# Volume 5: Appendix 11.3 – Protected Species Survey Report

## CONTENTS

# LIST OF ABBREVIATIONS

EIA: Environmental Impact Assessment

EcIA: Ecological Impact Assessment

ESA: Ecological Survey Area

LOD: Limit of Deviation

GIS: Geographical Information System

OHL: Overhead Line

NESBReC: North East Scotland Biological Records Centre

NBN Atlas: National Biological Network Atlas

UK Hab: UK Habitat

SAC: Special Area of Conservation

# 1. INTRODUCTION

## 1.1 The Proposals

1.1.1 This appendix presents information relevant to the Kintore to Tealing 400 kV Overhead Line (OHL) Connection. It should be read in conjunction with **Volume 1, Chapter 3: Project Description** of the Environmental Impact Assessment (EIAR) for full details of the Proposed Development, and **Volume 2, Chapter 11: Ecology** for an assessment of the effects of the Proposed Development upon Ecology.

## 1.2 Supporting Documents

1.2.1 This appendix supports the EcIA in addition to the following Appendices (**Volume 5 of EIAR**):

- **Appendix 11.1: Desk Study and Legal/Policy Context;**
- **Appendix 11.2: Habitat and Vegetation Survey Report;**
- **Appendix 11.4: Bat Survey Report;** and
- **Appendix 11.5: Outline Biodiversity Enhancement Plan.**

1.2.2 **Appendix 11.6: Confidential Protected Species Survey Report** also supports the EcIA and can be found in **Volume 6** of the **EIAR**.

1.2.3 This appendix is supported by the following figures (**Volume 3 of the EIAR**):

- **Figures 11.1.1** to **11.1.23: The Proposed Development and Ecology Survey Area;**
- **Figures 11.2.1** to **11.2.5: Designated Sites within 10km, 5km and 2km of the Proposed Development;**
- **Figure 11.3.1** to **11.3.38: Habitat Survey Results;**
- **Figures 11.4.1** to **11.4.23: National Vegetation Classification Survey Results;**
- **Figures 11.5.1** to **11.5.11: Areas of Guidance-Stated Potential Groundwater Dependency;**
- **Figures 11.6.1** to **11.6.23: Protected Species Survey Results;** and
- **Figures 11.7.1** to **11.7.23: Bat Survey Results.**

1.2.4 This appendix is also supported by **Volume 6, Figures 11.8.1 to 11.8.23: Confidential Protected Species Results.**

1.2.5 In addition, images from the confidential protected species surveys are provided in **Annex 11.3.1: Photographs.**

## 1.3 Requirement for the Report

1.3.1 LUC was commissioned by the Applicant to undertake protected species surveys to aid the design process, to inform an assessment of the nature and condition of the habitats present, and to determine the presence or likely absence of protected species from the Ecological Survey Area (ESA).

1.3.2 LUC was commissioned by the Applicant to undertake protected species surveys to inform the Ecological Impact Assessment (EcIA), which is presented in **Volume 2, Chapter 11: Ecology.**

## 1.4 Terminology and Survey Area

1.4.1 The following terminology is used throughout this report:

- **Proposed Development:** Defined as the infrastructure including towers, overhead line (OHL) conductors, access tracks, and temporary working areas within the Limit of Deviation (LOD) (**Volume 3, Figures 3.1.1 to 3.1.29: Proposed Development for which Section 37 Consent (*Electricity Act, 1989*) is sought**; see **Volume 1, Chapter 3: Project Description**).
- **Proposed Alignment**: Defined as the centreline of the OHL (see **Volume 3, Figure 1.1: Overview of the Proposed Development**).
- **Limit of Deviation (LOD)**: The area either side of the Proposed Alignment and ancillary works within which micrositing may take place in accordance with the conditions of the Section 37 consent.

- **Ecology Survey Area (ESA)**: The LOD of the Proposed Development, plus relevant buffers (up to 250 m from the LOD, with the exception of access tracks, tie-ins and tie backs for which a buffer of up to 50 m from the associated LOD was applied), in which all ecology surveys were undertaken in line with good practice guidelines for all ecological features surveyed (see **Volume 3, Figures 11.1.1 to 11.1.23: The Proposed Development and Ecology Survey Area**; details of survey guidance and methods can be found in **Volume 5, Appendices 11.2-11.5,** and **Volume 6** for **Appendix 11.6**).
- **Section**: To aid the reader in comprehension of the geographic spread of the ecology baseline data and assessment, the Proposed Development has been divided into six sections (as outlined below, defined fully in **Volume 1, Chapter 3: Project Description** and shown on all figures associated with this chapter);
  - Section A: Emmock 400 kV substation to Forfar, Towers S206 to S163;
  - Section B: Forfar to Brechin, Towers S162 to S106;
  - Section C: Brechin to Laurencekirk, Towers S105 to S52;
  - Section D: Laurencekirk to Hurlie 400 kV substation, Towers S51 to S1;
  - Section E: Hurlie 400 kV substation to River Dee, Towers N96 to N61; and
  - Section F: North of the River Dee to Kintore Substation, Towers N60 to N1**.**

# 2. METHODS

## 2.1 Scope

*Desk Study*

*2.1.1* A desk study was undertaken to obtain historical ecological information relating to the ESA and the surrounding habitats to identify any known habitats of conservation concern, protected species or statutory and non-statutory designated sites. An account of the methods adopted is provided in **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context**, which also sets out the legislative provisions afforded to protected species.

2.1.2 A request for existing records of protected species and notable[1] within 10 km of the ESA, recorded over the last 15 years (post-2010), was made to the local environmental record centre which covers the Route; the North East Scotland Biological Records Centre, (NESBReC)[2] , along with records from National Biodiversity Network (NBN) Atlas[3] over the past 25 years (post-2000).

*Field Surveys*

2.1.3 Informed by the habitats present within the ESA (refer to **Volume 5, Appendix 11.2: Habitat and Vegetation Survey Report**) and the Scoping Report[4], surveys for the following species were undertaken within the ESA:

- Otter (*Lutra lutra*);
- Beaver (*Castor fiber*);
- Water vole (*Arvicola amphibius*);
- Atlantic salmon (*Salmo salar*);
- Red squirrel (*Sciurus vulgaris*);
- Pine marten (*Martes martes*); and
- Mountain hare (*Lepus timidus*).

2.1.4 Reference should be made to **Volume 2, Chapter 12: Ornithology** for details of ornithological surveys and assessments. Along with reference to **Volume 6, Appendix 11.6: Confidential Protected Species Report** which includes species; wildcat (*Felis silvestris)*, freshwater pearl mussel (*Margaritifera margaritifera)* and badger (*Meles meles)*.

2.1.5 Protected species surveys were undertaken between August 2023 and April 2024. Surveys were completed during accepted survey seasons[5], in appropriate weather conditions, and by experienced field ecologists.

2.1.6 All survey data was collected on Geographical Information System (GIS)-enabled field tablets to increase accuracy and facilitate robust interpretation. Where field evidence was recorded, photographs were taken. Photographs can be found within **Annex 11.3.1: Photographs** of this Appendix.

2.1.7 Surveys sought to identify suitable habitat for and, where appropriate, direct evidence of, protected species. Suitable habitat was considered to include opportunities to shelter, rest, forage and commute. All surveys followed good practice methods as detailed below.

*Otter Survey Methodology*

2.1.8 An otter survey was undertaken on all watercourses located within the ESA in accordance with recognised best practice[6]. Ecologists searched for evidence of suitable habitat for, and direct evidence of, otter. Watercourses were categorised into four suitability classifications based on a variety of characteristics including wet width, water depth, suitable foraging resources,

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[1] i.e. European Protected Species, species listed within the WCA.
[2] NESBReC, n.d. Biological Records for the North East of Scotland. [Online] Available at: https://nesbrec.org.uk/ [Accessed January 2025].
[3] NBN Atlas, 2024. Publicly Available Records of EPS and WCA Protected Species. [Online] Available at: https://nbnatlas.org/ [Accessed January 2025].
[4] SSEN Transmission, September 2024. *Environmental Impact Assessment Scoping Report Kintore to Tealing 400kV Overhead Line*. (see **Volume 5, Appendix 6.1: Scoping Report).**
[5] CIEEM, 2021. *Good Practise Guidance for Habitats and Species*. [Online] Available at: https://cieem.net/wp-content/uploads/2021/05/Good-Practice-Guide-April-2021-v6.pdf.
6 NatureScot, 2016. *Protected Species: Otters*. [Online] Available at: https://www.nature.scot/professional-advice/protected-areas-and-species/protected-species/protected-species-z-guide/protected-species-otters [Accessed March 2024]

suitable resting sites, and connectivity to suitable habitats. Descriptions of suitability categories are provided in **Table 11.3.1: Watercourse Suitability for Otter** below.

**Table 11.3.1: Watercourse Suitability for Otter**

| Suitability | Description |
|---|---|
| Optimal | Typically larger, main watercourses (at least 1 m in wet width). These watercourses contain flow at all times of year (not just in spate) and will support foraging resources (such as amphibians and fish). Rocky banksides or vegetation overhangs will provide suitable resting places, and large boulders will provide ideal sprainting sites. |
| Sub-optimal | Generally, a substantial watercourse, greater than 0.5 m in width. These watercourses will comprise stone and rock substrate, with occasional boulders. There may be limited resting opportunities, however vegetation overhangs, and occasional rocky crevices may be present. |
| Suitable | These watercourses may be sporadically used by otter, with connectivity to optimal or sub-optimal watercourses. These watercourses themselves will typically be no wider than 0.5 m, with a relatively shallow flow of water. Substrate may comprise stone and earth, and banksides may comprise grassland. |
| Unsuitable | Generally, will be a narrow channel, which may contain very little water. The channel may be very densely vegetated with limited suitability to support otter foraging resources. |

2.1.9 Where watercourses were considered suitable to support otter, these were surveyed in detail to locate field signs.

2.1.10 Field signs searched for include:

- Resting sites;
- Spraint (including age and description: fresh, recent, old);
- Prints, tracks, slides and runs; and
- Feeding remains.

2.1.11 Where resting sites were recorded, these were assessed for their potential to be used as a breeding or natal site. Resting sites were classified in accordance with descriptions detailed in **Table 11.3.2: Otter Resting Site Classification** below.

**Table 11.3.2: Otter Resting Site Classification**

| Resting Site Type | Description |
|---|---|
| Natal Holt | A discreet holt site that is used by a bitch to birth cubs, where they will normally remain for up to three months, before being moved to a secondary holt. These sites are seldom located during surveys, and they are rarely recorded without the aid of camera traps. It is generally accepted that most natal holts will contain bedding material and sprainting activity is minimal whilst occupied. |
| Holt | A cavity or hole on or adjacent to a watercourse. It may be in the ground, under tree roots, within rocks or caves; where it cannot be readily observed. If a holt is confirmed as active it usually contains field evidence such as spraint. |
| Hover | A bolt hole or ledge that provides temporary cover or a place to eat prey. It is not fully enclosed, and the back of the feature can normally be observed. There may be spraints, footprints and feeding evidence present. |
| Couch | An above-ground shelter normally used for lying-up and grooming. They may take the form of a depression in tall vegetation or may be covered in a vegetated grass 'roof'. |
| Breeding Site | An area of land in which otters breed. The site may be large, and it is usually more important to protect this site than an individual natal holt. |

2.1.12 The assessment of resting site status was determined by the quality of the feature and the ability to provide key requirements for otters. This included cover and seclusion for an individual to sleep or rest, the provision of nursery or breeding habitat (including the potential for natal holts), the supply of critical factors such as feeding resources (ponds, lochs and water features) freshwater for cleaning and drinking, and the provision of suitable seclusion away from disturbance.

2.1.13 This assessment was subjective and corroborated by the abundance of field evidence located in, or around, the features. Diagnostic evidence such as spraints, urination "green" spots, spraint mounds, sign heaps, grooming hollows, footprints, paths and slides, was interpreted to determine the status of the feature.

2.1.14 Where spraint was recorded, it was allocated an age class in accordance with the following descriptions:

- Fresh: The spraint is still very moist and pungent and was likely to have been deposited within the last few hours or days.
- Recent: The spraint has become decayed but retains consistency and some odour. It is dry and colour is more faded. It is likely to have been deposited within the last week or two.
- Old: The spraint is desiccated and powdery having lost its shape and most odours. Usually remains are still evident and identifiable, usually by the abundance of fishbone or scales. It is likely to have been deposited approximately a month ago (sometimes longer).

*Beaver Survey Methodology*

*2.1.15* A beaver survey was undertaken on all watercourses located within the ESA in accordance with recognised best practice[7]. Ecologists searched for evidence of suitable habitat for, and direct evidence of, beaver. Watercourses were categorised into four suitability classifications based on a variety of characteristics which are shown in **Table 11.3.3: Watercourse Suitability for Beaver**.

**Table 11.3.3: Watercourse Suitability for Beaver**

| Suitability | Description |
|---|---|
| Optimal | Standing freshwater or slow-moving streams with gradients less than 15% and broadleaved woodland and scrub within 5 m of the water's edge, and ideally immediately adjacent.<br>Optimal habitats provide continuous woodland cover along one or more connected watercourses and waterbodies of approximately 4 km length, or 2 km of a watercourse if both banks are highly suitable. Woodlands providing optimal habitat suitability for beavers have high proportions of willow and aspen, with ash, rowan, hazel and birch. Ground flora such as bracken and purple moor grass may provide some potential foraging resource.<br>Optimal trees are young with diameters less than 10 cm and generally as young trees produce more, stronger regrowth shoots than do older trees. These optimal trees are also generally within 10 m of the water's edge. |
| Sub-optimal | Standing freshwater or slow-moving streams with gradients less than 15% and with a gap between the water's edge and broadleaf woodland habitat or scrub which is between 5 and 50 m.<br>Sub-optimal habitats provide discontinuous woodland cover along the banks, and these woodlands may have higher proportions of alder (which beavers tend to avoid) relative to other broadleaved trees. |
| Suitable | Watercourses and waterbodies with a gap between the water's edge and broadleaved woodland or scrub habitat which is over 50 m.<br>Streams with a gradient over 15% are unlikely to be populated by beaver, though this in itself does not equate to a total lack of suitability and should be taken into account with other factors.<br>Mixed woodlands may provide some suitable habitat as long as the broadleaf woodland is comprised of suitable tree species of a suitable size for beavers to forage and use for construction. |
| Unsuitable | Beaver will not tolerate saline water therefore coastal areas are unsuitable. Further, fast-flowing streams, large watercourses with strong currents and large waterbodies with tidal movement are avoided.<br>Unsuitable watercourses only have coniferous riparian woodland, either semi-natural or planted, and/or few broadleaf trees or woodlands within 50 m of the water's edge. |

*Water Vole Survey Methodology*

2.1.16 The water vole survey aimed to assess the suitability for all watercourses within the ESA to support populations of water vole in accordance with recognised best practice. Ecologists searched for evidence of suitable habitat for, and direct evidence of, water vole in line with current best practice guidelines[8,9].

[7] NatureScot, 2024. *Standing advice for planning consultations – Beavers* [Online] Available at: https://www.nature.scot/doc/standing-advice-planning-consultations-beavers#:~:text=Updated%20August%202024,their%20assessment%20of%20these%20applications. Accessed January 2025].
[8] Dean, M., Strachan, R., Gow, D. and Andrews, R., 2016. *The Water Vole Mitigation Handbook* (Mammal Society Mitigation Guidance Series). Eds Fiona Mathews and Paul Chanin. Mammal Society, London.
[9] NatureScot, 2024. *Standing advice for planning consultants – Water Voles* [Online] Available at: https://www.nature.scot/doc/standing-advice-planning-consultations-water-voles [Accessed January 2025].

2.1.17 Watercourses were classified for their suitability to support water vole depending on a variety of characteristics including bankside composition, substrate, water flow rate and bankside vegetation. Descriptions of watercourse suitability categories are detailed in **Table 11.3.4: Watercourse Suitability for Water Vole** below.

**Table 11.3.4: Watercourse Suitability for Water Vole**

| Suitability | Description |
|---|---|
| Optimal | These watercourses will typically have a very slow flow rate and will comprise peaty bankside and substrate. Banksides will also comprise tussocky vegetation, including rushes (a common food source of water vole). The watercourses will generally be deep to enable predatory escape. |
| Sub-optimal | Typically, these watercourses will have a relatively slow flow rate. Banksides may be peaty however may not be very steep therefore not allowing burrows to account for varying water levels. Rushes will be present, providing foraging resource. |
| Suitable | Banksides may comprise earth allowing for some burrowing. Herbaceous vegetation will generally be lacking, and invertebrates, amphibians and fish will be sparse. Flow rate will be slow to moderate; however, watercourse may comprise rocky substrate. |
| Unsuitable | Watercourses will comprise rock and stone substrate and banksides. The flow rate will be moderate or fast flowing and rushes will be absent from bankside vegetation. Watercourses may also be heavily poached by livestock. |

2.1.18 Where watercourses were considered suitable, these were surveyed with the aim of identifying and recording presence of water vole.

2.1.19 Field signs searched for included:

- Burrows and tunnel systems;
- Runs, tracks and slides;
- Latrines with droppings categorised as fresh, recent or old;
- Feeding stations and remains; and
- Physical sightings.

*Atlantic Salmon Survey Methodology*

2.1.20 During the 2023 survey season, ecologists conducted a walkover survey of habitats using the UK Habitat Classification (UK Hab) methodology[10] for habitat data collection (refer to **Volume 5, Appendix 11.2: Habitat and Vegetation Survey Report** for further details of this method). In parallel with the habitat and vegetation surveys, habitat features were considered with regard to their habitat condition and potential for protected species. This included an initial assessment of riparian habitat quality of watercourses within the ESA. The habitat suitability was assessed against **Table 11.3.7: Watercourse Suitability for Atlantic Salmon[11][12]**.

2.1.21 During the 2024 survey season, a risk assessment was undertaken to identify areas of potential sensitivity which may support freshwater pearl mussel, and which are within proximity of the Proposed Development. The life cycle of this species is reliant upon Atlantic salmon, therefore consideration was given to the potential of the watercourses identified to support Atlantic salmon. The risk assessment process identified locations for survey using the following criteria:

- Where towers and/or access tracks are proposed within the floodplain and where NatureScot or Fisheries advice indicates a potential sensitivity;
- Where a new watercourse crossing is proposed on a natural watercourse and where NatureScot or a Fisheries advice indicates a potential sensitivity;
- Where towers and/or access tracks are proposed outwith the floodplain, but within approximately 100 m of the River South Esk Special Area of Conservation (SAC) or River Dee SAC;

[10] UK Hab, 2020. UK Habitat Classification Version 1.1. [Online] Available at: https://ukhab.org/.
11 NatureScot (2023) Atlantic Salmon Available at https://www.nature.scot/plants-animals-and-fungi/fish/freshwater-fish/atlantic-salmon
12 Hendry K & Cragg-Hine D (2003). Ecology of the Atlantic Salmon.
Conserving Natura 2000 Rivers Ecology Series No. 7. English Nature, Peterborough

- Where felling of trees may be required on the bank of the River South Esk SAC or River Dee SAC to facilitate clearance distances for the Proposed Development;
- Where a new or upgraded watercourse crossing is proposed within 1 km upstream of the River South Esk SAC or River Dee SAC;
- Where a new or upgraded watercourse crossing is proposed on a tributary more than 1 km upstream from the River South Esk SAC or River Dee SAC, and where NatureScot or the Fisheries advice indicates a potential sensitivity; and
- Where a new or upgraded watercourse crossing is proposed within 1 km upstream of the River Tay SAC, and where NatureScot or Fisheries advice indicates a potential sensitivity.

2.1.22 Where any one of the above risk assessment criteria was met, a targeted survey of habitat suitability for Atlantic salmon was undertaken.

2.1.23 Note that on sites designated for freshwater pearl mussel and Atlantic salmon and following NatureScot and/or Fisheries advice, surveys were not undertaken as agreed with NatureScot in May 2024[13]. This therefore excluded the main stems of the River South Esk SAC and River Dee SAC from habitat suitability assessment. In addition, where survey was undertaken on the Burn of Sheeoch, this watercourse is part of the River Dee SAC and therefore survey was conducted bankside only.

2.1.24 In line with this risk assessment process, survey locations were identified in Sections A, B and E and undertaken in July 2024 as per **Table 11.3.6: Watercourse Survey Locations for Atlantic Salmon – Sections A, B, and E**.

