

Appendix 12.6

Protected Vertebrate Update Surveys

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1 Introduction

- 1.1.1 CH2M Fairhurst Joint Venture (CFJV) is the Lead Design Consultant for the A9 Dualling Central Section (Glen Garry to Dalraddy). The Environment Team for CFJV has undertaken update verification surveys for water vole *Arvicola amphibious* within the extents of the proposed scheme (Dalwhinnie to Crubenmore). These verification surveys follow previous water vole surveys undertaken by Land Use Consultants (hereby known as LUC) in 2015 as part of the protected vertebrates baseline assessment for the dualling scheme (LUC, 2016).
- 1.1.2 This technical memorandum is intended to support the DMRB Stage 3 baseline and subsequent impact assessment alongside the original protected vertebrate baseline assessment (LUC, 2016).

2 Methodology

2.1 Survey methodology

- 2.1.1 The survey methodology was designed around the results of the 2015 LUC assessment. Areas identified by LUC as having water vole habitat but no signs recorded were assessed for water vole absence to ensure the areas remain suitable for mitigation receptor sites. In addition, verification of water vole absence was undertaken in targeted areas where Stage 3 road and associated infrastructure designs result in direct impact to water vole habitat with no recorded signs. Alongside this, watercourses where neither water vole habitat or presence was recorded, but are in close proximity to known populations, were also surveyed where Stage 3 road alignments result in direct habitat loss.
- 2.1.2 Areas were split into Survey Areas (S1, S2...) and numbered in accordance with each Project.
- 2.1.3 Methodology followed the Water Vole Conservation Handbook (Strachan *et al.* 2001) and Design Guide Chapter 6: Ecology and Nature Conservation (CFJV, 2014). The surveys identified the presence of suitable habitat for water voles within the Survey Areas and detected field evidence of their presence. Signs of water vole included latrines/droppings, feeding evidence (e.g. caches and lawns) and burrows along all accessible watercourses and bodies within each identified area present and extended 2m from the watercourse to the embankments. Survey dates, locations and meta-data is displayed in Table 2.1.1.
- 2.1.4 In addition, any signs or evidence of other protected or notable species were noted and recorded.

Table 2.1.1: Survey Personnel, Location and Weather Information

Date	Personnel	Project	Temperature	Rain	Wind	Cloud Cover
27.07.2016	John Thompson MCIEEM Scott Mackenzie Grad CIEEM	P08	12°C	Dry	BF2	6/8
13.09.2016	Scott Mackenzie Grad CIEEM Susan McAuley Grad CIEEM	P07 and P08	14°C	Rain	BF1	8/8
14.09.2016	Scott Mackenzie Grad CIEEM Susan McAuley Grad CIEEM	P08	12°C	Dry	BF1	8/8

Date	Personnel	Project	Temperature	Rain	Wind	Cloud Cover
19.09.2016	Scott Mackenzie Grad CIEEM John Thompson MCIEEM	P07 and P08	12°C	Dry	BF1	1/8
20.09.2016	Scott Mackenzie Grad CIEEM John Thompson MCIEEM	P08	12°C	Dry	BF1	4/8

2.2 Constraints

2.2.1 Following rainfall events on the 12.09.2016 and 13.09.2016, water levels were higher than usual for the surveys on 13.09.2016 and 14.09.2016. This had potential to wash away any water vole evidence such as latrines and feeding remains or obscure view to lawns, burrows and runs. However, evidence of water vole was recorded in all areas surveyed on these dates and therefore is not considered a significant constraint that would impact the validity of the results obtained.

3 Results

3.1 Water vole survey results

3.1.1 In total, seven survey areas were found to contain confirmed presence of water voles, with signs recorded in areas previously identified as having potential habitat with no signs as well as presence in newly identified areas. 8 locations did not contain water vole signs with two areas of which considered to be suitable receptor sites for mitigation. Table 3.1.1 details the results found in each survey area.

