pigeons inside B1 and B2.</td>
<td>Yes – there is potential for birds to be utilising the lines of mature trees, scattered scrub and introduced shrub beds for nesting, as well as foraging.</td>
<td>Low-moderate – Majority of trees on site will be removed, which will result in habitat loss and potential disturbance of breeding birds.</td>
<td>CHSR, CRoW, WCA 1i, NERC</td>
</tr>
<tr>
<td>Reptiles</td>
<td>Yes – nine records of grass snake and two records of common lizard</td>
<td>None</td>
<td>Low – Suitable habitat within the site is fragmented and covers minimal area. Other foraging opportunities e.g. standing water is absent. Very poor connectivity of site to other potential reptile habitat (e.g. allotments, mature gardens).</td>
<td>Low-Negligible – Habitats onsite due to be impacted are considered unlikely to support reptiles.</td>
<td>NERC S.41, UK BAP, WCA 5 S9(5) (killing/injuring)</td>
</tr>
<tr>
<td>Water vole</td>
<td>Yes – seven records, with the closest being over 1300m away</td>
<td>None</td>
<td>No – there is no running water on site</td>
<td>None – as there is no potential on site</td>
<td>NERC S.41, UK BAP, WCA 5 S9(5)</td>
</tr>
<tr>
<td>Otter</td>
<td>Yes – seven records, with the closest being 1750m from the site</td>
<td>None</td>
<td>No – there is no running water on site</td>
<td>None – as there is no potential on site</td>
<td>NERC S.41, UK BAP, WCA 5 S9(5)</td>
</tr>
<tr>
<td>Other faunal interest</td>
<td>Yes – there were records of hedgehog within 1km of the site</td>
<td>Yes – evidence of urban fox activity in lower floors of B1</td>
<td>Yes – there is limited potential habitat for hedgehogs and fox</td>
<td>Low – there is limited suitable habitat for hedgehog on site, foxes appear to have abandoned the site</td>
<td>UK BAP</td>
</tr>
</tbody>
</table>
Key:


WCA 1i: Wildlife and Countryside Act (1981) (as amended); Birds protected by special penalties at all times, species specific.
WCA 5 S9 (5): Wildlife and Countryside Act (1981) (as amended); Protected animals (other than birds). Protection limited to selling, offering for sale, processing or transporting for purpose of sale, or advertising for sale, any live or dead animal, or any part of, or anything derived from, such animal.

UK BAP: United Kingdom Biodiversity Action Plan
NERC S.41: Natural Environment and Rural Communities Act 2006, Section 41: Habitats and Species of Principal Importance in England
PBA: Protection of Badgers Act (1992)

**Table 6: Evaluation of protected species likely presence and potential impacts**
7. **MITIGATION AND ENHANCEMENT**

7.1 **Nature Conservation Sites**

7.1.1 There are no statutory sites within 2km of the development site. Due to the distance between the study site and the non-designated sites it is anticipated that there will be no negative impact on any of them or their status.

7.2 **Habitats**

7.2.1 The scattered trees and small area of semi-improved grassland provide potential habitat for a number of plants, birds, mammals and invertebrates and in the context of the site and local area are considered a biodiversity rich habitat (although of very limited area).

7.2.2 The current proposed development will have a moderate adverse impact on the biodiversity on site. In order to compensate for this and minimise the biodiversity loss the development should retain as many of the trees as possible with an emphasis being placed on those of a better quality and anticipated longevity.

7.2.3 In addition to the retention of trees, consideration should be given to a biodiversity rich landscaping scheme in respect of open areas. This should include native and wildlife attracting plant species for insects and birds and less-formal areas to encourage reptiles and other wildlife.

7.2.4 To provide immediate roosting opportunities for bats and nesting opportunities for birds the following wildlife boxes are to be installed:

- **Bat boxes**
  - 6 x Schwegler 1FF to be located on southern and western faces of B1 following manufacturers guidance. Boxes are to be sited away from artificial sources of light.

- **Bird boxes**
  - 4 x Schwegler 1FB (2x26mm, 2x32mm) – 2 to be installed within G8, 2 on T6
  - 1 x Schwegler 1SP (Sparrow terrace) – To be installed on south facing wall of B1 as per manufacturers guidance
  - 2 x Schwegler 2S (Starling Box) – To be installed on west facing wall of B1 as per manufacturers guidance

7.3 **Protected Species**

**Bats**

7.3.1 Some of the trees have been identified as having bat roosting potential. Before any of these trees are removed, a further survey should be undertaken to confirm that these trees are not being used by roosting bats.

7.3.2 T6 and G3 (Tag No. 0785) will require a nocturnal survey in advance of these trees being removed. Nocturnal surveys of trees for roosting bats can only be completed between May and September inclusive. If in the event any evidence of bat roosting is confirmed further assessment and derogation licence from Natural England will be required to remove these trees.
7.3.3 A series of nocturnal bat emergence/re-entry surveys will need to be undertaken on Building 1 to establish the following:

- Presence / absence of roosts;
- Status of roosts;
- Species and number of individuals;
- Resting places; and
- Commuting routes leading to / from the buildings.

7.3.4 Nocturnal bat surveys involving emergence and re-entry surveys can only be conducted between May and September, with the optimum period identified as May to August inclusive.¹

7.3.5 If in the event any bat roosts are confirmed within B1 then either a mitigation scheme or Natural England European Protected Species Licence may be required to facilitate the proposed works.

**Other protected species exc. birds**

7.3.6 Overall the likelihood of other protected species such as great crested newts or badgers within the study area is considered to be low. If in the unlikely event any of these species are encountered all works must stop immediately and contact made with an ecologist before proceeding further with the works.

7.3.7 Urban foxes have used the basement and first floor of Building 1. A check for the presence of these species by a suitably qualified ecologist should be completed ahead of disturbance works commencing.

7.3.8 If in the event any animal holes or burrows are discovered then an ecologist should be informed and the features inspected prior to excavation commencing. If in the event the burrow is not considered to be significant then it will need to be excavated sensitively.

7.3.9 To reduce the risk of wild and domestic mammals being injured or entrapped as part of the works a series of basic mitigation measures should be employed. These are to include:

- Covering over of any deep trenches overnight;
- Integration of ‘escape’ ramps in the sides of excavations incorporating wooden boards where required;
- Storage of items on pallets, and safe storage and usage of petrochemicals; and
- Any stored materials, or waste materials (e.g. vegetation heaps) to be checked for the presence of hibernating animals prior to their removal.

**Birds**

7.3.10 The scattered trees and dense areas of scattered scrub are likely to provide suitable nesting features for birds. These should be cleared outside the nesting bird season (March – September inclusive). Where this timing cannot be adhered to, all

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¹ Guidance as per timings set out in the Bat Conservation Trusts latest survey guidelines (BCT, 2012)
vegetation must be checked by a suitably qualified and experienced ecologist. Where nesting birds are found a suitable buffer zone will be implemented to ensure they are undisturbed until all nesting activity has been completed.

7.3.11 The removal of active feral pigeon nests from B1 and B2 will require a licence from Natural England.

7.3.12 Licences are not granted for the purposes of development. It may be possible to secure a licence on the basis of the public Health and Safety threat which the current feral pigeon population poses. Consultation with a suitably qualified pest control expert will be required ahead of any disturbance works commencing within these buildings.
REFERENCES
CIEEM (2012) Guidelines for Preliminary Ecological Appraisal (GPEA)
Froglife (1999) Reptile Survey – Advice Sheet 10
APPENDIX 1:

Site Location Plan

Site Location
APPENDIX 2:

Phase 1 Habitat Plan

(M14-0161 V2)
APPENDIX 3:

Desk study data
28th April 2014

Dear Marie,

Re: Ecological data search, Barrack Road, Northampton (Ref: Barrack Road)

Thank you for approaching the NBRC with this enquiry. All the information that you have requested is contained within this report. This includes a map of the search area, statutory and non-statutory site details and a list of protected and notable species records from your specified search area. For definitions of these sites please refer to the document at the end of this report.

Statutory sites

The following statutory sites are located within your specified search area. These sites have been labelled on the accompanying map.

- Kingsthorpe LNR
- Storton’s Pits LNR

Further details, such as SSSI status and citations, can be accessed through the Natural England website using the following links;

- [http://www.sssi.naturalengland.org.uk/Special/sssi/search.cfm](http://www.sssi.naturalengland.org.uk/Special/sssi/search.cfm)
- [http://www.lnr.naturalengland.org.uk/Special/Lnr/Lnr_search.asp](http://www.lnr.naturalengland.org.uk/Special/Lnr/Lnr_search.asp)
- [http://jncc.defra.gov.uk/pdf/SPA/UK9020296.pdf](http://jncc.defra.gov.uk/pdf/SPA/UK9020296.pdf)
- [http://jncc.defra.gov.uk/pdf/UK11083.pdf](http://jncc.defra.gov.uk/pdf/UK11083.pdf)

Non-statutory sites
Following the Natural Environment White Paper (2011), twelve Nature Improvement Areas (NIA’s) were designated and granted government funding in February 2012. They should aim to achieve significant and demonstrable enhancements of the ecological network over large areas by undertaking the actions prioritised in the review.

Further information regarding the Nene Valley Nature Improvement Area can be found on the Natural England website using the following link:

The following non-statutory sites are located within your specified search area. These sites have been labelled on the accompanying map.

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Site Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Becketts Park Island</td>
<td>Potential Wildlife Site/NIA</td>
</tr>
<tr>
<td>Bunting Road Outcrop</td>
<td>Local Geological Site</td>
</tr>
<tr>
<td>Cloisters - Spring Boroughs</td>
<td>Pocket Park/NIA</td>
</tr>
<tr>
<td>Dallington Old Tennis Courts &amp; Ponds</td>
<td>Local Wildlife Site/NIA</td>
</tr>
<tr>
<td>Dallington Tennis Club Pond</td>
<td>Potential Wildlife Site/NIA</td>
</tr>
<tr>
<td>Duston Flood Channel</td>
<td>Potential Wildlife Site/NIA</td>
</tr>
<tr>
<td>Duston Gravel Pit</td>
<td>Local Wildlife Site/NIA</td>
</tr>
<tr>
<td>Duston Junction Scrub</td>
<td>Local Wildlife Site/NIA</td>
</tr>
<tr>
<td>Grand Union Canal - Northampton Arm</td>
<td>Local Wildlife Site/NIA</td>
</tr>
<tr>
<td>Kingsthorpe Embankment</td>
<td>Potential Wildlife Site/NIA</td>
</tr>
<tr>
<td>Kingsthorpe Hall</td>
<td>Local Geological Site/NIA</td>
</tr>
<tr>
<td>Kingsthorpe Meadows</td>
<td>Local Wildlife Site/NIA/Wildlife Trust Reserve/NIA/LNR</td>
</tr>
<tr>
<td>Kingsthorpe Mire</td>
<td>Local Wildlife Site/NIA</td>
</tr>
<tr>
<td>Kingsthorpe New Churchyard</td>
<td>Pocket Park/NIA</td>
</tr>
<tr>
<td>Kingswell Road Outcrop</td>
<td>Local Geological Site/NIA</td>
</tr>
<tr>
<td>Northampton General Hospital</td>
<td>Local Geological Site/NIA</td>
</tr>
<tr>
<td>St James’ Lake (Northampton)</td>
<td>Local Wildlife Site/NIA</td>
</tr>
<tr>
<td>St James’ Park River Nene</td>
<td>Local Wildlife Site/NIA</td>
</tr>
<tr>
<td>Stortons Pits</td>
<td>Wildlife Trust Reserve/Local Wildlife Site/NIA/LNR</td>
</tr>
<tr>
<td>Victoria Park Brook</td>
<td>Local Wildlife Site/NIA</td>
</tr>
</tbody>
</table>

Descriptions for most of these non-statutory sites are attached to this report. Unfortunately we do not hold descriptions for Pocket Parks (please refer to the website for further information www.pocketparks.com).

In addition some Potential Wildlife Sites have been highlighted in blue on the map. Please note that we do not hold information for all of these sites. For a full definition of Potential Wildlife Site please refer to the section “Sites of wildlife and geological importance in Northamptonshire” below.
Species records

Please note that we do not provide data for bats. This information can be obtained directly from the Northants Bat Group/County Recorder for Mammals using the contact details already provided.

1261 other protected and notable species records fall within your specified search boundaries. A list of these species records is attached to this report.

This report contains sensitive information about the location of protected species and has been provided in confidence to assist you in your work. Because of this OS Grid References must be withheld from documents destined for public consumption.

I would remind you that these data are limited spatially and temporally and I would strongly recommend that follow-up surveys be carried out to support the baseline provided. I would also like to draw your attention to our terms and conditions once again.

| Northamptonshire Biodiversity Records Centre |
| Terms and conditions |
| 1. All rights to the data are reserved and ownership is not transferred with it. Data held by the Northamptonshire Biodiversity Record Centre (N.B.R.C.) remains the intellectual property, and in the ownership and copyright, of the originator(s). |
| 2. Whilst every effort is made to ensure the accuracy of all the data provided, the N.B.R.C. can accept no responsibility for any costs, damages or liabilities whatsoever arising from the use of the data or for any omissions or inaccuracies within it. |
| 3. The data held by the N.B.R.C. may not be comprehensive and the absence of data, in response to a data search, does not imply that a species, important habitat or designation does not exist within that search area. Recorded presence does not imply current presence and the date for all records will be provided. |
| 4. Data is provided solely for the use of the enquirer (and their client) and only for the purpose(s) specified by the enquirer at the time of its request. Data must not be reused or stored beyond the life of the project for which they were acquired. |
| 5. Data may be used as required in support of the planning process but OS grid references must be removed from documents destined for public consumption due to sensitive data concerning protected species. |
| 6. The N.B.R.C. will provide access to data subject to any conditions imposed on its use by the Data Protection Act, Environmental Information Regulations 2004, Copyright and Intellectual Property Right Law or the data owner. Restrictions on the release of information may therefore apply. |
| 7. The N.B.R.C. will only release un-interpreted data and will not usually comment upon its significance. |
| 8. The N.B.R.C. will release as soon as possible, and within twenty working days of receipt, the request unless an extension of time is necessary. In this event the enquirer will be informed within ten working days. |
| 9. All charges made by the N.B.R.C. relate to the provision of administration, data handling and search services. |

As agreed, the total charge for the time taken to extract this information and put together the report is £180 plus VAT (£216 including VAT). An invoice will be sent under different cover from our Cambridgeshire office.

