

# **Otter & Water Vole Survey**

***IAMP***

***October 2022***

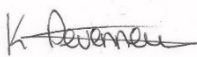
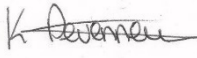
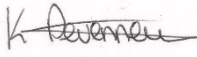

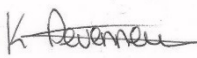


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## Otter and Water Vole Report

### International Advanced Manufacturing Plant (IAMP) TWO

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## 1.0 EXECUTIVE SUMMARY

- 1.0.1 Durham Wildlife Services (DWS) was commissioned by Ecology Solutions Ltd on behalf of IAMP LLP in May 2022 to an otter *Lutra lutra* and water vole *Arvicola amphibius* survey on land north of Nissan Car Manufacturing Plant, in Sunderland. The approximate National Grid Reference for the centre of the site is NZ335598. The area covered by the site is proposed for development of the International Advanced Manufacturing Park (IAMP). This joint venture between Sunderland City Council and South Tyneside Council will deliver a nationally significant infrastructure project to create a new hub for advanced manufacturing, automotive and technology business within the area.
- 1.0.2 A number of surveys have already been completed across the site by several ecological companies including White Young and Green (WYG) in 2014 and 2015, and DWS in 2018 and 2020. These reports should be read in conjunction with this one.
- 1.0.3 Otters signs were recorded along the River Don and Usworth Burn during the survey. Two potential holt locations were recorded in May 2022, but only one in September 2022 (under Elliscope Farm road bridge), but no signs of occupation. Water vole signs were found within the survey area by WYG in 2014/2015. However, no signs were found in 2022. ERIC provided water vole data showing that they have been regularly found through this area from 2000 up to 2013. There are also records of water voles from 2019 and 2020 from the Usworth Burn just over 300 metres away from the site boundary. Therefore, there is potential for re-colonisation in the future. Mink signs were also recorded in September 2022.
- 1.0.4 Mitigation, and enhancement recommendations are provided in Table 7. In summary, the development should be kept away from the riverbank to keep any potential disturbance to a minimum, particularly any lighting or noise. If proposals are likely to impact/disturb the potential otter holt, or couch locations (numerous through woodland between Hylton Bridge and Elliscope Farm Bridge), camera traps should be used to determine whether these locations are being used. Any works within 20 metres of the watercourse should be resurveyed for riparian mammals prior to works commencing. Wetland creation, and mammal ledges will benefit these species. Mink control would also benefit water voles. Pollution prevention measures are provided in section 5.4.

## 2.0 INTRODUCTION

### 2.1 Background

2.1.1 Durham Wildlife Services (DWS) was commissioned by Ecology Solutions Ltd in May 2022 to undertake an otter *Lutra lutra* and water vole *Arvicola amphibius* survey on land north of Nissan Car Manufacturing Plant, in Sunderland. The approximate National Grid Reference for the centre of the site is NZ335598. The area covered by the site is proposed for development for the International Advanced Manufacturing Park (IAMP). This joint venture between Sunderland City Council and South Tyneside Council will deliver a nationally significant infrastructure project to create a new hub for advanced manufacturing, automotive and technology business within the area.

2.1.2 A number of surveys have already been completed across the site by several ecological companies including White, Young and Green (WYG) in 2014 and 2015, and DWS in 2018 and 2020. These reports should be read in conjunction with this one.

### 2.2 Site Description

The site is a mixture of arable and pasture farmland, with small pockets of woodland, located to the north of the Nissan Car Manufacturing Plant, in Sunderland. Two watercourses flow across site, the River Don and into the River Don flows the Usworth Burn. The site also includes a number of farm steadings, and cottages. The A19 borders the site to the east, with housing beyond this. The IAMP ONE development area and Nissan CMP lies immediately south and further farmland to the north and east (Figure 1, Appendix A).

### 2.3 Survey Objectives

A water vole and otter survey was carried out across all waterbodies on site, and within 50 metres. This assessment formed the basis of recommendations for further survey work and/or mitigation and compensation for these species.

### 2.4 Legislation

#### 2.4.1 Otter

The Otter is fully protected through its inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and in Schedule 2 of The Conservation of

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Habitats and Species Regulations 2017 (as amended) as a European protected species. It is an offence under the Wildlife and Countryside Act 1981 (sections 9(1) and 9(4), Schedule 5) to intentionally kill, injure or take any wild animal included on Schedule 5. Under Section 9(4) it is an offence to damage or destroy or obstruct access to, any structure or place which any wild animal include in Schedule 5 uses for shelter or protection, or disturb any such animal while it is occupying a structure or place which it uses for that purpose. The term given to places of shelter or protection for Otters includes 'holt', 'couch' and 'den'. These terms all have slightly different origins and meaning, but all are related to places of shelter.

2.4.2 Otters are listed as priority species in the UK Biodiversity Action Plan (BAP) and also in the Durham BAP. Otters have been recorded as exploiting virtually all types of waterway in the UK including fresh water and estuarine sites and ranging in size from ditches and ponds to rivers and reservoirs (English Nature, 2003). Riparian habitat for Otters however requires adequate food resources (e.g. fish, amphibians, crayfish) and suitable shelter (typically trees, shrubs along watercourses and potential den sites).

#### 2.4.3 *Water Vole*

Following a severe national decline associated with habitat loss and predation by feral mink *Neovison vison*, Water Vole received habitat protection in 1998 through inclusion on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of Section 9(4) only. This protection was extended in 6th April 2008, so that the Water Vole is fully protected under Section 9.

2.4.4 Legal protection makes it an offence to:

- intentionally kill, injure or take (capture) a Water Vole;
- possess or control a live or dead Water Vole, or any part of a Water Vole;
- intentionally or recklessly damage, destroy or obstruct access to any structure or place which Water Voles use for shelter or protection or disturb Water Voles while they are using such a place;
- sell, offer for sale or advertise for live or dead Water Voles.

2.4.5 Offences under Section 9 carry a maximum penalty of a fine not exceeding Level 5 on the standard scale (currently £5,000), imprisonment for up to six months, or

both. In addition, the courts may order the forfeiture of any vehicle or other thing that was used to commit the offence.

2.4.6 Water Voles are listed as priority species in the UK Biodiversity Action Plan (BAP) and also in the Durham BAP (<https://neenp.org.uk/natural-environment/biodiversity-priorities/>).

2.4.7 Two national surveys carried out by the Vincent Wildlife Trust in 1989-90 and 1996-1998 have shown that the decline in Water Vole populations has now developed into a serious population 'crash' with a further loss of 67.5% of the occupied sites and 88% of the remaining population in only seven years.

