

Elton Reservoir, Bury

GM Allocation 7

## WATER VOLE AND OTTER SURVEY 2017

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## Document Control

Survey Type:	Surveyors	Survey Date(s)
Water vole surveys	Chris Swindells B.Sc. (Hons) and assistant	5 <sup>th</sup> and 6 <sup>th</sup> October 2017
Reporting	Personnel	Date
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## SUMMARY

### Introduction and Scope

- i. This report provides the results of presence / absence surveys for water vole and otter at water bodies within and adjacent to the Greater Manchester Spatial Framework (GMSF) site at Elton Reservoir, Bury/ GM Allocation 7, hereafter referred to as the 'site'.
- ii. The scope of ecological works comprised:
  - A review of the previous water vole surveys carried out at the site and surrounds in 2012 and 2015; and
  - A presence / absence water vole and otter survey of the following water bodies:
    - The section of Manchester, Bolton and Bury Canal (disused) adjacent to the site;
    - Withins Brook, the inlet to Withins Reservoir at Brook Bottom Farm;
    - An outlet from Withins Reservoir towards the canal;
    - Spen Moor Brook / inlet to Elton Reservoir;
    - The drain beneath the eastern bank of Elton Reservoir; and
    - Doffer Fold Brook to the west of Elton Reservoir.
- iii. The surveys were carried out in October 2017 by experienced ecologists and in accordance with standard, recognised survey methods as described in *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series) Eds. Fiona Mathews and Paul Chanin* (Dean, et al., 2016) and *Monitoring the Otter Lutra lutra. Conserving Natura 2000 Rivers Monitoring Series No 10* (Chanin, 2003) and current Natural England guidance (Natural England, 2014).

### Results

- iv. No evidence of water vole or otter was detected at any of the surveyed water bodies in 2017, 2015 or 2012.

### Evaluation and Recommendations

- v. The surveys have indicated the current likely absence of water vole and otter from the site in 2017. It is recognised that the survey data are now 2 years old and, given proximity of the site to the section of River Irwell at Hinds Lane at the north-eastern margin of the site (the Irwell is known to support otter and water vole in the wider area), and the suitability of the habitats within the site for colonisation by otter and water vole, it is advised that a precautionary approach is applied in respect of any proposed development within the site and within proximity to the above waterbodies.
- vi. It is advised that the surveys are kept up to date to ensure the data remain valid and appropriate to inform the assessment of potential impacts of the site allocation and progression of works under the GMSF.
- vii. In accordance with best practice, and to achieve the targets of green infrastructure, it is essential that the proposals maintain both habitat and hydrological connectivity through the site and between the site and the wider area (particularly to the River Irwell). Maintenance of connectivity along with appropriate lighting design and provision of new ponds and channels to enhance the opportunities for refuge will secure the potential route for colonisation of the site by otter, water vole and other fauna in the future.

## 1.0 INTRODUCTION

### 1.1 Background and Rationale

- 1.1.1 ERAP (Consultant Ecologists) Ltd was commissioned by Peel Holdings (Land and Property) Limited to carry out the relevant ecological surveys and assessment of the Elton Reservoir site, Bury / GM Allocation 7 area (hereafter referred to as the 'site').
- 1.1.2 The surveys were requested in connection with proposals to promote the site within the Greater Manchester Spatial Framework (GMSF) (Greater Manchester Combined Authority, January 2019).
- 1.1.3 The site occupies land between Bury and Radcliffe, Greater Manchester and is bound by the A58 (Bury and Bolton Road) to the north, the metrolink line and Bury Road to the east and residential development to the west. The Ordnance Survey (OS) grid reference at the centre of the site is SD 786 089.
- 1.1.4 As part of the surveys the need to consider the possible presence of water vole (*Arvicola amphibious*) and otter (*Lutra lutra*) within the site was identified; both are species protected, and the relevant legislation is summarised below.
- 1.1.5 This report presents the results of preliminary surveys carried out for water vole and otter at relevant features within the site.