Should you have any enquiries please feel free to contact me at the above address.
Yours sincerely,

James Skinner
Biodiversity Data Officer
Sites of wildlife and geological importance in Northamptonshire

**Statutory Sites:**

**Special Protected Area (SPA)**
SPAs are strictly protected sites classified in accordance with Article 4 of the EC Directive on the conservation of wild birds (79/409/EEC), the Birds Directive.

**Site of Special Scientific Interest (SSSI)**
The SSSI series provide statutory protection for the best examples of the natural environment. SSSI were originally notified under the National Park and Access to the Countryside Act 1949 and they were renotified under the Wildlife and Countryside Act 1981. Improved provisions for their protection and management were introduced in the Countryside and Rights of Way Act 2000.

**National Nature Reserve (NNR)**
NNRs are declared by the statutory country conservation agency (English Nature) under the National Park and Access to the Countryside Act 1949. NNR contain the most important examples of natural and semi-natural ecosystems within Great Britain. NNR conserve the habitats within them and offer opportunities for research.

**Local Nature Reserve (LNR)**
LNRs are declared under the National Park and Access to the Countryside Act 1949 by local authorities. LNR are declared and managed for nature conservation, education and research or opportunities for public access to nature.

**Non-statutory sites:**

**Nature Improvement Area (NIA)**
Following the Natural Environment White Paper (2011), twelve NIAs were designated and granted government funding in February 2012. They should aim to achieve significant and demonstrable enhancements of the ecological network over large areas by undertaking the actions prioritised in the review:
- Improving the management of existing wildlife sites
- Increasing the size of existing wildlife sites
- Increasing the number of wildlife sites
- Improving connectivity between sites
- Creating wildlife corridors

**Local Wildlife Site (LWS)**
Local Wildlife Sites are areas of land which are rich in wildlife and are the equivalent to Sites of Importance for Nature Conservation. Criteria for selection take into account threats and declines in certain species, national priorities and local distinctiveness. The LWS system is managed, in partnership, by The Wildlife Trust, local authorities, statutory nature conservation agencies, local naturalists and landowners. Local Wildlife Sites were previously known as County Wildlife Site (CWS) in the past.

**Protected Wildflower Verge (PWV)**
Protected Wildflower Verges are roadside verges rich in wildlife and are crucial to the success of the local Biodiversity Action Plan. Criteria for selection take into account threats and declines in certain species, national priorities and local distinctiveness. The PWV system is managed, in partnership, by The Wildlife Trust, local authorities, statutory nature conservation agencies, local naturalists and landowners.

**Pocket Park**
The Pocket Park vision is to develop easy public access to the countryside, bringing the countryside to the people and providing opportunities for enjoyment and understanding of ‘Countryside on the Doorstep’. Over the past 18 years, the county council has worked in partnership with many organisations and other local authorities to help create 80 Pocket Parks. For more information on this scheme please refer to the website at www.pocketparks.com.

**Local Geological Site (LGS)**
Local Geological Sites (LGS) are the most important places for geology and geomorphology outside the statutory SSSI. The sites are designated using locally developed criteria and are assessed by the local geological group.

**Potential Local Geological Site (PLGS)**
Potential Local Geological Sites (PLGS) are sites that were identified and considered to be important geological exposures. These sites have not yet been formally notified as Local Geological Sites by the local geological group. Currently these sites can only be located by a grid reference, as they do not have a formal site boundary and there is no descriptive survey information.

**Potential Wildlife Site (PWS)**
Potential Wildlife Sites (PWS) are sites that are either known or thought to be of higher biodiversity value than the average countryside but have not been confirmed to be of Local Wildlife Site (LWS) standard.

PWS can belong to one of three categories: 1. Sites never fully surveyed and assessed against LWS criteria. 2. Sites surveyed and assessed against the LWS criteria but not currently reaching the standard. 3. Sites previously recognised as LWS but not currently meeting the latest LWS criteria.

PWS were originally outlined using a combination of local knowledge and looking at aerial photographs for evidence of biodiverse habitats. All PWS are likely to be important for the County’s biodiversity, either in their own right, or through buffering and linking current LWS and contributing to Green Infrastructure. Many of these sites could potentially be of LWS standard once surveyed.
# Beckett's Park Island

## Administrative areas:
- Northamptonshire (E County (74-))
- Northampton (E District (74-))

## Status(es):
PWS

## Centroid:
SP760599 (Site Centroid)

## Site type:
Site

## File code:
N1207

## Site/Subsite hierarchy:
Beckett's Park Island

## Description:
2005: This site is an island in the middle of the River Nene. It is accessed by a footbridge at the west end and a road bridge at the east end (which is the access road to the Avon factory). The east end of the island is mown improved grassland. In the west is a large pond, linked to the river and with a central wooded island. The pool is carpetted with common duckweed (*Lemna minor*) and appears rather scummy. Marginal vegetation is mostly less than one metre wide but up to three metres in some places. The site suffers from dumping of rubbish and the pond appears very nutrient-rich.

This site holds a reasonable diversity of wetland vegetation in the fringes of the pond, although many infrequent; a more detailed survey may bring to light more species. This site could also be considered as a Green Infrastructure site.

<table>
<thead>
<tr>
<th>Total number of records</th>
<th>23</th>
</tr>
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<tbody>
<tr>
<td>Total number of species</td>
<td>23</td>
</tr>
</tbody>
</table>
Historical Background / Significance / Former use of site

This was formerly Greenough’s brick pit (19th c?) but brick works had been established here between 1746 and 1755; it was to become by 1927 "the biggest brick kiln site in the Northampton area" (Atkin, 2000). The brick pits were the source of many important ammonite specimens now in the Central Museum, Northampton. (Hosworth, 1970)

Conservation and remedial work needed or desirable

The first step is to recognize the existence and importance of this relic; and then not to let it be lost. Trees are valuable in themselves, and probably help to stabilize the bank.

Summary of site significance

A rare opportunity to see the junction of Northampton sand and Upper Lias. And a rare remnant of Northampton’s brick pits.

Scientific value **
Educational value ***
Historical value *
Aesthetic value (potential)

Submitted to RIGS Group by ____________ Date ____________
Considered by Rigs Group on ____________
Approved / Not Approved as a RIGS Site
Signed on behalf of the RIGS Group by ___________________
SCIENTIFIC DETAILS

Sketch / Section

approx 1m
Bleakley brown ferruginous sandstone (Northampton Sand formation)
0.5m. shelly brown clay
2.4m. grey brown clay

Upper Lias

Geological Features and/or geomorphological / industrial economic features

跡 of former brick pit shows Northampton Sand (local sandstone or sandstone slabs; some phosphate nodules obtained in 1990 for analysis in connection with research into radon, Leicester University) —
overlying Upper Lias Clay.

Northampton's brick pits were source of many fossils now in Beesley Thompson Collection at Central Musuem, Northampton.

Educational value

Useful locality

Specialist
Higher educational
Secondary school
Primary school

Physical Means of Access

Difficult. But can be viewed from the parking area of the industrial estate.

Permission required
Public access
See note

Specimen collection potential

Limited

Hammering by permission
Hammering forbidden

Site facilities (e.g. parking, toilets?)

Parking adjacent

References, (published / unpublished) relating to the site

Thompson, B. 1928. The Northampton Sand of Northamptonshire.


Ackroyd, R., 2000. in St George's Community Wildlife publication, 11-15

Regional context

One of only two localities in Northampton where the junction of Northampton Sand and Upper Lias can be seen.

Unique
Rare

Unless on an official RIGS Group site visit, people visiting a site are responsible for their own Health and Safety. Unofficial visits are not covered by the Wildlife Trust's Liability Insurance.
Site Name: Dallington Old Tennis Courts & Ponds

Site Code: N698

Status: LWS

Other Designations: Nene Valley NIA

Grid Reference: SP735620

Area (ha): 2.5

District: Northampton

Site History:
17/06/1991 LWS
09/07/2007 LWS

Habitats present
Broad Habitat: Wetland, Woodland
BAP Habitat: Lowland Mixed Deciduous Woodland

Reason for Designation:
A deep pool surrounded by woodland and providing a valuable habitat in an urban area. The site qualifies as a LWS based on the woodland areas, where 5 ancient woodland indicator species were recorded.

Site Description:
21/07/2005
2005 Update

The pool is very turbid with visibility at about 20 centimetres. The banks are quite steep with about a 20 cm drop to the water. The outlet (through the concrete bund at the east end) was dry at the time of the survey. The pool is fed from the Dallington Brook at the north of the site; another inflow in the north-west of the site was dry at the time of the survey. Above the north bank is woodland, an open grassy track runs above the south bank. The pond was de-silted in 1964 - slubbings were dumped on the edge of the woodland to the south of the pond, and it looks like a lot was dragged out. Himalayan balsam Impatiens glandulifera was locally frequent in a marshy area adjacent to the banks in the north-east of the pool.

Species of fish reported to be present appears to be the same range as in the 1991 survey (though Crucian carp, currently present, were not noted previously). The reason for the decline in water clarity and aquatic plants is unclear; it obviously isn't due to a new introduction of benthic feeders as these were present at the previous survey - but maybe there has been an increase in numbers of benthic feeders thus increasing the turbidity, or maybe they are larger and kick up more sediment (reported to be 25 lb fish present). Another possibility for the cause of the decline in aquatic plants may be pollution input from the Dallington Brook.

A thorough search for wetland and aquatic vegetation was made, both of the banks and of the pond itself using a grapnel. Twelve species of submerged, floating, emergent and fen species were recorded, including three indicators:

Angelica Angelica sylvestris, Meadowsweet Filipendula ulmaria, Yellow Iris Iris pseudacorus. The other species were: Lesser Pond-sedge Carex acutiformis, Great Willowherb Epilobium hirsutum, Common Duckweed Lemna minor, Water Chickweed Myosoton aquaticum, Yellow Water-lily Nuphar lutea, White Water-lily Nymphaea alba, Amphibious Bistort Persicaria amphibia, Water Figwort Scrophularia auriculata, Branched Bur-reed Sparganium erectum. This isn't sufficient to qualify.
Above the north and west banks is secondary woodland, with scrub (Blackthorn Prunus spinosa prominent) above the east bank. The woodland is well established with some big, old trees (with TPOs) but not a lot of fallen or standing dead wood. The field-layer includes some less common species. Bats are reported feeding, but it isn't clear where they roost.

The grassland in the south-east corner of the site is rather rank MG1 with nettle beds and bramble thickets - quite thatchy and tussocky, probably good habitat for grass snakes. To the west of this are more bramble thickets. The open area further to the north-west was not looked at and it probably should have been. This area of grassland appeared of low botanical interest but was not given a thorough survey.

This site appears to have deteriorated from a wildlife perspective since the 1991 survey. The pond supports no submerged aquatics and the grassland is rank MG1 with brambles and nettles (although not all of the grassland was looked at, because the main focus was the pool). However, the woodland is good and, because it is less than 2 hectares in size (approximately 1.3 hectares), it qualifies for CWS status because it contains 5 Ancient Woodland Indicators. It also contains 31 woodland species. This is despite a survey carried out at a non-ideal time of year. There are also good numbers of old trees present (dbh higher than 1.2m). A spring visit would no doubt bring more woodland species to light but this is unnecessary as the woodland habitat met the CWS selection criteria in the late summer visit.