2.4.8 Water Voles are typically associated with slow-flowing water ways and water bodies without extreme water level fluctuations. Water Voles prefer sites with a bank profile (soft soil to permit excavation) that shows a stepped or steep incline into which the vole can burrow and create nest chambers above the water table. The amount of bank side and emergent vegetation cover is very important, with the best sites offering a continuous swathe of tall and luxuriant riparian plants (waterside vegetation of grasses, sedges and rushes, rhizomes, bulbs and roots of herbaceous plants). Sites excessively shaded by shrubs or trees are less favourable (Strachan and Moorhouse, 2006).

### **3.0 METHODOLOGY**

#### **3.1 Desk Based Study**

The Environmental Records Centre North-East (ERIC NE) were contacted for records of protected species and sites within 2km of the site. The survey followed a period of dry weather to ensure water levels were low (rivers were not in spate) and signs would not have been washed away.

#### **3.2 Otter Survey**

3.2.1 The ecological assessment took place in May 2022, with a second survey in September 2022 (Table 1 below provides dates) in accordance with the standard guidelines outlined in 'Ecology of the European Otter' (Chanin, 2003).

3.2.2 The survey was carried out by Karen Devenney MCIEEM, Victoria Telford ACIEEM, and Daniel Gray, assisted by Jodi Bell, Sian Rennie and Jennifer Peacock. Hydrological features, such as depth and flow rate and physical features such as width and bank profile were all noted and recorded on the survey form as background information. Information on the bank was recorded, i.e. whether it was earth, silt, canalised etc. as was the vegetation that was found along the water courses length.

3.2.3 The watercourses that run through the site were surveyed for their ability to provide suitable habitat for otter with a 50 metre buffer either side of the site envelope. Habitat 'suitability' was based on best practice guidance published by Chanin (2003) together with surveyor experience.

3.2.4 The surveyors aimed to determine the presence / likely absence of otters on the watercourse. This was achieved by walking the length of the water course as specified above looking for signs of otter occupation as per best practice guidance.

3.2.5 Due to the rarity and elusive nature of the targeted species an actual sighting would prove unlikely. Otter signs were looked for instead and these included droppings (either spraints or anal jelly), footprints / tracks, feeding remains and signs of habitation (e.g., holts).



### 3.3 Water Vole Survey

- 3.3.1 The ecological assessment took place in May 2022, with a second survey in September 2022 in accordance with the standard water vole conservation handbook (Strachan and Moorhouse, 2011) and the Water Vole Mitigation Handbook (2016). Both surveys followed a period of dry weather to ensure water levels were low (rivers were not in spate) and signs would not have been washed away.
- 3.3.2 The survey was carried out by Karen Devenney and Victoria Telford, assisted by Daniel Gray, Jodi Bell, Sian Rennie and Jennifer Peacock. Hydrological features, such as depth and flow rate and physical features such as width and bank profile were all noted and recorded on the survey form as background information. Information on the bank was recorded, i.e., whether it was earth, silt, canalised etc. as was the vegetation that was found along the water courses length.
- 3.3.3 The watercourses that run through the site were surveyed for their ability to provide suitable habitat for water vole with a 50 metre buffer at the western end of the site envelope. Habitat 'suitability' was based on best practice guidance published by Strachan and Moorhouse (2006) together with surveyor experience.
- 3.3.4 The surveyor aimed to determine the presence / likely absence of water voles on the watercourse. This was achieved by walking the length of the water course as specified above looking for signs of water vole occupation as per best practice guidance.
- 3.3.5 Due to the rarity and elusive nature of the targeted species an actual sighting would prove unlikely. Evidence of water voles is listed below. Water vole prints are hard to distinguish from rat prints and are therefore not a reliable field sign.
- Latrines – Latrines are established by water voles at the edges of their territories, where they enter and exit the water where their nests tend to be located or on physical structures such as bridge supports or rocks. Water vole faeces are made of a few distinct cylindrical droppings 8-12mm long and 4-5mm wide with blunt rounded ends. They are brown or green in colour depending on the food recently eaten. They may also show signs of a green ring inside the dropping when broken in half. The latrine will contain old and new piles of faeces with some droppings

being flattened by the water vole as it scent marks its territory using its large hind feet.

- Feeding station/remains – water voles often have favourite, or safe, feeding stations spread throughout their territories where they collect and store a neat pile of vegetation to be eaten at a later date. The vegetation is typically 10cm in length and has been chewed at one end to a near 45 degree angle. Upon close inspection it is possible to see the clear cut marks of the water voles front teeth.
- Runs – A run occurs where a water vole has, over a period of time, consistently used the same path for moving around. The run is normally about 5-9cm wide and can be quite complex in nature with many branches or other runs coming from it.
- Burrows – water voles will dig into earth banks of river channels and excavate a network of tunnels to live in. These are called burrows. They can exist above or below the water line as well as two or three metres in land, appearing as a hole in the ground. The hole is normally wider than high with a diameter of 4-8cm.
- Cropped lawn – Lawns are areas of grass found around a burrow entrance that have been grazed down to a very short level by a water voles. They are generally created by the female when she is reluctant to leave the burrow and her young.
- Actual sighting – Some water voles do not seem to be affected by human activity so an actual sighting may take place. However, caution needs to be taken when identifying a water vole so as not to confuse it with a brown rat.

### **3.4 Constraints and Assumptions**

Some sections of the watercourse were difficult to survey due to trees and scrub blocking the watercourse. These sections are suboptimal habitat, whereas sections of higher quality habitat could be surveyed more thoroughly. The height of vegetation throughout the watercourse on both surveys will have meant that signs could have been missed, particularly burrows. Signs can also be harder to detect when water voles are in low numbers.

### **3.5 Surveyor Experience**

#### **Karen Devenney (Principal Ecologist/ Field Surveyor)**

Karen is a Principal Ecologist at DWS with over twenty years experience of working in an ecological field, in addition to a degree in Zoology and Masters in Wildlife Conservation and Management both from Newcastle University. Karen has extensive experience in surveying for riparian mammals, particularly water vole and otter. Her MSc dissertation was on water vole distribution in Northumberland. Karen was also a water vole and otter project officer for 5 years at Durham Wildlife Trust (DWT).

#### **Victoria Telford (Senior Ecologist/ Field Surveyor)**

Victoria has been working within the planning industry for over 10 years, 8 of which have been in a full time ecological role, following graduation from Newcastle University with a Master's degree in Wildlife Conservation and Management. Victoria has extensive experience in surveying for both otter and water vole, having carried out many surveys in her role at DWS.

#### **Daniel Gray (Ecologist/ Field Surveyor)**

Daniel is an experienced ecologist, having been at DWS for over 4 years, including 5 survey seasons. Prior to this he also had a range of additional voluntary and part time experience. He has carried out a large number of water vole and otter surveys during his time with DWS, having also had training from Karen Devenney, an experienced riparian mammal surveyor.

