



Harworth Estates

Rockingham Business Park, Barnsley

Water Vole Survey Report

June 2016

FPCR Environment and Design Ltd

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1.0 INTRODUCTION

- 1.1 This report has been prepared by FPCR Environment and Design Ltd. on behalf of Harworth Estates Ltd. and provides details of a water vole *Arvicola amphibious* survey undertaken upon land to the south of the Dearne Valley Parkway (A6195), Hoyland, Barnsley. The objective of the study was to assess the potential ecological implications associated with the proposed development of a business park.

Site Location and Context

- 1.2 The subject site comprises a water course which forms part of the western boundary of the proposed land which comprises land to the south and north of the the A6195 dual carriageway. To the north / northwest lies arable farmland beyond which is the existing residential development of Birdwell, to the northeast, Short Wood and Short Wood Business Park, to the south the more extensive residential area of Hoyland. Junction 36 of the M1 Motorway lies around 800m to the west. The surrounding land use comprised largely arable and pasture with an area of broadleaved semi-natural woodland to the north.
- 1.3 The proposed development site consists of a former quarry restored to arable and improved pasture with associated native hedgerows and mixed plantation woodland. An attenuation body, drainage channel (partially culverted) and associated area of semi-improved grassland are present on site with further limited parcels of semi-improved grassland being associated with plantation margins.
- 1.4 Proposals for the wider site are for a business park development/industrial type units with associated parking, service yards, compounds and infrastructure.

2.0 LEGISLATION AND POLICY

- 2.1 Water voles are fully protected under The Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:-
- Intentionally kill, injure or take water voles;
 - Possess or control live or dead water voles or derivatives;
 - Intentionally or recklessly damage, destroy and obstruct access to any structure or place used by water voles for shelter or protection;
 - Intentionally or recklessly disturb water voles whilst they are using such a place;
 - Sell water voles or offer to expose for sale or transport for sale;
 - Publish or cause to publish any advertisement which conveys the buying or selling of water voles.
- 2.2 Water voles are listed as a Species of Principal Importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Water voles are listed as a priority species within the Barnsley Biodiversity Action Plan¹.

3.0 METHODOLOGY

Desktop Survey

- 3.1 As part of this study Parks and Countryside Sheffield and Rotherham Biological Records Centre were consulted for any records for protected species including water voles within a 1km radius of the site.

Field Survey

- 3.2 An initial Extended Phase 1 survey highlighted some limited potential for water vole within the site. Further detailed survey was considered advisable to fully assess the potential and any likely impacts.
- 3.3 The water vole survey area consisted of a single ditch (D1) and pond (into which the ditch entered / exited) situated to the south of site totalling approximately 350m (Figure 1). The ditch was surveyed up stream of this to a point beyond which the ditch ceased to hold water and downstream of the pond to a culverted section which extends approximately 150m to a second waterbody.
- 3.4 A presence and absence field survey was undertaken on 2nd June 2016 by a suitably experienced ecologist using the standard methodology outlined within Strachen *et al* (2011)². This involved searching the banks/margins of the drains and ditches for evidence of:
- *Latrines* - distinct piles of water vole droppings found near nest sites, at the ranges of territorial boundaries and where the animals enter and leave the water;

¹ <http://www.barnsleybiodiversity.org.uk/SAP3%20water%20vole.pdf>

² Strachen, R, Moorhouse, T and Gelling, M (2011) Water Vole Conservation Handbook. Third edition

- *Burrows* - burrow entrances are typically wider than high with a diameter between 4-8cm. Generally these burrow entrances are located at the water's edge;
- *Feeding Stations* - areas with distinct neat piles of chewed lengths of vegetation along pathways or haul out platforms along the water's edge;
- *Footprints* - identifiable prints in soft margins of the watercourse;
- *Runways* - low tunnels that are pushed through the vegetation and often leading to burrows or feeding stations.

3.5 Descriptions of the watercourse were also made to aid any enhancement or mitigation recommendations required.

Survey Limitations

3.6 Vegetation in some sections of the survey area was dense limiting access to / visibility of short sections of the ditch and pond. Despite this, sufficient sections of the survey areas were surveyed to reasonably determine the status of water vole on site.

4.0 RESULTS

Desktop Survey

4.1 During the consultations two water vole records were identified 2.5km from the site boundary with very poor connectivity, these both being situated within Worsborough Country Park, of these records the most recent of which was from 1994.

Field Survey

Habitat Assessment

4.2 The majority of the water within length of the ditch was extremely shallow – less than 30mm in depth with very shallow sloping approximately <15° wet banks. The flow rate was considered to be moderate estimated at approximately 0.25m/s through most of the length with the substrate comprising of very soft silt – see photograph 1.

4.3 The pond measured approximately 55m by 10m and estimated to be around 1-2m in depth. The majority of the banks were heavily vegetated in common reed *Phragmites australis*, as was a small part of the ditch above the pond. Rather sparse vegetation surrounded the banks of the ditch, with this mainly comprising of a variety of grasses and great willow herb *Epilobium hirsutum* with occasional bulrush *Typha latifolia*, hard rush *Juncus inflexus* and mare's tail *Equisetum arvense*.

4.4 To the south of both the ditch and pond land comprised recently planted woodland chiefly Italian alder *Alnus cordata* with relatively sparse ground flora. To the north of the pond was a small area of short unimproved grassland with the area to the north of the ditch being largely the same as that to the south of it beyond which lies a footpath and further similar habitat – see photograph 2.



Photograph 1: Ditch D1



Photograph 2: Area of semi-improved grassland to north of pond.

Field Signs

- 4.5 No evidence, including latrines, prints, feeding evidence or runs, to confirm the presence of water vole was noted at the time of the survey in either the pond or ditch.
- 4.6 A large number tadpoles of both common frog *Rana temporaria* and common toad *Bufo bufo* were noted at the time of survey and occasional evidence of bank vole *Clethrionomys glareolus* in the form of burrows was also noted.

5.0 DISCUSSION

- 5.1 The absence of local recent records and field signs indicates that the site is of negligible interest for water vole. The pond was considered to be the only feature on-site which offered any potential to support this species. The site is considerably separated from all surrounding records of water vole both in term of distance and connectivity, with all of the records being historical. It is therefore considered that if populations were still present in the wider area, individuals would be highly unlikely to colonise the limited area of suitable habitats within site. It is therefore considered that this species does not provide a constraint to the proposed development and that no further survey or mitigation is required.



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Legend

- Buildings
- Broadleaved woodland - plantation
- Standing water
- Improved grassland
- Poor semi-improved grassland
- Cultivated/disturbed land - arable
- Standing water
- Intact hedge - species-poor
- Fence
- Dry ditch



Harworth Estates
Rockingham Business Park, Barnsley

Site Location and Water Vole Survey Results Plan



Scale: 1:3000 JDH / JD 6/12/2019

Figure 1