2.1.25 Survey was undertaken 100 m upstream and 500 m downstream of proposed infrastructure locations. A general bankside and/or in-stream assessment of the watercourse was undertaken to identify areas where Atlantic salmon were most likely to be present.

2.1.26 Where potential habitat was found, the watercourse was entered at the nearest point possible and a search for favourable substrate types was undertaken. Survey was undertaken using a glass-bottomed viewing bucket (with the assistance of additional lighting in deeper and/or peatier waters). Survey was undertaken under favourable conditions in water sufficiently shallow for safe wading whilst minimising any disturbance to the riverbed.

2.1.27 For every 50 m section of watercourse, ESA information was recorded on a standard recording form. This included average width and depth (m) of the watercourse, likelihood or evidence of pollution or run-off, water flow speed, substrate composition (based on the widely used Wentworth Scale as adapted by the Environment Agency[14] and outlined in **Table 11.3.5: Wentworth Sediment Scale** below), predominant adjacent land-use, bankside vegetation and evidence of existing impacts. Where both the watercourse substrate and bankside vegetation do not change, some recorded sections were longer than 50 m. The start and end point of each survey transect was also recorded and is provided in **Table 11.3.6: Watercourse Survey Locations for Atlantic Salmon**.

**Table 11.3.5: Wentworth Sediment Scale**

| Substrate Name | Description |
|---|---|
| Silt | Very fine material |
| Sand | Fine material less than 2 mm diameter. In some cases, this is split further into fine sand and course sand to capture visible gradation in substrate sands. |
| Gravel | Loose material between 2 mm and 16 mm diameter. |
| Pebble | Loose material between 16 mm and 64 mm diameter |
| Cobble | Loose rocks between 64 mm and 256 mm diameter. |
| Boulder | Large rocks over 256 mm diameter that may be loose, embedded or interlocked. |
| Bedrock | Large exposed solid rock. |

13 NatureScot, 8th May 2024. Email correspondence.
14 Environment Agency, 2003. River Habitat Survey in Britain and Ireland; Field Survey Guidance Manual. [Online] Available at: https://assets.publishing.service.gov.uk/media/62dff4138fa8f564a21dcd5e/RHS-manual-2003_2022-reprint-LIT-1758.pdf.

2.1.28 Note was made of habitat features recorded at each transect location, and an assessment was made on whether Atlantic salmon was likely present or likely absent from each watercourse.

**Table 11.3.6: Watercourse Survey Locations for Atlantic Salmon**

| Grid References for Survey Start and End | Nearest Proposed Tower(s) and/or Infrastructure | Watercourse Name | Location | Habitat Description | Reason for Selection |
|---|---|---|---|---|---|
| Section A | | | | | |
| NO 41301 48578 - NO 40606 48436 | S167 – S166 | Field Drain connected to the Kerbet Water | West of West Ingliston | This watercourse is typically 1 m wide and 0.1 m in depth. Its flow rate was slow with its substrate being made up predominantly by silt. This watercourse is subject to potential drenching and agricultural runoff. It is surrounded by tall ruderal vegetation along its banksides and extensive agricultural land beyond this. This watercourse is located northwest of Douglastown. | An upgrade to the existing watercourse crossing is required for the access track to reach tower S167 and S165. The Proposed Development will oversail the watercourse. |
| NO 40606 48436 - NO 40498 48608 | Outside LOD (west of S166) | Kerbet Water | West of West Ingliston | The watercourse within the ESA was 4-7 m wide, shallow, with a stoney substrate, and moderate to fast flowing. It was channelised with dense overhanging vegetation and connected to Dean Water and Loch of Forfar. The surrounding area was agricultural land for cereal crops. Himalayan balsam, bindweed, and giant butterbur were present in patches, potentially reducing water quality, food, and shelter availability. This watercourse was located northwest of Douglastown. | The Proposed Development will oversail this watercourse between towers S168 and S167, downstream of the survey area. |
| NO 41265 49375 - NO 40403 49067 | S165 – S164 | Dean Water | South of Haughs of Cossans | The watercourse within the ESA was typically 8 m wide with dense surrounding vegetation. It was channelised and connected to the Loch of Forfar to the east and the River Tay to the west. The surrounding habitat comprised seasonally wet neutral grassland and the wider area was dominated by agricultural land, southwest of Drumgley. | The Proposed Development will oversail this watercourse. At the time of the surveys, an access track was proposed to cross this watercourse, this is no longer the case. |
| Section B | | | | | |
| NO 44470 55122 - NO 44685 54821 | S147 | Kings Burn Tributary | Northwest of Meadows Farm | This watercourse is between approximately 0.3 m and 1 m wide with a depth of 0.1 m. It has a slow flow with a mixture of silt, coarse sand, cobble, gravel and pebble. There was a high presence of algae and silt within the watercourse. This watercourse is also affected by agricultural run-off. It has a strip of dense vegetation with scattered trees along its banks. This watercourse connects to the Lemno Burn and then the River South Esk, northwest of Burnside the Meadows. This watercourse is surrounded by a mixed of | This watercourse is a tributary of the River South Esk SAC. Access tracks for the Proposed Development will require upgrading of the existing watercourse crossing to access towers S148 and S147. The crossing will be |

| Grid References for Survey Start and End | Nearest Proposed Tower(s) and/or Infrastructure | Watercourse Name | Location | Habitat Description | Reason for Selection |
|---|---|---|---|---|---|
| | | | | agricultural land to the south which then leads into a mix of broadleaved woodland in the north. The surrounding land dominated by mixed agricultural land. | approximately 750 m upstream of the SAC. |
| NO 44573 55223 - NO 44970 54457 | Between S146 and S147 | Kings Burn | Northwest of Meadows Farm | The watercourse was approximately 1 m wide within the ESA, with a moderate flow and substrate of coarse sand, cobble and boulders. To the south, the watercourse flowed through neutral grasslands with scattered rowan, hawthorn, lime, beech, birch, willow, and alder. To the north, there was a section of wet woodland comprised of hawthorn, alder, sycamore, and cherry. The surrounding land was dominated by mixed agricultural use. | The Proposed Development will oversail this watercourse, and the access track for tower S138 will require an upgrade to the existing farm track crossing. This watercourse is also a tributary to the River South Esk SAC. The closest point of the SAC is approximately 500 m east of the watercourse crossing, but is over 1 km downstream to the SAC. |
| NO 45925 57871 - NO 46744 57896 | S139 – S138 | Unnamed watercourse | Flowing through East Murthiill | The watercourse was typically up to 1 m wide and 30 cm deep with a slow flow. It connected into the River South Esk downstream, east of East Murthill. The western extent was bounded by a narrow strip of woodland on the north with an arable field to the south. It flowed underneath the gardens of East Murthill, and then along a narrow extent of woodland grazed by cattle, with a further arable field adjacent to the south. | The Proposed Development will oversail this watercourse, and the access track for tower S138 will require an upgrade to the existing farm track crossing. This watercourse is also a tributary to the River South Esk SAC. The closest point of the SAC is approximately 500 m east of the watercourse crossing but is over 1 km downstream to the SAC. |
| NO 47350 60169 - NO 48201 60135 | S131 – S130 | Noran Water | South of Wellford | The watercourse was approximately 4-8 m wide and varied up to 1 m deep, with a moderate flow rate. It connected | The Proposed Development will oversail this watercourse. |

| Grid References for Survey Start and End | Nearest Proposed Tower(s) and/or Infrastructure | Watercourse Name | Location | Habitat Description | Reason for Selection |
|---|---|---|---|---|---|
| NO 49580 59848 - NO 50239 59626 | Outwith LOD[15]. | Noran Water | North of Corrie, east of Corrie Wood | into the River South Esk, southeast of Noranside. The surrounding vegetation was semi-natural oak and beech woodland along the edges, with agricultural land beyond the woodland strip. | At the time of the survey, this area was intersected by one option for the Proposed Development. Though it was not taken forwards, results are provided here for context of the wider area. |
| NO 51189 59915 - NO 51897 59501 | Outwith LOD[15] | Noran Water | Northwest of Waterston Ford FB and Mill of Marcus | | At the time of the survey, this area was intersected by one option for the Proposed Development. Though it was not taken forwards, results are provided here for context of the wider area. |
| Section E | | | | | |
| NO 77211 94789 - NO 77211 94789 | N68 – N67 | Burn of Sheeoch | Balladrum Wood to Kirktoon Wood, via Ford | The watercourse was approximately 6 m wide and 0.3 m deep, relatively fast flowing with a substrate of gravel, pebbles, cobble, and large boulders. It had dense vegetation on both banks, including a mix of broadleaved trees such as sycamore, birch, willow, alder, ash, elm, and rowan, along with mature Sitka spruce and larch. This watercourse connected to the River Dee and was located south of Kirkton of Durris. The surrounding habitat was dominated by mixed woodland in the northeast and agricultural land to the south and west. | The Proposed Development will oversail this watercourse, meaning the watercourse is within the LOD. |

[15] At the time of survey, it was not known where the Proposed Development would cross the Noran Water, therefore three transects were undertaken at each possible location. The results are included to provide additional context on this watercourse.

**Table 11.3.7: Watercourse Suitability for Atlantic Salmon**

| Suitability | Description |
|---|---|
| Likely to support | Watercourses which are unpolluted, *well oxygenated, relatively fast-flowing with a stable riverbed comprising a mix of gravel, cobbles and boulders.*<br>Some shade present from bankside trees to maintain low *Summer temperatures and inhibit the growth of algae.*<br>Good buffers of native riparian vegetation *provide habitats for insects which the Atlantic salmon feed upon.*<br>No bankside erosion and no INNS .<br>No barrier*s to movement up and down the watercourse.* |
| Limited *suitability* | Watercourses may show signs of some pollution with likelihood of some nutrient input from agricultural run-off.<br>A moderate flow, with areas of silt in various locations and a mixed substrate, but with low percentages of clean sands and gravels.<br>Narrow buffers of native riparian vegetation providing limited habitat for prey insect species<br>Some *areas of invasive non-native plant species increasing bank erosion may be present.*<br>Watercourses within this category include those with fewer characteristics indicative of high quality resources, and may include a small number of characteristics that are in an unsuitable state |
| Unsuitable | Watercourses which appear to be impacted by nutrient pollution (eutrophication) and/or sediment runoff.<br>Excessive amounts of silt, and/or no clean sands or gravels.<br>Limited amount *of native riparian vegetation resulting in a lack of food resources.*<br>Extensive areas of invasive non-native plant species increasing bank erosion may be present.<br>Any barrier to movement present, preventing the movement up and down the watercourse. |

*Red Squirrel Survey Methodology*

*2.1.29* A red squirrel survey was undertaken in accordance with best practice guidelines[16,17], and aimed to assess suitability of habitats within the ESA for red squirrel. Suitable habitat includes cone-bearing coniferous plantation woodland located on free-draining soils, with good connectivity to other woodland habitats. Where suitable red squirrel habitat was recorded, searches for foraged cones, dreys and tracks/prints were undertaken. Descriptions of woodland suitability categories are detailed in **Table 11.3.7: Habitat Suitability for Red Squirrel** below.

**Table 11.3.7: Habitat Suitability for Red Squirrel**

| Suitability | Description |
|---|---|
| Optimal | Large, mature, diverse coniferous, mixed or broadleaf woodlands, or smaller areas of mature woodland which are well-connected within the wider landscape.<br>Red squirrels require trees which bear nuts, seeds and fruit year-round and often prefer tree species such as larch, Norway spruce or Scot's pine. They will also forage for fungi, fruits and shoots on the ground; therefore, a varied ground flora and shrub layer provides additional benefit.<br>Typically, red squirrels prefer areas not densely populated by people.<br>Red squirrel evidence may confirm activity through sightings, feeding remains and/or dreys. |
| Sub-optimal | Smaller areas of less mature woodland with somewhat restricted connectivity to larger woodland blocks.<br>Woodlands may be in closer proximity to urban and industrial areas.<br>Fewer favoured food plants may be present, and the ground flora and shrub layer may be less suited for foraging red squirrel.<br>Red squirrel evidence may confirm activity through sightings, feeding remains and/or dreys on a more occasional basis. |

[16] Gurnell, J., Lurz, P., McDonald, R. and Pepper, H., 2009. *Practical Techniques for Surveying and Monitoring Squirrels*. Forestry Commission. [Online] Available at: https://www.forestresearch.gov.uk/documents/666/fcpn011.pdf [Accessed March 2024].
17 NatureScot, n.d. *Protected Species Advice for Developers: Red Squirrel.* [Online] Available at: https://www.nature.scot/sites/default/files/2018-09/Species%20Planning%20Advice%20-%20red%20squirrel.pdf [Accessed March 2024].

| Suitability | Description |
|---|---|
| Suitable | Small patches of woodland with limited connectivity to more extensive woodland habitats.<br>Younger growth forests, and those of one or few suitable food plants in both the tree layer and shrub or ground layer.<br>Red squirrel evidence may be lacking or confirmed at only very low levels. |
| Unsuitable | Very small patches of woodland which are isolated within the landscape and lacking connectivity, meaning red squirrels would be required to cross open habitat to access the woodlands. Areas lacking in woodland habitats. |

*Pine Marten Survey Methodology*

2.1.30 A pine marten survey was undertaken in all habitats within the ESA in accordance with best practice guidelines[18,19]. The survey aimed to assess habitats within the ESA for their suitability to support the species, while searching for indicative field signs such as feeding remains, scat, footprints, and dens. Descriptions of woodland suitability categories are detailed in **Table 11.3.8: Habitat Suitability for Pine Marten** below.

2.1.31 The survey was undertaken using a systematic approach, where possible. Suitable habitats were surveyed for evidence of pine marten by walking linear routes. Transects generally followed defined wayleaves, firebreaks and access tracks as these are frequently used by pine marten and therefore where indicative field signs are most commonly found.

**Table 11.3.8: Habitat Suitability for Pine Marten**

| Suitability | Description |
|---|---|
| Optimal | Large, mature, diverse coniferous, mixed or broadleaf woodlands, or smaller areas of mature woodland which are well-connected within the wider landscape. Habitats providing high suitability habitat for pine marten may include elements such as huge old trees with cavities, dense understory thickets, multi-layered woodland canopies, abundant standing and fallen deadwood and rocky cairns.<br>Typically, pine marten prefer areas not densely populated by people.<br>Pine marten evidence may confirm activity through sightings or scat. |
| Sub-optimal | Smaller areas of less mature and varied woodland with some connectivity to larger, more suitable woodland blocks within the wider landscape.<br>Woodlands may be in closer proximity to urban and industrial areas.<br>As well as woodland edges and rides, areas of tussocky grassland and scrub within 75 m of these woodland blocks may be utilised by pine marten to hunt for prey. |
| Suitable | Small patches of immature woodland, and/or those which are fragmented within the wider landscape. This category includes woodlands which lack denning opportunities and with a low density of prey.<br>Proximity to urban and industrial areas generally increases the presence of fox which predate and compete with pine marten therefore lowering their numbers. |
| Unsuitable | Expansive areas of intensive farmland, with extremely limited opportunities for foraging and shelter. Habitat patches that are present are small and isolated. |

*Other Protected and Notable Species*

2.1.32 While surveys for other species were not specifically undertaken, incidental observations of other species were made, particularly where legislation protections were relevant. Other species are as follows:

- Mountain Hare;
- Brown Hare (*Lepus europaeus);*
- Hedgehog (*Erinaceus europaeus);*
- Amphibians – common toad (*Bufo bufo)* and common frog (*Rana temporaria)*; and

[18] Cresswell, W.J., Birks, J.D.S., Dean, M., Pacheco, M., Trewhella, W.J., Wells, D. and Wray, S., 2012. *UK BAP Mammals: Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation*. The Mammal Society, Southampton.
[19] NatureScot, n.d. *Protected Species Advice for Developers: Pine Marten.* [Online] Available at: https://www.nature.scot/sites/default/files/2018-09/Species%20Planning%20Advice%20-%20pine%20marten.pdf [Accessed September 2024].

- Reptiles - palmate newt (*Lissotriton helveticus)*, smooth newt (*Lissotriton vulgaris)*, adder (*Vipera berus)*, common lizard (*Zootoca vivipara*) and slow worm (*Anguis fragilis).*

## 2.2 Constraints and Limitations

2.2.1 Surveys in 2023 and 2024 were completed during the optimal surveys season for protected and notable species. Weather conditions were overall favourable. The length of the survey period allowed sub-optimal weather to be avoided and ensure surveys were carried out in the best possible conditions. Therefore, the data gathered is considered robust for the purposes of informing the EIAR.

2.2.2 The timeframe in which a survey is undertaken provides a snapshot of the floral and faunal species present within the survey area. While surveys provide an overview of the habitats and species present, they cannot be used to determine long-term trends in species and habitat populations or behaviours. Ecological surveys are limited by a variety of factors which affect the presence of flora and fauna such as season, migration patterns and species behaviour. Evidence of species is not always discovered during the survey. This does not mean that a species is absent.

2.2.3 The surveys aimed to avoid periods directly following heavy rainfall, particularly for otter and water vole. This was to minimise the risk of surveying areas where evidence had been washed away and to reduce the health and safety risk of these surveys.

2.2.4 Surveys were undertaken where access was available, a small number of areas where not surveyed in full due to lack of land access permission and the presence of livestock. Surveys were undertaken to aid identification of the preferred corridor, route, then alignment. Access tracks however were identified at a later date as the final design emerged, and in some cases, there are small gaps in survey data within the 50m buffer around them. These gaps are relatively small, as illustrated **in Volume 3, Figures 11.3.1 to 11.3.38: Habitat Survey Results** and **Volume 3, Figures 11.4.1 to 11.4.23: National Vegetation Classification Survey Results**. Further, the access tracks typically use existing tracks, thus movement is unlikely. Best practice will be followed regarding pre-construction surveys to fully survey the gaps. Therefore, this is considered not to have affected the conclusions of this report, nor of the impact assessment.

2.2.5 On balance, these limitations are not considered to be a constraint to the conclusions of this report.

# 3. BASELINE CONDITIONS

## 3.1 ESA Description

3.1.1 To aid understanding of this large Proposed Development, baseline results are presented with reference to sections. Sections A, B and the southern half of Section C to the River North Esk are in Angus, with the northern half of Section C and all of Sections D-F in Aberdeenshire.

3.1.2 The ESA extends from Tealing in Angus in the south (and the location of the proposed Emmock substation), to the existing Kintore Substation in Aberdeenshire in the north.

3.1.3 In Angus, the ESA passes over the Sidlaw Hills north of Tealing, then into a landscape dominated by farmland, stretching approximately northeast from Forfar to Edzell. It crosses the River South Esk north of Forfar, and the River North Esk (and into Aberdeenshire) southeast of Edzell. The farmland landscape of Angus is dominated by arable farming, with pockets of woodland and forest which are relatively small and/or isolated. The exception to this pattern of land-use and habitats is where the ESA crosses the Sidlaw Hills, southeast of Glamis; the habitats in this location are dominated by heathland with evidence of grouse management.

3.1.4 The ESA continues into Aberdeenshire approximately northeast of the area near Fordoun; this stretch continues to be dominated by arable farmland with relatively small pockets of woodland, the exception to which are the forestry plantations of Capo Plantation, Inverury Wood and Lady Jane's Plantation. From Fordoun, the ESA continues in a more northerly direction through an area of farmland west of Glenbervie that exhibits increasing livestock farming and relatively smaller field sizes. Northeast of Glenbervie, the ESA enters the forestry plantation of Fetteresso Forest and the location of the proposed Hurlie substation. The ESA continues north over the upland fringe habitats of Craigneil and into the forestry plantation of Durris Forest. North of Durris Forest, the ESA descends into a landscape of mixed farmland south and north of the River Dee, crossing the river near Kirkton of Durris. The ESA continues approximately north of the River Dee, passing east of Echt and west of Dunecht, before turning north-northeast towards the existing Kintore Substation. The landscape north of Durris Forest exhibits relatively smaller field sixes, with increased livestock farming and a more extensive network of woodland (relative to the stretch in Aberdeenshire from the River North Esk to Fordoun). There are further extents of forestry plantation forming a mosaic with fields of pasture and arable.

## 3.2 Otter, Beaver and Water Vole

*Desk Study*

3.2.1 The desk study identified 199 records of otter within 5km of the Proposed Development, within the last 24 years. These were located on a number of watercourses throughout all Sections A to F inclusive, such as the River Tay, River South Esk and the River Dee which are all hydrologically connected to the Proposed Development.