## 4.0 SURVEY RESULTS

### 4.1 Desk Based Study

#### 4.1.1 Otter

ERIC NE provided 26 records of otter within 2km. The majority of these records are from various points along the River Don, which also flows through the IAMP site. A large number of these are for within, or in close proximity to the site. The sections adjacent to the A19 dual carriageway are well surveyed because of the Testos Junction roadworks. Records also include data from DWS from the 2018 IAMP survey. Otters were recorded throughout the IAMP survey area in 2020 by DWS. WYG surveys (2015) recorded otter footprints, and an otter was seen, between Hylton Bridge and the A19 along the River Don.

#### 4.1.2 Water Vole

ERIC NE provided 90 records of water voles from within 2km. This included a large number of records from within the site itself. Records are present from along the Usworth Burn and River Don, including north of North Moor Farm, past Hylton Bridge, Elliscrope Farm through to the A19. The most recent of these records is from 2013. Water voles appear to have been present along most of the watercourses on site. WYG (2015) recorded water vole signs along most of the Usworth Burn. No signs were found between Hylton Bridge to just before the bridge to Elliscrope Farm, but signs were present across the rest of the River Don. Signs were also found on the ditch that heads north from the River Don, up past My Pet Stop. DWS surveys in 2018 and 2020 found old burrows but no recent/active signs that water voles were still in the area.

#### 4.1.3 American Mink

ERIC NE provided 1 record of mink from within 2km, which was outside the site boundary. The record was from 2011. DWS found signs of mink throughout the survey area in 2018 and 2020 (DWS 2018 & 2020).

### 4.2 Survey Results

#### 4.2.1 Overview

The watercourses subject to this survey, the River Don and Usworth Burn, are approximately 1-2m wide with earth banks. Depth varies, but is less than 1 metre in most parts, with occasionally deeper pool. The river and stream flows through a

mixture of arable land, a small amount of pasture and some woodland. Scrub is present along the banksides through most of the non-wooded areas. Himalayan balsam was found throughout. The watercourses have been broken up into shorter sections for the basis of this write up, the sections are based on adjacent habitat type. These are described below and can be seen mapped in Figure 2, Appendix A. Photographs can be found in Appendix B.

#### 4.2.2 Table 1 Section Descriptions

Section Number	Distance (m)	Grid Ref.	Description
1	430	NZ 32488 60102 - NZ 32371 59716	This section is a ditch that flows past My Pet Stop and into the River Don. This was dry at the time of the survey and has steep to vertical sites, overhung by a hawthorn <i>Crataegus monogyna</i> hedgerow. Stinging nettles <i>Urtica dioica</i> are dominant, Himalayan balsam <i>Impatiens glandulifera</i> is also present. The adjacent land is arable through most of its length. This section was surveyed by Karen Devenney & Dan Gray on the 24th May 2022, and Karen Devenney & Sian Rennie 21 <sup>st</sup> September 2022.
2	1050	NZ 32299 59690 - NZ 33217 59427	This is a section of the River Don, which follows through a series of arable fields up to its confluence with the Usworth Burn. This section begins 50 metres outside the IAMP site boundary. Banksides are mostly steep to vertical and are overgrown, with nettles dominant, as well as Himalayan Balsam. Coupled with the presence of scattered bramble <i>Rubus fruticosus</i> , hawthorn and willow <i>Salix</i> spp. scrub, often made surveying difficult to the west. A long section to the east is more open and herb rich, with cow parsley <i>Anthriscus sylvestris</i> , hogweed <i>Heracleum sphondylium</i> , garlic mustard <i>Alliaria petiolata</i> , cleavers

Section Number	Distance (m)	Grid Ref.	Description
			<i>Galium aparine</i> , greater stitchwort <i>Stellaria holostea</i> , and greater willowherb <i>Epilobium hirsutum</i> . Depth was mostly below 1 metre except for some deeper pools. The river was mostly 1-2 metres wide. This section was surveyed by Karen Devenney & Dan Gray on the 24th May 2022 and Karen Devenney & Sian Rennie 21 <sup>st</sup> September 2022.
3	880	NZ 32394 59270 - NZ 33217 59427	This is the section of the Usworth Burn that falls within the site boundary, including 50 metres to the west of the site boundary. It flows through a series of arable and improved grassland fields until it joins with the River Don to the east. It's shallow, being less than 0.5 metres deep and sluggish flowing. Again, nettles and Himalayan balsam dominate large sections, along with greater willowherb, hogweed, cleavers, bramble and hemlock water dropwort <i>Oenanthe crocata</i> . Hawthorn, and bramble scrub is frequent along the banksides. This watercourse opens up to the east, around its confluence with the River Don. This section was surveyed by Victoria Telford and Jen Peacock on the 24 <sup>th</sup> May 2022, and Victoria Telford and Jen Peacock on 20 <sup>th</sup> September 2022.
4	230	NZ 33217 59427 - NZ 33367 59594	This is a short section of the River Don, just downstream of its confluence with the Usworth Burn, with this section ending at Hylton Bridge. This section flows through pasture but is similar in composition to the eastern end of Section 2, with scattered scrub and nettles/Himalayan Balsam dominant. The southern end of this section now links through to newly created wetlands/scrapes to the southern. This section

Section Number	Distance (m)	Grid Ref.	Description
			was surveyed by Victoria Telford and Jen Peacock on the 24 <sup>th</sup> May 2022 and Victoria Telford and Jen Peacock on 20 <sup>th</sup> September 2022.
5	430	NZ 33367 59594 - NZ 33665 59844	This section of the River Don starts after Hylton Bridge and continues up to and including Elliscope farm bridge. This section is slightly wider, ranging from 1-3 metres in width and a depth of up to 1 metre. Banksides are again steep to vertical. It flows through a small woodland and beyond this, arable land lies to the south and woodland/trees to the north. Consequently, most of this section is shaded, with overhanging trees. Bankside vegetation is dominated by nettles and Himalayan Balsam. This section was surveyed by Karen Devenney and Jodi Bell on 27 <sup>th</sup> May 2022, and Dan Gray and Sian Rennie on 20 <sup>th</sup> September 2022.
6	270	NZ 33665 59844 - NZ 33911 59867	This section of the River Don starts after Elliscope Farm Bridge and continues up to the edge of Make-Me-Rich farm holding. This section is similar to Section 5, ranging from 1-3 metres in width and a depth of up to 1 metre. Banksides are again steep to vertical. Arable land lies to the south and woodland to the north. Consequently, as per Section 5, most of this section is shaded, with overhanging trees. Bankside vegetation is dominated by nettles and Himalayan Balsam. Also present is common hogweed, greater willowherb, cow parsley and locally abundant bramble scrub. This section was surveyed by Karen Devenney and Jodi Bell on 27 <sup>th</sup> May 2022, and Dan Gray and Sian Rennie on 20 <sup>th</sup> September 2022.