### 1.2 Relevant Legislation and Protection

#### Water Vole

- 1.2.1 Water vole is listed as a protected species on Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended) (Great Britain, 1981). The *Wildlife and Countryside Act 1981* (as amended) lists the following offences:
- Intentionally killing, taking or injuring a water vole (Section 9(1));
  - Possessing or controlling any live or dead water vole, or any part or derivative (Section 9(2));
  - Intentionally or recklessly damaging or destroying a water vole's place or shelter or protection (Section 9(4)(a));
  - Intentionally or recklessly disturbing a water vole whilst it is occupying a structure or place which it uses for shelter or protection (Section (9(4)(b));
  - Intentionally or recklessly obstructing access to a water vole's place or shelter or protection (Section 9(4)(c));
  - Selling, offering for sale, or possessing or transporting for the purposes of sale, any live or dead water vole, or any part of derivative, or advertising any of these for buying or selling (Section 9(5)).
- 1.2.2 Water vole is listed on Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006* and is therefore a Priority Species. Water vole is also listed on the *Greater Manchester Biodiversity Action Plan* (BAP) as a species of conservation concern.

## Otter

1.2.3 The European otter is a European protected species (EPS) under the *Conservation of Habitats and Species Regulations 2017* and is also fully protected under Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended). It is an offence to:

- Capture, kill, disturb or injure otters (on purpose or by not taking enough care);
- Damage or destroy a breeding or resting place (deliberately or by not taking enough care);
- Obstruct access to their resting or sheltering places (deliberately or by not taking enough care); and
- Possess, sell, control or transport live or dead otters, or parts of otters.

1.2.4 Otter is listed on Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006* and is therefore a Priority Species.

## 1.3 Objective

1.3.1 The objective of the 2017 surveys is to determine the presence (or likely absence) of water vole and otter activity at the site to inform the ecological constraints and opportunities plan.

## 2.0 METHOD OF SURVEY

### 2.1 Review of Existing Survey Data

2.1.1 *Elton Reservoir, Bury: Results of Desktop Study and On-going Ecological Survey* (ERAP (Consultant Ecologists) Ltd, March 2017 & Updated March 2019) was consulted in relation to known water vole and otter survey data for the site and surrounds.

### 2.2 Survey Area

2.2.1 The survey area comprised both banks of the following water bodies (refer to **Figure 1**):

- The section of Manchester, Bolton and Bury Canal (disused) adjacent to the site (2.4 kilometres);
- The inlet to Withins Reservoir at Brook Bottom Farm (520 metres)
- An outlet from Withins Reservoir towards the canal (710 metres);
- Spen Moor Brook / inlet to Elton Reservoir (570 metres);
- A drain beneath the eastern bank of Elton Reservoir (300 metres); and
- Doffer Fold Brook to the west of Elton Reservoir (200 metres).

2.2.2 The following water bodies were omitted from the survey for the following reasons:

- a. All ponds: ponds were not surveyed for water vole / otter during the surveys detailed in this report. During the great crested newt and amphibian surveys the pond banks and margins have been examined by suitably experienced surveyors and no water vole signs have been observed. As a full survey has not been undertaken it would not be accurate to state the ponds had been comprehensively surveyed for water vole;

- b. The section of drain that flows from Elton Reservoir through Elton Goyt Site of Biological Importance (SBI). Access to carry out a thorough survey of this drain was not available; and
- c. Elton and Withins Reservoirs. These large water bodies will be retained and the banks will be unaffected by the proposals. Any water vole or otter populations associated with the reservoirs will therefore be unaffected by any proposed development of the wider area.

## 2.3 Surveyors, Survey Dates and Conditions

- 2.3.1 One survey repetition at each waterbody was carried out by Chris Swindells and an assistant on the survey dates conditions presented at **Table 2.1**, below.