17/06/1991
A small, enclosed and very species-rich mosaic of habitats on the site of the old Dallington tennis courts. A couple of courts remain, but the Tennis Club is now active south of the road and the grass courts to the north now support short grassland. This used to be horse-grazed and was recorded in the late 70s as having low diversity. Since then it has been left, and now comprises a patch of grassland, a low, grassy bank and the old, man-made pond which is still fed by Dallington Brook. The pond has a lot of fish and invertebrate species present, along with submerged and floating species such as Elodea nuttallii, E. canadensis (both quite clearly distinct in this case), Nuphar lutea, Nymphaea alba, Ceratophyllum demersum, Potamogeton crispus, P. pectinatus, P. natans (also possibly P. polygonifolius - to far to reach), Lemna minor and L. trisulca. Fringing vegetation includes Carex riparia, Lycopus europaeus, Iris pseudoacorus and Epilobium hirsutum, plus several species growing on the brickwork of the pond's edges. The pond is fished regularly. It is thought to contain great crested newts, and the Brook was recorded as having a colony of crayfish in 1983. . The grassland has anthills one of which was housing a grass snake with babies at the time of survey. Eighteen grass species have been recorded from here, including Anthoxanthum odoratum, Cynosurus cristatus, Festuca rubra, Poa pratensis, P. annua, Arrhenatherum elatius etc. Species present include large amounts of Lathyrus nissolia, Vicia tetrasperma, V. sativa, V. cracca, Rumex acetosa and Geranium dissectum, with frequent Luzula campestris, Hypochoeris radicata, Conopodium majus, Tragopogon pratense, Crepis biennis and one patch of Carex muricata ssp. lamprocarpa. There is also an area of taller, less diverse vegetation in the southwest side near to the adjacent new development. A strip of woodland and scrub surrounds the grassland and ponds on the other three sides, with some parkland species such as box, yew and lime, all fine mature specimens that probably date from the original landscaping of the Tennis Club grounds. The bank of sandy earth alongside the brook on the northeast side of the woodland used to support a large badger sett. This site provides excellent wildlife habitat, particularly in conjunction with the other meadows alongside Dallington Brook (NW of this area). Badgers have been seen to use the area (not seen on this survey, however). The presence of grass-snakes is also of importance. Two county rarities are present in the grassland, two(?)three) in the pond. The site therefore has value 1) as a surviving urban site next to a ‘corridor’ of brook, meadows and allotments 2) as a varied mosaic of habitats 3) as a home for county-rare plant species and possibly a protected mammal 4) as a reptile site. Management, what there is, appears to be successful, especially of the pond. Whether the grassland would benefit from a mowing regime (it is rabbit-grazed at present) should be considered.
Dallington Tennis Club Pond

**Administrative areas:**
Northamptonshire (E County (74-))
Northampton (E District (74-))

**Status(es):**
County Wildlife Site  from 23/06/1994  to 02/09/2005
PWS

**Centroid:**
SP736619  (Site Centroid)

**Site type:**
Site

**File code:**
(N/23.6.94) N979

**Site/Subsite hierarchy:**
Dallington Tennis Club Pond

**Description:**
This is part of what was a pair of fishponds next to Dallington Lawn Tennis Club; it was reduced in size when the road was built through the Club's grounds, cutting it off from the ponds opposite and severely reducing the area of open water. It is now used as a fishpond, with stocked carp and a mixture of specimen trees and seminatural scrub around the edges, bounded by the Dallington Brook to the north. The brook passes through a culvert under the road. The site is also significant for the presence of a badger sett next to the brook; it appeared to be in use at the time of survey, and it seems likely that the badgers, and other animals, use the brook culvert to get to the grassland on the County Wildlife Site to the west of the road. The pond itself contains frequent vegetation including Potamogeton natans, Elodea sp., Solanum dulcamara, Lycopus europaeus, Mentha aquatica, Iris pseudacorus, Lemna minor, Sparganium erectum, S. emersum (this may have been planted), Juncus effusus, Veronica beccabunga and other common emergent species. Lots of blue damselflies were present at the time of survey, and in addition to several very large carp the water held numerous breeding 3-spined sticklebacks. The sandy bank alongside the brook has a continuation of the mature park shrubbery and specimen trees (now left to go wild) that occurs on the other side of the road. This includes holly, yew, box bushes and some large mature beeches. This site is still part of the ecosystem to the northwest, although no longer as valuable a habitat as it might have been before the road. The join under the road where the Brook has been generously culverted is obviously very important as a wildlife bridge between the two sites.

2005 Update

The groundsman reported a recent pollution incident that caused a milky film in the water; the cause was not known.

The south-east margin of the lake is open and had just been cut at the time of survey. A row of mature alders (Alnus glutinosa) shade the south-west bank and the north-west edge was heavily shaded by a small woodland of lime (Tilia sp.), pedunculate oak (Quercus robur), yew (Taxus baccata), ash (Fraxinus excelsior) and sycamore (Acer pseudoplatanus). A band of yellow iris occupies almost half of the west margin; the remainder had been cut. Yellow iris was also present on the north margin along with branched bur-reed (Sparganium erectum).

Floating and emergent species included common duckweed (Lemna minor), ivy-leaved duckweed (Lemna trisulca), amphibious bistort (Persicaria amphibia) and branched bur-reed (Sparganium emersum), mainly on the south-east corner of the pond. A patch of the non-native Japanese knotweed (Fallopia japonica) was also present above the south-east corner of the pond, adjacent to the stream which forms the outflow of the pond.

The water was very turbid with Canadian waterweed (Elodea canadensis) the only submerged species recorded. The presence of large carp is likely to be a major cause of this; as benthic feeders, carp disturb sediment whilst feeding resulting in a high sediment load in the water; this high turbidity impedes the ability of aquatic plants to photosynthesise.

Common darters (Sympetrum striolatum) and one brown hawker (Aeshna grandis) were seen flying at the time of survey mainly by the more open east end of the pond amongst Sparganium erectum.

The pond is part of the Dallington Tennis Club grounds.

It does not currently re-qualify as a CWS. Only two indicators were recorded from the Fen, Swamp and Marsh Species list: meadowsweet (Filipendula ulmaria) and yellow iris (Iris pseudacorus). During this survey only nine submerged, floating and emergent plants were found (15 would be required to meet the criteria).

With suitable management the pond has the potential to improve sufficiently to meet CWS criteria.

**Total number of records:** 92
**Total number of species:** 70
## Duston Flood Channel

### Administrative areas:
- Northamptonshire (E County (74-))
- Northampton (E District (74-))

### Status(es):
- PWS

### Centroid:
- SP736597 (Site Centroid)

### Site type:
- Site

### File code:
- N1218

### Site/Subsite hierarchy:
- Duston Flood Channel

### Description:
2005: This site is a section of the Duston Flood Channel. It was visited briefly in August, at which time the water was clear and the banks supported a reasonably diverse wetland flora. The site was visited again in September to carry out a survey but at this time, west of the bridge at SP742597, the bank-side vegetation had been cut and the water was murky and scummy with brown algae; east of the bridge the channel was less scummy but not diverse and not of CWS quality. Therefore a full survey was not carried out. This site needs to be surveyed before cutting to assess it against the CWS criteria.

### Total number of records:
0

### Total number of species:
0
Duston Gravel Pit

Administrative areas: Northamptonshire(E County (74-))
Northampton(E District (74-))

Status(es): County Wildlife Site

Centroid: SP736598 (Site Centroid)

Site type: Site

File code: N724

Site/Subsite hierarchy: Duston Gravel Pit

Description:

2005: This is a recently flooded gravel pit between the Nene and the Northampton Arm of the Grand Union Canal. The margins hold some swamp vegetation but it is unlikely to qualify as a CWS for its botanical interest. However, the site will meet the recommendations for the revision of the non-breeding birds section of the criteria: more than 0.1% of the 3 year mean with a minimum of 5 individuals of great-crested grebes. This site qualifies as a CWS because it contains more than 0.1% of the British population of wintering great-crested grebes.

2009 Update

This was a quite large and fairly newly flooded gravel pit with most of the site being standing water. There was a narrow and patchy swamp fringe around the edge, which was frequently interrupted by small bushy willows.

On the sloping banks and the level ground above there was a variety of dry grassland plants, often reasonably species-rich but also with frequent coarser grassland. It seems likely that wildflower seeds were spread here, as is often the case where Chicory is found.

The only aquatic plant found in the gravel pit was locally abundant Nuttall's Pondweed Elodea nuttallii. The steepness of the pit edges was such that there was only room for a narrow swamp fringe. This was mostly Common Reed Phragmites australis but it was occasionally replaced by Branched Bur-reed Sparganium erectum or Reed Sweet-grass Glyceria maxima. Much rarer were patches of Bulrush Schoenoplectus lacustris, Greater Pond-sedge Carex riparia and Reedmace Typha latifolia. Plants of the swamp understorey were rather scarce but there was occasional Water Forget-me-not Myosotis scorpioides, Brooklime Veronica beccabunga, Gypsywort Lycopus europaeus, Greater Bird's-foot Trefoil Lotus uliginosus, Purple Loosestrife Lythrum salicaria and a few others.

In the zone between swamp vegetation and dry grassland on the quite steeply sloping banks there was locally frequent Soft Rush Juncus effusus. Hard Rush J. inflexus, Reed Canary-grass Phalaris arundinacea and Water Chickweed Myosoton aquaticum. Small willows were locally abundant around the water's edge, and they often shaded out the swamp communities. Grey Willow Salix cinerea and Osier S. viminalis were the main species, together with occasional Crack Willow Salix fragilis and some Golden Willow Salix alba vitellina.

On the upper banks and on the level ground at the edges, there was various dry grasslands. This was often quite fine and could be considered as MG1a and the richer MG1e grassland. The tall False Oat-grass Arrhenatherum elatius and Cock's-foot Dactylis glomerata were joined by locally abundant Red Fescue Festuca rubra, Common Knapweed Centaurea nigra, Wild Carrot Daucus carota, Bird's-foot Trefoil Lotus uliginosus, Common Reed Phragmites australis but it was occasionally replaced by Branched Bur-reed Sparganium erectum or Reed Sweet-grass Glyceria maxima. Much rarer were patches of Bulrush Schoenoplectus lacustris, Greater Pond-sedge Carex riparia and Reedmace Typha latifolia. Plants of the swamp understorey were rather scarce but there was occasional Water Forget-me-not Myosotis scorpioides, Brooklime Veronica beccabunga, Gypsywort Lycopus europaeus, Greater Bird's-foot Trefoil Lotus uliginosus, Purple Loosestrife Lythrum salicaria and a few others.

The grassland was often much coarser though, with stands of tall Hemlock Conium maculatum, Teasel Dipsacus fullonum, Hogweed Heracleum sphondylium and Nettle Urtica dioica.

Various shrubs and young trees grew on the drier ground around the gravel pit and most, if not all had clearly been planted. Species included Hazel Corylus avellana and Dogwood Cornus sanguineus.

Indicator Species

Though not extensive, the swamp fringe of this gravel pit held seven plants from the Fen, Swamp and Marsh indicator species list, and a further seven plants from the Submerged, Floating and Emergent plant list. A few of these were rather rare but this does bring the site close to LWS quality.

In the dry grassland of the upper gravel pit slopes and the level ground above, five neutral to calcareous indicator species were found, along with one further plant from the calcareous indicator list. Some of this may have originated from planted seed but it is developing into nice grassland communities in places. The main NVC communities here would be the poorer MG1a grassland with abundant False Oat Grass and Red Fescue, and the richer MG1e community where the previous two grasses are joined by Common Knapweed Centaurea nigra and a few other indicators.

Although not a great example of a Northamptonshire gravel pit this site qualifies as an LWS as it contains greater than 0.1% of the over-wintering UK population of Great Crested Grebe.
Total number of records: 114
Total number of species: 109
# Duston Junction Scrub

**Administrative areas:** Northamptonshire (E County (74-))
Northampton (E District (74-))

**Status(es):** County Wildlife Site

**Centroid:** SP743595  (Site Centroid)

**Site type:** Site

**File code:** N/22.7.96

**Site/Subsite hierarchy:** Duston Junction Scrub

**Description:**
A short embankment just north of the Canal at Duston Junction West. The site is bounded by a drain leading to a short spur of the River Nene, and by the canal itself to the south. Most of the embankment has dense scrub including hawthorn, elder, osiers and young ash, oak and crack willows. The south part of the site, next to the canal, supports a broad belt of Carex acutiformis dominated swamp, rather drier that the Briar Hill Canal Marsh CWS to the south but otherwise similar. Species present include Galium palustre, Sparganium erectum, Rumex hydrolapathum, Epilobium hirsutum, Filipendula ulmaria and other Carex spp. that could not be reached. This area appears to provide a good bird habitat in an otherwise rather disturbed area of the Nene Valley, with sedge and other warblers heard at the time of survey. It also offers very valuable dragonfly and damselfly territory. This site appears to be completely undisturbed, and is therefore of especial value to wildlife in this area of the Nene Valley.

2005 Update
This site is a small hillock adjacent to the canal and to the railway line - these form the east and south boundaries of the site. A path crosses the site over the top of the hillock. The site is predominantly scrub but more open to the north where wetland vegetation follows the line of a small drain.

The scrub is dominated by hawthorn (*Crataegus monogyna*) and elder (*Sambucus nigra*); ash (*Fraxinus excelsior*), blackthorn (*Prunus spinosa*), pedunculate oak (*Quercus robur*), gorse (*Ulex europaeus*), buckthorn (*Rhamnus catharticus*) and crack willow (*Salix fragilis*) are also present.

The wetland vegetation in the north-east of the site is dominated by nettle (*Urtica dioica*) but with frequent Himalayan balsam (*Impatiens glandulifera*). Another wetland area by the canal in the south-east of the site is a mixed swamp with reed (*Phragmites australis*) dominating with less frequent great willowherb (*Epilobium hirsutum*), orange balsam (*Impatiens capensis*), reed sweet-grass (*Glyceria maxima*) and marsh horsetail (*Equisetum palustre*).

The site is assessed against the woodland, trees and scrub section of the CWS selection criteria. It is W21 *Crataegus monogyna-Hedera helix* scrub with 8 woody species.