Section Number	Distance (m)	Grid Ref.	Description
7	125	NZ 33911 59867 - NZ 34023 59912	This section of the River Don flows through the Make-Me-Rich farm holding. This section is similar to Section 5 & 6, ranging from 1-3 metres in width, but was mostly above 1 metre in depth. Poor semi-improved hayfields lie on either side and the watercourse itself is a mixture of tall ruderal vegetation and scattered hawthorn scrub. Species include greater willowherb, hogweed, and burdock <i>Arctium</i> sp., with large areas dominated by nettle and Himalayan balsam. This section was surveyed by Karen Devenney & Dan Gray on the 24th May 2022, and Dan Gray and Sian Rennie on 20 <sup>th</sup> September 2022.

#### 4.2.3 May 2022

Signs of otter and rat were found within the survey site. Field signs include droppings and footprints of both species. A number of burrows were recorded, but all were either disused or deemed to be rat burrows. No water vole signs were located during the survey. No signs of mink were recorded on this occasion. An otter spraint was located at NZ 33071 59289, within the Usworth Burn, approximately 185m from where the Usworth Burn confluences with the River Don. A second otter spraint was also located beneath the bridge at Make-Me-Rich Farm and beneath the bridge at Elliscope Farm. An otter footprint was found on the River Don at NZ 32637 59632 and on the River Don at NZ33696 59852. Possible holt locations were found under the bridge to Elliscope Farm where a gap has formed under the bridge (Photograph 11), and a large hole in the bank at NZ 33869 59871, no clear evidence was present that either were being used by otters. There are also possible couch locations/resting placed through the woodland area between Hylton Bridge and Elliscope Farm bridge. The mature trees through this section of woodland provide nooks and crannies in which otters could get temporary shelter. The results of this survey can be seen mapped in Figure 3 Appendix A.



4.2.4 The results of the surveys are summarised below, with photographs found in Appendix B.

4.2.5 **Table 2 Survey Results - Otter**

Section No.	Sightings	Footprints	Spraint	Notes
1	0	0	0	
2	0	1	0	
3	0	0	1	
4	0	0	0	
5	0	0	0	
6	0	1	1	Spraint under bridge between 5 & 6
7	0	0	1	

4.2.6 **Table 3 Survey Results –Rat**

Section No.	Rat Burrows	Rat Droppings	Rat Footprints	Notes
1	0	0	0	
2	0	0	0	Old water vole burrows present
3	1	2	1	
4	0	0	1	
5	1	0	0	
6	Possible	0	1	Large hole in use.
7	0	0	0	Number of old water vole burrows present

4.2.7 *September 2022*

Signs of otter, mink and rat were found within the survey site. Rat signs were particularly prevalent during this survey, with extensive signs along the River Don, especially to the west. Otter signs were still present, in small numbers, but showed that they utilise most of the river in this area. The large hole to the east in Section 6 was not recorded during this survey. The gap underneath Elliscope Bridge was still present but no evidence of use. Mink signs were recorded on this survey, with footprints and a scat indicating recent activity through Section 5. No evidence of

water voles was found, except some disused burrow systems through Section 2.  
The results of this survey can be seen mapped in Figure 4 Appendix A.

#### 4.2.8 Table 4 Survey Results - Otter

Section No.	Footprints	Sprint	Notes
1	0	0	
2	0	0	
3	0	2	
4	0	0	
5	1	1	Sprints on rocks
6	0	0	
7	0	1	

#### 4.2.9 Table 5 Survey Results –Rat

Section No.	Rat Burrows	Rat Droppings	Rat Footprints	Notes
1	0	0	0	
2	0	12	3	Several disused burrow systems in this section
3	2	2	4	
4	0	3	1	
5	1	2	2	
6	0	0	3	
7	0	1	0	

#### 4.2.10 Table 6 Survey Results - Mink

Section No.	Mink Scat	Mink Footprints	Notes
1	0	0	
2	0	0	
3	0	0	
4	0	0	
5	1	1	Scat on tree

6	0	3	
7	0	0	

## **5.0 CONCLUSION AND RECOMMENDATIONS**

### **5.1 Otter**

Otters signs were recorded on site during both surveys, and indicated that they utilised the River Don and the Usworth Burn. Two potential holt locations were identified during the May survey. However, the hole was not recorded in September, and the gap under Elliscope Bridge did not show signs it was being used. Both these potential holts lie over 100 metres away from the new road bridge. Possible couch locations through the woodland between Hylton Bridge and Elliscope Farm bridge also lie over 100 metres away. The proposals have the potential to cause an increase in noise and light disturbance. The development should therefore be kept away from the riverbank to keep any potential disturbance to a minimum. The biggest impact is likely to be around the new road bridge over the River Don, but additional impacts are possible depending on finalised plans. The works may also result in an increase in road mortality and any new culverts or bridges should have mammal ledges installed beneath.

### **5.2 Water Vole**

Water vole signs were found the survey area by WYG in 2014/2015. However, only abandoned burrow systems were found in 2018, 2020 and 2022. Mink signs were recorded 2018 and 2020, and in September 2022. Mink are one of water voles main predators. Water voles were found to be present along the Usworth Burn to the west of the IAMP site in 2020 (ERIC NE 2022 data). Therefore, although they appear to have been lost from the IAMP area, there is potential for re-colonisation in the future. Dense vegetation can also hide water vole signs, particularly if numbers are low. Proposals should therefore assume potential presence and any works within 20 metres should be checked/resurveyed prior to work commencing.

### 5.3 Table 7 Summary of Potential Impacts and Recommendations.

Ecological Factor	Potential Impacts	Recommendations	Mitigation and Enhancements
<p><b>Otter</b></p>	<p>Otters were found to be utilising the River Don during both surveys. Spraints and footprints were found. Two possible holt locations were identified in May, but just the gap under the Elliscope Farm road bridge was present in September. There are numerous possible couch locations through the woodland between Hylton Bridge and the bridge to Elliscope Farm, with mature trees through this section of woodland providing nooks and crannies in which they could get temporary shelter.</p> <p>Proposals could result in noise and light disturbance, both during constructional and operational phases. The works may also result in an increase in road mortality.</p> <p>The biggest impact is likely to be around the new road bridge over the River Don, but additional</p>	<p>The development should be kept away from the riverbank to keep any potential disturbance to a minimum, particularly any lighting or noise.</p> <p>Any works within 20 metres of the watercourse should be resurveyed for riparian mammals prior to works commencing. If works are likely to disturb an otter or impact on a holt then a licence from Natural England might be required. Should there be any potential for disturbance to Elliscope Farm road bridge (Figure 3), camera monitoring should be carried out to establish whether this hole is being used by otters.</p> <p>A dark corridor should be maintained when the new road bridge is installed.</p> <p>Pollution prevention measures are details in Section 5.4.</p>	<p>Any new culverts or bridges should have mammal ledges installed beneath.</p> <p>Creation of additional wetland habitat will enhance the site for this species.</p>