**Table 2.1: Water Vole and Otter Survey Dates and Conditions**

Survey Date	Conditions
5 <sup>th</sup> October 2017	Sunny with scattered cloud. Wind speed of 3-4 mph (Beaufort Scale 2: Light breeze) and 14°C
6 <sup>th</sup> October 2017	Sunny. Wind speed of 1-2 mph (Beaufort Scale 1: Light air) and 14°C

- 2.3.2 The surveys of the drainage channels and canal were carried out from the top of the banks and by wading through the channel to ensure the banks were thoroughly examined.
- 2.3.3 A canoe was available for use during survey of the canal, however the surveyors managed to carry out the survey from the channel wearing waders.

## 2.4 Survey Method

- 2.4.1 The survey methodology detailed in *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series) Eds. Fiona Mathews and Paul Chanin (Dean, et al., 2016)*, was applied and the banks of the water bodies were searched for burrows, latrines, feeding remains, runs, feeding lawns, nests and footprints.
- 2.4.2 An assessment of the suitability of the water bodies for use by otter was carried out in accordance with the habitat requirements and preferences detailed in *Ecology of the European Otter. Conserving Natura 2000 Rivers, Ecology Series 10 (Chanin, 2003)* and searches were made for signs of otter in accordance with *Monitoring the Otter Lutra lutra. Conserving Natura 2000 Rivers Monitoring Series No 10 (Chanin, 2003)* and current Natural England guidance (Natural England, 2014).
- 2.4.3 The water bodies were searched for dung (spraints), tracks (footprints), feeding remains, otter slides (into water), holts (underground dens) and couches (above ground sites where otters rest during the day).

## 2.5 Survey Limitations

- 2.5.1 Localised sections of the water bodies were not accessible owing to the density of the marginal vegetation. Care was taken to search the corridors / channels either side of the inaccessible sections to ensure this restriction did not compromise the survey.
- 2.5.2 It is recognised that in accordance with *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series) Eds. Fiona Mathews and Paul Chanin (Dean, et al., 2016)* two surveys are typically advised to confirm likely absence of water vole. This limitation is recognised and updated surveys are advised in **Section 4.0**.

2.5.3 *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series) Eds. Fiona Mathews and Paul Chanin (Dean, et al., 2016)* also advises that surveys for water vole should be carried out between mid-April to the end of September. The surveys were carried out in early October, during optimal conditions and when it could be reasonably assumed that water vole were still active; the timing is therefore not considered to be a significant limitation in this instance.

2.5.4 No other survey limitations were experienced.

## 3.0 RESULTS

### 3.1 Review of Existing Survey Data

3.1.1 The desktop study and data search<sup>1</sup> carried out by ERAP (Consultant Ecologists) Ltd for the site and a radius of 2 kilometres (km) from the site boundary with Greater Manchester Local Record Centre reported the following:

- a. Water vole: GMLRC hold 3 records relating to water vole for the wider area, all of which are located to the south east of the site and are dated from 2009. Two of the records (located 1830 and 1140 metres from the site) describe a reported absence of water vole at a pond to the east of Outward Gate Farm and at a pipeline in Sailor's Brow & Spring Water Park SBI. A third record (located 1420 metres from the site) states that a further survey within the Sailor's Brow & Spring Water Park SBI was inconclusive; and
- b. Otter: GMLRC hold 3 records for otter within the wider area, dated between 2009 and 2014. The records are associated with the River Irwell and are located 710 metres to the north-east and 1100 and 910 metres to the south-east of the site.

3.1.2 In addition, in 2012 water vole presence / absence surveys were conducted in accordance with the guidelines relevant at the time detailed in the *Water Vole Conservation Handbook (Strachan, et al., 2011)* at Spen Moor Brook, to the north-west of Elton Reservoir, and at Doffer Fold Brook, to the south-west of Elton Reservoir. Absence of water vole was confirmed in both cases.

3.1.3 The water vole survey at Spen Moor Brook to the north-west of Elton Reservoir was updated in 2015; water vole were again confirmed as absent from the surveyed section of brook.

### 3.2 2017 Survey Results

#### Water Vole

3.2.1 A brief description of the water bodies and the results of the water vole survey carried out in 2017 are present at **Table 6.1**, appended. Photographs are appended at **Table 6.2**.