**Total number of records:** 62

**Total number of species:** 56
Grand Union Canal - Northampton Arm

Administrative areas: Northamptonshire (E County (74-))
Northampton (E District (74-))
Northamptonshire (GB Vice-County)
Wootton (Civil Parish)
Milton Malsor (Civil Parish)

Status(es): County Wildlife Site
Centroid: SP720550 (Site Centroid)
Site type: Site
File code: S561
Site/Subsite hierarchy: Grand Union Canal - Northampton Arm

Description:

This narrow arm of the Grand Union connects the main Grand Union Canal with the River Nene via Northampton City. Despite its usefulness as a thoroughfare the locks are neglected and frequently stopped and the waterway at the city end has litter hazards and and rampant aquatic vegetation; on the whole it seems the waterway is not used. The Milton Malsor/Gayton end is much better maintained. NB, 17 locks drop this canal from 100m to 61m; the Nene end is 60m. From south to north 1 A marina at Gayton is the start of the arm. After the main mooring areas the canal is well hedged up to the Milton Malsor lock house. All the mooring areas along this part seem to have caused less loss of emergent vegetation than might have been expected. 2. Milton Malsor locks (a short flight) have mown paths, tended by the lock-keeper. A broad strip of emergent vegetation on the east side contains Lythrum salicaria, Carex riparia, Mentha aquatica, Sparganium ramosum, Impatiens capensis, Stachys palustris and most of the species commonly found in emergent canal habitats. The structure of Glyceria maxima swamp - Carex riparia - Iris and Sparganium - shorter herbs - meadow species is one of the best examples of canalside vegetation forming a distinctive, consistent habitat of graded vegetation. Coots, moorhens, common frogs, common newts and a variety of Odonata were using this habitat during the time of the survey. The west side of the canal has a patchy hawthorn hedge and tall emergent herbage, providing a variety of habitats in combination with the east bank. 3. This staircase/series of locks leads down to the bridge over the M1 where the short wooded section of western bank gives way to fields. Here both edges of the canal have a 2-3m strip of emergent vegetation. The west is mostly dominated by Carex riparia, Sparganium sp. or Glyceria maxima. East banks have more variety including frequent Rumex hydrolapathum. The east (towpath) side has a tall hedgehedge for part of hedge for part of the stretch. 4. From the lock south of the A45 (Hunsbury roundabout) and Rothersthorpe Road bridge, the canal narrows slightly. The hedges are taller, the emergent vegetation slightly narrower but more varied. The west edge borders a strip of rough pasture. The thick fringes of emergent vegetation are dominated by Typha angustifolia, Carex acutiformis, Glyceria maxima (east bank) and Sparganium and Glyceria (west bank). This area is heavily fished, the path gravelled for easier access. 5. The canal on either side of the A45 bridge is more or less the most varied for both Odonata and plants. Aeshna mixta and A.grandis both breeding, both very common here. Emergent and submerged vegetation includes Valeriana officinalis, abundant Sagittaria sagittifolia. Nuphar lutea (occasional along most of the arm), Alisma lanceolata (county rarity), A. plantago-aquatica. Impatiens capensis and all the species mentioned above. The lack of boat traffic and necessarily low speed of passing craft have probably greatly benefitted the submerged vegetation and emergent fringe respectively. 6. Blackwood Hodge works - Cotton End. Most of the vegetation is good, but litter and pollution are a problem especially by the factories leading up to Cotton End. A broad ‘bay’ of Glyceria maxima fringes the end of the canal just before the river. This arm of the Grand Union Canal has the best diversity of common aquatic and submerged species of all the canals in Northants - although it lacks the one-off rarities of the Crick stretch. One county rarity, Alisma lanceolata, is present although in small numbers. Increased boat traffic is likely in a year or so, following which the flora may be adversely affected. Until then the present level of management seems to suit the site .... although the mowing around locks is too heavy to encourage meadow species. Partially dredged 1994-95.

2005 Update

This branch of the canal was surveyed from the canal towpath, part of a long-distance public footpath. This arm of the canal runs from the main canal near Gayton to join the river Nene near the centre of Northampton. It is less heavily used than the main canal, but a steady stream of boats was passing along it during the survey. A large selection of aquatic, swamp and grassland plants was found, the most notable being the county rarities hemlock water-dropwort and long-stalked pondweed; the countyoccasional fan-leaved water-crowfoot and grass-wrack pondweed.

Gayton marina lies at the southern end of the site, while the Northampton end was being redeveloped at the time of the survey with blocks of flats springing up immediately adjacent to the canal. The towpath is on the eastern side of the canal and was well used by fishermen during the survey, pedestrians and cyclists, while on the much less accessible western side occurs undisturbed swamp that was being used by breeding birds such as sedge warblers. Shrubs, mainly hawthorn, frequently overhang the canal, and this habitat has been shown to be important for nesting and roosting birds.

Immediately north of the Gayton marina a narrow strip of swamp vegetation frequently flanks either side of the canal, this occasionally broadens out to wider areas of swamp in places such as passing bays in the lock flight;
but with swamp occasionally being absent where the bank had been strengthened. The swamp vegetation is very mixed with sedges (Carex spp.), reed sweet-grass (Glyceria maxima), reedmace (Typha latifolia) and bur-reeds (Sparganium erectum and S. emersum) forming a canopy beneath which plants such as meadow vetchling (Lathyrus pratensis) and water forget-me-not (Myosotis scorpioides) grew. Often the gradation from path to swamp is so narrow that weed, grassland and even woodland species such as hedge woundwort (Stachys sylvatica) grew among the swamp plants. Towards Northampton, some taller swamp in the form of quite large patches of reed (Phragmites australis) and smaller areas of bulrush (Schoenoplectus lacustris) occur.

The water is quite turbid at both ends with few aquatics to be seen, although there are occasional patches of locally abundant arrowhead (Sagittaria sagittifolia) and emergent water horsetail (Equisetum fluviatile). In the lower parts of the lock flight though, and perhaps due to the constant flushing as water pours down the overflow channels bypassing the locks, there is much clearer water where it was possible to see stoneworts growing on the canal bottom. Also growing here were locally frequent fennel pondweed (Potamogeton pectinatus), along with rarer but locally abundant plants of grass-wrack pondweed and long-stalked pondweed. The fast flowing overflow channels attracted feeding grey wagtails.

The well-trodden canal towpath was mainly close mown, occasionally made up of hardcore or metalled. Where mowing had been less frequent, a form of MG6 grassland with frequent crested dog’s-tail (Cynosurus cristatus) and perennial ryegrass (Lolium perenne) occurred, or this had succeeded to MG1 grassland with abundant false oat-grass (Arrhenatherum elatius) and cock’s foot (Dactylis glomerata). In the area of the lock flight, the wider areas of grassland had been tightly mown but taller and flowering plants of many grassland herbs were present at the very edges of the canal. These included several associated with neutral to calcareous grassland such as bird’s-foot trefoil (Lotus corniculatus), fairy flax (Linum perenne), rough hawkbit (Leontodon hispidus), greater knapweed (Centaurea scabiosa), meadow oat-grass (Helictotrichon pratense), sheep’s fescue (Festuca ovina), lady’s bedstraw (Galium verum) and glaucous sedge (Carex flacca).

The brickwork of the locks provided a niche for wall-rue (Asplenium ruta-muraria) and black spleenwort (Asplenium adiantum-nigrum), as well as some less expected plants such as lesser water-parsnip (Berula erecta) and hairy sedge (Carex hirta). Abundant dragonflies and damselflies were seen during the survey.

This site qualifies as a county wildlife site on several counts:
A total of 35 submerged, floating and emergent native species was recorded in this survey and a further 30 species from the other wetland and riparian plants list. Thirteen of these are listed as Fen, Swamp, and Marsh Indicators, including two strong indicators: slender tufted-sedge (Carex acuta) and tussock-sedge (C. paniculata).

The site supports more than three species of native pondweed.
It supports at least one species of stonewort.
It holds populations of several county rarities: narrow-leaved water-plantain (Alisma lanceolatum), hemlock water-dropwort (Oenanthe crocata), long-stalked pondweed (Potamogeton praelongus), knotted pearlwort (Sagina nodosa).

The bank-side vegetation also meets the CWS selection criteria for both neutral and calcareous grassland habitats.
Other notable species found: fan-leaved water-crowfoot (Ranunculus circinatus) and grass-wrack pondweed (Potamogeton compressus) which is described in Aquatic Plants in Britain and Ireland (Preston and Croft 1997) as one of the most threatened pondweeds, in need of positive conservation measures to prevent extreme rarity or extinction. The identity of grass-wrack pondweed was confirmed by Alex Lockton. At this site the plant was growing in a situation similar to one of its typical habitats in the Montgomery arm of the Shropshire Grand Union Canal, as described in Aquatic Plants in Britain and Ireland: “growing in clear, moderately deep water, often in aqueducts or other places where the flow is accelerated...”.

Original file code S&N/6.9.91&SEPT.96

**Total number of records:** 350
**Total number of species:** 225
Kingsthorpe Embankment

Administrative areas: Northamptonshire(E County (74-))
Northampton(E District (74-))

Status(es): PWS

Centroid: SP745622  (Site Centroid)

Site type: Site

File code: N1379

Site/Subsite hierarchy: Kingsthorpe Embankment

Description:

2005 Survey

The site is sandwiched between the Nene and the railway line. A steep embankment drops down from the railway line; in the north of the site this embankment falls directly to the river but at the south end there is a plateau between the bottom of the embankment and the river banks. This section of the Nene is CWS175 and CWS556 Kingsthorpe Mire forms much of the plateau at the south end.

The interest of site botanically is as follows:

At the south of this area is a large pond; this is on the edge of Kingsthorpe Mire CWS556. The embankment forms the west bank of the pond; other banks are not so steep or high but access is nevertheless dense thickets of bramble (Rubus fruticosus agg.) around the banks. This pond has a narrow fringing swamp of reedmace and reed sweet-grass. Spiked water-milfoil (Myriophyllum spicatum) was locally abundant here. The pond is overhung by hawthorn (Crataegus monogyna) and willow (Salix spp.) along much of the west and south boundaries but is more open along the north and east boundaries. Apparently the pond is used for fishing, although there were few access points.

Further south is part of Kingsthorpe Mire CWS556, although this is set above the mire community, is much dryer and comprises a mosaic of hawthorn scrub and sparse vegetation including ploughman's spikenard (Inula conyzae), perforate St.John's-wort (Hypericum perforatum), black knapweed (Centaurea nigra), tansy (Tanacetum vulgare), red bartsia (Odontites verna), mugwort (Artemisia vulgaris), horse raddish (Armoracia rusticana), viper's bugloss (Echium vulgare), ox-eye daisy (Leucanthemum vulgare), dove's-foot crane's-bill (Geranium molle) and common centaury (Centaurium erythraea). The south end of this has been built on and there are plans to build on more of it.

This site should remain as PWS until it can be re-surveyed.

Total number of records: 17
Total number of species: 17
Northamptonshire RIGS Group: Site Evaluation Form

<table>
<thead>
<tr>
<th>Site name</th>
<th>Grid Ref</th>
<th>Local Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>KINGSTORPE HALL</td>
<td>SP 750 42.8</td>
<td>NORTHAMPTON BOROUGH</td>
</tr>
</tbody>
</table>

Geographical Location
SOUTH SIDE MILL LANE - JUNCTION KINGSTORPE ROAD / MILL LANE, KINGSTORPE

Former site use
PRIVATE RESIDENCE OF 1767

Present site use
COMMUNITY CENTRE (recently closed 2001)

Ownership details and address
NORTHAMPTON BOROUGH COUNCIL

Photo? ✓ Location: D35

Stratigraphical position / Geological context (summary)
RARE LOCAL BUILDING STONE ('KINGSTORPE WHITE FREESTONE') FROM 'LOWER/UPPER ESTUARINE SERIES' (RALPHIAN-BATHONIAN), MIDDLE JURASSIC
NB. STONE SHOWS REMAINS OF ROOTLETS OF JURASSIC PLANTS

Map / Diagram of Location and Boundaries, with dimensions of site

Submitted to RIGS Group by B.R. Schutte and Date 29 March 2001

Considered by Rigs Group on 25.08.1998

Approved / Not Approved as a RIGS Site

Signed on behalf of the RIGS Group by

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Historical Background / Significance / Former use of site
Kings Torpe Hall was erected by James Farnham about 1767, using the local Kings Torpe White freestone from quarries on the Northampton Road (about SP 750 61.2), now gone and built over. The stone was of considerable local celebrity (Calder, 1936), r several 18ᵗʰ - early 19ᵗʰ c buildings were made of it (Innkeeper of '793, the Barnsloke Inn). Few buildings remain (the innkeeper now the General Hospital, was replaced in Bath 1860).
Examples of this rare local stone are historically important in the local context.
But geologically they are of special interest as examples of a period when Northamptonshire became a market during the Middle Jurassic.

Conservation and remedial work needed or desirable
It is important to be aware of the value of this building and its stone.
(It should not have been repaired with limestone, which will prove detrimental to the adjacent soft sandstone.)
If any work has to be carried out that entails removing stone, the RIGS group should be notified. But the south wall should be preserved as it is.

Summary of site significance
A rare example of local Kings Torpe White freestone, and a unique example of Middle Jurassic stone with rootlets preserved in a building.

Scientific value ***
Educational value ***
Historical value ***
Aesthetic value ***
### Educational value
- Excellent

### Physical Means of Access
- Excellent; a public place

### Specimen collection potential
- NO
  - (unless building work at anytime removes stone)

### Site facilities (e.g. parking, toilets?)
- Excellent: Parking – and attractive park setting.

### Geological Features and/or geomorphological / industrial economic features
Kingsthorpe white freestone described by Baker (1836) as being 'of considerable local celebrity' was quarried in Kingsthorpe in 1857-1874.

Sharp (1870) described the quarry section of 12 feet of sand with plant remains, overlying the Northampton Sand and sandstone. The quarry has long gone, and the examples of this stone are becoming scarce.

Kingsthorpe Hall is the best known example of the white sandstone with rootslets.

Geologically it is an important indication of the withdrawal of the sea & the spread of a marshland within otherwise marine deposits in the Middle Jurassic.

The exact age of the deposit is controversial. Thompson (1928, 136-138) argued that the building stone came from the uppermost Northampton Sand.

Recent research on plant remains from the 'white sand' at Decelon (Fenton et al., 1998) confirms the general opinion that these are Beckton (Upper Jurassic). The Kingsthorpe Freestone quarry would have been worked today.

### References, (published / unpublished) relating to the site, stone and its geology:
- Baker, G. 1836. The History and Antiquities of the County of Northampton. T.
- The building:

### Regional context
- Few buildings of the white sandstone remain.
- Kingsthorpe Hall is the only one known to have good root markings.