Ecological Factor	Potential Impacts	Recommendations	Mitigation and Enhancements
	<p>impacts are possible depending on final plans and river restoration plans.</p> <p>Any pollution incidents could impact on this species.</p>		
<b>Water Vole</b>	<p>No signs of water vole occupancy were recorded during the 2022 surveys. WYG found water vole signs along most of the River Don and Usworth Burn during the 2014/2015 surveys. This mammal appears to have been lost from site. There is potential for them to recolonise the site in the future and any proposals should follow a precautionary approach.</p> <p>Proposals have the potential to kill and injure water voles, destroy habitat, and fragment populations.</p> <p>The biggest impact is likely to be around the new road bridge over the River Don, and proposed</p>	<p>Any works within 20 metres of the watercourse should be resurveyed for riparian mammals prior to works commencing. Any areas showing water vole occupancy should be avoided.</p> <p>Even in areas of non-occupancy works should be done under method statement, including:</p> <p>Any works within 20 metres should be kept to a minimum, with working areas also kept to a minimum, disturbing banksides as little as possible.</p> <ul style="list-style-type: none"> <li>• Machinery and materials must be kept at least 10 metres from banksides.</li> <li>• Works will stop if a water vole or otter is seen.</li> </ul>	<p>Any new culverts or bridges should have mammal ledges installed beneath to help ensure populations do not become fragmented.</p> <p>Creation of additional wetland habitat will enhance the site for this species.</p> <p>Some bankside scrub removal and widening of rough grassland either side of the river will also benefit this species.</p> <p>Mink control through the area would be of benefit for this species.</p>

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Ecological Factor	Potential Impacts	Recommendations	Mitigation and Enhancements
	river restoration works, lesser impact also possible around any new drainage into the river.  Any pollution incidents could impact on this species.	Pollution prevention measures are details in Section 5.4.	

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**5.4 Pollution Prevention** - The following pollution control measures should be implemented:

- To prevent siltation of the watercourse, minimise the amount of exposed ground on banks from which surface water drains (e.g. caused by trampling and vehicle movements) and the period of time the ground is exposed
- Consider the use of geotextile silt fences at the toe of the slope if the ground is exposed, to reduce silt transport.
- Ensure any plant and wheel washing is carried out in a designated area of hard standing at least 10 metres from the watercourse or any surface water drain leading to it. Ensure that run-off is collected in a sump and settled solids are removed regularly.
- Any concrete and cement mixing and plant and tool washing areas should be sited a minimum of 10 metres from any watercourse or surface water drain and on an impermeable surface to minimise the risk of run off entering the watercourse (Fresh concrete and cement are very alkaline and corrosive and can cause serious pollution). Collect wash waters and, where necessary, discharge to the foul sewer or contain for disposal off site. Wash waters from concrete and cement mixing, or plant or tool washing, should never be discharged into the water environment.
- Fuel, oil and chemical storage on site must be secure. It should be sited on an impervious base within a secondary containment system such as a bund, not within 10m of any watercourse, and above flood water level.
- Spill kits approved for the stored materials should be kept close to the fuel, oil and chemical storage area and contactors should be trained in their correct use. The risk of spilling fuel is at its greatest during refuelling of plant. To minimise the risk, mobile plant should be refuelled in a designated area more than 10m from any water course or surface drain. Drip trays should be placed under portable generators.



- Biodegradable hydraulic oil should be used in plant working in or near watercourses. Biodegradable chainsaw bar lubricant should be used in chainsaws used above or near watercourses.
- If cleaning of stonework is to be undertaken use physical cleaning instead of liquid chemicals such as caustic and acid solutions. Wherever possible contain wastewaters from surface washing and agree the disposal method with the Environment Agency as part of an environmental management plan.
- Use vacuum attachments on power tools wherever possible to reduce dust generation. If using high-pressure water or steam cleaners to clean stonework avoid using grit blasting with slag-derived grit as this can contain significant levels of heavy metals such as copper and can be toxic to the water environment. The use of garnet, low silica abrasive or recycled glass media with vacuum attachments will reduce the potential for contamination.
- All contractors should be fully briefed on the pollution control measures to be adopted on site and the importance of not allowing waste materials or pollutants to enter the watercourse.
- Any pollution incidents such as fuel spillage, discharge of contaminated or silt-laden run-off to a watercourse, or disturbance to the riverbed should be immediately reported to the EA Incident Hotline on 0800 80 70 60.

## 6.0 REFERENCES

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**Dean, M., Strachan, R., Gow, D., & Andrews, R., (2016)** Water Vole Mitigation Handbook

**Durham Wildlife Services (2018)** *IAMP Ecological Report*

**Durham Wildlife Services (2021)** *IAMP Water Vole and Otter Survey Report*

**ERIC NE Consultation Data**

**HMSO. (1981)** Wildlife and Countryside Act. <http://www.legislation.gov.uk/>

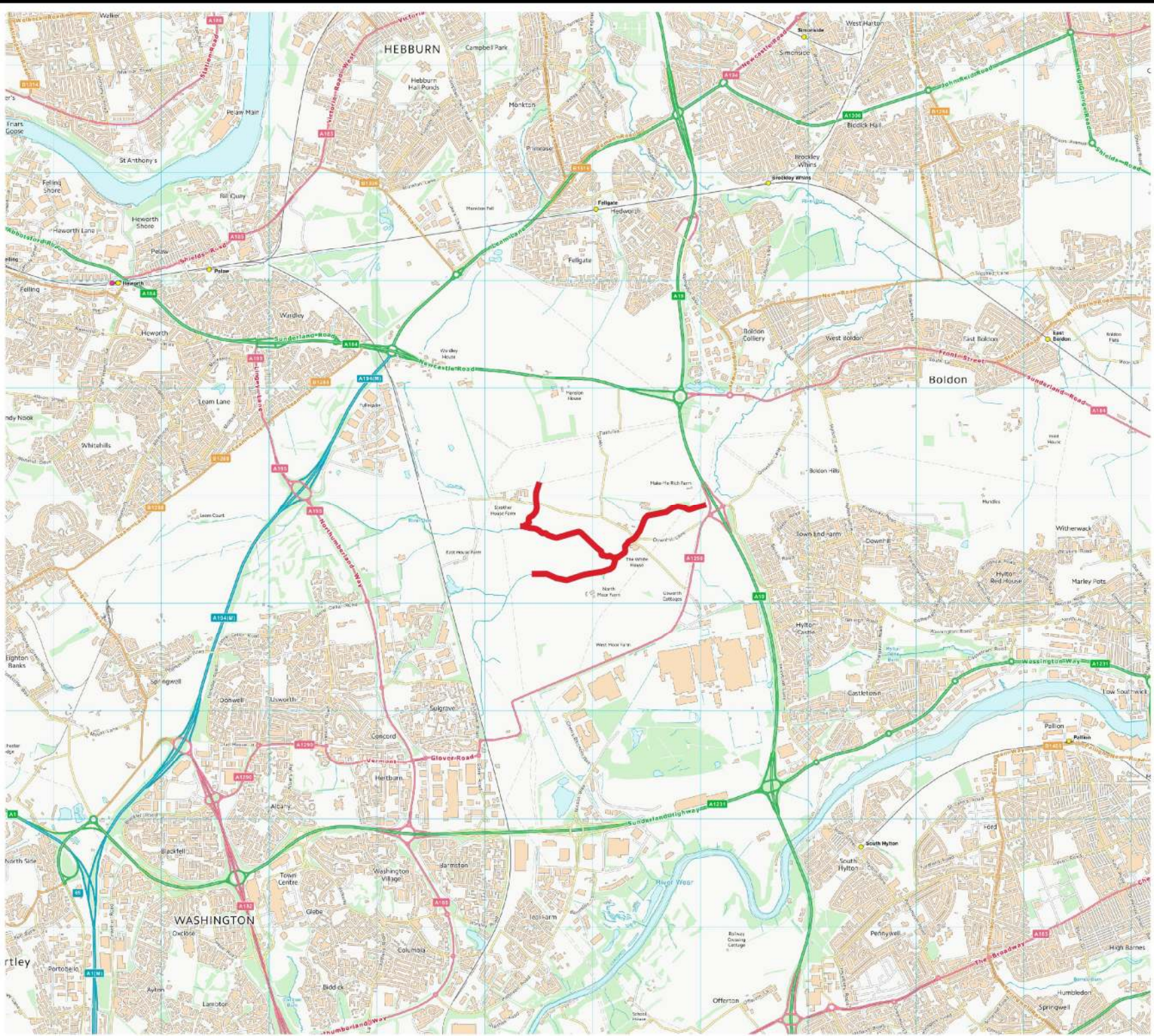
<http://neenp.org.uk/natural-environment/>