3.2.2 No evidence of water vole was detected at any of the surveyed water bodies in October 2017.

#### Otter

3.2.3 No evidence of otter was detected at any of the surveyed water bodies in October 2017.

<sup>1</sup> Elton Reservoir, Bury: *Results of Desktop Study and On-going Ecological Survey* (ERAP (Consultant Ecologists) Ltd, March 2017 & Updated March 2019)

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### Other Wildlife noted During Surveys

- 3.2.4 Bank vole (*Myodes glareolus*) droppings, runs and footprints were frequently recorded along the Manchester, Bolton and Bury Canal (particularly amongst the emergent vegetation along the western bank, away from the towpath).

## 4.0 EVALUATION AND RECOMMENDATIONS

### 4.1 Evaluation

- 4.1.1 Surveys have indicated the current likely absence of water vole and otter from the site in 2017. These survey data are now 2 years old and, given the proximity of the site to a section of River Irwell at Hinds Lane at the north-eastern margin of the site (the Irwell is known to support otter and water vole in the wider area) and the suitability of the habitats with the site for colonisation by otter and water vole, it is advised that a precautionary approach is applied in respect of any proposed development within the site and within proximity to the above waterbodies.
- 4.1.2 It is advised that the surveys are kept up to date to ensure the data remain valid and appropriate to inform the assessment of potential impacts of the site allocation and progression of works under the GMSF.

### 4.2 Recommendations

#### Surveys

- 4.2.1 Updated surveys for water vole and otter are recommended to ensure that the survey data remain valid and appropriate to inform the assessment of potential impacts of the site allocation and progression of works under the GMSF.
- 4.2.2 In addition, owing to the identified need to cross part of the Elton Goyt SBI and the associated drain and marshy grassland to gain access to the site, it is essential that the additional surveys for water vole include these habitats.

#### Mitigation

- 4.2.3 If water vole and otter are detected at the site during the updated surveys, and an adverse impact is identified, an appropriate mitigation strategy will be required. The mitigation strategy must follow the mitigation hierarchy of:
- a. avoid (by amending the proposals)
  - b. mitigate; and
  - c. then, if needed, compensate.
- 4.2.4 If necessary appropriate Natural England licences must be obtained to facilitate the works.

#### Site Layout / Masterplanning

- 4.2.5 In accordance with best practice, and to achieve the targets of green infrastructure, it is essential that the proposals maintain both habitat and hydrological connectivity through the site and between the site and

the wider area (particularly to the River Irwell). Maintenance of connectivity will secure the potential route for colonisation of the site by otter and water vole (and other fauna) in the future.

### Protection of Habitats

- 4.2.6 As advised throughout the ecological assessment of the Elton Reservoir site it will be essential to implement a sensitive lighting strategy, and avoid the artificial illumination of habitats suitable for use by water vole and otter. This may assist in enabling the future re-colonisation of water vole and otter to occur via recruitment from elsewhere along the River Irwell.

### Habitat Creation

- 4.2.7 As part of the landscape and habitat creation proposals at the site (particularly at the park area and areas away from the residential properties), the habitats and associated vegetation should be designed to be suitable for colonisation by water vole and otter, as appropriate.