3.2.2 The desk Study identified 1415 records of beaver within 5km of the Proposed Development, within the last 24 years. These records were recorded in Section A and B only, along watercourses such as the Kerbet Water and Dean Water which are part of the River Tay SAC.

3.2.3 The desk Study identified 8 records of water vole records within 5km of the Proposed Development, within the last 24 years. These were located in Sections A and in D to F, along watercourse such as the Carron Water and tributaries of the River Dee which are both hydrologically connected to the Proposed Development.

3.2.4 For further information on the desk study findings, refer to **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context**.

*Field Study*

3.2.5 A walkover survey of the whole ESA was caried out during the survey period for otter, beaver and water vole, assessing habitat suitability using **Table 11.3.2: Otter Resting Site Classification, Table 11.3.3: Watercourse Suitability for Beaver** and **Table 11.3.4: Watercourse Suitability for Water Vole** above. The habitat suitability for each watercourse surveyed is provided in **Table 11.3.9: Otter, Beaver and Water Vole Habitat Suitability per Watercourse (Section A)** below, with evidence presented where it was recorded.

**Table 11.3.9: Otter, Beaver and Water Vole Habitat Suitability per Watercourse (Section A)**

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | Photo reference |
|---|---|---|---|---|---|
| NO 38185 38848 | Between S201 and S200 | Unnamed tributary of the Fithie Burn | This watercourse is approximately 1.5 m wide, less than 0.5 m in depth, is heavily channelised and had a mix of silt and pebble substrate. This watercourse has rocky banksides with dense grassy vegetation present. This watercourse is located northeast of North Balluderon. This watercourse is a tributary of the Fithie Burn which then connects into the Dighty Water.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is unsuitable for otter as it is narrow channel and due to the surrounding land use, it is likely that agricultural runoff will be present which decreases the likelihood of foraging resources being available for the otters. It also has very densely vegetated banks liming the resting up sites available.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to the lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. This watercourse is a drainage ditch which is likely to fluctuate in flow and potentially run dry for periods of time, making it unsuitable for water vole. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | Intersects the whole LOD, extending from west to east. | |
| NO 39605 40020 | Between S196 and S195 | Tealing Burn | This watercourse is approximately 2 m wide and less than 0.5 m in depth. It has been heavily modified and had a mix of silt and cobble substrate. This watercourse has rocky banksides with dense grassy vegetation present and is likely to be affected by agricultural runoff. The surrounding terrestrial habitat is dominated by mixed agricultural land and upland acid grassland with scattered scrub within the ESA. This watercourse is located northeast of Coldstream. This watercourse is a tributary of the Fithie Burn which then connects into the Dighty Water.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is unsuitable for otter as it is narrow channel and due to the surrounding land use, it is likely that agricultural runoff will be present which decreases the likelihood of foraging | Intersects the whole LOD, extending from northwest to southeast. | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | Photo reference |
|---|---|---|---|---|---|
| | | | resources being available for the otters. It also has very densely vegetated banks liming the resting up sites available.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to the lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. This watercourse is a drainage ditch which is likely to fluctuate in flow and potentially run dry for periods of time, making it unsuitable for water vole. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 40644 44083 | Between S182 and S181 | Unnamed | This watercourse is approximately 0.6 m wide with a mixed substrate. The watercourse was heavily vegetated with dense bracken surrounding. This watercourse is a natural channel and is connected to the Glen Ogilive Burn and then the Dean Water. It also connects into a natural pond. This watercourse is southeast of Arniefoul. The surrounding terrestrial habitat to the east is a mosaic of upland heath, dense bracken patches and neutral grassland with scattered stands of coniferous woodland.<br>This watercourse was not subject to ecological surveys, however it was surveyed by the hydrologists and detailed in **Volume 2, Chapter 13: Hydrology, Hydrogeology, Geology and Soils**.<br>Photos and information provided by the hydrologist suggest that this watercourse is likely to be unsuitable for otter as its banksides are very over grown with dense bracken along with dense vegetation being present within the watercourse. This restricts the ability of the otter to commute along the watercourse. The dense aquatic vegetation also is likely to prevent fish being present, reducing the food resources available. Finally, the dense vegetation is likely to prevent otters from finding suitable resting up sites.<br>Photos and information provided by the hydrologist suggest that this watercourse is likely to be unsuitable for beaver due to this dense in water vegetation restricting the ability of the beavers to commute and swim. This watercourse lacks substantial scrub and woodland around its edge | Intersects the whole LOD, extending from west to east. | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | Photo reference |
|---|---|---|---|---|---|
| | | | reduced the foraging and construction materials available and in turn reduced its suitability to support beaver.<br>Photos and information provided by the hydrologist suggest that this watercourse is likely to be unsuitable for water vole due to the dense in water vegetation and bankside vegetation making it difficult for water vole to commute and borrow. Also from the photos bracken is the dominant bankside vegetation, indicating that rushes are not present therefore the watercourse is lacking food resources and is unsuitable for water vole. | | |
| NO 41056 46905 | Between S174 and S168 | Network of field drains | There are a series field drains within this section of the ESA which are approximately 0.9 m wide with a pebble and cobble substrate. The drains have dense overhanging bankside vegetation surrounding them and have large volumes of stagnant water with minimal flow. These drains are surrounded by agricultural land and flow into the Kerbet and then the Dean water. This watercourse is located south of Jericho.<br>This watercourse was not subject to ecological surveys, however it was surveyed by the hydrologists and detailed in **Volume 2, Chapter 13: Hydrology, Hydrogeology, Geology and Soils.**<br>Photos and information provided by the hydrologist suggest that this watercourse is likely to be unsuitable for otter due to the dense bankside vegetation surrounding them restricting the ability of the otters to find suitable resting up places. The large volumes of stagnant water with minimal flow also suggest that it's unlikely that fish are present therefore this watercourse is lacking food resources for otter in turn reducing its habitat suitability.<br>Photos and information provided by the hydrologist suggest that this watercourse is likely to be unsuitable for beaver due to his dense overhanging vegetation restricting the ability of the beavers to commute and swim. This watercourse lacks substantial scrub and woodland around its edge reduced the foraging and construction materials available and in turn reduced its suitability to support beaver.<br>Photos and information provided by the hydrologist suggest that this watercourse is likely to be unsuitable for water vole due to the dense overhanging bankside vegetation making it difficult for water vole to commute and borrow. Also from the photos rushes are absent, therefore the watercourse is lacking food resources and is unsuitable for water vole. | Intersects the whole LOD. | |
| NO 40966 48117 | Between S168 and S167 | Kerbet Water | The watercourse is typically 2-7 m wide within the ESA, ranges from 0.2 m to 1 m in depth approximately and had a mixture of silt, fine sand, pebble and cobble substrate. It's flow rate was slow to moderate. This watercourse is channelised with dense vegetation overhanging with scattered riparian trees. It has been subject to drainage and run off from the surrounding agricultural land along with a section of erosion being noted. This watercourse is connected to the Dean Water and subsequently the Loch of Forfar. The surrounding terrestrial habitat is dominated by agricultural land used for cereal crops with broadleaved woodland to the | Intersects the whole LOD, extending from west to southeast. | Photo reference: 11.3.1 |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | Photo reference |
|---|---|---|---|---|---|
| | | | northwest and southeast. Himalayan balsam (*Impatiens glandulifera)*, bindweed (*Convolvulus)* and giant butterbur (*Petasites japonicus)* are present along the watercourse in patches therefore water quality, food and shelter availability may be reduced. This watercourse is located northwest of Douglastown.<br>Historical evidence of beaver was recorded in the desk study with several feeding remains noted along the watercourse in 2012 and 2020, along with a dam recorded in 2020 in an area of woodland, approximately 80m west of the ESA, and approximately 330m from the LOD. An ecology walkover survey of this watercourse was carried out in 2023 within the ESA and recorded no evidence of beaver. In 2023 within the ESA the watercourse was recorded as heavily canalised with dense grassy vegetation, several invasive non-native species on the banksides and sparsely distributed immature trees. The watercourse within the ESA is surrounded and likely to be heavily influenced by agricultural land. No evidence of protected species was identified during the field surveys.<br>This watercourse has sub-optimal habitat potential for otter as it greater than 0.5 m in width and has a mixed substrate making it likely to support foraging resources for otter. It also has overhanging vegetation on its banksides offers potential resting up sites.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial and continuous scrub and broadleaved woodland around its edges at the time of surveying within the ESA. It was heavily channelised and had grassy vegetation on its banks with several invasive non-native species. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this section of watercourse within the ESA is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to the lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. This watercourse is a drainage ditch which is likely to fluctuate in flow and potentially run dry for periods of time, making it unsuitable for water vole. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 41023 48555 | Between S167 and S166 | Field Drain connected to the Kerbet Water | This watercourse is typically approximately 1 m wide and 0.1 m in depth. Its flow rate was slow with its substrate being made up predominantly by silt. This watercourse is subject to potential | Intersects the whole LOD. | Photo reference 11.3.2 |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | Photo reference |
|---|---|---|---|---|---|
| | | | drenching and agricultural runoff. It is surrounded by tall ruderal vegetation along its banksides and extensive agricultural land beyond this.<br>This watercourse is located northwest of Douglastown.<br>Evidence of beaver was recorded in the desk study with several feeding remain noted along the watercourse, with a dam recorded approximately 450 m west of the ESA.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is unsuitable for otter as it is narrow, has a slow flow rate and its substrate is comprised predominantly by silt from drenching and agricultural runoff which decreases the likelihood of foraging resources being available for the otters. It also has very densely vegetated banks liming the resting up sites available.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges at the time of surveying. It was heavily channelised and had grassy vegetation on its banks. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver<br>This watercourse has unsuitable habitat potential for water vole due to the lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. This watercourse is a drainage ditch which is likely to fluctuate in flow and potentially run dry for periods of time, making it unsuitable for water vole. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 41041 49308 | Between S165 and S164 | Dean Water | The watercourse is typically 3 to 6 m wide and approximately 1 m in depth within the ESA and has dense vegetation surrounding it. This watercourse is channelised and its substrate is dominated by silt. This watercourse is connected to the Loch of Forfar to the east and the River Tay to the west. The surrounding terrestrial habitat comprised of seasonally wet neutral grassland on either side of the river, and the wider area is dominated by agricultural land, southwest of Drumgley.<br>Otter and beaver were recorded along the Dean water in the consultation.<br>No evidence of protected species was identified during the field surveys. | Intersects the whole LOD, extending from west to east. | Photo reference: 11.3.3 and 11.3.4 |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | Photo reference |
|---|---|---|---|---|---|
| | | | This watercourse has sub-optimal habitat potential for otter as it has good connectivity to the Kerbet Water and the Loch of Forfar within the ESA and the River Isla and the River Tay outwith the ESA. The River Tay is designated for otters. It also has overhanging vegetation on its banksides offers potential resting up sites.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges at the time of surveying. It was heavily channelised and had grassy vegetation on its banks. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver<br>This watercourse has unsuitable habitat potential for water vole due to the lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. This watercourse is a drainage ditch which is likely to fluctuate in flow and potentially run dry for periods of time, making it unsuitable for water vole. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |

**Table 11.3.10: Otter, Beaver and Water Vole Habitat Suitability per Watercourse (Section B)**

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | Photo reference |
|---|---|---|---|---|---|
| NO 40966 50267 | Between S163 and S160 | Network of field drains leading into the Gairie Burn and then the Dean water | This watercourse is approximately 1.7m wide and heavily channelised within the ESA and has dense vegetation surrounding it. The substrate consisted of silt. This watercourse is connected to the Gairie Burn and Dean water, southwest of Upper Drumgley.<br>The surrounding habitat its dominated by agricultural land with small isolated stands of mixed woodland strips.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is unsuitable for otter as it is narrow channel and due to the surrounding land use, it is likely that agricultural runoff will be present which decreases the likelihood of | Intersects the whole LOD, extending from west to east. | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | Photo reference |
|---|---|---|---|---|---|
| | | | foraging resources being available for the otters. It also has very densely vegetated banks liming the resting up sites available.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial continuous scrub and woodland around its edges at the time of surveying. It was heavily channelised and had grassy vegetation on its banks. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to the lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. This watercourse is a drainage ditch which is likely to fluctuate in flow and potentially run dry for periods of time, making it unsuitable for water vole. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. This watercourse is also lined with trees, which could reduce the availability to foraging resources due to shade pressures. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 42011 51776 | Between S158 and S157 | Unknown | The watercourse is narrow and channelised within the ESA has dense vegetation surrounding it and leads into a low Habitat Suitability Index pond. This watercourse is connected to the Lemono Burn which then flows into the River South Esk, northwest of Dragon Hall Farm.<br>The surrounding habitat is comprised of rushes, tufted hair grass (*Deschampsia cespitosa)* and Yorkshire fog (*Holcus lanatus)* dominated grassland on either side of the river and the wider area is dominated by agricultural land.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is unsuitable for otter as it is narrow channel and due to the surrounding land use, it is likely that agricultural runoff will be present which decreases the likelihood of foraging resources being available for the otters. It also has very densely vegetated banks liming the resting up sites available.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges at the time of surveying. It was heavily channelised and had grassy vegetation on its banks. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse. The few, isolated stands of woodland and scrub within the | Intersects the whole LOD, extending from west to east. | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | Photo reference |
|---|---|---|---|---|---|
| | | | wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver<br>This watercourse is sub-optimal for water vole due to the abundance of rush vegetation on the bank sides proving favoured foraging resource for the water vole. The watercourse is narrow with slow flowing water which would allow the water vole to swim and utilise this watercourse. The adjacent land has a buffer of neutral grassland on either side of the watercourse, offering sheltering opportunities. | | |
| NO 43437 53752 | Between S152 and S151 | Black Burn | This watercourse is heavily channelised and is situated within an area of intensive agricultural land with a section of upland birch woodland to the north. The watercourse channel is densely overgrown with grassy vegetation and sporadic trees.<br>This watercourse was not surveyed in full due to land access issues, see constraints and limitations section for further details.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is unsuitable for otter as it is narrow channel and due to the surrounding land use, it is likely that agricultural runoff will be present which decreases the likelihood of foraging resources being available for the otters. It also has very densely vegetated banks liming the resting up sites available.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial and continuous scrub and woodland around its edges. Instead, its banksides were dominated with grassy vegetation. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse is unsuitable for water vole as it lacks rush vegetation on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land and mixed woodland also offering limited shelter and foraging opportunities. | Intersects the whole LOD, extending from north to south. | |
| NO 43492 53978 | Between S152 and S151 | Unknown | This watercourse is approximately 0.9m wide and its substrate consists of silt gravel. It is fast flowing and has dense grassy bankside vegetation. It is a natural drainage channel and is | Intersects the whole LOD, | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | Photo reference |
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| | | | connected to the Lemmo Burn and Dean water and located southwest of Kirriemuir Gas Compressor Station.<br>The surrounding habitat its dominated by agricultural land with stands of upland birch woodland to the north, Forestmuir Wood.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is suitable for otter as it has connectivity to optimal or sub-optimal watercourses. This watercourse is narrow and has dense grassy banksides which is likely to offer limited foraging and sheltering opportunities. It is likely that an otter could use this watercourse sporadically to commute.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial and continuous scrub and woodland around its edges. Instead, its banksides were dominated with grassy vegetation. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse is unsuitable for water vole as it is fast flowing reducing the likely hood of the water voles being able to swim in such conditions. This watercourse also lacks rush vegetation on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | extending from north to south. | |
| NO 44527 54908 | Between S147 and S146 | Kings Burn Tributary | This watercourse is between approximately 0.3 m and 1 m wide with a depth of 0.1 m. It has a slow flow with a mixture of silt, coarse sand, cobble, gravel and pebble. There was a high presence of algae and silt within the watercourse. This watercourse is also affected by agricultural run-off. It has a strip of dense vegetation with scattered trees along its banks. This watercourse connects to the Lemno Burn and then the River South Esk, northwest of Burnside the Meadows.<br>This watercourse is surrounded by a mixed of agricultural land to the south which then leads into a mix of broadleaved woodland in the north, consisting of birch (*Betula* spp.), oak (*Quercus* spp.), sycamore (*Acer pseudoplatanus)*, hawthorn (*Crataegus monogyna)*, horse chestnut (*Aesculus hippocastanum)* with rare willow (*Salix* spp.) and alder (*Alnus glutinosa)*. The surrounding land dominated by mixed agricultural land.<br>No evidence of protected species was identified during the field surveys. | Intersects the whole LOD, extending from northwest to southeast. | Photo reference: 11.3.12 |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | Photo reference |
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| | | | This watercourse is sub-optimal for otter as it is greater than 0.5 m wide and has vegetation overhangs which could provide suitable resting places. It has good connectivity to the River South Esk which is optimal for otters. However, it could be affected by agricultural runoff and dredging which in turn could reduce the foraging resources available.<br>This watercourse is sub-optimal for beavers as the surrounding woodland is discontinuous or fragmented by agricultural land offering some foraging and construction materials. The species mix which includes alder which beavers do not favour, this also contributes to the sub-optimal habitat suitability. The gap between the water's edge and the woodland is between 5 and 50 m which allows the beavers to commute to forage and use the wood for construction.<br>This watercourse has unsuitable habitat potential for water vole due to the lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. This watercourse is a drainage ditch which is likely to fluctuate in flow and potentially run dry for periods of time, making it unsuitable for water vole. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. This watercourse is also lined with trees, which could reduce the availability to foraging resources due to shade pressures. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 44509 55229 | Between S147 and S146 | King's Burn | The watercourse is between approximately 0.5 to 2 m wide and ranges from 0.1 to 0.3 m in depth. It has a slow flow with a mixture of silt, coarse sand, cobble, gravel and pebble. There was a high presence of algae and silt within the watercourse. This watercourse is subject to agricultural run-off and erosion. It has a strip of dense vegetation with scattered trees along its banks. This watercourse connects to the Lemno Burn and then the River South Esk, northwest of Burnside the Meadows.<br>This watercourse is surrounded by a mixed of agricultural land to the south which then leads into a mix of broadleaved woodland in the north, consisting of birch, rowan (*Sorbus aucuparia)*, oak, Scots pine (*Pinus sylvestris)*, Sitka spruce (*Picea sitchensis)* and alder which then leads into hawthorn, alder, sycamore and wild cherry (*Prunus avium)* woodland. There also are sections of other neutral grassland in the north. The surrounding land dominated by mixed agricultural land.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is sub- optimal for otter as it has vegetation overhangs on its bank sides which could provide suitable resting places. It has good connectivity to optimal watercourses such as the River South Esk. However, it could be affected by agricultural runoff and dredging which in turn could reduce the foraging resources available. | Intersects the whole LOD, extending from northwest to southeast. | Photo reference: 11.3.11 |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | Photo reference |
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| | | | This watercourse is sub-optimal for beavers as the surrounding woodland is discontinuous or fragmented by agricultural land. The species mix which includes alder also contributes to the sub-optimal habitat suitability. The gap between the water's edge and the woodland is between 5 and 50 m which allows the beavers to forage and use the wood for construction.<br>This watercourse has unsuitable habitat potential for water vole due to the lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 45106 56648 | Between S143 and S142 | River South Esk | This watercourse is approximately more than 20 m wide with a stoney substrate. It was fast flowing and ranged in depth from approximately 0.3 m to over 1 m, northeast of Carin Farm.<br>The surrounding habitat to the north side comprised of a stand of Scot's pine woodland. The habitat to the south has not been surveyed due to access constraints. The wider area is dominated by agricultural land.<br>Evidence of otter was recorded during the surveys in the form of four spraints of various ages in several locations along the River South Esk with numerous prints and a hover recorded.<br>No other evidence of protected species was identified during the field surveys.<br>This watercourse provides optimal habitat for otters as it is a main watercourse which flows all year round which will support foraging resources for the otters such as fish. It has both rocky banksides and sections with overhanging vegetation which could provide suitable resting places.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to its depth, width and velocity being too great to support a water vole population as they cannot swim in such conditions. Also, there are scattered trees along the banksides reducing the amount of rush vegetation present which is a main food resource for the water vole. | Intersects the whole LOD, extending from northwest to southeast. | Photo reference: 11.3.14 |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | Photo reference |
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| NO 45195 57168 | Between S142 and S141 | Unknown | This watercourse is approximately 0.8m in width and its substrate consists of silt. It is a natural channel but it has been altered in some areas. It has densely vegetated banksides and rocky substrate with little water. This watercourse flows onto the River South Esk, northwest of Craigeassie Farm.<br>This watercourse is surrounded by agricultural land with a mixed woodland stand to the west.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is suitable for otter as it has connectivity to optimal or sub-optimal watercourses. This watercourse is narrow and has dense grassy banksides which is likely to offer limited foraging and sheltering opportunities. It is likely that an otter could use this watercourse sporadically to commute.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial and continuous scrub and woodland around its edges. Instead, its banksides were dominated with grassy vegetation. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse is unsuitable for water vole as it lacks rush vegetation on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land and mixed woodland also offering limited shelter and foraging opportunities. | Intersects the whole of the LOD, extending west to southeast. | |
| NO 45963 57875 | Between S139 and S138 | Unknown | This watercourse is approximately 0.5 m in width and 0.2 m in depth. It has dense vegetation hanging over the watercourse. The substrate is a mix of fine sand, silt and rocky materials. The river is slow flowing. This watercourse is connected to the River South Esk, northwest of Kalula House.<br>The surrounding habitat directly adjacent to the watercourse was tall ruderal vegetation and beyond this the habitat was predominantly agricultural.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is unsuitable for otter as it is narrow channel and due to the surrounding land use, it is likely that agricultural runoff will be present which decreases the likelihood of | Intersects the whole LOD, extending from northwest to southeast. | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | Photo reference |
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| | | | foraging resources being available for the otters. It also has very densely vegetated banks liming the resting up sites available.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to the lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. This watercourse is a drainage ditch which is likely to fluctuate in flow and potentially run dry for periods of time, making it unsuitable for water vole. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 46708 58537 | Between S136 and S135 | Bog Burn | This watercourse has a rocky substrate with dense overhanging vegetation in some areas. It also has several larger boulders in the water. This watercourse is connected to the River South Esk, northwest of Tannadice village.<br>The surrounding habitat on either side of the watercourse is dense gorse scrub which transitions into hawthorn scrub with scattered mature ash trees.<br>Evidence of otter was found at the time of survey in the form of 11 spraints varying in age.<br>No other evidence of protected species was identified during the field surveys.<br>This watercourse provides optimal habitat for otters as it over 1 m wide and is connected to the River South Esk which is optimal for otters. This watercourse has rocky banksides with dense overhanging vegetation and scrub which offers potential resting up sites.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the | Intersects the whole LOD, extending from west to east. | Photo reference: 11.3.15 and 11.3.16 |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | Photo reference |
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| | | | watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to the lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 47603 60197 | Between S131 and S130 | Noran Water | This watercourse is approximately 4 m wide and 1 m in depth. Its flow rate is moderate. This watercourse connects into the River South Esk, southeast of Noranside.<br>The surrounding vegetation is semi-natural oak and beech (*Fagus sylvatica)* woodland, along the edges of the watercourse. The surrounding habitat is agricultural land out with the woodland strip.<br>Evidence of otter was found at the time of survey in the form of feeding remains consists of fish skin and several old spraints.<br>No other evidence of protected species was identified during the field surveys.<br>This watercourse provides optimal habitat for otters as it over 1 m wide and is connected to the River South Esk which is optimal for otters. This watercourse has rocky banksides with dense overhanging vegetation and scrub which offers potential resting up sites.<br>This watercourse is sub-optimal for beavers as the surrounding woodland is discontinuous or fragmented by agricultural land offering some foraging and construction materials. The species mix which includes alder which beavers do not favour, this also contributes to the sub-optimal habitat suitability. The gap between the water's edge and the woodland is between 5 and 50 m which allows the beavers to commute to forage and use the wood for construction.<br>This watercourse has unsuitable habitat potential for water vole due to high velocity and width of the watercourse being largely unsuitable for water voles to swim and commute along. The lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. This watercourse is also lined with trees, which could reduce the availability to foraging resources due to shade pressures. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | Intersects the whole LOD, extending from west to east. | Photo reference: 11.3.13 |
| NO 48574 60951 | Between S128 and S126 and then | Coe Burn | This watercourse is heavily channelised and is situated within an area of intensive agricultural land with sections of woodland to the south, one consisting of an immature | Intersects the whole LOD, | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | Photo reference |
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| | between S120 and S117 | | coniferous woodland with a section of semi- mature broadleaved woodland. The watercourse channel is densely overgrown with grassy vegetation and sporadic trees.<br>This watercourse was not surveyed in full, see constraints and limitations section for further details.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is unsuitable for otter as it is narrow channel and due to the surrounding land use, it is likely that agricultural runoff will be present which decreases the likelihood of foraging resources being available for the otters. It also has very densely vegetated banks liming the resting up sites available.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial and continuous scrub and woodland around its edges. Instead, its banksides were dominated with grassy vegetation. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse is unsuitable for water vole as it lacks rush vegetation on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land and mixed woodland also offering limited shelter and foraging opportunities. | extending from west to east. | |
| NO 53689 62113 | Between S112 and S111 | Weiris Burn | This watercourse is approximately 1m wide and is heavily channelised. It is relativity fast flowing and due to the channelisation is likely to fluctuate in velocity. The banksides comprise of earth. The surrounding habitat to the south of the watercourse is a mixture of rush pasture and wet woodland with alder, eared willow, grey willow and birch present. To the North the watercourse is surrounded by agricultural land. This watercourse flows through Duns Wood within the ESA. The woodland cover continues to the southwest and changes into dense coniferous woodland. This watercourse connects into the Cruick Water and is north of Careston.<br>This watercourse was not surveyed in full, see constraints and limitations section for further details. It was also noted that there was a deer fence surrounding sections of Weiris Wood and Duns Wood.<br>No evidence of protected species was identified during the field surveys. | Intersects the whole LOD, extending from southwest to northeast. | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | Photo reference |
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| | | | This watercourse is suitable for otter as it has connectivity to optimal or sub-optimal watercourses. This watercourse is narrow and has dense grassy banksides which is likely to offer limited foraging and sheltering opportunities. It is likely that an otter could use this watercourse sporadically to commute.<br>This watercourse is suitable for beaver as the gap between the water's edge is over 50m, however the woodland to the south could offer some foraging and construction materials as there is a mix of age ranges and species.<br>This watercourse is suitable for water vole has the surrounding habitat to the south offers foraging recourses. The banksides are comprised of earth which allows potential burrowing. | | |
| NO 42564 52563 | Between S156 and S155 | Unknown | This watercourse is field drain which connects to the Lemno Burn. It flows through an area of upland birch woodland in the northwest and then through areas of intensive agricultural land. The dominance of agriculture, both arable and livestock, in the surrounding landscape is likely to result in relatively high levels of disturbance in the vicinity of the field drain, limiting its ecological function and value. | Intersects half of the LOD, extending from northwest to southeast. | |