**Strachan, R., Moorhouse, T. & Gelling, M. (2011)** Water vole Conservation Handbook (third edition). WildCRU: Oxford

**WYG (2015)** Land North of Nissan

## **APPENDIX A**

### **Figures**



**Legend**  
 Rivers within IAMP

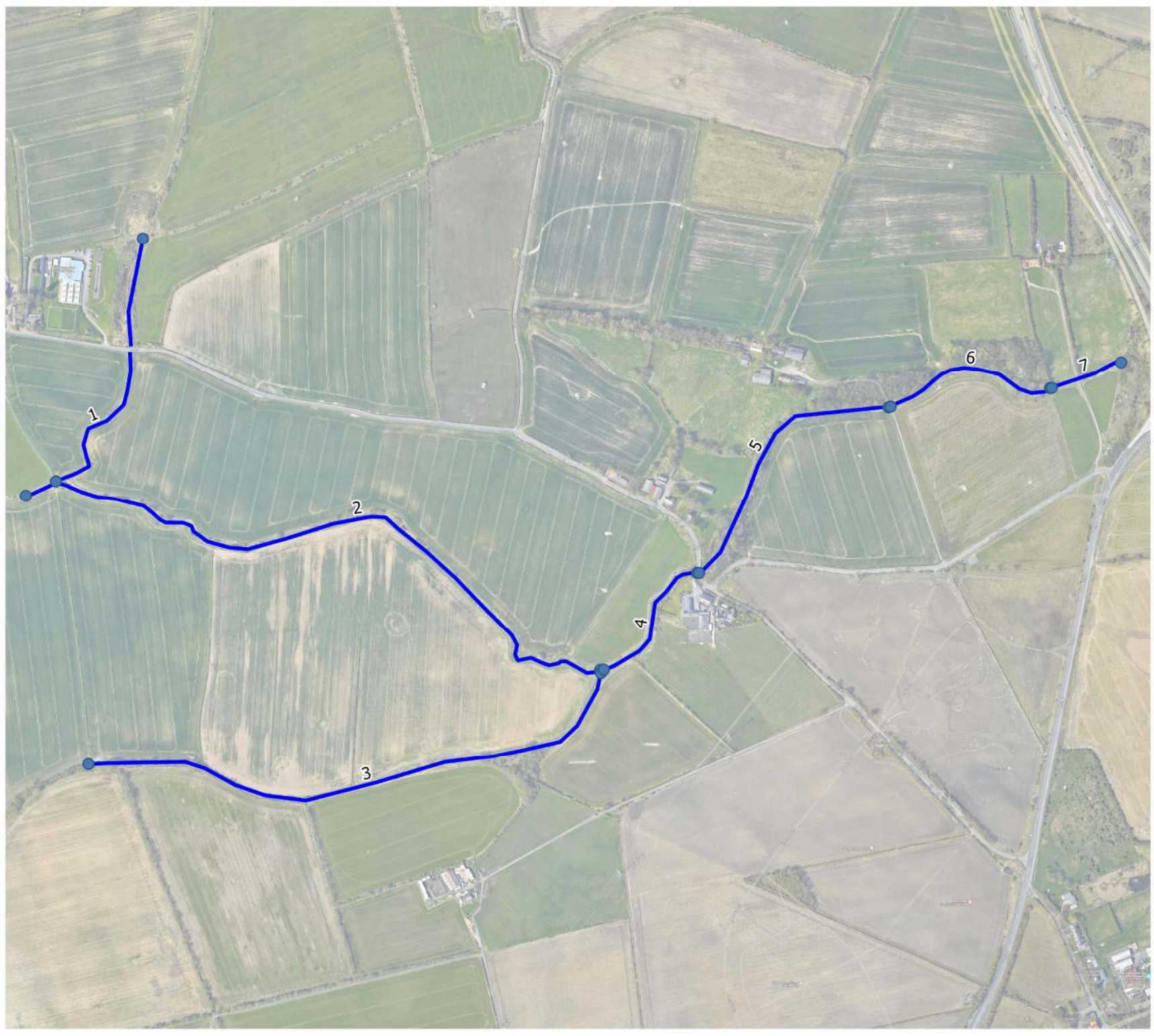
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 Houghton-le-Spring  
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<b>Project</b>	IAMP
<b>Title</b>	Location Plan
<b>Client</b>	IAMP LLP
<b>Date</b>	08/07/2022
<b>Ref</b>	Figure 1