Unique

### Special thanks

Unless on an official RIGS Group site visit, people visiting a site are responsible for their own Health and Safety. Unofficial visits are not covered by the Wildlife Trust’s Liability Insurance.
Kingsthorpe Meadows

Administrative areas:
Northamptonshire (E County (74-))
Northampton (E District (74-))

Status(es):
Wildlife Trust Reserve
LNR
PWS from 09/08/2010 to 26/01/2012
Local Wildlife Site from 26/01/2012

Centroid:
SP746629 (Site Centroid)

Site type:
Site

File code:
N/TR/LNR

Site/Subsite hierarchy:
Kingsthorpe Meadows
...Kingsthorpe LNR North Side
...........Kingsthorpe River Nene - North
...........Kingsthorpe LNR North Side Education / Amenity area
...........Kingsthorpe LNR North Side - Peninsula
...........Kingsthorpe LNR North Side - Field A
...........Kingsthorpe LNR North Side - Field B
...........Kingsthorpe LNR North Side - Field C
.................Field C - Section 1 (Northern)
.................Field C Section 2 (Southern)
........Kingsthorpe LNR South Side
...........Kingsthorpe LNR South Side - Field F
.................Field F - Hay Meadow
.................Field F - Paddock
...........Kingsthorpe LNR South Side - Field G
...........Kingsthorpe River Nene - South
...........Kingsthorpe LNR South Side - Field D
...........Kingsthorpe LNR South Side - Field E
...........Kingsthorpe South Pasture
.................Kingsthorpe LNR South Side - Field J
........Tennis Court Field

Description:
See separate Prime Site records for the area.

2010 Survey

Only the river and adjacent banks were surveyed;

The description from the previous survey still remains fairly accurate. This was a meandering section of the Nene, with steep sided banks that must have been dug out in the past and a water level around at least a metre below the surrounding field levels. The water was fairly slow flowing, and marginal vegetation was fairly constant along the banks with occasional poaching from cattle. Due to the steep nature of the banks this strip was often narrow though did support a number of moorhens and sedge warblers. Marginal vegetation commonly consisted of burweed Sparganium sp, common reed Phragmites australis, meadowsweet Filipendula ulmaria and reed sweet-grass Glyceria maxima. Occasional clumps of common club-rush Schoenoplectus lacustris and yellow water lily Nuphar lutea were recorded within the river. There were some sections of riffle and faster flow, particularly within the northern part of the nature reserve.

The site was surveyed from south to north;

The field on the east bank was grazed by cows and much of the marginal vegetation had been grazed low, in contrast the east bank is unmanaged and had a narrow strip of tall marginal vegetation, very steep banks and ruderal vegetation on the banks. However there was a section of reed swamp with abundant willowherb Epilobium hirsutum within an old meander. There were occasional alder Alnus glutinosa, willow Salix sp and hawthorn Crataegus monogyna trees along the banks becoming more frequent at the southern end.

The east bank was then fenced for a section, before becoming unfenced, with more sloping banks which were occasionally grazed producing a varied height of bankside vegetation. There were some good large willows. The west bank was still steep with limited marginal vegetation, but was relatively undisturbed.

From the football ground northward the east bank was grazed by cows with a good mixture of short and tall marginal vegetation, which thickened out into the river towards the bridge. There were some occasional open poached areas and towards the bridge the bank was reinforced with concrete. The west bank was fenced off which produced a narrow strip of tall marginal vegetation and bankside vegetation dominated by nettles Urtica dioica.
Opposite the football ground a ditch led to an excellent pond. It generally open with an fringe of varied wetland vegetation around a metre tall and likely to be an good habitat for dragonflies.

After the Mill Lane bridge the river widened and there was small nettle dominated island. Despite the steep sided banks there was a good range of marginal and emergent vegetation here dominated by burweed and bulrush. The river then narrowed through a shallower section with frequent ripples and pools. There was frequent shading from hawthorns and less marginal vegetation. The west bank is fenced off from cow grazing, while the east bank is open to the public.

A drain splits off to the west, which was fairly dry at the time of survey and dominated by Reed Sweet-grass. Beyond this the river is deeper with a slower flow and a narrow strip of marginal vegetation, but with some good patches of burweed swamp and occasional willow and hawthorn. The fields to the east are grazed by horses but this doesn’t affect the banks.

Good section of river with surrounding wetland habitat. Has not had an overall survey. Needs a full survey to determine whether LWS quality.

Site now includes PWS Tennis Court Field (N1032)

2011
Site name changed from Kingsthorpe Local Nature Reserve to Kingsthorpe Meadows

This Wildlife Trust Reserve consists of land on each side of the Brampton arm of the river Nene in the Kingsthorpe area of Northampton. For this survey it was split into eleven fields, most of which were quite large, but some being much smaller.

As well as the main river Nene there were various old and alternate river channels with the three main ones being labelled Old Arm North-west (SP74376300), Old Arm North-east (SP7461285) and Old Arm South-west (SP74436252) for convenience, as shown on the maps. In addition there was a small woodland between field 7 and Old River Arm North-west, as well as the much larger wetland and grassland complex on the opposite side of the main river to field 7, known as Mill Race, which also included areas of drier grassland and some woodland.

Constants of NVC neutral grassland communities MG4 and MG5 were well scattered over the grasslands of this site but rarely at all abundant. The heavily grazed and very parched vegetation of field 8 may have some type of Festuca-Agrostis grassland.

The woodland areas gave a valuable addition to the site in terms of feeding and roosting areas for birds and they are likely to be of value to at least some invertebrates and other fauna. They were of little botanical interest though.

South of Mill Lane
Fields 1-6 and 10-11 were south of Mill Lane, Kingsthorpe, with 1-6 on the eastern side of the Brampton arm of the river Nene and 10-11 on the west. There were footpaths over a lot of the site but fields 1-3 seemed little disturbed.

Field 1 (compartment i): SP74606225
This field was on level ground on the eastern side of the main river. Close to river was tall MG1 grassland with dominant False Oat-grass Arrhenatherum elatius and abundant Cock’s-foot Dactylis glomerata. Broad-leaved Dock Rumex obtusifolius and Creeping Thistle Cirsium arvense were occasional, Red Fescue Festuca rubra and Timothy Grass Phleum pretense locally abundant.

Over the rest of the field was a shorter, recently grazed sward with many of the same grasses, but without the taller False Oat-grass. Both White Clover Trifolium repens and Red Clover T. pratense were quite abundant and there was more scattered Meadow Buttercup Ranunculus acris and Lesser Stitchwort Stellaria graminea. Meadow Barley Hordeum secalinum was locally frequent.

Near the northern edge was a small area of very mixed vegetation with patches of Tufted Hair-grass Deschampsia cespitosa, Greater Willowherb Epilobium hirsutum, Reed Sweet-grass Glyceria maxima and Reed Canary-grass Phalaris arundinacea, along with Meadow Foxtail Alopecurus pratensis, Yorkshire Fog Holcus lanatus, and Rough Meadow-grass Poa trivialis. Also present was Hairy Sedge Carex hirta and a little Meadow Fescue Festuca pratensis.

Centred on this area were what was probably the ghosts of old drainage ditches, being now just slight linear depressions. The shortest one reached the river within this field and it held locally abundant Rough Meadow-grass and Silverweed Potentilla anserina.

Field 2 (compartment j): SP74676215
This much larger field was also on level ground but was not so recently grazed. In the west, between the river and an old drainage ditch, a tall sward of abundant False Oat-grass had all the commoner grasses found in Field 1, including more frequent Yellow Oat-grass Trisetum flavescens, along with a scattering of meadow forbs such as Smooth Hawks-beard Crepis capillaris, Meadow Buttercup, Lesser Stitchwort and several others. Coarser plants such as Hogweed Heracleum spondylium and Spear Thistle Cirsium vulgare were also present in low numbers, while on the river bank were occasional plants of Wild Tumip Brassica rapa. A small amount of Meadowsweet Filipendula ulmaria was present but Meadow Foxtail was rather scarce.

In the north-west corner of the field was a coarser area of vegetation, still with abundant False Oat-grass but
also with locally abundant Cow Parsley Anthriscus sylvestris, Hogweed and Nettle Urtica dioica; this is shown on the map as MG1b grassland.

On the riverbank at the southern end of Field 2 was occasional Water Figwort Scrophularia auriculata.

The most westerly of the two drainage ditches in this field looked as if it had held water quite recently. There were patches of more abundant Yorkshire Fog, Meadow Fox-tail and Rough Meadow-grass, but mostly it was associated with some quite large stands of Slender Tufted-sedge Carex riparia. Within the sedge beds were small amounts of Reed Sweet-grass Glyceria maxima and Tufted Hair-grass as well as a little Cut-leaved Crane's-bill Geranium dissectum. Some years ago, when the vegetation here was more heavily grazed, Tubular Water-dropwort Oenanthe fistulosa was quite abundant in this drain but none was found in this survey.

A little way to the east there was a second drain and this had shorter vegetation with Marsh Fox-tail Alopecurus geniculatus locally abundant. Rare Water Figwort was present and a smaller stand of Slender Tufted-sedge Carex acutiformis swamp. To each side of this drain the Marsh Fox-tail, occasionally replaced by Creeping Buttercup Ranunculus repens, occupied a strip of short vegetation two to three metres wide.

Near the south-east corner of this field the stream that ran along part of the south-east boundary took a diagonal across the field. The stream and its edges produced records for such plants as Fool's Water-cress Apium nodiflorum, Brooklime Veronica beccabunga, Water Chickweed Myosotis scorpioides, Reed Sweet-grass, Gipsywort Lycopus europaeus and Water Forget-me-not Myosotis aquaticum. In that extreme corner associated with some quite large stands of Slender Tufted-sedge Carex acutiformis, within the sedge beds were Equisetum fluviatile and Celery-leaved Buttercup Ranunculus sceleratus.

Away from this corner and the two drains, the grassland of Field 2 held abundant Yorkshire Fog, Sweet Vernal-grass Anthoxanthum odoratum and Red Fescue Festuca rubra without the abundant False Oat-grass of the western part of the field. Red Clover, White Clover and Common Mouse-ear Cerastium fontanum were quite abundant, Lesser Stitchwort occasional and there were occasional small patches of Ragged Robin.

Field 3 (compartment Il(iii)); SP74656227

This much smaller field had level ground in the west, sloping very gently upward to the east. In the centre of the field, on gently rising ground, Common Knapweed Centaurea nigra was quite frequent, together with Great Burnet Sanguisorba officinalis, Meadow Vetchling, Crested Dog's-tail Cynosurus cristatus, Perennial Ryegrass, Red Clover, Ribwort Plantain Plantago lanceolata, Cat's-ear Hypochoeris radicata, Meadowsweet, Lesser Stitchwort and Meadow Buttercup. Also present were small amounts of Hairy Sedge and Spiked Sedge Carex spicata. Meadow Fox-tail was scarce here though, with the composition of the grassland putting it somewhere on the scale between MG4 grassland with constant Meadow Foxtail and Great Burnet, and MG5 grassland with scarce Meadow Fox-tail and Meadowweet but with Knapweed and Common Bent Agrostis capillaris. The overall trend here though, may well be toward a less rich MG6 grassland.

On the eastern edge of the field, on slightly higher ground, MG1 grassland was abundant alongside the hedgerow, as well as along the northern edge of the field.

On the edges of the richer grassland there was more disturbed ground with a ruderal element. Here grew Ragwort, Hoary Ragwort Senecio erucifolius and Marsh Ragwort Senecio aquaticus, as well as Creeping Buttercup Ranunculus repens, Wild Turnip Brassica rapa, Cut-leaved Crane's-bill, Creeping Bent Agrostis stolonifera and Good King Henry.

Field 4 (compartment H); SP74496243

This field was on level ground on the eastern side of the river. In the southern gateway into the field there was poached ground with locally abundant Greater Plantain Plantago major, Ragwort, Self-heal Prunella vulgaris, Shepherd's Purse Capsella bursa-pastoris, Wild Turnip and White Clover. Perennial Ryegrass and Crested Dog's-tail were particularly abundant in the grassland nearby and there were plants of Teasel Dipsacus fullonum, Wild Turnip and Hedge Mustard Sisymbrium officinale.

As shown on the map, quite a lot of the field had tall MG1 grassland, which was often rather coarse with locally frequent Cow Parsley, Creeping Thistle, Cleavers Galium aparine, Hogweed and Nettle. Less frequent in this vegetation were Smooth Meadow-grass Poa pratensis and Rough Meadow-grass with a little Lesser Stitchwort and Red Clover at the edges. Meadowsweet, Oxeye Daisy Leucanthemum vulgare and Marsh Thistle Cirsium palustre were occasional.

The MG1 grassland was a little richer beside the football ground. Here there was a little Common Knapweed, Hairy Sedge, Sorrel Rumex acetosa, Meadow Buttercup and Great Burnet, along with more Meadowsweet and much more Lesser Stitchwort. Meadow Foxtail was quite abundant and this vegetation could be classified as MG1e grassland.

The shorter grassland between the stands of taller grassland had more frequent Red and White Clover, some Smooth Hawk's-beard Crepis capillaris and Creeping Buttercup.

Shrubs of Hawthorn Crataegus monogyna and Elder Sambucus nigra were occasional on the riverbank, as were Osier Salix viminalis and taller trees: Ash Fraxinus excelsior, Crack Willow Salix fragilis and Alder Alnus
glutinosa. In one place a little Common Reed Phragmites australis had crept up the riverbank.

Field 5 (compartment D); SP 74636264

This field had level ground beside the river but sloped very gently upward to the east; it was being grazed by cattle at the time of this survey. There were areas of coarse and ruderal vegetation where plants such as Horse Radish Armoracia rusticana, Hedge Mustard, Mugwort Artemisia vulgaris, Pineapple Weed Matricaria discoidea, Greater Plantain, Prickly Sowthistle Sonchus asper, Welted Thistle Carduus crispus, Spear Thistle, Wild Tumip, Weld Reseda luteola and Creeping Thistle grew.