Table 3.1.1: Project 8 Water Vole Survey Results

Area Reference	Area Classification	Chainage and Location	Latrines	Burrows	Runs	Feeding Remains	Other
S19 (P07) and S1	Confirmed water vole presence in area previously identified as having potential habitat with no signs	Ch. 20,100 – 20,400 West side and east side	Multiple latrines	Multiple burrows	Well used runs present	Feeding remains present	Overlaps with P08
S2	Potential water vole signs but no confirmed evidence	Ch. 20,950 West side	-	Potential burrows	-	Potential feeding remains	-
S3	Potential water vole signs but no confirmed evidence	Ch. 21,350 – 21,450 West side and east side	Potential latrine	Burrows	Runs present	-	-
S4	Potential water vole signs but no confirmed evidence	Ch. 22,100 West side	-	Potential runs present	Potential runs present	-	-
S5	Potential water vole signs but no confirmed evidence	Ch. 22,400 West side	-	-	-	-	Potential signs but may be bank / field vole

Area Reference	Area Classification	Chainage and Location	Latrines	Burrows	Runs	Feeding Remains	Other
S6	Confirmed water vole presence in area previously identified as having potential habitat with no signs	Ch. 22,500	Old droppings present	10+ burrows present	Runs present	Feeding remains present	Rat droppings present nearby
S7	Potential water vole signs but no confirmed evidence	Ch. 24,300 – 24,600 West side	Potential droppings on stone	-	Runs present	-	Poor water quality sedimentation ponds Bank/ field vole present
S8	Potential water vole signs but no confirmed evidence	Ch. 26,100 – 26,200 West side	-	-	Potential runs	-	Potential mitigation area
S9	Confirmed water vole presence in area previously identified as having potential habitat with no signs	Ch. 26,400 West side	Latrine on rock	-	-	Feeding remains present	-
S10	Potential water vole signs but no confirmed evidence	Ch. 26,600 – 26,750 West side	-	Potential old burrows	-	-	Potential mitigation area
S111	Confirmed water vole presence in area previously identified as having potential habitat with no signs	Ch. 27,500 – 27,900 West side	Multiple latrines	Potential burrows present	Runs present	-	Potential mink scat recorded Field / bank vole signs present
S12	Potential water vole signs but no confirmed evidence	Ch. 28,350 West side	-	Potential burrows present	-	-	-
S13	Confirmed water vole presence in area previously identified as having potential habitat with no signs	Ch. 28,550 West side	Latrines present	Burrows present	Runs present	-	-
S14	Confirmed water vole presence in area previously identified as having potential habitat with no signs	Ch. 28,950 – 29,100 West side	Latrines present	Burrows present	Runs present	-	Field / bank vole signs present
S15	Confirmed water vole presence in area previously identified as having potential habitat with no signs and Confirmed water vole presence in area previously identified as having potential habitat with no signs	Ch. 29,250 – 29,650 West side	Latrines present	Burrows present	Runs present	-	

3.2 Additional Sightings

3.2.1 In addition to water vole recordings there were recordings of otter within the proposed scheme, Table 3.2.1 details these results.

Table 3.2.1: Additional Species Recordings

Project	Species	Chainage and Location	Observation	Details
P08	Otter	Ch. 21,450	Spraint under NMU crossing Potential Holt within woodland to east of carriageway	No signs but structure is suitable in woodland
P08	Otter	Ch. 22,500	Spraint	On both sides of watercourse under footbridge
P08	Otter	Ch. 26,900	Spraint	Under small culvert
P08	Mustelid	Ch. 27,750	Scat	Along burn, potential mink
P08	Otter	Ch. 29,600	Spraint	Along burn

4 References

LUC (2016). *A9 – Dualling – Project 8 Dalwhinnie to Curbenmore, Protected Terrestrial Vertebrate Species Survey*. Unpublished.

CFJV (2014). *A9 Dualling Programme Environmental Design Guide*. Unpublished.

Strachan, R., Moorhouse, T. and Gelling, M. (2011). *Water Vole Conservation Handbook*. Third edition. Natural England, Peterborough.