**Table 11.3.11: Otter, Beaver and Water Vole Habitat Suitability per Watercourse (Section C)**

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| NO 55862 62779<br>NO 57150 63133<br>NO 57668 63720 | Between S106 and S104 and then between S102 and S100 | Cruick Water | This watercourse is approximately 3 m wide and 0.5 m in depth. Its flow rate is moderate. Its substrate is rocky with dense vegetation and scattered trees on its bank sides. This watercourse is connected to the River North Esk and its located near Belliehill and Little Brechin Wood.<br>The surrounding habitat varies from agricultural land to upland birch woodlands comprised of downy and silver birch (*Betula pendula)*, goat willow (*Salix caprea)*, Scots pine and beech and back to agricultural land. This watercourse passes through Belliehill and Little Brechin Wood.<br>Evidence of otter was found at the time of survey in the form of a spraint.<br>No other evidence of protected species was found.<br>This watercourse provides optimal habitat for otters as it over 1 m wide and is connected to the River North Esk which is optimal for otters. This watercourse has rocky banksides with dense overhanging vegetation and scrub which offers potential resting up sites. | Intersects the whole LOD from northwest to southeast | Photo reference: 11.3.19 |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| | | | This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to high velocity and width of the watercourse being largely unsuitable for water voles to swim and commute along. The lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 58197 64376 | Between S99 and S96 | Unknown | This watercourse is narrow and has densely vegetated banksides. It is surrounded by agricultural land and has been channelised in some areas. It is located north of Bankhead.<br>No other evidence of protected species was identified during the field surveys.<br>This watercourse is unsuitable for otter as it is narrow channel and due to the surrounding land use, it is likely that agricultural runoff will be present which decreases the likelihood of foraging resources being available for the otters. It also has very densely vegetated banks liming the resting up sites available.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to the lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | Intersects the whole LOD, extending from southwest to northeast. | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| NO 59271 65695 | Between S95 and S93 | Unknown | This watercourse is approximately 1m wide and has a mixed substrate of silt and cobble. It is heavily channelised with dense grassy vegetation dominating its banksides. It is connected to the West Water and is located northwest of Auchenreoch Farm.<br>The surrounding landscape is dominated by agricultural land with a small isolated stand of broadleaved woodland located behind Auchenreoch Farm.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is suitable for otter as it has connectivity to optimal or sub-optimal watercourses. This watercourse is narrow and has dense grassy banksides which is likely to offer limited foraging and sheltering opportunities. It is likely that an otter could use this watercourse sporadically to commute.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial and continuous scrub and woodland around its edges. Instead, its banksides were dominated with grassy vegetation. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse is unsuitable for water vole as it lacks rush vegetation on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land and mixed woodland also offering limited shelter and foraging opportunities. | Intersects the whole LOD, from southwest to northeast | |
| NO 60397 66237 | Between S90 and S89 | West Water | This watercourse is approximately 4 m wide with deep pools in places. It has a sandy substrate in places with areas of rockier substrate further along the watercourse. There are some large boulders present and dense overhanging vegetation. This watercourse is connected to the River North Esk and is located south of Edzell Wood.<br>The surrounding habitat directly adjacent to the watercourse is comprised of a mature broadleaved woodland plantation with oak, sycamore, silver birch, ash (*Fraxinus excelsior)* and hawthorn. Otherwise, the watercourse is surrounded by agricultural land.<br>Evidence of otter was found at the time of survey in the form of two old spraints and a holt.<br>No other evidence of protected species was identified during the field surveys. | Intersects the whole LOD, from northwest to southeast. | Photo reference: 11.3.20 and 11.3.21 |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| | | | This watercourse provides optimal habitat for otters as it over 1 m wide and is connected to the River North which is optimal for otters. This watercourse has rocky banksides with dense overhanging vegetation and scrub which offers potential resting up sites.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to high velocity and width of the watercourse being largely unsuitable for water voles to swim and commute along. The lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. This watercourse is also lined with trees, which could reduce the availability to foraging resources due to shade pressures. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 61557 66399 | Between S87 and S84 | Whishop Burn | This watercourse is approximately 2m wide and its substrate consists of silt, gravel and pebble. Its banksides are dominated by dense overhanging vegetation. This watercourse is connected to the West Water and is located southwest of Inveriscandye.<br>The surrounding landscape is dominated by agricultural land with small isolated stands of mixed woodlands.<br>This watercourse is suitable for otter as it has connectivity to optimal or sub-optimal watercourses. This watercourse is narrow and has dense grassy banksides which is likely to offer limited foraging and sheltering opportunities. It is likely that an otter could use this watercourse sporadically to commute.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial and continuous scrub and woodland around its edges. Instead, its banksides were dominated with grassy vegetation. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, | Intersects the whole LOD, from west to east. | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
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| | | | open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse is unsuitable for water vole as it lacks rush vegetation on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land and mixed woodland also offering limited shelter and foraging opportunities. | | |
| NO 62415 66936 | Between S83 and S82 | River North Esk | This watercourse is approximately 15 to 20 m wide and has deep pools in section. It is fast flowing and has a sandy substrate. This watercourse also has dense vegetation and trees overhanging with some Himalayan Balsam present along the watercourse. This watercourse is located, northwest of the Capo Plantation.<br>The surrounding habitat comprises of a mature broadleaved woodland with beech, maple (*Acer* spp.) and ash present to the west and otherwise the watercourse is surrounded by agricultural land.<br>Evidence of otter was recorded during the surveys in the form of five fresh spraints and a temporary resting up site under a fallen tree by the edge of the watercourse.<br>No other evidence of protected species was identified during the field surveys.<br>This watercourse provides optimal habitat for otters as it is large watercourse, extending up to 20 in width and has deep, fast flowing water. This watercourse is likely to have ample foraging resources present, increasing the suitability for otter. This watercourse has rocky banksides with dense overhanging vegetation and scrub which offers potential resting up sites.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to high velocity and width of the watercourse being largely unsuitable for water voles to swim and commute along. The lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. This watercourse is also lined with trees, which could | Intersects the whole LOD, from north to south. | Photo reference: 11.3.22 and 11.3.23 |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
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| | | | reduce the availability to foraging resources due to shade pressures. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 62737 67093 | Between S82 and S81 | Unknown | This watercourse is approximately 1m wide and its substrate consists of silt and gravel. It has dense overhanging vegetation on its banksides and in the channel. This watercourse connected to the River North Esk and is located southeast of Dalladies.<br>The surrounding habitat is dominated by agricultural land along with mature broadleaved woodland running alongside the West water to the west and Clearly Wood and Capo Plantation to the east.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is unsuitable for otter as the dense vegetation within the water channel would make it difficult for an otter to commute along. The dense vegetation and surrounding landscape being dominated by agricultural land is likely to reduce the foraging resources available due to shade and run off.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial and continuous scrub and woodland around its edges. Instead, its banksides were dominated with grassy vegetation. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse is unsuitable for water vole as it lacks rush vegetation on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land and mixed woodland also offering limited shelter and foraging opportunities. | Intersects the whole LOD, from northwest to southeast. | |
| NO 63275 67412 | Between S80 and S79 | Unknown | This watercourse is approximately 0.3m wide and is heavy modified. It is a small field drain with dense grassy vegetation. It is connected to the River South Esk and is located west of the Edzell Business Base.<br>The surrounding landscape to the west is dominated by agricultural land and to the north and south the landscape is dominated by Clearly Wood and Capo Plantation, along with Edzell Business Base to the east.<br>No evidence of protected species was identified during the field surveys. | Intersects the whole LOD, from north to south. | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
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| | | | This watercourse is unsuitable for otter as it is a narrow field drain with little flow which offers limited foraging. The banksides are small and consist of managed dense perennial rye grass which offer no sheltering opportunities. The surrounding landscape being dominated by agricultural land is likely to reduce the foraging resources available due to run off.<br>This watercourse has unsuitable habitat potential for beaver due to the watercourse being a small field drain with little flow reducing the foraging opportunities present. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse and again in turn reducing the foraging opportunities. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse is unsuitable for water vole as it lacks rush vegetation on its bank sides, reducing the favoured foraging resources available. The wider landscape is surrounded by agricultural land and woodland also offering limited shelter and foraging opportunities. | | |
| NO 64063 67826 | Between S77 and S76 | Black Burn | This watercourse is narrow being less than 1.5 m wide with dense vegetation on either bank side in the north and becomes channelised to the south. It also has Himalayan Balsam present on its banksides. This watercourse is connected to the River South Esk and is located southeast of the former Edzell RAF.<br>This watercourse is surrounded by a patch of mixed woodland with conifers and birch to the southeast and otherwise it is bounded by agricultural land.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse provides sub-optimal habitat for otters as it over 1 m wide and is connected to the River South Esk which is optimal for otters. This watercourse has rocky banksides with dense overhanging vegetation and scrub which offers potential resting up sites.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to the lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. This watercourse is also lined with trees in the south, which could reduce the | Intersects the whole LOD, from northwest to southeast. | Photo reference: 11.3.2 4 |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
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| | | | availability to foraging resources due to shade pressures. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 65531 70157 | Between S69 and S68 | Unknown | This watercourse is a field drain which is approximately 0.6m wide and flows into the Sauchie Burn. It is heavily modified and channelised. Its substrate consists of silt. It is located east of Causewayend.<br>The surrounding landscape is dominated by agricultural land with some mixed tree lines along field boundaries.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is unsuitable for otter as it is a narrow field drain with little flow which offers limited foraging. The banksides are small and consist of managed dense perennial rye grass which offer no sheltering opportunities. The surrounding landscape being dominated by agricultural land is likely to reduce the foraging resources available due to run off.<br>This watercourse has unsuitable habitat potential for beaver due to the watercourse being a small field drain with little flow reducing the foraging opportunities present. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse and again in turn reducing the foraging opportunities. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse is unsuitable for water vole as it lacks rush vegetation on its bank sides, reducing the favoured foraging resources available. The wider landscape is surrounded by agricultural land and woodland also offering limited shelter and foraging opportunities. | Intersects the whole LOD, from northwest to southeast. | |
| NO 66891 71813 | Between S63 and S62 | Dowrie Burn | This watercourse is fast flowing, approximately 1 m deep, and varies in width and has been channelised. It has a stoney substrate with dense vegetation in tussocks on its banksides. Japanese knotweed (*Fallopia japonica)*, Himalayan balsam and bindweed are present along the watercourse. This watercourse has connectivity into the River North Esk and is located southeast of Fettercairn.<br>This woodland flows through mixed agricultural land and then along the edges of Lady Janes Plantation, Little Thornton Wood and Pitgarvie Wood. Lady Jane's Plantation was surveyed and is comprised of coniferous woodland with areas of birch woodland along the watercourses edge.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is sub-optimal for otter as it is greater than 0.5 m wide and has connectivity to the River North Esk which is optimal for otter. This watercourse has dense grassy vegetation on its banksides which offer resting up opportunities. | Intersects the whole LOD, extending northwest to southeast. | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
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| | | | This watercourse provides unsuitable habitat for beaver as there is a lack of scrub and woodland within 50 m along the watercourse.<br>This watercourse has unsuitable habitat potential for water vole due to high velocity and width of the watercourse being largely unsuitable for water voles to swim and commute along. The lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. This watercourse is also lined with trees in the south, which could reduce the availability to foraging resources due to shade pressures. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 64409 68467<br>NO 67068 71992 | Between S76 and S61 | Unknown | The first watercourse is a drainage channel within Inverury Wood. It appears to be heavily channelised and shaded by dense coniferous woodland limiting its ecological function and value. The second watercourse is a field drain which flows into the Dowrie Burn which then connects to the Luther Water. This field drain is surrounded by intensive agricultural land both arable and livestock and therefor is likely to result in relatively high levels of disturbance in the vicinity of the field drain, limiting its ecological function and value. | Intersects the whole LOD. | |