In occasional patches of shorter turf, and where people most frequently walk, there were plants of Cut-leaved Crane's-bill, Creeping Buttercup, Creeping Cinquefoil, White Clover and Red Clover. Also present in low numbers, especially on the edges of the grassland, were Common Knapweed, Smooth Hawks-beard, Hoary Ragwort, Ribwort Plantain, Lesser Stitchwort, Hairy Sedge, Oxyeye Daisy and Bird's-foot Trefoil Lotus corniculatus.

On the eastern edge of this field there was abundant Bramble Rubus fruticosus, which was creeping out into the field, backed by rather tall hawthorn, with less abundant Blackthorn Prunus spinosa, and making a rather indistinct boundary. On the riverbank were shrubs of Hawthorn, Osier and Grey Willow Salix cinerea and a small amount of Hemlock Conium maculatum.

Near the south-east corner of Field 5 there was a linear feature on slightly raised ground, which carried a footpath and which had quite frequent Hawthorn and Blackthorn to each side. Pineapple Weed grew on the path with Hedge Mustard at the edges. In places less heavily shaded by the shrubs, the slightly sloping banks had locally frequent Common Knapweed, Meadow Vetchling, Smooth Hawks-beard and Bird's-foot Trefoil. Also present were Cat's-ear Hypochaeris radicata and Lesser Trefoil Trifolium dubium.

Field 6 (compartment D(i)); SP 74656256

In this small field, which was not stock-proof, there was tall, not recently managed grassland with abundant False Oat-grass, and with a little less frequent Cock's-foot and Common Couch Elytrigia repens. Coarser plants found here included Creeping Thistle, Black Horehound Ballota nigra and Hedge Bindweed Calystegia sepium.

There were tiny areas of finer grassland here, mostly where people walk. Here Red Fescue and Creeping Bent were more abundant and there was occasional Common Knapweed, Common Mouse-ear, Germander Speedwell Veronica chamaedrys, Smooth Hawks-beard and Common Bird's-foot Trefoil, as well as a little Common Hempnettle Galeopsis tetrahit.

Field 10 (compartment F); SP 74456259

This field was on the western side of the river and to the south of Mill Lane. Near the entrance in the north-east corner Welted Thistle to two metres tall was very abundant and there were frequent dock species, especially Broad-leaved Dock. Also present were smaller stands of Ragwort, Hemlock near the river and locally abundant Nettle. Below the taller plants were locally frequent Cut-leaved Crane's-bill, Creeping Buttercup, Silverweed and Greater Plantain. The grasses Yorkshire Fog and Meadow Fox-tail were quite frequent.

As the main river turned to the south the abundant thistle ended and the level ground by the river was occupied by a rather open MG1 grassland with False Oat-grass patchily abundant and with Teasel, Hedge Garlic, White Campion Silene latifolia, Meadow Fox-tail and Silverweed.

In the north-west corner of Field 10 there was a shelf of higher ground beside the railway, which sloped down quite steeply to more level ground closer to the river. The slope was heavily disturbed by rabbits and there were lots of bare ground and scattered plants and small patches of Ragwort, Creeping Thistle, Creeping Bent, Hairy Sedge, Creeping Cinquefoil, Germander Speedwell, Nettle, Weld, White Campion and Red Fescue. Large ant-hills were occasional on the sloping ground.

Nearby there was a part of Old River Arm South-west (SP 7436252) that formed a linear pond. There was a double barbed-wire fence around it and no easy point of access was found. Reed Sweet-grass was abundant on the edges of the open water with much smaller areas of abundant Greater Willowherb, Yellow Flag Iris pseudacorus and Nettle. Reedmace was scattered through the Reed Sweet-grass. Coots Fulica atra were breeding here.

Field 11 (compartment G); SP 74446237

This narrow field had a quite steep slope down from the railway bank to more level ground beside the present river course. A fenced linear feature on the lower ground with locally dominant Reed Sweet-grass was probably a continuance of Old River Arm South-west. Plants here included locally frequent Wild Angelica, Hard Rush, Meadow Vetchling, Greater Willowherb, Meadowsweet, Rough Meadow-grass and Hairy Sedge.

The sloping ground here was often very disturbed by rabbits with frequent bare ground and a mixture of meadow and ruderal plants. Found here were Germander Speedwell, Self-heal, Red Fescue, Common Bent, Yarrow Achillea millefolium, Ragwort, White Clover, Field Horse-tail Equisetum arvense, Twitch Grass, Mugwort, Field Forget-me-not, Lesser Stitchwort, Ground Ivy, Weld and rarer Bristly Oxtongue Picris hieracioides. Alongside the railway fence were small areas of White Campion and Rosebay Willowherb.

Bramble was locally abundant, as was Elder, and there were a few moderately tall Alder trees beside the older river course. At the southern end of the site there was a patch of sparse Common Reed growing on very dry ground with Nettle and Greater Willowherb, Creeping Thistle and occasional Angelica.

North of Mill Lane
Fields 7 - 9 were to the north of Mill Lane and on the western side of the main river.

Field 7 (compartments B&C); SP74506287

This field was on level ground beside the river and was grazed by a small number of cattle. Close to the southern gateway there was an area of slightly higher ground close to the river with MG1b vegetation, presumably where river dredgings have been deposited in the past. Nettle was abundant as was Broad-leaved Dock, Wild Turnip and False Oat-grass. There was a strip of similar vegetation on the top of the river bank, on the other side of the wire fence, and alongside the western hedgerow where there was also a small dung-heaps.

Otherwise the field had a finer grassland with False Oat-grass and Red Fescue abundant enough for this to be regarded as MG1a grassland. Toward the north though, the grassland became a little richer with quite frequent Meadow Vetchling, Lesser Stitchwort, Smooth Hawks-beard and also with occasional Common Knapweed in a vegetation that was closer to MG1e grassland. Close to the northern end of this field the grassland had been quite heavily grazed by rabbits and here there was occasional Bird's-foot Trefol and Lady's Bedstraw Galium verum in the much shorter turf, along with frequent patches of bare ground.

A grass path followed the course of the river and here the shorter grassland had locally abundant White Clover, Creeping Buttercup and Perennial Ryegrass, with small patches of Crested Dog's-tail and Wall Barley. Near the main bridge over the river, Horse Radish Armoracia rusticana was locally frequent.

Near the southern entrance to Field 7 there was a small area of trees and a scrub where there were a few quite tall young Ash trees with abundant Ash seedlings below. In the heavier shade there was locally abundant Ground Ivy, while more open edges had Upright Hedge Parsley and Yarrow. A small, dry ditch here was occupied by Nettle and White Dead-nettle with a little Meadowsweet nearby. Closer to the river there was a little Nettle with scattered Marsh Woundwort and some quite large Osier.

Field 8 (compartments A); SP7434 6297

This smaller field was on ground sloping down from the railway embankment in the west toward river. It had various undulations with a very dry, sandy soil. Much of the grassland here had been grazed down to a very short turf by rabbits, though there were taller plants of Ragwort and Nettle here. Present in the shorter, often thoroughly parched and occasionally dead grassland were Agrimony Agrimonia eupatoria, Bird's-foot Trefol, Field Wood-rush Luzula campestris, Sorrel, Hairy Sedge, Lady's Bedstraw, Red Fescue, Germander Speedwell, Salad Burnet Sanguisorba minor, Yarrow and a few others. False Oat-grass and Cock's-foot were still frequent but as very small plants. There were occasional large anthills in this field.

Field 9 (compartments A (i)); SP74306306

This tiny field also sloped down from the railway embankment and had locally abundant Meadowsweet, Great Willowherb and False Oat-grass. More scattered Teasel, Lesser Stitchwort and Germander Speedwell, with rare Perforate St. John's-wort Hypericum perforatum and Marsh Ragwort. On lower ground Amphibious Bistort Persicaria amphibia was locally frequent and near an old river arm Angelica was locally frequent. A path here led up to the southern end of the Brampton Valley Way and beside the path there was occasional Spiked Sedge.

Peninsula (SP74356303)

To the east of this old river arm there was a narrow area of land between it and the main river. At the north-western end there was open MG1a/1c grassland, dominated by False Oat-grass and with locally frequent Red Fescue and Meadowsweet. Near the edge of the old river arm Angelica was quite frequent, while all alongside the main river there was MG1b grassland with abundant Nettle, or Nettle dominated OV25 vegetation. There were a few small Ash and Oak Quercus robur trees at this end and just a little scrub, but trees and scrub became more frequent to the south, including a quite dense patch of Blackthorn, and there were occasional much larger trees. On the shadier ground here were plants such as Hedge Garlic, Hedge Woundwort and Ground Ivy. Both Osier and Goat Willow were occasional alongside the main river.

Where a bridge crossed over the old river arm, there was a particularly large Oak tree, while on the slope down to the water in the old river arm there was occasional Giant Fescue Festuca gigantea, Male Fern Dryopteris filix-mas, False-brome Brachypodium sylvaticum and Hairy Brome Bromopsis ramosa.

Old River Arm North-west (SP74376300)

Where less shaded the old river arm itself wasdominated by Reed Sweet-grass with Angelica, Meadowsweet and Marsh Woundwort Stachys palustris on the banks. Where shade was heavier, the water held a little Duckweed Lemna minor and Water Starwort Callitriche stagnalis, very locally frequent Greater Pond-sedge Carex riparia or small patches of Lesser Water-parsnip Berula erecta. Near the more easterly of the two bridges over this feature there was very locally abundant Greater Yellow-cress Rorippa amphibia. At its southern end, where it joined the main river, there was a large, collapsed Crack Willow to each side of the old river arm.

To the north-east of Fields 7 and 8, there was a strip of woodland/scrub on the western side of Old River Arm North-west. This mostly comprised of tall, leggy Hawthorn, with Ivy Hedera helix abundant as a ground carpet as well as clambering over some of the trees and shrubs. Other shrubs and trees included Alder, Blackthorn, Elder, White Willow, Crack Willow and Crab Apple Malus sylvestris.

Mill Race (SP74576289)

To the north of Mill Lane, and on the eastern side of the main river, there were areas of dry grassland and woodland/scrub, as well as mire and swamp vegetation, as shown on the map.
The wetland areas were associated with Old River Arm North-east (SP74616285) and with streams arising on the higher ground to the east. A boardwalk crossed a corner of the wetland near the northern end of the site, and to the east of this were stands of abundant Lesser Pond-sedge, Greater Pond-sedge and Reed Sweet-grass swamp.

Also present were also stands of abundant Greater Willowherb with Nettle and Angelica mixed in. This can be classified in the NVC as OV26c, the Meadowsweet-Angelica sub-community of Greater Willowherb vegetation, a community that is often found on the drier edges of more water-logged soils. Amongst this grew a little Water Mint, Water Figwort, Marsh woundwort and Marsh Thistle.

Right in the north-east corner of this area there was abundant Greater Pond-sedge among which grew almost as equally abundant Meadowseenet and scattered Angelica and Tufted Vetch Vicia cracca. This gave the impression of a stand of M27 Meadowsweet-Angelica mire developing from sedge swamp as the ground became drier, although this might just be going the other way as the area became wetter. This area was edged by Osier and rarer Grey Willow.

A rather larger open area to the south-east of the abundant Greater Pond-sedge had a patch of dominant Lesser Pond-sedge as well as more Greater Willowherb vegetation, among which Reed Sweet-grass was quite frequent. Water Forget-me-not was quite frequent here and there were frequent stands of Yellow Flag, scattered plants of Common Hempnettle.

The Willowherb vegetation continued on the south-eastern side of a shallow ditch, which held locally abundant Reed Sweet-grass. This vegetation was now on the eastern side of Old River Arm North-east. The Willowherb here was joined by more abundant Nettle. Cleavers was also quite abundant and there were stands of Bramble.

A little further to the south-east there was a stream with a strong flow. This stream ran into the old river arm so that from here southward Old River Arm North-east had running water, while to the north there was quite deep standing water with a floating-mat of Reed Sweet-grass with rather scattered Reedmace. Where the stream entered the old river arm Fool's Watercress Apium nodiflorum was particularly abundant.

Southward from here there was scrub/woodland to each side of the old river arm. On the western side, where there was a footpath, this was again mostly leggy Hawthorn, quite tall, with occasional Elder. On the eastern edge of the site was occasional very tall White Willow that completely overhung the old river arm, as well as more frequent smaller ones. Also present were patches of Bramble, frequent bare ground and locally abundant Rough Meadow-grass.

To the immediate west of the footpath in this area there was what looked like a much shorter stretch of old river channel. This was heavily shaded by the woodland/scrub and held little vegetation. Near its southern end though, where it curved round to the west, there was locally dominant Reed Sweet-grass.

Further to the south Hawthorns by the path were replaced by small, and then taller Ash, Sycamore and Poplar Populus trees. Where the old river channel passed under the path to enter the main river, Water Forget-me-not was particularly abundant. The south-east corner of this part of the site had tall Poplar trees, frequent smaller Hawthorn, rare Cherry Plum Prunus cerasifera. On the ground was locally abundant Ivy and Ground Ivy, and frequent bare soil. A few small, dead trees, (Elm?) were falling on to the fenced edge.

This Wildlife Trust reserve provides a mosaic of habitats alongside the Brampton Arm of the Nene including species rich grasslands and wetlands. It qualifies as a LWS for its patches of MG4/5 grassland, 19 neutral indicators within the dry grasslands and 13 fen/swamp/marsh indicators amongst the wet grassland and wetland habitats.