### Legend

- Sections
- Section Ends

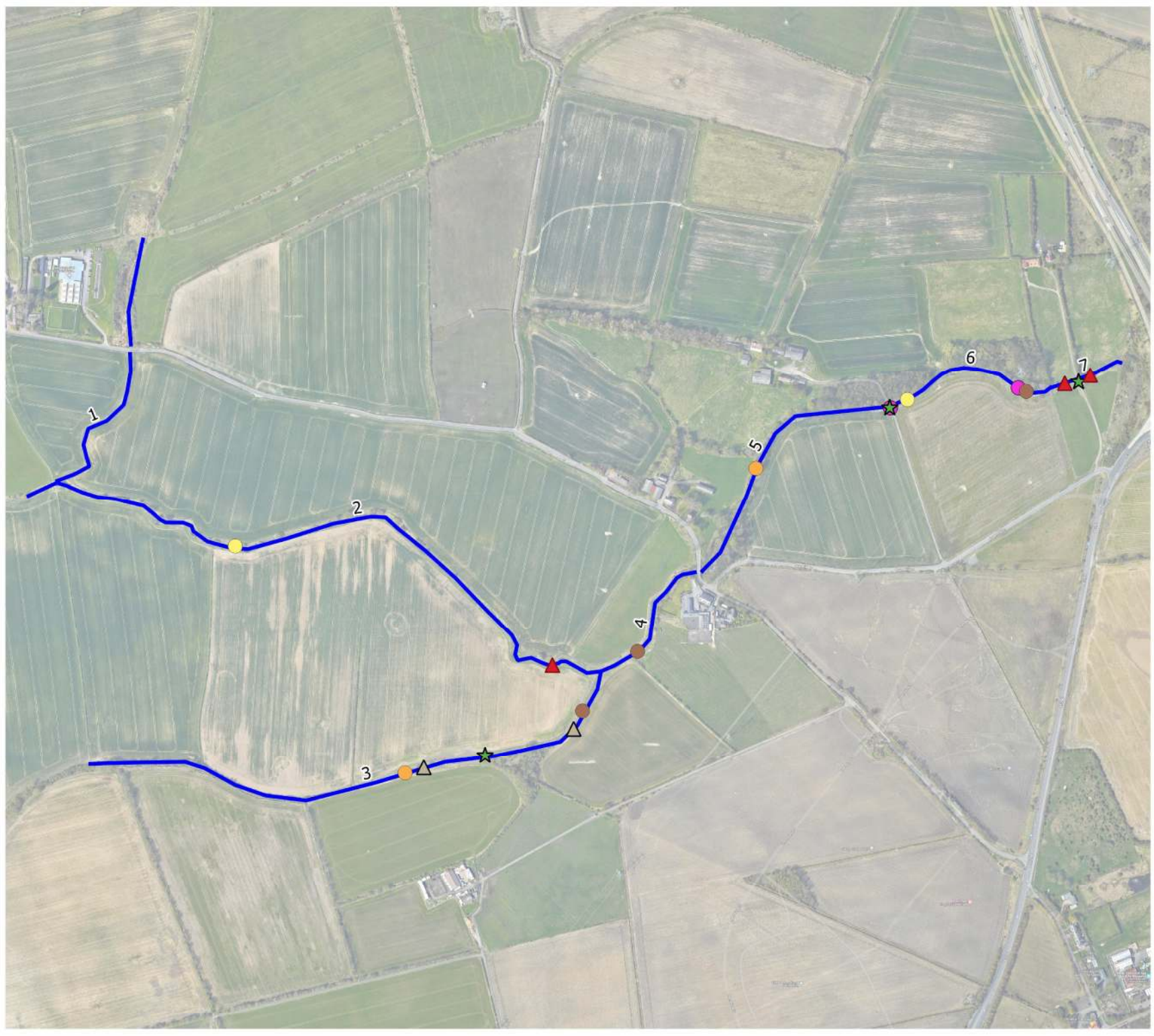
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<b>Project</b>	IAMP
<b>Title</b>	Water Vole and Otter Survey Sections
<b>Client</b>	IAMP LLP
<b>Date</b>	8th July 2022
<b>Ref</b>	Figure 2



### Legend

- Sections
- ▲ Disused Burrows
- Large Hole Present
- Otter Footprints
- ★ Otter Spraint
- Rat Burrow
- △ Rat Droppings
- Suspected Rat Footprints

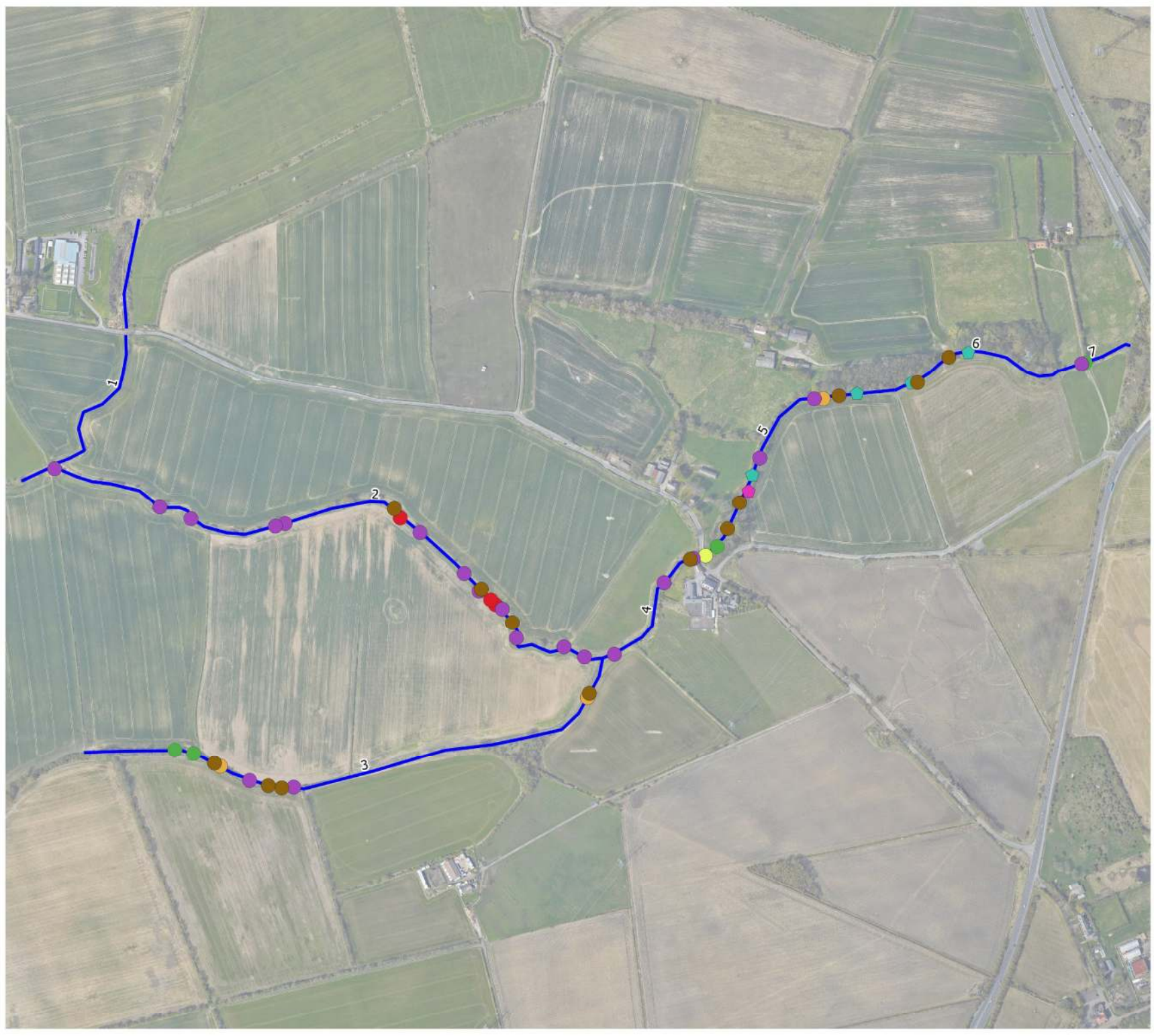
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<b>Project</b>	IAMP
<b>Title</b>	Water Vole and Otter May Survey
<b>Client</b>	IAMP LLP
<b>Date</b>	8th July 2022
<b>Ref</b>	Figure 3