**Table 11.3.12: Otter, Beaver and Water Vole Habitat Suitability per Watercourse (Section D)**

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| NO 68572 72800 | S57 and S56 | Black Burn | This watercourse is very channelised and surrounded by agricultural land. It is approximately 2 m wide and less than 0.5 m deep. It has dense vegetation on the north bank with mown vegetation to the south. It has a stoney substrate. This watercourse is connected to the River North Esk and is located northwest of Haughhead Farm.<br>This watercourse flows through agricultural land.<br>No evidence of protected species was identified during the field surveys.<br>The landowner reported to have seen otter using the watercourse.<br>This watercourse is sub-optimal for otter as it is greater than 0.5 m wide and has connectivity to the River North Esk which is optimal for otter. This watercourse has dense grassy vegetation on its banksides which offer resting up opportunities.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials | Intersects the whole LOD, from north to south. | Photo reference: 11.3.33 |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
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| | | | available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to high velocity and width of the watercourse being largely unsuitable for water voles to swim and commute along. The lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 69922 73920 | Between S50 and S49 | Ducat Water | This watercourse is very channelised. It is less than 1 m wide and less than 0.5 m deep. It has dense vegetation on either side of its banks. It has connectivity to the River North Esk and is located west of Waulkmill.<br>This watercourse is surrounded by agricultural land with a pocket of mature sycamore, pedunculate oak (*Quercus robur)*, rowan, Sitka spruce and Scots pine to the east and section of neutral grassland with scattered scrub to the west.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is suitable for otter as it has connectivity to the Luther Water and in turn the River North Esk. This watercourse is less than 0.5 m wide with relativity shallow flow making it less suitable as it is less likely to support ample foraging resources. This watercourse has very dense overhanging vegetation which is likely to make it difficult for the otter to rest up.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to the lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The | Intersects the whole LOD, from northwest to east. | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
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| | | | banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 71185 74726 | Between S46 and S44 | Unknown | This watercourse is approximately 0.7m wide and its substrate consisted of silt. This watercourse has been heavily channelised. It has dense vegetation on either side of its banks. It has connectivity to the Ducat Water and is located east of Cammackmuir Plantation.<br>The surrounding landscape is dominated by agricultural land and the Cammackmuir Plantation to the west.<br>This watercourse is unsuitable for otter as it is narrow channel and due to the surrounding land use, it is likely that agricultural runoff will be present which decreases the likelihood of foraging resources being available for the otters. It also has very densely vegetated banks liming the resting up sites available.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to the lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | Intersects the whole LOD from northwest to southwest. | |
| NO 72222 75467 | Between S42 and S41 | Luther Water | This watercourse is very channelised. It is approximately 3 m wide and less than 0.5 m deep. It has dense vegetation on either side of its banks. This watercourse has been highly channelised and modified. It has connectivity to the River North Esk and is located northwest of Mains of Pittarrow.<br>This watercourse is surrounded by agricultural land aside from flowing past a small stand of mixed woodland.<br>Evidence of otter was recorded in the form of three old spraints.<br>No other evidence of protected species was identified during the field surveys. | Intersects the whole LOD, from northeast to southeast. | Photo reference: 11.3.34 and 11.3.35 |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
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| | | | This watercourse is sub-optimal for otter as it is shallow limiting the foraging opportunities. However, it has a stone and rock substrate, is typically over 2 m wide and well-connected to other main watercourses in the wider landscape increasing the commuting potential. No resting opportunities found, but dense overhanging vegetation which may obscure potential resting sites.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to high velocity and width of the watercourse being largely unsuitable for water voles to swim and commute along. The lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 74683 77524 | Between S33 and S32 | Mossend Burn | This watercourse is approximately 1.6m wide and is heavily channelised with dense grassy vegetation on its banksides. Its substrate is a mix of silt and cobble. This watercourse is connected to the Bervie Water and is located southwest of Monboddo.<br>The surrounding landscape is dominated by agricultural land.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is unsuitable for otter as it is narrow channel and due to the surrounding land use, it is likely that agricultural runoff will be present which decreases the likelihood of foraging resources being available for the otters. It also has very densely vegetated banks limiting the resting up sites available.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the | Intersects the whole LOD, from west to east. | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
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| | | | watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to the lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 74676 77651<br>NO 74697 77938 | Between S33 and S31 | Nursery Burn | This watercourse is approximately 1.4m wide. It has dense grassy vegetation on its banksides. Its substrate is a mix of gravel and cobble. This watercourse is connected to the Bervie Water and is located east of Monboddo.<br>The surrounding landscape to the south is dominated by agricultural land and to the north it flows through a stand of mature broadleaved woodland with sycamore, downy birch, beech and alder.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is suitable for otter as it has connectivity to optimal or sub-optimal watercourses such as the Bervie Water. This watercourse could be used sporadically by otter to commute.<br>This watercourse has unsuitable habitat potential for beaver due to the surrounding habitat in the wider area being dominated by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality and in turn the food resources available. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to the lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities | Intersects the whole LOD, from southwest to northeast and then northwest to southeast. | |
| NO 74743 78181 | Between S28 and S26 | Unknown | This watercourse is approximately 0.3m wide and its substrate consists of silt. This watercourse is heavily channelised and is surrounded by agricultural land. It is located east of Monboddo.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is unsuitable for otter as it is narrow channel and due to the surrounding land use, it is likely that agricultural runoff will be present which decreases the likelihood of | Intersects the whole LOD, from west to east. | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
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| | | | foraging resources being available for the otters. It also has very densely vegetated banks limiting the resting up sites available.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to the lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 75285 80794 | Between S23 and S22 | Bervie Water | This watercourse is approximately 5 to 7 m wide and 1 m deep. It is fast flowing. The substrate varies with cobbles, gravel and some large boulders. There is well developed bankside vegetation with willow dominating. This watercourse is located southwest of Glenbervie.<br>This watercourse has a strip of mature broadleaved woodland on both bank sides with sycamore and willow and otherwise it is surrounded by agricultural land.<br>Evidence of otter was found during the surveys in the form of recent and old otter spraint in two locations.<br>No other evidence of protected species was identified during the field surveys.<br>This watercourse is optimal for otter as it typically a larger watercourse that flows all year round and is likely to have ample foraging resources. It has dense willow vegetation which could provide suitable resting places.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the | Intersects the whole LOD, from northwest to southeast. | Photo reference: 11.3.36 and 11.3.37 |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
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| | | | watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to high velocity and width of the watercourse being largely unsuitable for water voles to swim and commute along. The lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. This watercourse is also lined with trees, which could reduce the availability to foraging resources due to shade pressures. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 76245 81916 | Between S19 and S17 | Pilketty Burn | This watercourse is approximately 1.6m wide, fast flowing and its substrate is a mix of silt and cobble. This watercourse has been channelised and has dense grassy vegetation on its banksides. It flows into the Bervie Water and is located northwest of Glenbervie Old Graveyard.<br>The surrounding landscape is dominated by agricultural land with a small, isolated patch of broadleaved woodland to the west.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is suitable for otter as it has connectivity to optimal or sub-optimal watercourses such as the Bervie Water. This watercourse could be used sporadically by otter to commute.<br>This watercourse has unsuitable habitat potential for beaver due to the surrounding habitat in the wider area being dominated by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality and in turn the food resources available. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to the lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities | Intersects the whole LOD, from northwest to southeast. | |
| NO 77963 83712 | S11 and S8 | Killer Burn | This watercourse is channelised through agricultural land, shallow with moderate flow. It is approximately 1 m wide and less than 0.50 cm deep. The substrate is gravel. It has dense | Intersects the whole LOD, from north to south. | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
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| | | | vegetation on its bankside. This watercourse flows into the Carron water and is located south of Tannachie Croft.<br>This watercourse is predominantly surrounded by agricultural land with some gorse scrub in the north and coniferous wood to the south.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is unsuitable for otter as it is narrow channel and due to the surrounding land use, it is likely that agricultural runoff will be present which decreases the likelihood of foraging resources being available for the otters. It also has very densely vegetated banks liming the resting up sites available.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to the lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 78850 84737 | S7 and S6 | Burn of Annamuick | This watercourse is approximately 1.5 m wide and less than 0.5 m deep. It has a stoney substrate with dense vegetation surrounding. This watercourse has a fast flow rate. It connects into the Carron Water and is located west of Annamuick.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is predominantly surrounded by agricultural land with some gorse scrub along its bank sides.<br>This watercourse is suitable for otter as it has good connectivity to the Carron Water. It is narrow and relatively shallow which makes is less likely to support ample foraging resources. The banksides comprise of grassy dense vegetation which offers limited resting up areas.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was | Intersects the whole LOD, from northwest to southeast. | Photo reference: 11.3.38 |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| | | | surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due the banksides being rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. The watercourse is also very shallow which water vole favour less as they prefer areas with deep pools. Finally, this watercourse is fast flowing which water vole are unlikely to favour as they cannot swim in such conditions. | | |
| NO 79387 85267 | S5 and S4 | Burn of Elfhill | This watercourse was approximately 1.5 m wide and less than 0.5 m deep. It is fast flowing with a stoney substrate. It also has large boulders present. It has dense vegetation and scattered willow, birch, ash and rowan. This is connected to the Carron Water and is located south of Fetteresso Substation.<br>This watercourse is surrounded by modified grassland and scrub to the south and conifer plantation to the north.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is sub-optimal for otter due to the stoney substrate and dense bank vegetation offering potential resting up areas. The scattered scrub on the bank sides could also offer resting up sites. This watercourse has good connectivity to the Carron Water allowing the otters to commute into the wider area.<br>This watercourse has suitable habitat potential for beaver as it has scrub and woodland within 50 m of its bank sides to the north, however in the south it lacks this feature. The mix of shattered vegetation could offer potential foraging and construction materials for the beavers.<br>This watercourse has unsuitable habitat potential for water vole due to high velocity and width of the watercourse being largely unsuitable for water voles to swim and commute along. The lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. This watercourse is also lined with trees, which could reduce the availability to foraging resources due to shade pressures. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | Intersects the whole LOD, from northwest to southeast. | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| NO 72662 75787<br>NO 73915 76745<br>NO 74188 76975<br>NO 74877 80541<br>NO 77774 83596 | Between S41 and S11 | Unknown | These are field drains and are largely surrounded by intensive agricultural land. The dominance of agriculture, both arable and livestock, in the surrounding landscape is likely to result in relatively high levels of disturbance in the vicinity of the field drains, limiting its ecological function and value. | Intersects the whole LOD.<br>northwest to east. | |

**Table 11.3.13: Otter, Beaver and Water Vole Habitat Suitability per Watercourse (Section E)**

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| NO 79129 88362 | Between N90 and N89 | Cowie Water | This watercourse is approximately 2 to 4 m wide and less than 0.5 m in depth. It is fast flowing with a stoney substrate. It also has large boulders present. Along the banks there are mature lime (*Tilia* spp.), oak, beech, downy birch (*Betula pubescens)* and Sitka spruce self-seeded saplings, north of Fetteresso woodland.<br>Evidence of otter was recorded in the form of several old spriants.<br>No evidence of protected species was identified during the field surveys.<br>This surrounding habitat is coniferous woodland to the south and modified grassland to the north.<br>This watercourse is optimal for otter due to the stoney substrate and dense bank vegetation offering potential resting up areas. The scattered scrub on the bank sides could also offer resting up sites.<br>This watercourse has suitable habitat potential for beaver as it has scrub and woodland within 50 m of its bank sides to the west, however in the east it lacks this feature. The mix of shattered vegetation could offer potential foraging and construction materials for the beavers.<br>This watercourse has unsuitable habitat potential for water vole due to high velocity and width of the watercourse being largely unsuitable for water voles to swim and commute along. The lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. This watercourse is also lined with trees, which could | Intersects the whole LOD, from west to east | Photo reference: 11.3.41 |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| | | | reduce the availability to foraging resources due to shade pressures. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 79034 89245 | Between N87 and N86 | Black Burn | This watercourse is approximately 0.2 m in depth and 2.4m wide It is fast flowing with fine gravel and rocky substrate. It also has large boulders present. It has mixed woodland plantation on its south banks and grassland with scattered trees on its north banks. It is connected to the Cowie Water and is located north of Mergie.<br>The surrounding habitat is coniferous woodland to the south and upland heath to the north.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is sub-optimal for otter due to the stoney substrate and dense bank vegetation offering potential resting up areas. The scattered scrub on the bank sides could also offer resting up sites. This watercourse is also connected to the Cowie Water which allows the otters the opportunity to commute.<br>This watercourse has suitable habitat potential for beaver as it has scrub and woodland within 50 m of its bank sides to the west, however in the east it lacks this feature. The surrounding woodland could offer potential foraging and construction materials for the beavers.<br>This watercourse has unsuitable habitat potential for water vole due to high velocity of the watercourse being largely unsuitable for water voles to swim and commute along. The lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. This watercourse is also lined with trees, which could reduce the availability to foraging resources due to shade pressures. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | Intersects the whole LOD, from northwest to southeast. | Photo reference: 11.3.44 |
| NO 77375 94910 | Between N68 and N67 | Burn of Sheeoch | This watercourse is approximately 6 m wide and 0.3 m in depth. It is relatively fast flowing, and its substrate is a mixture of gravel, pebbles, cobble with large boulders. It has a dense strip of vegetation on either of its bank sides consisting of a mix of broadleaved trees with sycamore, silver and downy birch, willow, alder, ash, elm (*Ulmus minor)* and rowan, ranging in ages along one side with mature Sitka spruce and larch (*Larix* spp.) present. This watercourse connects to the River Dee and is located south of Kirkton of Durris.<br>The surrounding habitat is dominated by mixed woodland in the northeast and agricultural land to the south and west.<br>Evidence of otter was recorded in the form of three old spraints on rocks in the watercourse and four recent spraints further down the watercourse. | Intersects the whole LOD, from west to east. | Photo reference: 11.3.42 and 11.3.43 |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| | | | No other evidence of protected species was identified during the field surveys.<br>This watercourse is optimal for otter as it is wide and contains flow at all times of the year. It is likely due to its size and connectivity to the River Dee that foraging resources are present for otter. It has a mix of rocky and dense vegetative bank sides which offer suitable resting places.<br>This watercourse is optimal for beaver as it has ample broadleaved woodland and scrub on the banksides which extend into further woodland stands. The woodland consisted of a range of age categories of trees and scrub which could provide suitable forage and construction materials. It is also connected into the River Dee which could allow the beaver to commute.<br>This watercourse has unsuitable habitat potential for water vole due to high velocity and width of the watercourse being largely unsuitable for water voles to swim and commute along. The lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. This watercourse is also lined with trees, which could reduce the availability to foraging resources due to shade pressures. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 76815 96746 | Between N62 and N61 | River Dee | This watercourse is approximately 60 m wide and will be very deep in places, it is fast flowing. To the south its banks are made up of a mix of sycamore, silver birch, downy birch, bird cherry (*Prunus padus)*, alder, larch, rowan, hawthorn and ground elder (*Sambucus nigra)* woodland stands with areas of gorse (*Ulex europaeus)* scrub present, north of Kirkton of Durris.<br>The surrounding habitat consists of broadband woodland stands either side of the watercourse with agricultural land surrounding.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is designated for otter and provides optimal habitat for the species as it is a large watercourse which flows all year round and is likely to support good food resources. The banksides consisted of rocky areas and over hanging vegetation which offered ample resting up areas.<br>This watercourse provides unsuitable habitat for beavers as this watercourse is large and fast flowing which is not favoured by the species. Overall, the river lacks continuous/dense woodland and scrub sections within 50 m of the watercourse with the area of woodland to the south being isolated by expansive agricultural land.<br>This watercourse has unsuitable habitat potential for water vole due to high velocity and width of the watercourse being largely unsuitable for water voles to swim and commute | Intersects the whole LOD, from west to east. | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| | | | along. The lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. This watercourse is also lined with trees, which could reduce the availability to foraging resources due to shade pressures. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NO 79063 89031<br>NO 79027 89248<br>NO 79123 90999<br>NO 79060 92972 | N87<br>N87 to N86<br>N81<br>N76 to N75 | Unknown | These are drains within commercial forestry blocks which flow into the Black Burn. Due to the dense coniferous woodland surrounding them, they are likely to be heavily shaded and be subject to high levels of disturbance in the vicinity of the drains, limiting its ecological function and value. | Intersects the whole LOD. | |
| NO 77723 94353<br>NO 76790 95918 | N71 to N69<br>N64 to N63 | Unknown | These are field drains and are largely surrounded by intensive agricultural land. The dominance of agriculture, both arable and livestock, in the surrounding landscape is likely to result in relatively high levels of disturbance in the vicinity of the field drains, limiting its ecological function and value. | Intersects the whole LOD. | |

**Table 11.3.14: Otter, Beaver and Water Vole Habitat Suitability per Watercourse (Section F)**

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| NJ 77321 00487 | N50 to N49 | Mony Burn | This watercourse is 0.9m wide and its substrate consists of silt. This watercourse has been channelised and has dense ruderal vegetation surrounding it. It is surrounded by agricultural land with a felled coniferous woodland to the south. It is connected to the Gormack Burn and in turn the River Dee and is located south of Monyburn Cottage.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is unsuitable for otter as it is narrow channel and due to the surrounding land use, it is likely that agricultural runoff will be present which decreases the likelihood of foraging resources being available for the otters. It also has very densely vegetated banks limiting the resting up sites available.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural | Intersects the whole LOD, from west to east. | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| | | | runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to the lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NJ 77241 02275 | N45 and N44 | Gormack Burn | This watercourse is deep in places and approximately 3 to 4 m wide with a steady flow. It has rocky substrate. This watercourse is channelised with extensive agricultural land on either side. This watercourse flows into the River Dee and is located southeast of Cullerlie.<br>The surrounding habitat is dominated by agricultural land with isolated stands of Scots pine woodlands to the south.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse has sub-optimal habitat for otter as it a substantial watercourse, greater than 0.5 wide and it's connected to the River Dee, increasing the likelihood of foraging resources being present. The overhanging vegetation offers potential resting up sites.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to high velocity and width of the watercourse being largely unsuitable for water voles to swim and commute along. The lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | Intersects the whole LOD, from west to east. | Photo reference: 11.3.53 |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| NJ 77123 02860 | Between N43 and N42 | | This watercourse is approximately 0.8m wide and its substrate consists of mainly silt. It has been heavily canalised and is surrounded by intensive agricultural land. This watercourse is connected to the Gormack burn and is located northeast of Schoolhill.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is unsuitable for otter as it is narrow channel and due to the surrounding land use, it is likely that agricultural runoff will be present which decreases the likelihood of foraging resources being available for the otters. It also has very densely vegetated banks limiting the resting up sites available.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse is unsuitable habitat for water vole as it lacks suitable and favourable bankside vegetation for the water vole to forage on. The banksides do offer some potential for burrowing within east of the ESA but as the watercourse moves west it flows alongside woodland plantation which can shade the banks, reducing the availability of rush vegetation present, which the water vole favour. | Intersects the whole LOD. | |
| NJ 75101 05507<br>NJ 74372 06498<br>NJ 73758 06723<br>NJ 73828 07639 | Between N32 and N26 | Gormack Burn Tributary | This watercourse is approximately 2 to 3 m wide with a cobbled substrate. It is channelised and less than 0.3 m deep. It has steep banksides which are densely vegetated. This watercourse is connected to the Gormack Burn and is located southeast of Echt.<br>The surrounding habitat consists of coniferous woodland strips adjacent to the watercourse and agricultural land.<br>No evidence of protected species was identified during the field surveys.<br>This was watercourse is suitable for otter as it connected to the Gormack which is an optimal watercourse for otter. Due to the connectivity, it is likely that some foraging resources will be present. The dense vegetation on the banksides offer potential resting sites.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was | Intersects the whole LOD. | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| | | | surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to high velocity and width of the watercourse being largely unsuitable for water voles to swim and commute along. The lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides are rocky reducing the likelihood of water voles being able to burrow and shelter here. This watercourse is also lined with trees, which could reduce the availability to foraging resources due to shade pressures. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | | |
| NJ 74154 09613 | Between N19 and N17 | Corksie Burn | This watercourse is approximately 1 m wide and 0.5 m deep. It has a sandy substrate and slow-moving water. It has grassy bankside vegetation and a slow flow. This watercourse flows into Waterton Loch and then the Loch of Skene. The Loch of Skene is also connected to the Culter Burn and the River Dee and is located northeast of Dunecht School.<br>The surrounding habitat is woodland to the west and southwest with agricultural land surrounding.<br>Evidence of otter was recorded during the surveys in the form of four spriants all ranging in age.<br>No other evidence of protected species was identified during the field surveys.<br>This was watercourse is suitable for otter as it has good connectivity to other more suitable watercourses therefore it could be used sporadically by otter. The bankside vegetation offer potential resting up sites.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver. | Intersects the whole LOD, from northwest to southeast. | Photo reference: 11.3.54 and 11.3.55 |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| | | | This watercourse is unsuitable habitat for water vole as it lacks suitable and favourable bankside vegetation for the water vole to forage on. The banksides do offer some potential for burrowing within east of the ESA but as the watercourse moves west it flows alongside woodland plantation which can shade the banks, reducing the availability of rush vegetation present, which the water vole favour. | | |
| NJ 74594 10654<br>NJ 74765 10926<br>NJ 74970 11195 | Between N15 and N10 | Bogendinny Burn | This watercourse is narrow and channelised between agricultural land. It has dense vegetation on both bank sides and is fast flowing. This watercourse is connected to the Waterton Loch which flows into the Loch of Skene and is located east of Lyne of Skene.<br>The surrounding habitat is woodland to the east with agricultural land surrounding.<br>No evidence of protected species was identified during the field surveys.<br>This was watercourse is suitable for otter as it has good connectivity to other more suitable watercourses therefore it could be used sporadically by otter. The bankside vegetation offer potential resting up sites.<br>This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to the lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. | Intersects the whole LOD, from northwest to southeast. | Photo reference: 11.3.56 |
| NJ 76370 12814 | Between N6 and N4 | Park Burn | This watercourse is narrow and channelised with dense gorse, meadow vetch, broom and cow parsley surrounding. This watercourse is connected to a wider drainage network between agricultural land and is located northeast of Bogfold.<br>The surrounding habitat included a stand of mixed woodland with maple, willow, birch, ash, alder, rowan and Sitka Spruce beyond this the area was dominated by agricultural land.<br>No evidence of protected species was identified during the field surveys.<br>This watercourse is unsuitable for otter is a very narrow channel which contains little water, greatly reducing the availability of foraging supplies. The very dense vegetation on the bank sides decreases the availability of resting up sites. | Intersects the whole LOD, from west to east. | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| | | | This watercourse has unsuitable habitat potential for beaver due to the lack of substantial scrub and woodland around its edges. This reduced the foraging and construction materials available and in turn reduced its suitability to support beavers. This watercourse was surrounded by extensive agricultural land which increases the likelihood of agricultural runoff entering the watercourse, reducing the water quality. The few, isolated stands of woodland and scrub within the wider landscape are not well connected, meaning beaver would have to travel across large, open agricultural fields to forage which reduces the watercourse's suitability for beaver. Overall, therefore this watercourse is considered to be unsuitable for beaver.<br>This watercourse has unsuitable habitat potential for water vole due to the lack of rush vegetation present on its bank sides, reducing the favoured foraging resources available. The banksides offer some burrowing potential. The wider landscape is surrounded by agricultural land comprising of a monoculture, also offering limited shelter and foraging opportunities. There are several patches of woodland along the watercourse which could reduce the availability to foraging resources due to shade pressures | | |
| NO 76823 97338<br>NJ 76402 03644<br>NJ 75107 04662<br>NJ 73825 07646 | Between N60 and N32 | Unknown | These are field drains and are largely surrounded by intensive agricultural land. The dominance of agriculture, both arable and livestock, in the surrounding landscape is likely to result in relatively high levels of disturbance in the vicinity of the field drains, limiting its ecological function and value. | Intersects the whole LOD. | |

### 3.3 Atlantic Salmon

*3.3.1* The desk study reported 169 records for Atlantic salmon within 5 km of Sections A and C to F, with records concentrated along the River Dee and its tributaries within Sections E to F.