## 5.0 REFERENCES

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## 6.0 APPENDIX 1: TABLES

**Table 6.1: Results of Water Vole and Otter Surveys October 2017**

ERAP Water Body Reference (refer to <b>Figure 1</b> )	Description / Suitability	Results of Water Vole / Otter Survey 2017
Section of Manchester, Bolton and Bury Canal (disused) adjacent to the site (2.4 kilometres)	Disused canal with a stone channel bank on the towpath (eastern) bank and a natural bank with sections of sheet piling at the western bank. Emergent vegetation along the western bank provides suitable conditions for use by water vole and lying-up habitat for otter with dense stands of Bulrush ( <i>Typha latifolia</i> ), Reed Sweet-grass ( <i>Glyceria maxima</i> ), Branched Bur-reed ( <i>Sparganium erectum</i> ), Yellow Iris ( <i>Iris pseudocorus</i> ) and Soft-rush ( <i>Juncus effusus</i> ). Water Soldier ( <i>Stratiotes aloides</i> ) is dominant across the canal channel interspersed with Common Duckweed ( <i>Lemna minor</i> ) and Spiked Water-milfoil ( <i>Myriophyllum spicatum</i> ) also recorded. Refer to <b>Photos 1 and 2</b> .	No evidence of water vole or otter.  Bank vole activity frequent along the western bank.
'Withins Brook': Inlet to Withins Reservoir at Brook Bottom Farm (520 metres)	Natural channel (1 to 1.5 metres wide) with earth banks and a silt / mud bed. The channel is lined with Bramble ( <i>Rubus fruticosus</i> agg.) scrub, Common Nettle ( <i>Urtica dioica</i> ) and other scrub along its length. No aquatic vegetation observed. Suitable for use by water vole but not optimal owing to shading and scrub cover. Otter, if present, could use the channel to move through their territory. Refer to <b>Photos 3 and 4</b> .	No evidence of water vole or otter
Outlet from Withins Reservoir towards the canal (710 metres)	Natural channel (1 to 1.5 metres wide) with earth banks and a silt / mud bed. Local sections of channel have a stone retaining wall. Marginal vegetation along the channel comprises Bramble scrub, Common Nettle, Reed Canary-grass ( <i>Phalaris arundinacea</i> ) and other scrub along its length. Common Water-starwort ( <i>Callitriche stagnalis</i> ) is rare along the course. Suitable for use by water vole but not optimal owing to shading and scrub cover. Otter, if present, could use the channel to move through their territory. Refer to <b>Photos 5 to 8</b> .	No evidence of water vole or otter
Spenn Moor Brook / inlet to Elton Reservoir (570 metres)	Vertical earth banks each side of a 1 to 1.5 metre wide channel. The banks are up to 2 metres high in places. Channel supports mud / silt and stone cobbles. Suitable for use by water vole but not optimal owing to shading and scrub cover. Otter, if present, could use the channel to move through their territory. Refer to <b>Photos 9 and 10</b> .	No evidence of water vole or otter
Drain beneath the eastern bank of Elton Reservoir (300 metres)	1 metre wide channel with vertical stone lined retaining walls. No marginal vegetation present. Aquatic vegetation limited to local stands of Floating Sweet-grass ( <i>Glyceria fluitans</i> ). Unsuitable for use by water vole and considered too exposed for the attraction of otter, if present. Refer to <b>Photo 11 to 13</b> .	No evidence of water vole or otter
Doffer Fold Brook to the west of Elton Reservoir (200 metres)	Mix of shallow and vertical earth banks with a mud-lined channel between 0.5 and 1 metres wide. Channel is tree-lined with stands of Reed Canary-grass and Indian Balsam ( <i>Impatiens glandulifera</i> ). Evidence of effluent from farm entering stream. Suitable for use by water vole but not optimal owing to shading and scrub cover. Otter, if present, could use the channel to move through their territory. Refer to <b>Photo 14</b> .	No evidence of water vole or otter

**Table 6.2: Photographs of Surveyed Habitats**



**Photo 1:** Manchester, Bolton and Bury Canal (facing north)



**Photo 2:** Manchester, Bolton and Bury Canal (facing north)



**Photo 3:** Withins Brook



**Photo 4:** Withins Brook



**Photo 5:** Outlet from Withins Reservoir



**Photo 6:** Outlet from Withins Reservoir showing stone lined banks



**Photo 7:** Outlet at Withins Reservoir (upstream)



**Photo 8:** Outlet drain at Withins Reservoir outlet (near Crow Trees Farm)



**Photo 9:** Spen Moor Brook



**Photo 10:** Spen Moor Brook flowing towards Elton Reservoir



**Photo 11:** Drain from Elton Reservoir



**Photo 12:** Drain from Elton Reservoir



**Photo 13:** Drain beneath eastern bank of Elton Reservoir



**Photo 14:** Doffer Fold Brook to west of Elton Reservoir

7.0 APPENDIX 2: FIGURE