### Legend

- Disused Burrows
- ◆ Mink Footprint
- ◆ Mink Scat
- Otter Footprints
- Otter Spraint
- Rat Burrow
- Rat Droppings
- Rat Footprints
- River Sections

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<b>Project</b>	IAMP
<b>Title</b>	Otter and Water Vole September Survey
<b>Client</b>	IAMP LLP
<b>Date</b>	18th October 2022
<b>Ref</b>	Figure 4

## **APPENDIX B**





### **Photos**







Section Number	Grid Ref.
1	NZ 32488 60102 - NZ 32371 59716



Photograph 1, ditch by My Pet Stop

Section Number	Grid Ref.	Comments
2	NZ 32299 59690 - NZ 33217 59427	River Don downstream of My Pet Stop up to convergence with Usworth Burn.
 <p data-bbox="193 1081 491 1115">Photograph 2, River Don</p>	 <p data-bbox="863 1081 1166 1115">Photograph 3, River Don</p>	
 <p data-bbox="193 1783 596 1816">Photograph 4, Otter spraint (May)</p>	 <p data-bbox="863 1783 1369 1816">Photograph 5, Rat droppings (September)</p>	

Section Number	Grid Ref.	Comments
3	NZ 32394 59270 - NZ 33217 59427	Usworth Burn up to convergence with River Don.
 <p data-bbox="193 1081 536 1113">Photograph 6, Usworth Burn</p>		 <p data-bbox="837 1081 1177 1113">Photograph 7, Usworth Burn</p>
 <p data-bbox="193 1771 596 1803">Photograph 8, Otter spraint (May)</p>		 <p data-bbox="837 1641 1517 1673">Photograph 9, Usworth Burn convergence with River Don</p>





Photograph 10, Otter spraint (September)


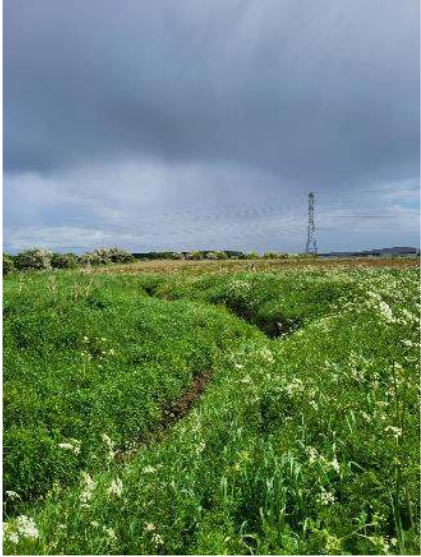




Photograph 11, Rat droppings (September)

Section Number	Grid Ref.	Comments
4	NZ 33217 59427 - NZ 33367 59594	River Don between convergence with Usworth Burn and Hylton Bridge.
 <p data-bbox="194 1218 507 1249">Photograph 12, River Don</p>		

Section Number	Grid Ref.	Comments
5	NZ 33367 59594 - NZ 33665 59844	River Don between Hylton Bridge and Elliscope farm bridge.
 <p data-bbox="194 1064 743 1095">Photograph 13, River Don near Hylton Bridge.</p>	 <p data-bbox="866 1079 1497 1111">Photograph 14, Hole beneath Elliscope Farm Bridge.</p>	
 <p data-bbox="194 1792 820 1823">Photograph 15, Rat and mink footprints (September)</p>	 <p data-bbox="866 1778 1348 1809">Photograph 16, Rat burrow (September)</p>	

Section Number	Grid Ref.	Comments
6	NZ 33665 59844 - NZ 33911 59867	River Don between Elliscope farm bridge and Make-Me-Rich farm.
 <p data-bbox="196 1111 759 1144">Photograph 17, River Don near Elliscope Farm.</p>		 <p data-bbox="868 1126 1425 1160">Photograph 18, Large hole in river bank (May).</p>

Section Number	Grid Ref.	Comments
7	NZ 33911 59867 - NZ 34023 59912	River Don through Make-Me-Rich farm.
 <p data-bbox="196 882 710 913">Photograph 19, River Don at Make-me-rich</p>		 <p data-bbox="869 1008 1380 1039">Photograph 20, River Don at Make-me-rich</p>
 <p data-bbox="196 1706 710 1738">Photograph 21, Rat droppings (September)</p>		 <p data-bbox="869 1706 1380 1738">Photograph 22, Otter spraint (September)</p>



**APPENDIX C**  
**Report Conditions**

# DURHAM WILDLIFE SERVICES

## REPORT CONDITIONS

### IAMP TWO

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*This report is prepared for the proposed uses stated in the report and should not be used in a different context without reference to Durham Wildlife Services. In time improved practices, fresh information or amended legislation may necessitate a re-assessment. Opinions and information provided in this report are on the basis of Durham Wildlife Services using due skill and care in the preparation of the report.*

*This report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times.*

*This report is limited to those aspects reported on, within the scope and limits agreed with the client under our appointment. It is necessarily restricted and no liability is accepted for any other aspect. It is based on the information sources indicated in the report. Some of the opinions are based on unconfirmed data and information and are presented as the best obtained within the scope for this report.*

*Reliance has been placed on the documents and information supplied to Durham Wildlife Services by others but no independent verification of these has been made and no warranty is given on them. No liability is accepted or warranty given in relation to the performance, reliability, standing etc of any products, services, organisations or companies referred to in this report.*

*Whilst skill and care have been used, no investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather related conditions.*

*Although care is taken to select monitoring and survey periods that are typical of the environmental conditions being measured, within the overall reporting programme constraints, measured conditions may not be fully representative of the actual conditions. Any predictive or modelling work, undertaken as part of the commission will be subject to limitations including the representativeness of data used by the model and the assumptions inherent within the approach used. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions.*

*The potential influence of our assessment and report on other aspects of any development or future planning requires evaluation by other involved parties.*

*The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Durham Wildlife Services accept no liability for issues with performance arising from such factors*

*February 2008*