*3.3.2* A walkover survey was carried out key locations to assess the habitat suitability for Atlantic salmon. Results of the habitat suitability surveys in Sections A, B and E are presented in **Table 11.3.15: Atlantic Salmon Habitat Suitability (Sections A, B** and E).

**Table 11.3.15: Atlantic Salmon Habitat Suitability (Sections A, B and E)**

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | Photo Reference |
|---|---|---|---|---|---|
| Section A | | | | | |
| NO 40767 48482 | Between S167 and S166 | Field Drain connected to the Kerbet Water | Approximately 720 m of this watercourse was subject to a bankside survey.<br>This watercourse was found to be typically 1 m wide and 10 cm deep with a slow flow. This was a field drain surrounded by cropland and was subject to occasional dredging. Though the riparian habitat was comprised an approximately 8 m wide tall ruderal vegetation on the south bank, while a tall ruderal hedgerow and track were present on the north bank. Grasses and algae were noted within the east of the watercourse.<br>The water was cloudy and had suspended sediment present. There was a<br>notable barrier to fish movement as a result of an outfall cover at the end of the drain. No evidence of fish was noted during the survey.<br>Overall, this watercourse is considered to have limited suitability for Atlantic salmon due to the impassable outfall cover. Atlantic salmon are likely absent. | West of West Ingliston | |
| NO 40966 48117 | Outside LOD (west of S166) | Kerbet Water | Approximately 200 m of this watercourse was subject to a bankside survey.<br>This watercourse was found to vary in width between 2 and 8 m, with a depth of 20 to 100 cm. Slow was generally slow but with one area of moderate flow recorded.<br>The substrate was typically silty, but with areas of pebbles and fine sand as well as a small amount of cobbles and gravel.<br>Bankside vegetation consisted of scattered broadleaf approximately 60-100 m wide was located immediately west of the watercourse while the wider landscape comprised cropland. Himalayan balsam was present on the banks.<br>Bank erosion was present throughout the survey length.<br>Water quality was considered to be low. There was no evidence of fish noted during the survey, although no downstream barrier to movement is known.<br>Overall, this watercourse is considered to have limited suitability for Atlantic salmon due to the pressures on the aquatic and riparian habitats. However, in the absence of information about downstream barriers to fish movement, the presence of Atlantic salmon cannot be ruled out. | West of West Ingliston | |
| NO 41041 49308 | Between S165 and S164 | Dean Water | Approximately 900 m of this watercourse was subject to a bankside survey.<br>This canalised watercourse varied in width between 3 and 6 m and was typically 100 cm deep with a slow flow. | South of Haughs of Cossans | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | Photo Reference |
|---|---|---|---|---|---|
| | | | The substrate was entirely comprised of silt with a small area of filamentous duckweed algae was present at transect point 14.<br>Riparian vegetation consisted of approximately 3-6 m of tall grasses, with a damp grassland stretching 200-250 m south and a small wet grassland to the north. Otherwise, the surrounding landscape was used as cropland.<br>. The water was cloudy and had suspended sediment present. There was no evidence of fish noted during the survey, although no downstream barrier to movement is known.<br>Overall, this watercourse is considered to have limited suitability for Atlantic salmon due to the pressures on the aquatic and riparian habitats. However, in the absence of information about downstream barriers to fish movement, the presence of Atlantic salmon cannot be ruled out. | | |
| Section B | | | | | |
| NO 44515 54960 | S147 | Kings Burn Tributary | Approximately 500 m of this watercourse was subject to an in-water survey.<br>This watercourse was typically 10 to 50 cm wide and 10 to 20 cm deep with a slow flow with one area of moderate flow.<br>The substrate was usually silty, with cobble, gravel and pebble at each transect point, and boulders and/or coarse sand present at some transect points.<br>Bankside habitat on both sides of the watercourse included a narrow strip of unmanaged grassland and riparian trees between the watercourse and the surrounding cropland.<br>The shallow depth and narrow width of the watercourse resulted in regular barriers to fish movement in the form of areas of areas of silt and/or boulders in shallow water, and encroaching grassland vegetation.<br>Bankside erosion was noted throughout while water quality was generally low.<br>Overall, this watercourse is considered to have limited suitability for Atlantic salmon due to the restrictions on fish movement. Atlantic salmon is likely absent. | Northwest of Meadows Farm | |
| NO 44543 55296 | Between S147 and S146 | Kings Burn | Approximately 900 m of this watercourse was subject to survey; almost 700 m of which was in-water while the remainder was bankside.<br>This watercourse varied in width between 10 cm and 1 m, although one area was 2 m wide. Depth was typically 10 to 40 cm while the flow was typically slow, with one moderate area. The drop between transect points 2 and 3 acts as a barrier to fish movement.<br>The substrate was typically a complex mix of silt, coarse sand, cobble, boulders, gravel and pebble at each transect point with entirely silt at transect point 15.<br>Algae and some in-stream vegetation were reported in some locations. | Northwest of Meadows Farm | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | Photo Reference |
|---|---|---|---|---|---|
| | | | Bankside vegetation was generally comprised of riparian trees interspersed by tall grassland. Surrounding land use was generally cropland, with a number of other land uses are present including a small broadleaf woodland, road, private residential house and garden, and a cattle field.<br>This watercourse had been recently dredged at the time of the survey. Water quality was generally low to moderate with one area of high quality at transect point 4.<br>Overall, this watercourse is considered to have limited suitability for Atlantic salmon due to the pressures on the aquatic and riparian habitats. However, in the absence of information about downstream barriers to fish movement, the presence of Atlantic salmon cannot be ruled out. | | |
| NO 45992 57874 | Between S139 and S138 | Unnamed watercourse at East Murthill | Approximately 950 m of this watercourse was subject to an in-water survey.<br>This watercourse was typically 20 cm to 1 m wide and 10 cm to 30 cm deep with a slow flow. Two areas of moderate flow were recorded between transect points 2 to 4 and at transect point 11.<br>The substrate was generally very silty, occasionally reaching 100% silt, but cobble, boulder, gravel and pebbles were also common throughout the length of the watercourse surveyed. Bedrock was visible at transect point 5, while fine sand was present at low levels in two locations.<br>Bankside habitat generally comprised woodland or grassland, or both, though the breadth of these habitats between the watercourse and surrounding farmland varies considerably. Arable fields were most common within the surrounding landscape, though small areas of cattle fields, cropland or private residential garden were also present.<br>The watercourse flowed through a culvert under the gardens of East Murthill, and through a former mill pond that had extensive algae at the time of survey.<br>Barriers to fish movement were noted in the shallow depth and width, as well as the former mill pond, and culvert under the garden of East Murthill.<br>Water quality was low. Cattle had access to the downstream section of the watercourse. No fish were recorded during the survey.<br>Overall, this watercourse is considered to have limited suitability for Atlantic salmon due to the restrictions on fish movement. Atlantic salmon is likely absent. | Flowing through East Murthill | |
| NO 47603 60197 | Between S131 and S130 | Noran Water (Section 1; westernmost) | Approximately 860 m of this watercourse was subject to bankside survey.<br>The width varied between 1 and 6 m, while depth was 50 cm to 1 m. One area was estimated to be 2 m deep. There was a moderate to fast flow with a short section of slow flow within the area surveyed. | South of Wellford | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | Photo Reference |
|---|---|---|---|---|---|
| | | | The substrate was typically a mix of boulders, cobble, bedrock, pebble and gravel, with some silt, fine sand and coarse sand present.<br>Riffles were reported relatively often, with some areas difficult to see due to the bank structure.<br>Bankside habitat was predominantly semi-natural oak, beech woodland up to approximately 50 m in width, though typically narrower. The surrounding land use was arable farming.<br>The water was clear with little suspended sediment.<br>Although no fish were recorded at the time of the survey, this watercourse comprises habitats likely to support Atlantic salmon and this species is likely present. | | |
| NO 47603 60197 | Outwith LOD[15] | Noran Water (Section 2; central) | Approximately 960 m of this watercourse was subject to bankside survey.<br>The width varied between 4 and 10 m, but was generally shallow between 20 and 50 cm. The flow was moderate to fast.<br>The substrate was predominantly cobbles bedrock and boulders common, pebbles and gravel present in some areas and small amounts of silt.<br>Riparian habitat was generally comprised of a thin strip of broadleaf mixed woodland while the surrounding land use was arable and cropland with one unmanaged grassland.<br>The water was clear with little suspended sediment.<br>Fish were reported within one location, though the species is unknown.<br>This watercourse comprises habitats likely to support Atlantic salmon and this species is likely present. | North of Corrie, east of Corrie Wood | |
| NO 47603 60197 | Outwith LOD[15] | Noran Water (Section 3; easternmost) | Approximately 920 m of this watercourse was subject to bankside survey.<br>The width varied between 3 and 8 m wide, while depth was generally between 50 cm and 1 m. There was a moderate to fast flow, with one area of slow flow.<br>The substrate was predominantly cobble, mixed with boulders and pebbles, with areas of bedrock and gravel common, and coarse and fine sand in some locations.<br>Bankside vegetation was predominantly broadleaf woodland, with felled woodland and grassland also reported.<br>Surrounding land use was generally arable or cropland, though there was also a felled plantation, narrow strip of broadleaf woodland, a sheep field and private residential property.<br>Fish were reported, though the species is unknown.<br>This watercourse comprises habitats likely to support Atlantic salmon and this species is likely present. | Northwest of Waterston Ford FB and Mill of Marcus | |

| Grid reference | Tower Number | Watercourse Name | Description of Survey Results | Location | Photo Reference |
|---|---|---|---|---|---|
| Section E | | | | | |
| NO 77375 94910 | N68 and N67 | Burn of Sheeoch | Approximately 900 m of this watercourse was subject to bankside survey.<br>This watercourse was typically 6 m, though it varied from to 8 m wide, and was 20 to 50 cm deep. It had a moderate flow with some area of slow flow and one of fast flow.<br>The substrate was comprised of a mix of boulders, cobbles, gravel and pebble with coarse sand. A small amount of fine sand was recorded in one location and bedrock in one other.<br>A narrow strip of riparian habitat is present at the southwest, a small area of unmanaged grassland and scattered trees becoming a broadleaf woodland moving downstream and northeast. A conifer plantation is then present on the west of the watercourse with bracken on the other. A broadleaf woodland plantation forms the riparian habitat in the north of the survey length.<br>Surrounding land use was predominantly pasture land south and a mix of cropland, conifer plantation woodland or broadleaf plantation woodland.<br>Bankside erosion was reported throughout.<br>The water was clear with little suspended sediment.<br>Although no fish were recorded at the time of the survey, this watercourse comprises habitats likely to support Atlantic salmon and this species is likely present. | Balladrum Wood to Kirktoon Wood, via Ford | |

### 3.4 Pine Marten and Red Squirrel

*Desk Study*

3.4.1 The desk Study identified 467 records of pine marten within 5km of the Proposed Development, within the last 24years. These were located in woodlands throughout all Sections A and C to F inclusive. A high concentration of records are located within woodland blocks north of Brechin and within Fetteresso Forest, both of which are connected to the Proposed Development via woodland corridors.

3.4.2 The desk Study identified 9291 records of red squirrel within 5km of the Proposed Development, within the last 24years. These were located in woodlands throughout all Sections A to F inclusive. Records are located within woodland blocks (broadleaved, mixed and coniferous) across the entire Route.

3.4.3 For further information on the desk study findings, please refer to **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context**.

*Field Study*

3.4.4 A walkover survey of the whole ESA was caried out during the survey period for pine marten and red squirrel, assessing habitat suitability using **Table 11.3.7: Habitat Suitability for Red Squirrel and Table 11.3.8: Habitat Suitability for Pine Marten** above. Any evidence and habitat suitability is presented in **Table 11.3.16: Pine Marten and Red Squirrel Habitat Suitability per Woodland Block (Section A)**, below, section by section and related to **Volume 3, Figure 11.6: Protected Species Survey Results.**

**Table 11.3.16: Pine Marten and Red Squirrel Habitat Suitability per Woodland Block (Section A)**

| Grid reference | Tower Number | Woodland Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| NO 38082 38498 | Between S202 and S201 | Balkemback Wood | Mature coniferous woodland plantation, dominated by Sitka spruce, northwest of Balkemback farm.<br>This woodland has poor connectivity to suitable habitat in the wider landscape as it is an isolated woodland stand surrounded by intensive agricultural land with few green corridors.<br>No evidence of protected species was identified during the field surveys.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten and red squirrel as it is a small and isolated stand surrounded by intensive expanses of agricultural land which both red squirrel and pine marten would find difficult to cross. It is comprised of monoculture plantation offering limited age structure and in turn foraging and sheltering opportunities. | Intersects over half LOD, extending northeast. | |
| NO 40442 43019 | Between UX186 and S184 | Unknown | Mature coniferous woodland plantation, dominated by Sitka spruce with occasional Scots pine, southeast of Meikle Kilmundie farm.<br>This woodland has limited connectivity to suitable habitat in the wider landscape as the area is a mosaic of agricultural land, isolated woodland stands and upland heath which has been intensively managed with few green corridors present.<br>No evidence of protected species was identified during the field surveys.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten and red squirrel as it is a small and isolated stand surrounded by intensive agricultural land and upland heathland which both red squirrel and pine marten would find difficult to cross. It is also comprised of monoculture plantation offering limited age structure and in turn foraging and sheltering opportunities. | Intersects almost half LOD, extending southwest. | |
| NO 40508 43358 | Between S185 and S183 | Unknown | Mature coniferous woodland plantation, dominated by Sitka spruce with occasional Scots pine, east of Meikle Kilmundie farm.<br>This woodland has limited connectivity to suitable habitat in the wider landscape as the area is a mosaic of agricultural land, isolated woodland stands and upland heath which has been intensively managed with few green corridors present.<br>No evidence of protected species was identified during the field surveys.<br>Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel due to there being several small stands of Scots pine woodland associated with stands of broadleaved woodland dominated by oak and sycamore in close proximity offering diversity for foraging and sheltering opportunities. | Intersects less than one quarter of the LOD, extending northwest. | |

| Grid reference | Tower Number | Woodland Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| NO 40744 43973 | Between S183 and S181 | Unknown | Mature Scot's pine woodland plantation, southeast of Arniefoul.<br>This woodland has limited connectivity to suitable habitat in the wider landscape as the woodland is immediately surrounded by upland heath while the wider area is a mosaic of agricultural land and other isolated woodland stands.<br>There was no evidence of pine marten found within the woodland, however red squirrel feeding remains (chewed cones) were found.<br>Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel due to there being several small stands of woodland in close proximity offering some diversity in foraging and sheltering opportunities. | Intersects half of the LOD, extending southeast. | Photo reference: 11.3.5 and 11.3.6 |
| NO 40648 44063 | Between S182 and S181 | Unknown | Mature coniferous wood land plantation, southeast of Arniefoul.<br>This woodland has limited connectivity to suitable habitat in the wider landscape as the woodland is immediately surrounded by upland heath while the wider area is a mosaic of agricultural land and other isolated woodland stands.<br>No evidence of protected species was found at the time of survey.<br>Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel due to there being several small stands of woodland in close proximity offering some diversity in foraging and sheltering opportunities. | Intersects half of the LOD, extending northwest. | |
| NO 40283 44908 | Between S179 and S177 | Unknown | Mature broadleaved woodland plantation with oak, sycamore and rowan, south of Upper Hayston farm.<br>This woodland has some connectivity to suitable habitat in the wider landscape through green corridors such as hedgerows with or without trees or lines of trees. The wider landscape is a mosaic of agricultural land, upland heath to the east and mixed woodland to the west.<br>There was no evidence of pine marten found, however there was a sighting of a red squirrel recorded.<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to there being several stands of woodlands in relatively close proximity, potentially connected through green corridors. This offers a range of age structures for foraging and sheltering opportunities. | Intersects more than quarter of LOD, extending northeast. | Photo reference: 11.3.7 |
| NO 40181 45583 | Between S177 and S175 | Unknown | Mature coniferous woodland plantation, southwest of Upper Hayston farm.<br>This woodland has limited connectivity to suitable habitat in the wider landscape as the area is a mosaic of agricultural land and small woodland stands, with small fields and some green corridors present.<br>No evidence of protected species was identified during the field surveys. | Intersects less than quarter of LOD, extending east. | |

| Grid reference | Tower Number | Woodland Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| | | | Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel due to there being several small stands of woodland in close proximity, connected through green corridors. This offers a range of age structures for foraging and sheltering opportunities. | | |
| NO 40841 47205 | Between S171 and S169 | Unknown | Mature Scots pine woodland plantation, north of Jericho.<br>This woodland has some connectivity to suitable habitat in the wider landscape as the area in the east is dominated by a mosaic of agricultural land, however in the east there are areas of mixed woodlands. There are some tree lines which could act as green corridors.<br>No evidence of protected species was identified during the field surveys.<br>Pine marten was recorded during the consultation.<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to there being several tree lines along field boundaries leading to larger, more suitable woodlands in the east, offering a range of in age structure and foraging opportunities. | Just outside the LOD to the west. | |
| NO 40950 48842 | Between S166 and S165 | Unknown | Semi- mature broadleaved woodland plantation with rowan, ash and oak being abundant and wild cherry occurring frequently and rare Sitka spruce, northwest of east and mid Ingliston farm.<br>This woodland has limited connectivity to other woodlands as it surrounded by mixed agricultural land and several watercourses or drainage ditches creating barriers.<br>Evidence of red squirrel was recorded in the form of foraging remains.<br>Grey squirrel was observed within the plantation.<br>No evidence of pine marten was recorded during the field survey.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten and suitable habitat for red squirrel due to the isolated nature of the woodland stand, as it is surrounded by agricultural land and watercourses such as the Dean Water to the north and the Kerbet water to the south, restricting the ability of both species to move around when search of foraging and sheltering resources. | Intersects less than quarter of LOD, extending southwest. | Photo reference: 11.3.8 |
| NO 40940 49615 | Between S 164 and S163 | Unknown | Mature mixed woodland with oak and beech being abundant with occasional Scots' pine, east of Haughs of Cossans farm.<br>This tiny woodland has low connectivity to other woodlands as it surrounded by mixed agricultural land and isolated woodland stands with few green corridors.<br>No evidence of protected species was found. | Intersects more than quarter of LOD, extending west. | |

| Grid reference | Tower Number | Woodland Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| | | | Overall, this tiny woodland is considered to provide unsuitable habitat for pine marten and suitable habitat for red squirrel due to the isolated nature of the woodland stand, extremely small size and surrounding agricultural land along with watercourses such as the Dean Water to the south and the Ballindarg Burn to west and north, restricting the ability of both species to move around when search of foraging and sheltering resources. | | |