**Total number of records:** 1349  
**Total number of species:** 460
Kingsthorpe Mire

Administrative areas: Northamptonshire (E County (74-))
Northampton (E District (74-))

Status(es): County Wildlife Site

Centroid: SP748618 (Site Centroid)

Site type: Site

File code: N721

Site/Subsite hierarchy: Kingsthorpe Mire

Description:

A large area of habitat the majority of which corresponds well to the NVC type M27 (Filipendula/Angelica mire). There are very few such habitats in the county. Species in the majority of the area include Filipendula ulmaria, Angelica sylvestris, Epilobium hirsutum, Caltha palustris, Galium palustre, Lathyrus pratensis, Cirsium palustre and scattered areas of locally dominant swamp including areas of Glyceria maxima, quite large Carex acutiformis patches and two areas dominated by C. panicea. There does not seem to be much scrub invasion despite the adjacent hawthorn scrub by the railway line. Salix cinerea saplings are rare. At least two snipe were seen at the time of the ‘94 survey, and large numbers of frogs. This site could well be providing a large part of the prey for the dragonflies on the LNR as well as food and habitat for the local fox population. An astonishing site considering its situation near the railway line, scrapyards and residential housing. Even if the snipe are not breeding their presence increases the value of the site as a complimentary site to the LNR and other fields to the north.

2005 Update

This site was approached from open access land to the north. A few informal tracks led across the mire to the adjacent lake where occasional fishing takes place. At the time of survey earth moving machines were spilling fresh soil onto the southern tip of the site.

This was a quite large area of low-lying land alongside the river Nene, with the bank of the river somewhat higher than the mire. This probably means that the water-table is kept relatively high by ground and rain water rather than by flooding. Nevertheless, much of the site was relatively dry at the time of survey. The wettest part, where the ground was soft but not really wet, was in the south part of the site. No standing water was found in this survey, as opposed to a visit made to the site at the same time of year in 1994.

The main plant community here was the M27b Urtica dioica-Vicia cracca sub-community of the M27 Filipendula ulmaria-Angelica sylvestris mire, although nettle (Urtica dioica) itself was never abundant in this vegetation. The sward was a metre or so tall, with meadow vetchling (Lathyrus pratensis), marsh woundwort (Stachys palustris) and water chickweed (Myosoton aquaticum) the most abundant other species present, all of which tended to be more abundant in the wetter parts of the mire, and all of which had had to grow particularly tall to out compete the meadowsweet (Filipendula ulmaria). Reed (Phragmites australis) also occurred in small patches here, but as tiny plants, much shorter than the main species.

On drier ground, especially to the north, there were also large areas of OV26 Epilobium hirsutum vegetation, much of which was of the OV26e Urtica dioica-Cirsium arvense sub-community, but which graded to M27 through the OV26c Filipendula ulmaria-Angelica sylvestris sub-community. This vegetation was taller, often a little over 2 metres, and frequently with scrambling hedge bindweed (Calystegia sepium) and cleavers (Galium aparine). On the slightly higher ground of the river bank, MG1 grassland of the Urtica dioica sub-community was abundant, along with locally abundant hemlock (Conium maculatum).

On damper ground there were small areas of S7 Carex acutiformis swamp, a few small areas dominated by brown sedge (Carex disticha) and a small area of very locally abundant slender tufted-sedge (Carex acuta). On the wettest ground towards the southern end of the site, locally frequent plants of reedmace (Typha latifolia), yellow iris (Iris pseudacorus) and water horsetail (Equisetum fluviatile) grew within the M27 mire.

Near the north-western corner of the site there was a small lake with steep banks and a narrow fringing swamp of reedmace and reed sweet-grass (Glyceria maxima). Spiked water-milfoil (Myriophyllum spicatum) was locally abundant here but a thorough survey was not possible due to access frequently being blocked by abundant bramble (Rubus fruticosus agg.) at the edges that would need a machete to cut a path through. The lake was frequently overhung by hawthorn (Crataegus monogyna) and willows (Salix spp.) and was used for fishing, although there were few access points.

To the south, the western edge of the mire was formed by a bank a couple of metres high. This frequently held scrub, including locally abundant Japanese knotweed (Fallopia japonica). The plateau of higher ground at the top of this bank, and on the same level as the adjacent railway line, consisted of rubble and patchy vegetation with some low hawthorn scrub. Perforate St. John’s-wort (Hypericum perforatum) and horse-radish (Armoracia rusticana) were abundant, along with more scattered plants of viper’s bugloss (Echium vulgare), ox-eye daisy (Leucanthemum vulgare), dove’s-foot crane’s-bill (Geranium molle) and taney (Tanacetum vulgare). There was also locally frequent centaury (Centaurea erythraea). The most abundant grasses were Yorkshire fog (Holcus lanatus) and common bent (Agrostis capillaris).

This site has held quite large numbers of snipe in past winters and is a possible breeding site. Overall though, the vegetation here is taller and denser than is usual where snipe breed and in 2005 at least, the site is likely to have been too dry.
Kingsthorpe mire qualifies for County Wildlife Site status on three counts:

A large area of M27 mire;
Areas of S7 Carex acutiformis swamp;

Twelve species from the Fen, Marsh and Wetland Indicator Species list, including the strong indicators slender tufted-sedge (Carex acuta) and marsh marigold (Caltha palustris), along with eight other wetland species. It also has locally frequent great burnet (Sanguisorba officinalis), a strong indicator from the Neutral Grassland Indicator list.

Original file code N/LNR/19.4.94&JUL.96

| Total number of records: | 122 |
| Total number of species: | 85 |
Historical Background / Significance / Former use of site

This particular outcrop was noted by Thompson in 1925 (and in his compilation of 1928): "This mottled and brecciated stone may be seen in site under a high wall in Kingswell Road, just before turning on to The Green, the white patches standing out in relief."

The outcrop was very good in 1976 (photographed), albeit soft and sandy in the lower part or so.

Subsequently it has suffered cementing which almost obscures this notable outcrop.

Conservation and remedial work needed or desirable

This outcrop must be preserved, and no further midden covering with cement should be carried out.

Summary of site significance

This is now the only outcrop of rock of any kind in Kingsthorpe, which once had many quarries.

Scientific value ** Educational value * Historical value * Aesthetic value *

Submitted to RIGS Group by: O. W. Smurthwaite Date: 30 March 2001

Considered by Rigs Group on: 25.08.1998

Approved / Not Approved as a RIGS Site

Signed on behalf of the RIGS Group by: 

Northamptonshire RIGS Group: Site Evaluation Form

Site name KINGSWELL ROAD OUTCROP

Grid Ref SP 747 632

Local Authority NORTHAMPTON BOROUGH

Geographical Location

KINGSWELL ROAD, WESTSIDE, JUST ABOVE JUNCTION WITH THE GREEN

Former site use ROADSIDE

Present site use ROADSIDE

Ownership details and address

NORTHANTS COUNTY COUNCIL

Photo? Location

Stratigraphical position / Geological context (summary)

NORTHAMPTON SAND FORMATION (MIDDLE JURASSIC)

NODULAR DEVELOPMENT OF VARIABLE BEDS.

Map / Diagram of Location and Boundaries, with dimensions of site

Outcrops below wall, approximately 12 metres alongside pavement.

Note also use of this nodule rock as welling along Bennett's Site [SP 750 633]
SCIENTIFIC DETAILS

Educational value

Yes

Specialist
Higher educational
Secondary school
Primary school

Physical Means of Access

Roadside

Permission required
Public access
See footnote

Specimen collection potential

No

Hammering by permission
Hammering forbidden

Site facilities (e.g. parking, toilet facilities)

Parking nearby

References (published/ unpublished) relating to the site

Thompson, B. 1928. The Northampton Sand of Northamptonshire, p.196. (this unlocatable)

Regional context

Unusual development of nodular rock in the Northampton Sand.

Unique
Rare

Unless on an official RIGS Group site visit, people visiting the site are responsible for their own Health and Safety. Unofficial visits are not covered by the Wildlife Trust's Liability Insurance.
Historical Background / Significance / Former use of site
Former Vigo Brick Pit was best-known one in Northampton (1901). J.H. Thompson obtained part of his remarkable collection of snails and other fossils now in the Thompson Collection in the Central Museum, Guildhall Rd, Northampton. Thompson's various papers on the Upper lie and junction with Northampton Sand 1897-1910 are quoted in important work by Huxley, 1978.

A. Colin Fuller, treasurer, Northants Natural History Society, is currently studying the site. His G. Stammer (Brick Research Gp) may have information on Vigo.

Conservation and remedial work needed or desirable
- Rubbish clearance
- Removal of some of the undergrowth
- Expose base Northampton Sand and some of the clay.

Site could be a feature in any development at hospital site. It could be a 'potter's field'.
It could have a plaque or information board to honour J.H. Thompson.

Northamptonshire RIGS Group: Site Evaluation Form

<table>
<thead>
<tr>
<th>Site name</th>
<th>Grid Ref</th>
<th>Local Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northampton General Hospital</td>
<td>SP 765 602</td>
<td>Northampton Borough Council</td>
</tr>
</tbody>
</table>

Geographical Location
North side of lower car park of hospital site, Cliftonville Road.

Former site use
Vigo Brick Pit

Present site use
Hospital Car Park Boundary Wall

Ownership details and address (1998: Mr. C. Abela, Director of Estates, Northampton General Hospital Trust, Cliftonville, Northampton NN1 5BD)

Photo: [Location] (Name)

Stratigraphical position / Geological context (summary)
Lower part of Northampton Sand Formation (Middle Jurassic), overlying Upper Lias Clay (Lower Jurassic)

Summary of site significance
An important geological and historical site in Northampton Borough with links to the Thompson Collection in Central Museum, and Thompson records in Northampton Central Library.

Scientific value ★★★
Educational value ★
Historical value ★★★
Aesthetic value ★★★

Submitted to RIGS Group by [Name] Date: 16.6.97

Considered by RIGS Group on 8.7.1998

Approved / Not Approved as a RIGS Site

Signed on behalf of the RIGS Group by [Name]
Geological Features and/or geomorphological / industrial economic features

Exposure of lower 3-4m Northampton Sand Formation (Frontstone Divis) with base poorly exposed over Upper Lias Clay at present (1998). Non-cohesive bands of late Cretaceous age. Phosphate nodules were obtained from junction in 1989 for analysis for radon investigation by B. N. Netherland. Soil-gas measurements for radon by G. Sherman 1990.

References, (published / unpublished) relating to the site


Regional context

Only useful site in Northampton showing base of Northampton Sand. (One other site, Bunbury Road, former brick pit, is poor and inaccessible).

Only one other site, known in County (Bampton Hoek), less good geologically and less accessible.

Unles an official RECS Group site visit, people visiting a site are responsible for their own health and Safety. Unofficial visits are not covered by the Wildlife Trust's Liability Insurance.
St James' Lake - Northampton

Administrative areas: Northamptonshire (E County (74-))
                    Northampton (E District (74-))

Status(es): County Wildlife Site
Centroid: SP741604 (Site Centroid)
Site type: Site
File code: N699

Site/Subsite hierarchy: St James' Lake - Northampton

Description:

A lake owned by the Castle Angling Club, regularly fished and possibly stocked. The area has benches and small fishing jetties, but the lake margins are natural in structure and there are plentiful patches of scrub alongside the path around the perimeter. Only the northwest end is completely open. Most of the edges of the water have a fringe of vegetation, thicker in some parts than in others. Species include Typha latifolia, Glyceria maxima, Schoenoplectus lacustris and a patch of Typha angustifolia in the centre of the lake. Other species are dotted amongst the fringing vegetation, eg Lycopus europaeus, Solanum dulcamara, Solanum dulcamara, Solanum dulcamara, Solanum dulcamara, Potentilla anserina and Bidens tripartita. The water has small patches of Nuphar lutea. The scrub around the edges of the lake consists of a good variety of typical marsh and riparian species such as Salix cinerea, S. alba, S. viminalis, S. triandra, S. capreae, Viburnum opulus and Populus giladensis (planted?), with frequent Crataegus monogyna and occasional Rosa spp. Two species of large dragonfly were using the area at the time of survey, and an earlier survey could well reveal more species. Litter appears to be a problem, although some could have blown over from the nearby refuse site. Of extra value due to its urban setting. The diversity of scrub is of particular significance and should be encouraged if possible.

2005 Update

This site had open access and was used for casual fishing. There was also quite a bit of dumped rubbish. Away from the water and the more heavily trodden ground, MG1 vegetation was abundant, while in heaviest shade plants such as ground ivy (Glechoma hederacea) and ivy (Hedera helix) were found.

There was a raised bank along the southern edge, with frequent shrubs and small trees, especially common hawthorn (Crataegus monogyna), elder (Sambucus nigra) and willows (Salix spp). This caused quite heavy shade with minimal emergent plants on this side of the lake. In the eastern corner, a drain connected to the lake held locally abundant Himalayan balsam (Impatiens glandulifera).

Shrubs and small trees, both native and alien, were also quite frequent around the rest of the lake but these were less dense, often set back a little and caused less shading. Nevertheless, steeply shelving edges meant only a narrow strip of swamp vegetation was present, the main species being reed sweet-grass (Glyceria maxima), reed canary-grass (Phalaris arundinacea), great willowherb (Epilobium hirsutum) and reedmace (Typha latifolia), with plants such as gypsywort (Lycopus europaeus) in the understorey. The presence out in the lake of a stand of reedmace, along with strips of yellow water-lily (Nuphar lutea), suggested varying depth.

The only aquatic plants found were occasional to locally frequent spiked water-milfoil (Myriophyllum spicatum), fennel-leaved pondweed (Potamogeton pectinatus) and locally frequent common duckweed (Lemma minor).

Common terns were feeding on the lake, a good variety of Odonata was seen and, despite the presence of frequent fishermen and walkers, kingfishers were breeding.

This site meets the CWS selection criteria on two counts:

Five submerged and floating species were recorded and a total of eleven wetland plants was found here; three of these appear on the Fen, Swamp and Marsh Indicator Species list recorded as occasional or locally frequent on site.

This lake also supports small areas the aquatic vegetation communities A8 Nuphar lutea and A11 Potamogeton pectinatus-Myriophyllum spicatum vegetation.