**Table 11.3.17: Pine Marten and Red Squirrel Habitat Suitability per Woodland Block (Section B)**

| Grid reference | Tower Number | Woodland Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| NO 40983 50576 | Between S163 and S162 | Unknown | Semi-mature mixed woodland with oak, sycamore and birch being abundant, west of West Mains of Ballindarg farm.<br>This woodland has limited connectivity to other woodlands as it surrounded by mixed agricultural land and isolated woodland stands with few green corridors to connect them.<br>No evidence of protected species was identified during the field surveys.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten as it is an isolated stand within intensively managed agricultural land which is likely to make commuting difficult. It offers suitable habitat for red squirrel as the tree species present offer foraging resources. The isolated nature with few green corridors and watercourses such as the Ballindarg Burn and other field drains reduces its suitability. | Intersects more than quarter of LOD, extending southeast. | |
| NO 42540 52573 | Between S156 and S154 | Unknown | Semi -mature upland birch woodland with birch being dominant and hornbeam (*Carpinus betulus)* rare, northwest of Mosside of Ballinshoe Farm.<br>This woodland has limited connectivity to other woodlands as the surrounding landscape is dominated by agricultural land with a few isolated woodland stands. There are limited green corridors to connect this woodland and others in the surrounding landscape.<br>No evidence of protected species was identified during the field surveys.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten and red squirrel due to the isolated nature of the woodland stand due to the surrounding landscape being dominated by agricultural land with few green corridors present to connect to woodlands in the wider area. | Intersects nearly half of LOD, extending northwest. | |
| NO 42589 52564 | Between S156 and S154 | Unknown | Mature lowland mixed deciduous woodland with downy birch dominant and larch, rowan, pedunculate oak abundant. Holly (*Ilex aquifolium)*, hawthorn and ash occurred occasionally, northwest of Mosside of Ballinshoe Farm. | Intersects nearly half of LOD, | |

| Grid reference | Tower Number | Woodland Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| | | | This woodland has limited connectivity to other woodlands as the surrounding landscape is dominated by agricultural land with a few isolated woodland stands. There are limited green corridors to connect this woodland and others in the surrounding landscape.<br>No evidence of protected species was identified during the field surveys.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten and red squirrel due to the isolated nature of the woodland stand due to the surrounding landscape being dominated by agricultural land with few green corridors present to connect to woodlands in the wider area. | extending northeast. | |
| NO 43131 53356 | Between S154 and S152 | Unknown | Mature broadleaved woodland with willow dominant and alder occasional, southwest of Overbow farm cottages.<br>This woodland has limited connectivity to other woodlands as the surrounding landscape is dominated by agricultural land with a few isolated woodland stands. There are limited green corridors to connect this woodland and others in the surrounding landscape.<br>No evidence of protected species was identified during the field surveys.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten and red squirrel due to the isolated nature of the woodland stand due to the surrounding landscape being dominated by agricultural land with few green corridors present to connect to woodlands in the wider area. | Intersects half of LOD the, extending northeast. | |
| NO 43617 53895 | Between S152 and S150 | Forestmuir Wood | Mature upland birch woodland, northwest of Overbow farm cottages.<br>This woodland has some connectivity to other woodlands through green corridors along field edges. The wider landscape is dominated by agricultural land with some mixed woodland blocks. The Kings Burn and related tributaries could create movement barriers.<br>No evidence of protected species was identified during the field surveys.<br>Pine marten was reported to have been seen frequently along the Lemmo Burn and near North Quilkoe.<br>Overall, this woodland is considered to provide sub-optimal habitat for pine marten and red squirrel due to the green corridors present which could allow movement between different woodland blocks in the area, offering a range of foraging and sheltering opportunities. | Intersects the whole LOD, extending from northwest to southeast. | Photo reference: 11.3.18 |
| NO 44362 55066 | Between S148 and S146 | Unknown | Mix of mature broadleaved woodland with oak, ash, hawthorn, birch being abundant and wild cherry and wych elm (*Ulmus glabra)* occurring occasionally and semi-mature Scots pine plantation, west of Burnside the Meadows.<br>This woodland has some connectivity to other woodlands through green corridors along field edges. The wider landscape is dominated by agricultural land with some mixed woodland blocks. The Kings Burn and related tributaries could create movement barriers.<br>No evidence of protected species was identified during the field surveys. | Intersects under a quarter of the LOD, extending west to east. | |

| Grid reference | Tower Number | Woodland Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| | | | Overall, this woodland is considered to provide sub-optimal habitat for pine marten and red squirrel due to the green corridors present which could allow movement between different woodland blocks in the area, offering a range of foraging and sheltering opportunities. | | |
| NO 44427 55118 | Between S148 and S146 | Unknown | Mature broadleaved woodland with occasional birch, oak, sycamore, hawthorn and horse chestnut and rare willow and alder, west of Burnside the Meadows.<br>This woodland has some connectivity to other woodlands through green corridors along field edges. The wider landscape is dominated by agricultural land with some mixed woodland blocks. The Kings Burn and related tributaries could create movement barriers.<br>No evidence of protected species was identified during the field surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat for pine marten and red squirrel due to the green corridors present which could allow movement between different woodland blocks in the area, offering a range of foraging and sheltering opportunities. | Intersects over half of the LOD, extending west to east. | |
| NO 44518 55265 | Between S147 and S146 | Unknown | Semi-mature mixed woodland with birch abundant, rowan frequent, oak and Scots pine occasion and Sitka spruce and alder rare, northwest of Burnside the Meadows.<br>This woodland has some connectivity to other woodlands through green corridors along field edges. The wider landscape is dominated by agricultural land with some mixed woodland blocks.<br>No evidence of protected species was identified during the field surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat for pine marten and red squirrel due to the green corridors present which could allow movement between different woodland blocks in the area, offering a range of foraging and sheltering opportunities. | Intersects over half of the LOD, extending southeast to northwest. | |
| NO 44503 55327 | Between S147 and S146 | Unknown | Mature wet woodland with hawthorn, alder, sycamore and cherry, northwest of Burnside the Meadows.<br>This woodland has some connectivity to other woodlands through green corridors along field edges. The wider landscape is dominated by agricultural land with some mixed woodland blocks. The Kings Burn and related tributaries could create movement barriers.<br>No evidence of protected species was identified during the field surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat for pine marten and red squirrel due to the green corridors present which could allow movement between different woodland blocks in the area, offering a range of foraging and sheltering opportunities. | Intersects over half of the LOD, extending southeast to northwest. | |
| NO 44526 55375 | Between S147 and S146 | Unknown | Semi-mature mixed plantation with birch, sycamore, Scots pine, rowan and Sitka spruce, northwest of Burnside the Meadows. | Intersects over half of the LOD, extending | |

| Grid reference | Tower Number | Woodland Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| | | | This woodland has some connectivity to other woodlands through green corridors along field edges. The wider landscape is dominated by agricultural land with some mixed woodland blocks. The Kings Burn and related tributaries could create movement barriers.<br>No evidence of protected species was identified during the field surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat for pine marten and red squirrel due to the green corridors present which could allow movement between different woodland blocks in the area, offering a range of foraging and sheltering opportunities. | southeast to northwest. | |
| NO 44607 55294 | Between S147 and S146 | Unknown | Semi-mature mixed plantation with rowan, Sitka spruce, hawthorn, oak, Scots pine, beech and horse chestnut, northwest of Burnside the Meadows.<br>This woodland has some connectivity to other woodlands through green corridors along field edges. The wider landscape is dominated by agricultural land with some mixed woodland blocks. The Kings Burn and related tributaries could create movement barriers.<br>No evidence of protected species was identified during the field surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat for pine marten and red squirrel due to the green corridors present which could allow movement between different woodland blocks in the area, offering a range of foraging and sheltering opportunities. | Intersects under a quarter of the LOD, extending northwest to southeast | |
| NO 45050 56726 | Between S143 and S142 | Unknown | Mature woodland with Scots pine, birch and sycamore, northeast of Cairn Farm.<br>This woodland has poor connectivity as it lacks green corridors to other woodland lands. It is surrounded by agricultural land to the north and the River South Esk to the south.<br>No evidence of protected species was identified during the field surveys.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten and red squirrel as it is a small and isolated stand with few green corridors to connect it to more suitable woodlands in the wider landscape. It also is surrounded agricultural land and bordered by the River South Esk which are likely to form barriers to movement. | Intersects nearly half of the LOD, extending southeast. | |
| NO 45245 56905 | Between S142 and S140 | Unknown | Mature broadleaved woodland comprised of sycamore, beech, ash, willow, alder, rowan, downy birch and hazel, west of Craigassie Farm.<br>This woodland has some connectivity to other woodland blocks through green corridors along the edges of agricultural land.<br>No evidence of protected species was identified during the field surveys.<br>Overall, this small but mature and diverse woodland is considered to provide sub-optimal habitat for pine marten and red squirrel due to the green corridors present which could allow movement between different woodland blocks in the area, offering a range of foraging and sheltering opportunities. | Intersects the whole LOD, extending from west to southeast. | |

| Grid reference | Tower Number | Woodland Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| NO 45765 57828 | Between S140 and S138 | Unknown | Semi-mature broadleaved woodland plantation with poplar (*Populus* spp.), sycamore, willow, oak, rowan and ash, and an understory including raspberry west of Kalula House.<br>This woodland has limited connectivity to other woodlands as it surrounded by mixed agricultural land and watercourses with few green corridors to the connect to other woodlands in the wider landscape.<br>No evidence of protected species was identified during the field surveys.<br>Overall, this small woodland is considered to provide unsuitable habitat for pine marten and red squirrel due to the isolated nature of the woodland stand with few green corridors to connect it to more other woodlands in the wider landscape. | Intersects a quarter of the LOD, extending northwest. | |
| NO 47196 59430 | Between S134 and S132 | Unknown | Mature broadleaved woodland with pedunculate oak and downy birch, directly north of Knowhead cottage.<br>This woodland has limited connectivity to other woodlands as it surrounded by mixed agricultural land with few green corridors to connect it to other woodland blocks.<br>No evidence of protected species was identified during the field surveys.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten and red squirrel due to the isolated nature of the woodland stand through the lack of green corridors present. This limits the foraging and sheltering opportunities available. | Intersects less than a quarter of the LOD, extending west. | |
| NO 47613 60213 | Between S131 and S130 | Unknown | Mature upland mixed ash woodland plantation with alder, sycamore, birch, hawthorn, wych elm, elder and rare conifer, west of Welford Farm Cottages.<br>This woodland is part of a riparian woodland along the Noran Water connecting larger blocks of woodland within the wider landscape. Much of the wider landscape is dominated by agricultural land, but this riparian woodland provides good connectivity.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to the presence of mature food plants within the woodland and good connectivity along the Noran Water riparian woodland. | Intersects the whole LOD, extending from west to southeast. | |
| NO 49006 61028 | | Oak Wood | Immature coniferous woodland plantation with occasional rowan, oak, silver birch and sycamore, northwest of Fern Lodge.<br>This woodland has some connectivity to other woodlands in the wider landscape through the presence of green corridors.<br>No evidence of protected species was identified during the field surveys.<br>Overall, this young woodland is considered to provide suitable habitat for pine marten and red squirrel due to the green corridors present which could allow movement between different woodland blocks in the area, offering a range of foraging and sheltering opportunities. | Just out with the LOD but within the ESA. | |

| Grid reference | Tower Number | Woodland Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| NO 49229 61134 | | Redford Wood | Semi-mature broadleaved woodland plantation with sycamore, rowan and oak, northwest of Fern Lodge.<br>This woodland has some connectivity to other woodlands in the wider landscape through the presence of green corridors.<br>No evidence of protected species was identified during the field surveys.<br>Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel due to the green corridors present which could allow movement between different woodland blocks in the area, offering a range of foraging and sheltering opportunities. | Just out with the LOD but within the ESA. | |
| NO 50530 61904 | Between S123 and S120 | Boggie Wood | Immature mixed woodland plantation of Sitka spruce and Scots pine surrounded by birch, oak and beech. This woodland has some connectivity linking to other woodland blocks such as Weiris Wood, Duns Wood, North Wood, Roughmount Wood and Windsor Wood. However, the watercourses and drains could pose a barrier to movement. The surrounding landscape is otherwise dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to there being connectivity between the Weiris Wood, Duns Wood, North Wood, Windsor Wood and Roughmount Wood which offers a range of age structures for foraging and sheltering opportunities. | Intersects over half of the LOD, extending south. | |
| NO 51085 61827 | Between S119 and S118 | Weiris Wood | Mature Sitka spruce woodland plantation, northeast of Knowehead Cottage.<br>This woodland has good connectivity linking into other woodland blocks such as Duns Wood, North Wood, Roughmount Wood and Windsor Wood. However, the watercourses and drains could pose a barrier to movement. The surrounding landscape is otherwise dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to there being connectivity between the wider Duns Wood, North Wood, Windsor Wood and Roughmount Wood which offers a range of age structures for foraging and sheltering opportunities. | Intersects less than a quarter of LOD extending south. | |
| NO 51993 62057 | Between S117 and S115 | Unknown | Immature broadleaved plantation with rowan, cherry, hawthorn, birch and oak. This woodland is located northeast of Duns Wood.<br>This woodland has some connectivity linking to other woodland blocks such as Weiris Wood, Duns Wood, North Wood, Roughmount Wood and Windsor Wood. However, the watercourses and drains could pose a barrier to movement. The surrounding landscape is otherwise dominated by agricultural land. This woodland is surrounded by a stock fence and then a deer fence. | Intersects half of the LOD. | |

| Grid reference | Tower Number | Woodland Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| | | | No evidence of protected species was recorded during the surveys.<br>This woodland provides suitable habitat suitability for pine marten and red squirrel due to their being connectivity to woodlands in the wider landscape which could offer a range of age structures for foraging and sheltering opportunities | | |
| NO 52291 61879 | Between S116 and | Duns Wood | Mixed immature alder, birch woodland in Moderate condition with an older Sitka spruce woodland plantation block located in the centre, southwest of Coe Farm Cottage.<br>This woodland has good connectivity linking into other woodland blocks such as Weiris Wood, North Wood, Roughmount Wood and Windsor Wood. However, the watercourses and drains could pose barrier to movement. The surrounding landscape is otherwise dominated by agricultural land.<br>South of Duns Wood in North Wood a feeding cache left by red squirrels was recorded during the surveys.<br>No other evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to there being connectivity between Weiris Wood, Boggie Wood Windsor Wood and Roughmount Wood which offers a range of age structures for foraging and sheltering opportunities. | Intersects over a quarter of LOD extending south. | |
| NO 53628 62011 | Between S114 and S111 | Lochty Wood | Mature wet woodland with ash, alder, grey willow (*Salix cinerea) subsp. (Oleifolia)* and downy birch, southeast of Coe Farm Cottage.<br>This woodland has good connectivity linking into other woodland blocks such as Weiris Wood, Duns Wood, North Wood, Roughmount Wood and Windsor Wood. However, the watercourses and drains could pose barrier to movement. The surrounding landscape is otherwise dominated by agricultural land.<br>Evidence of red squirrel was reported to be present by nearby homeowners/farmers.<br>No other evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to there being connectivity between the wider Weiris Wood, Duns Wood, Windsor Wood and Roughmount Wood which offers a range of age structures for foraging and sheltering opportunities. | Intersects full LOD, extending north to south. | Photo reference: 11.3.17 |

**Table 11.3.18: Pine Marten and Red Squirrel Habitat Suitability per Woodland Block (Section C)**

| Grid Reference | Tower Number | Woodland Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| NO 56924 63118 | Between S103 and S102 | Belliehill Wood | Mature broadleaved woodland with silver birch, oak, beech, goat willow, rowan, downy birch and Scots pine, west of Nether Belliehill Farm.<br>This woodland has good connectivity to other woodlands in the wider landscape (including Little Brechin Wood below) which form a mosaic with agricultural land and few private residential dwellings.<br>No evidence of protected species was recorded during the surveys, though three red squirrel sightings and a feeding cache were reported in well-connected woodlands just north of Belliehill Wood, as well as reports from landowners of red squirrel and pine marten presence<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to this being a mature, diverse woodland providing a range of foraging and sheltering opportunities, and with good connectivity to other suitable woodlands within the wider landscape. | Intersects the whole LOD, extending from northwest to southeast. | |
| NO 57444 63147 | Between S102 and S100 | Little Brechin Wood | Semi-mature broadleaved woodland with downy and silver birch, pedunculate oak, goat willow, Scots pine and beech extending a quarter of the woodland with a mature coniferous woodland plantation to the north and east with the north section being felled, east of Nether Belliehill Farm.<br>This woodland has good connectivity to other woodlands in the wider landscape (including Belliehill Wood above) which form a mosaic with agricultural land and few private residential dwellings.<br>A red squirrel was reported within this woodland block.<br>No other evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to this being a mature, diverse woodland providing a range of foraging and sheltering opportunities, and with good connectivity to other suitable woodlands within the wider landscape. | Intersects over half of the LOD, extending southeast. | |
| NO 58048 64119 | Between S99 and S97 | Bankhead Wood | Semi-mature mixed woodland with sycamore, silver birch, Scots pine, rowan, beech, willow, and oak, northwest of Bankhead.<br>This woodland has limited connectivity to other woodland pockets due to the presence of watercourses and roads, along with the lack of green corridors. The surrounding landscape is dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten and red squirrel as it is an isolated stand surrounded by intensive agricultural land with very few green corridors offering connectivity to more suitable habitat in the wider landscape. | Intersects less than a quarter of the LOD, extending east. | |
| NO 58499 64605 | Between S97 and S96 | Unknown | Mixed woodland with sycamore, hawthorn, silver birch and oak, northeast of Bankhead.<br>This woodland has good connectivity to Bankhead woodland but otherwise is isolated as it is surrounded by mixed agricultural land, watercourses and roads. It lacks wider connectivity beyond Bankhead Wood due to the lack of green corridors. | Intersects the whole LOD, extending from north to south. | |

| Grid Reference | Tower Number | Woodland Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| | | | No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten and red squirrel as it is an isolated stand surrounded by intensive agricultural land with few green corridors offering limited foraging and sheltering opportunities. | | |
| NO 58829 64907 | Between S96 and S95 | Unknown | Mature mixed woodland strip with sycamore, hawthorn, silver birch and oak, northeast of Bankhead Wood.<br>This long, linear woodland has limited connectivity to Bankhead woodland located to the southwest but is connected to a larger woodland block to the southeast. The surrounding landscape is dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel due to there being connectivity to others in the wider area, and a range of mature food plants but limited opportunities for sheltering due to the linear nature of the woodland strip. | Intersects the whole LOD, extending from north to south. | |
| NO 59725 65798 | Between S93 and S91 | Auchenreoch Wood | Semi mature broadleaved woodland with alder and birch, northwest of Auchenreoch House. The southern half of this woodland is dominated by gorse scrub.<br>This woodland has good connectivity to other woodlands in the wider area through green corridors south to another woodland block, and east to the West Water riparian woodland. The West Water itself is likely to be a barrier to movement east, though the small number of road bridges present may allow some connectivity. The wider landscape is dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel due to there being connectivity between this woodland and others in the wider area, but a limited range food plants within the woodland itself. | Intersects less than a quarter of the LOD, extending southeast. | |
| NO 60384 66222 | Between S90 and S89 | Unknown | Mature broadleaved riparian woodland with oak, sycamore, silver birch, ash and hawthorn, northeast of Auchenreoch House and on the west bank of the West Water.<br>This narrow, riparian woodland is a good connectivity corridor between woodlands in the wider area, including Auchenreoch Wood to the west. The West Water itself is likely to be a barrier to movement east, though the small number of road bridges present may allow some connectivity. The wider landscape is dominated by agricultural land.<br>Feeding box for red squirrels located within the woodland though no evidence of red squirrel was recorded at the time of the surveys.<br>Evidence of pine marten was recorded in the form of a recent scat, and a pine marten sighting was reported in Edzell Wood across the West Water to the north.<br>Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel as there are limited preferred species of food plants present, a lack of denning opportunities for pine | Intersects the whole LOD, extending from northwest to southeast. | Photo reference: 11.3.2 6 |