Original file code N/1.9.92&SEPT.96

Total number of records: 74
Total number of species: 63
St James' Park River Nene

Administrative areas:
Northamptonshire (E County (74-))
Northampton (E District (74-))

Status(es):
County Wildlife Site

Centroid:
SP747603 (Site Centroid)

Site type:
Site

File code:
N683

Site/Subsite hierarchy:
St James' Park River Nene

Description:
A relatively undisturbed urban stretch of the River Nene (Brampton Arm) consisting of two branches running past either side of the linear St James’ Park. NB The southeast part of this site is adjacent to Foot Meadow. The bankside vegetation has common riparian species and some rank vegetation due to neglect and/or disturbance. The watercourses themselves have a very good variety of floating and emergent vegetation, even compared to rural stretches of the river. Species on the banks include Urtica dioica, Ranunculus repens, Symphytum sp., Epilobium hirsutum, Rumex obtusifolius and Impatiens glandulifera. The floating and emergent plants include Sagittaria sagittifolia, Glyceria fluitans, Rorippa nasturtium-aquaticum, Callicirrhëa stagnalis, Myosotis scorpioides, Cardamine pratensis, Rorippa amphibia, Veronica beccabunga and the county-rare Oenanthe fluviatilis. Fringes of vegetation along the river margins vary in width according to the level of shading by the trees alongside, and consist mostly of Phalaris arundinacea, Filipendula ulmaria, Glyceria maxima and large amounts of Impatiens glandulifera. The trees greatly add to the habitat value of the site and include crack, white and weeping willows, balsam poplar and occasional osiers. The site ends in a shallow, secluded neck of water with a large amount of aquatic vegetation and Salix spp. along the banks, almost impenetrable to humans (and accessible only by clambering under the bridges), with nesting mute swan and other waterfowl. Dragonflies were also present, and large numbers of fish in the water, apparently undisturbed by anglers. NB south of these bridges the river runs past the brewery and into the main course of the Nene. Very important and with a surprising diversity given the setting. Most wildlife in the area is likely to use this stretch as a wildlife corridor, and the water itself contains a plant rarity and a large amount of aquatic life.

2005 Update

This site consists of two parallel channels of the Brampton arm of the river Nene, engineered long ago in association with the construction of a water-mill on Towcester Road. Between the two river channels there was an area of public amenity land with open access, at least part of which is also known as “Foot Meadow Recreation Area”. Formal metalled footpaths ran through the area and parts of the grassland were close-mown, parts, particularly under the trees, were left unmanaged.

The north-eastern channel was fairly shallow in places with a reasonable ruffle and pool structure. There was a range of vegetation here including water-margined plants such as brooklime (Veronica beccabunga) and patches of club-rush (Schoenoplectus lacustris), branched bur-reed (Sparganium erectum) and reed sweet-grass (Glyceria maxima) swamp. In one ruffle there was locally abundant spiked water-milfoil (Myriophyllum spicatum) and rarer plants of river water-dropwort (Oenanthe fluviatilis).

The south-western channel was deeper lower water with no visible flow. There was little emergent vegetation but there was frequent yellow water-lily (Nuphar lutea), branched bur-reed (Sparganium emersum), Nuttall’s waterweed (Elodea nuttallii) and arrowhead (Sagittaria sagittifolia), although at the western end of the site, alongside the relatively recent flood alleviation works, there had been some restoration of a ruffle and pool structure. Water-margined vegetation was locally frequent here but the ruffles were so far without plants.

The banks of both channels were steep and unmown with a variety of plants from coarse grassland and wetland habitats growing in a sharply contracted transition from dry ground to open water. Most obvious at the time of survey was abundant Himalayan balsam (Impatiens glandulifera) but there was also locally abundant nettle (Urtica dioica) and hemlock (Conium maculatum), along with occasional angelica (Angelica sylvestris). Vegetation also varied with the amount of shade where there were overhanging trees and shrubs. Taken together, the two channels provided a variety of habitats for a quite rich selection of aquatic and wetland plants.

Between the two river channels there were a variety of trees, mainly as two rows on the inner side of each channel in the south-east, and becoming less frequent to the north-west. A central pathway had recently mown grassland for several metres to either side. Trees included limes (Tilia spp.), horse-chestnut (Aesculus hippocastanum) crack willow (Salix fragilis) and occasional much taller hybrid black poplars (Populus x canadensis). There was also an exotic ash species and some recently planted alder (Alnus glutinosa) saplings. Beneath the trees were locally abundant hedge garlic (Alliaria petiolata), cow parsley (Anthriscus sylvestris), ground ivy (Glechoma hederacea) and others, while in heavier shade there was bare ground or a ground carpet of ivy (Hedera helix). In lighter shade there was locally abundant nettle and creeping thistle (Cirsium arvense). Bridges over the river provided a home for some of the commoner fen species of such habitats, as well as rare plants of toadflax (Linaria vulgaris), and beneath one railway bridge there was a large breeding colony of feral pigeons.

The extreme eastern end of the site was much less disturbed, having only informal footpaths. Crack willow over locally abundant nettle occurred here, along with a few common Hawthorn (Crataegus monogyna) and dogwood (Cornus sanguineus) shrubs and locally frequent seedlings of Norway maple (Acer platanoides) and sycamore (A. pseudoplatanus)

Upstream, to the north of this site, the river was a single deep channel with little visible flow to a point where it
passed under the main railway line, and after which access was not possible. Amenity grassland occurred on
the right bank, beneath tall hybrid poplar trees, with occasional smaller white poplar (Populus alba) and ash
(Fraxinus excelsior), while willow trees and shrubs overhung much of the left bank. Yellow iris (Iris
pseudacorus) and angelica were occasional, while the river channel held abundant yellow water-lily (Nuphar
lutea) and unbranched bur-reed, less abundant arrowhead, in a possible extension to this site. Site 430, Victoria
Park Brook, joined the main river from the right bank along here.

There was frequent dragonfly activity during the survey, and a pair of grey wagtails was feeding young under
one of the bridges.

A total of twenty-five native wetland plants was recorded during this survey, including eight from the Fen,
Swamp and Marsh Indicator Species list, as well as the county rarity (river water-dropwort) Oenanthe fluviatilis.
The site also supports areas of A8 Nuphar lutea vegetation and therefore easily meets several Wildlife Site
criteria. The river immediately to the north of this site could also qualify as a Wildlife Site on the presence of
abundant A8 vegetation, which forms a link between this CWS and CWS430 where the county rarity river water-
dropwort is also found.

Original file code N/1.9.92&SEPT.96

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A large area of interlinked flooded gravel pits on the outskirts of Northampton city. These vary in age, the southwest pits being the better established. All are surrounded by scrub and tall, riparian and ruderal vegetation, whilst the northernmost pit is more recently flooded and has a gravelly margin with ruderal species as well as young scrub. The various small promontories and islands around the margins of the lakes increase the edges available to wildlife and emergent vegetation alike. Species amongst the fringes of vegetation around the lake margins include Glyceria maxima, Alopecurus geniculatus, Typha latifolia, Salix alba, Epilobium hirsutum, Juncus articulatus, J. inflexus, J. effusus, Galeopsis tetrahit, a young osier patch and a large reedbed at the far east edge of the pits. Perhaps because of the proximity to the refuse tip, there is a large number of casual and introduced species dotted around the lake margins, including larkspur, Oxford ragwort, Japanese knotweed, goldenrod, asparagus and a large and flourishing patch of a legume, probably fodder vetch or a lucerne cultivar. The diversity of more standard riparian species is fairly good, with frequent Angelica silvestris, Sagittaria sagittifolia, Equisetum palustre, Myosoton aquaticum, Glyceria fluitans, Potamogeton natans, P. pectinatus, Veronica beccabunga, Carex acutiformis, Solanum dulcamara and Lycopus europaeus. The banks of the pits vary considerably, with a tangle of rank vegetation on the southeast hanks, dense scrub on much of the southwest side and ruderal and casual colonizers on the barest banks to the north. The scrub is particularly diverse and offers very good cover for wildlife. Scrub species include hawthorn, goat sallow, white willow, dogrose, bramble, raspberry, birch, ash, crack willows, osier and frequent hops. On the banks are Conyza canadensis, Potentilla anserina, Urtica dioica, Ranunculus repens, Tussilago farfara, epilobium hirsutum, Arhenatherum elatius, Conium maculatum, Rumex crispus, R. obtusifolius, Chamaenerion angustifolium, Melilotus officinalis, Cirsium arvense and Amoracia rusticana. The lake supports dragonflies including Anax imperator, Libellula sp. and Aeshna mixta, and a large number of visiting birds. The fish density and diversity is reportedly good. This site is likely to improve as the pits and the marginal vegetation get better established.

2005 Update

This site is currently under large-scale re-structuring as part of urban development. It has not been assessed against the CWS criteria in 2005 for its botanical interest. However, it qualifies as a CWS on account of its invertebrates diversity. Aquatic invertebrate surveys have been carried out in 2004 and 2005 although results from the 2005 surveys are not yet complete. The site may also qualify for its birdlife - counts are being made and results will be available at a later date;

The specific criteria within the CWS Selection Guidelines that the site meets are as follows: any site with over one hundred invertebrates species recorded, and where two or more species are of national RDB or Na/Nb status, and where those species are associated with sustainable habitats (7a).

Survey work undertaken May and June 2004 gave records of 364 invertebrates (2 RDB3, 1RDBK, 2Na, 1BAP, 25Nb, 3N, 30Local and 300 Common). Detailed survey work has also been carried out in May and June 2005 but the survey results are not yet available.

Original file code N/1.9.92&SEPT.96
Total number of records: 1487
Total number of species: 774
Victoria Park Brook

Administrative areas: Northamptonshire (E County (74-))
Northampton (E District (74-))

Status(es): County Wildlife Site

Centroid: SP745609 (Site Centroid)

Site type: Site

File code: N689

Site/Subsite hierarchy: Victoria Park Brook

Description:

A tributary of the Nene which runs through Victoria Park, partly canalized. The brook is of importance as an extension to other habitats and as a habitat corridor in its own right. It is shaded by tall hybrid poplars and oak, holly Scots pine and common lime trees, with a more open stretch in the centre of the park containing a higher density of aquatic vegetation. Some of the rocks under the more shaded parts are rich in liverworts in addition to the water plants in the brook. Potamogeton pectinatus, Polygonum amphibium, Rorippa nasturtium-aquaticum, Elodea canadensis, Callitriche stagnalis, Agrostis stolonifera and Inpatiens glandulifera all occur in the water itself, whilst the banks, where vegetated at all, have much less diversity. Symphytum X officinale is however frequent amongst the nettles. Small fish, probably three-spined stickleback, are present. A southern hawker dragonfly, probably from the river in St James, was hunting over the brook at the time of survey. More natural banks would greatly help to increase the diversity of this site. The water quality is also important, and is likely to depend on factors in the town which could unfortunately spell a rapid end to the present diversity should a spillage etc. occur.

2005 Update

This narrow brook runs diagonally across Victoria Park. The banks have mostly been reinforced in some way in the past, ranging from dry stone, through concrete and sandbags to the caged stone of the most recent engineering work at the downstream end of the brook, where it joined the Brampton branch of the river Nene. A lot of the brook was shaded by tall trees, including sycamore (Acer pseudoplatanus), pedunculate oak (Quercus robur) and a pine species (Pinus sp.), and beneath these the ground and banks of the brook were often rather bare, although occasional woodland plants such as giant fescue (Festuca gigantea) and pendulous sedge (Carex pendula) occurred. The lower parts of the shaded banks often held beds of liverworts. Especially where the banks were reinforced with stone.

Where more open, the banks were often mown to the edge leaving just a narrow strip of taller plants, such as hemlock (Conium maculatum) and Himalayan balsam (Impatiens glandulifera). Patches of water-margin vegetation, especially fool’s water-cress (Apium nodiflorum), were present, particularly at the more open upstream and downstream ends of the site, while the narrow channel held locally abundant common water-starwort (Callitriche stagnalis) and Nuttall’s waterweed (Elodea nuttallii). In a riffle about half-way along the brook there was also a very small amount of river water-dropwort (Oenanthe fluviatilis).

This was a pleasant brook with clear water running over a stony bed. It qualifies as a CWS because it contains the county rarity river water-dropwort (Oenanthe fluviatilis). The site runs into the Nene in a section of river rich in AB Nuphar lutea vegetation which links this site to CWS 431 downstream. The comparatively recent engineering works at the confluence with the Nene may have contributed to the loss of some of the species found here in past surveys. The protection of the river water-dropwort is vital and sensitive management of the site is required.

Original file code N/1.9.92&SEPT.96

Total number of records: 67
Total number of species: 60
There are currently 12 of the 17 UK bat species recorded in the county of Northamptonshire. The attached spread-sheet should in no way be taken as fully representative of the bat roosts in the area. The bat group has unsystematically collected the results since 1980 during surveys. Bats have a lifespan up to 30 years in the UK (present research) and so records from over the last two decades are a very good indicator of the presence in an area of these long-lived mammal species. Older records should not be ignored. These results are not to be used in place of thorough site-specific and species-specific bat surveys, which should be undertaken for all developments.

These data are for your use on this contract and should not be passed on to third parties.

The Racecourse to the east is used by bats for foraging. A main tributary of the R Nene runs just to the west, and is a good foraging area for bats. The ornamental parklands, such as Abington Park, are good for bat foraging and some roosting. I would expect Natterer’s bats to be present in this area. Leisler’s bat is rare in Northants with only seven records, none of roosts.

Phil Richardson

Any bat records generated by your fieldwork, in any format, would be gratefully received to update and further our knowledge of bats for conservation purposes.

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<td>2008</td>
<td>One grounded</td>
</tr>
</tbody>
</table>
APPENDIX 4:

Photographic record
Site Location: Former Royal Mail Sorting Office

Photos: 14th, 15th and 27th of May, 2014