| Grid Reference | Tower Number | Woodland Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| | | | marten, though the trees present are mature and the woodland is well-connected within the wider landscape. | | |
| NO 61312 66394 | Between S87 and S86 | Unknown | Mature mixed woodland with Scots pine and maple, southeast of Westwater house.<br>This woodland has low connectivity as it surrounded by intensive agricultural land with few green corridors and Whishop Burn flows around the woodland on two sides.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten and red squirrel as it is an isolated stand surrounded by intensive agricultural land with no green corridors connecting this block of woodland to more suitable habitat in the wider landscape. | Intersects less than a quarter of the LOD, extending to the northeast. | |
| NO 61688 66409 | Between | Unknown | Mature mixed woodland with Scots pine and maple, southeast of Westwater house.<br>This woodland has low connectivity as it surrounded by intensive agricultural land with few green corridors and Whishop Burn flows around the woodland on two sides.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten and red squirrel as it is an isolated stand surrounded by intensive agricultural land with no green corridors connecting this block of woodland to more suitable habitat in the wider landscape. | Intersects over half of the LOD, extending north to south. | |
| NO 62402 66941 | Between S83 and S82 | Unknown | Mature broadleaved woodland with beech, maple and ash, southeast of Inveriscandye Cottage.<br>This woodland has good connectivity to other woodlands in the wider area through green. The River North Esk itself will be a barrier to movement to the east. The wider landscape is dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel due to there being connectivity to others in the wider area, and being comprised of a range of mature species which are not strongly favoured but still offer a range of foraging and sheltering opportunities. | Intersects the whole LOD, extending from northwest to southeast. | |
| NO 63314 67417 | Between S80 and S78 | Capo plantation | Felled coniferous woodland plantation, west of Witchfield.<br>This woodland has good connectivity to Clearly Wood, Inverury Wood, Muirton Plantation along with others in the wider landscape through green corridors.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten and red squirrel due to this plantation being recently felled which reduces the foraging and sheltering opportunities. | Intersects the whole LOD. | Photo reference: 11.3.3 1 |
| NO 63142 67749 | Between S80 and S78 | Cleary Wood | Semi-mature wet birch woodland, northwest of Witchfield.<br>This sizeable woodland has some connectivity to woodlands in the wider landscape including on the east bank of the River North Esk. The woodland immediately south however, Capo Plantation, has been | Intersects quarter of LOD, extending north. | Photo reference: 11.3. 28 |

| Grid Reference | Tower Number | Woodland Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| | | | recently felled offering no suitability, see above. The surrounding landscape is dominated by agricultural land and an industrial site forming the eastern boundary of this woodland.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel given due to there being connectivity to other suitable habitat in the wider landscape. | | |
| NO 64189 68179 | Between S77 and S74 | Drumhendy Plantation | Semi-mature broadleaved woodland with birch dominant along with occasional beech and rowan, northeast of Gawloch.<br>This woodland has good connectivity to Inverury Wood and Muirton Plantation, along with having some green corridors to connect this woodland to woodlands in the wider landscape. The surrounding landscape is dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel due to there being semi-mature food species present and connectivity to other suitable woodlands in the wider landscape, offering a range of age structures for foraging and sheltering opportunities. | Intersects over half of LOD extending northwest. | |
| NO 64383 68289 | Between S77 and S73 | Inverury Wood | Semi-mature mixed woodland with birch dominant along with occasional beech, willow, ash and Sitka spruce, east of Gawloch.<br>This woodland has good connectivity to Drumhendy Planation and Muirton Plantation, along with having some green corridors to connect this woodland to woodlands in the wider landscape. The surrounding landscape is dominated by agricultural land.<br>Evidence of red squirrel and pine marten was recorded during camera trap surveys, methods for which are provided within **Appendix 11.6: Confidential Protected Species Survey Report.**<br>Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel due to there being semi-mature food species present and connectivity to other suitable woodlands in the wider landscape, offering a range of age structures for foraging and sheltering opportunities. | Intersects a quarter of LOD extending south. | Photo reference: 11.3.2 7 |
| NO 66395 71421 | Between S66 and S62 | Burnside of Eslie Plantation | Mature coniferous woodland with Scots pine and Sitka spruce dominant in fairly poor condition with young broadleaved beech and birch regeneration, southeast of Gourdon Holdings.<br>This woodland has good connectivity to Lady Jane's Plantation, Little Thornton Wood and Pitgarvie Wood. The surrounding landscape is otherwise dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel due to there being semi-mature food species present and connectivity to other suitable woodlands in the wider landscape, offering a range of age structures for foraging and sheltering opportunities. | Intersects half of the LOD, extending northwest. | |

| Grid Reference | Tower Number | Woodland Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| NO 66557 71354 | Between S66 and S62 | Lady Jane's Plantation | Mature mixed woodland with stands of Sitka spruce in poor condition and beech and birch regeneration, southeast of Gourdon Holdings.<br>This woodland has good connectivity to Burnside of Eslie Plantation, Little Thornton Wood and Pitgarvie Wood. The surrounding landscape is other dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel due to there being semi-mature food species present and connectivity to other suitable woodlands in the wider landscape, offering a range of age structures for foraging and sheltering opportunities. | Intersects half of the LOD, extending southeast. | Photo reference: 11.3.29 |
| NO 67060 72322 | Between S60 and S59 | Unknown | Semi-mature Scots pine woodland plantation with a large amount of wind thrown trees present, northwest of Cowieshills Farmhouse.<br>This woodland has good connectivity through green corridors to other woodland in the surrounding area such as Muiredge Belt, Greenbottom Wood and Knowlies Plantation. The surrounding area is otherwise dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat for pine marten and red squirrel given the presence of Scots pine and wind thrown trees providing some hunting/foraging and resting opportunities, as well as good connectivity to other suitable habitat within the wider landscape. | Intersects a quarter of LOD extending south. | |
| NO 67630 72469 | Between S58 and S57 | Unknown | Narrow mixed broadleaf plantation of sycamore, downy birch, beech, rowan, sessile oak and wild cherry north of Cowieshill Cottage. The understory contains bramble.<br>This woodland forms a connecting link to other woodlands in the wider area. The woodland immediately south, Knowlies Plantation, contains a large amount of windfallen coniferous plantation woodland while the surrounding landscape is otherwise dominated by agricultural land and private residential dwellings.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat for pine marten and red squirrel given the range of tree species and bramble present, and good connectivity with larger woodland blocks in the wider landscape offering a range of age structures for foraging and sheltering opportunities. | Intersects under quarter of LOD extending north. | Photo reference: 11.3.32 |
| NO 68044 72679 | Between S57 and S56 | Greenbottom Wood | Narrow strip of young broadleaf woodland with pedunculate oak, downy birch, rowan, hawthorn, beech and cherry, northwest of Haughhead Cottages.<br>This woodland has good connectivity to other woodlands to Greenbottom Wood north and North Lodge and Knowlies Plantation in the south. The woodland immediately south, Knowlies Plantation, contains a large amount of windfallen coniferous plantation woodland while the surrounding landscape is otherwise dominated by agricultural land and private residential dwellings. | Intersects entire LOD extending northwest and southeast. | |

| Grid Reference | Tower Number | Woodland Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| | | | No evidence of protected species was recorded during the surveys, though landowners reported red squirrel sightings in Knowlies Plantation.<br>Overall, this woodland is considered to provide sub-optimal habitat for pine marten and red squirrel given the range of tree species present, and good connectivity with larger woodland blocks in the wider landscape offering a range of age structures for foraging and sheltering opportunities. | | |

**Table 11.3.19: Pine Marten and Red Squirrel Habitat Suitability per Woodland Block (Section D)**

| Grid Reference | Tower Number | Woodland Name | Description of Survey Results | Location | Photo reference |
|---|---|---|---|---|---|
| NO 70790 74604 | Between S47 and S46 | Cammackmuir Planation | Semi-mature upland birch woodland with both silver and downy birch and grey willow, east of Monarch House.<br>This woodland has limited connectivity due to the lack of green corridors present and the surrounding extensive agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten and red squirrel as it is a relatively small and isolated stand with few green corridors to connect it to wider woodlands and it is surrounded by intensive agricultural land which likely to form a barrier to movement. | Intersect a quarter of the LOD and extends northwest | |
| NO 72253 75566 | Between S42 and S41 | Unknown | Semi-mature broadleaved woodland with sycamore, oak and willow sp., northwest of Mains of Pittarrow.<br>This woodland has poor connectivity to the surrounding landscape being an isolated woodland patch surrounded by agricultural and the Luther Water with limited green corridors.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten and red squirrel as it is small, isolated and surrounded by intensive agricultural land with few green corridors for connectivity. There are also few food plants within this stand. | Intersect a quarter of the LOD. | |
| NO 73063 76255 | Between S39 and S38 | Unknown | Felled coniferous woodland plantation, southwest of Mains of Fordoun Cottages.<br>This woodland has poor connectivity to the surrounding landscape as it surrounded by agricultural land and field drains with no green corridors.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten and red squirrel as this woodland has been felled. It is also surrounded by agricultural land forming a barrier to movement. | Intersect a quarter of the LOD. | |

| Grid Reference | Tower Number | Woodland Name | Description of Survey Results | Location | Photo reference |
|---|---|---|---|---|---|
| NO 74189 77029 | Between S35 and S34 | Woods of Redhall | Semi-mature broadleaved woodland with beech, red cedar (*Thuja plicata)*, birch, ash and sycamore, north of Redhall House.<br>This woodland has poor connectivity to the surrounding landscape bordered by residential land to the northwest and agricultural land on all other sides no green corridors connecting it directly to other blocks of suitable habitat in the wider landscape.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten and red squirrel as it is relatively small, isolated and surrounded by intensive agricultural land which form a barrier to movement. There are also no food plants within the woodland. | Intersects more than half of the LOD, north to south. | |
| NO 74692 78028 | Between S32 and S31 | Eastfield Wood | Mature broadleaved woodland with sycamore, birch, beech and alder, southwest of Cushnie Bungalow.<br>This woodland has good connectivity to woodland blocks to the north such as Den Wood, Little Sheep Park Wood and Big Sheep Park Wood through green corridors. The wider landscape is otherwise dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to there being mature food plants within this woodland and good connectivity between this woodland and others close by, offering a range of age structures for foraging and sheltering opportunities. | Intersects the whole LOD. | |
| NO 74602 78388 | Between S31 and S29 | Little Sheep-park Wood | Semi-mature broadleaved woodland with alder, goat willow, sycamore, birch and ash, northeast of Monboddo Farmhouse.<br>This woodland has good connectivity to woodland blocks to the north such as Den Wood, Eastfield Wood and Big Sheep Park Wood through green corridors. The wider landscape is dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to there being semi-mature food plants within this woodland and connectivity between this woodland and others close by, offering a range of age structures for foraging and sheltering opportunities. | Intersects a quarter of LOD extending northwest. | |
| NO 74778 78890 | Between S29 and S28 | Unknown | Immature broadleaved woodland plantation dominated by rowan with some birch, northeast of Monboddo Farmhouse.<br>This woodland has good connectivity to Big Sheep-park Wood, Little Sheep-park Wood, Den Wood and Eastfield Wood through green corridors. The surrounding landscape is surrounded by agricultural land.<br>No evidence of protected species was recorded during the surveys. | Intersects over half of the LOD, extending east to west. | |

| Grid Reference | Tower Number | Woodland Name | Description of Survey Results | Location | Photo reference |
|---|---|---|---|---|---|
| | | | Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel due the food plants present being immature, but having connectivity between this woodland and others close by offering a range of age structures for foraging and sheltering opportunities. | | |
| NO 74652 79908 | Between S25 and S 24 | Unknown | Immature Scots pine woodland plantation, east of Auchtochter.<br>This woodland has limited connectivity as it is surrounded by mixed agricultural land, lack of green corridors and tributaries of the Bervie water.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten and red squirrel as it is a small, isolated and immature woodland surrounded by intensive agricultural land. | Intersects half of the LOD, extending northeast. | |
| NO 75261 80821 | Between S23 and S22 | Unknown | Mature broadleaved woodland with willow present, west of Hawkhill.<br>This woodland has some connectivity to other woodlands through green corridors, connecting to Knockhill Wood in the southeast and other woodlands along the Bervie Water. The Bervie Water does reduce likelihood of connectivity northeast. The surrounding landscape is dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel due this being a mature broadleaf woodland and due to there being connectivity between this woodland and others close by offering a range of age structures for foraging and sheltering opportunities. | Intersects entire LOD extending northwest and southeast. | |
| NO 75828 81151 | Between S22 and S21 | Unknown | Immature broadleaved plantation, consisting of ash and silver birch, north of Hawkhill.<br>This woodland has some connectivity to other woodlands in the surrounding landscape through green corridors. The surrounding landscape is dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel due to the presence of immature broadleaves and due to there being connectivity between this woodland and others close by offering a range of age structures for foraging and sheltering opportunities. | Intersects entire LOD extending north and east. | |
| NO 76693 82592 | Between S17 and S15 | Jacksbank Wood | Mature broadleaved woodland with beech and birch,southeast of Cotbank.<br>This woodland has poor connectivity to the surrounding landscape being an isolated patch surrounded on all sides by agricultural land with few green corridors.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten and red squirrel as it is a small and isolated stand and is surrounded by intensive agricultural land, offering limited foraging and sheltering opportunities. | Intersects quarter of LOD extending northeast. | |

| Grid Reference | Tower Number | Woodland Name | Description of Survey Results | Location | Photo reference |
|---|---|---|---|---|---|
| NO 79381 85500 | Between S4 and S1 | Fetteresso Forest | Mature coniferous woodland consisting of Sitka spruce and larches (European, Japanese and hybrids) sycamore, oak, Scot's pine, downy birch, alder, Douglas fir, small areas of goat willow, extensive areas of beech and areas of mixed broadleaf, southwest of Clachanshiels.<br>This large woodland has good connectivity to the surrounding landscape with extensive woodland cover extending north, west and east.<br>Evidence of pine marten was recorded to the east and west of the LOD in the form of scat varying in age.<br>Evidence of red squirrel was recorded to the west as foraging remains were found.<br>Overall, this woodland is considered to provide optimal habitat suitability for pine marten and red squirrel due to there being extensive, mixed age woodlands stands in close proximity offering good foraging and sheltering opportunities. | Intersects full LOD extending in all directions. | Photo reference: 11.3.39 and 11.3.40 |

**Table 11.3.20: Pine Marten and Red Squirrel Habitat Suitability per Woodland Block (Section E)**

| Grid Reference | Tower Number | Woodland Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| NO 79079 89330 | Between S3 and N89 | Fetteresso Forest | Mature coniferous woodland consisting of Sitka spruce and larches (European, Japanese and hybrids) sycamore, oak, Scot's pine, downy birch, alder, Douglas fir, small areas of goat willow, extensive areas of beech and areas of mixed broadleaf, southwest of Clachanshiels.<br>This large woodland has good connectivity to the surrounding landscape with extensive woodland cover extending north, west and east.<br>No evidence of protected species was recorded during the surveys.<br>Evidence of pine marten was recorded to the east and west of the LOD in the form of scat varying in age.<br>Overall, this woodland is considered to provide optimal habitat suitability for pine marten and red squirrel due to there being extensive, mixed age woodlands stands in close proximity offering good foraging and sheltering opportunities. | Intersects full LOD extending in all directions. | Photo reference: 11.3.45 and 11.3.46 |
| NO 78934 92088 | Between N82 and N70 | Durris Forest | Mature coniferous woodland consisting of Sitka spruce and larches (European, Japanese and hybrids) sycamore, oak, Scot's pine, downy birch, alder, Douglas fir, small areas of goat willow, extensive areas of beech and areas of mixed broadleaf, east of Gennell.<br>This woodland has good connectivity to the surrounding landscape with extensive woodland cover extending north, west and east. | Intersects full LOD extending in all directions. | Photo reference: 11.3.47, 11.3.49 and 11.3.50 |

| Grid Reference | Tower Number | Woodland Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| | | | Evidence of pine marten was recorded during camera trap surveys, methods for which are provided within **Appendix 11.6: Confidential Protected Species Survey Report.**<br>No other evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide optimal habitat suitability for pine marten and red squirrel due to there being extensive, mixed age woodlands stands in close proximity offering good foraging sheltering opportunities. | | |
| NO 77301 95087 | Between N68 and N64 | Free Church Wood | Mature coniferous woodland consisting of Sitka spruce and larch, northeast of Meikledams.<br>This woodland has good connectivity to other woodlands in the wider area due to ample green corridors. The wider landscape is dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>A pine marten scat was recorded to the east in Kirkton Wood during the surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to there being mature food plants within this woodland and good connectivity between this woodland and others close by, offering a range of age structures for foraging and sheltering opportunities. | Intersects full LOD extending west. | |
| NO 76743 96704 | Between N62 and N61 | Unknown | Semi-mature mixed woodland with sycamore, silver birch, ash, willow, alder, larch, hawthorn, elder and bird cherry, southwest of New West Lodge.<br>This woodland has good connectivity to other woodlands in the wider area due to ample green corridors. The wider landscape is dominated by agricultural land. Connectivity to the north will be restricted due to the River Dee.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to there being a variety of semi-mature food plants within this woodland and good connectivity between this woodland and others close by, offering a range of age structures for foraging and sheltering opportunities. | Intersects over half of the LOD, extending east to west. | |
| NO 76924 96946 | Between N61 and N60 | Unknown | Immature plantation consisting of sycamore, beech, rowan, Douglas fir, hawthorn, ash, scoots pine, hazel, oak, whitebeam (*Sorbus aria)*, willow, wild cherry and downy birch woodland, west of Nether Park Quarry.<br>This woodland has some connectivity to larger areas of woodland through green corridors. The surround landscape is dominated by agricultural land and this woodland borders a quarry.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to there being a wide range of food plants within this woodland, albeit much of it young, | Intersects full LOD extending east. | |

| Grid Reference | Tower Number | Woodland Name | Description of Survey Results | Location | |
|---|---|---|---|---|---|
| | | | and some connectivity between this woodland and others close by offering a range of age structures for foraging and sheltering opportunities. | | |
| NO 77384 98353 | Between N57 and N55 | Unknown | Mature broadleaved woodland with rowan, wild cherry, sycamore and elder, northeast of Upper Park Farm.<br>This small block of woodland has good connectivity to other woodlands in the wider landscape with a long line of trees leading directly south. The wider landscape is otherwise dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel due to the small size of the woodland block and single connecting green corridor, though it does offer a diverse mix of mature broadleaf food plants. | Intersects a quarter of the LOD. | |
| NO 77314 98863 | Between N56 and N53 | Loch of Park | Mature wet woodland to the south with area of mature broadleaved woodland to the north. The wet woodland comprised of alder, downy birch and grey willow. The broadleaved woodland to the north consisted of downy birch, beech, sycamore, rowan, lime and yew (*Taxus baccata)*, southwest of Hill of Park House.<br>This woodland has good connectivity to large areas of woodland to the west and north such as Collonach and Coldstream Plantation through green corridors.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is sub-optimal for pine marten and red squirrel as it contains some mature food plants and has good connectivity to other woodlands offering a range of age structure for foraging and sheltering opportunities. | Intersects over half of LOD extending west. | |
| NO 77317 99459 | Between N53 and N52 | Collonach Plantation | Mature Scots pine woodland with occasional beech, northwest of Hill of Park House.<br>This woodland has good connectivity to large areas of woodland such as Coldstream plantation in the northeast and Loch of Park in the southwest through green corridors.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is sub-optimal for pine marten and red squirrel as there are mature food plants within this woodland and it has good connectivity other suitable woodlands offering a range of age structure for foraging and sheltering opportunities. | Intersects a quarter of the LOD and extends west. | |

Table 11.3.21: Pine Marten and Red Squirrel Habitat Suitability per Woodland Block (Section F)

| Grid Reference | Tower Number | Woodland Name | Description of Survey Results | Location | Photo reference |
|---|---|---|---|---|---|
| NO 77240 99665 | Between | Coldstream Plantation | Felled Scots pine plantation, northwest of Hill of Park House.<br>This woodland has limited connectivity to other large woodland blocks to the southwest due to Couper's Road and the surrounding agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten and red squirrel as it comprised of a recently felled plantation, offering no foraging and sheltering opportunities. | Intersects full LOD extending northeast and northwest. | |
| NJ 77202 01651 | Between N47 and N45 | Unknown | Mature Scots pine woodland, southeast of Murphie Howe.<br>This woodland has limited connectivity through green corridors to other woodlands in the surrounding landscape, though the wider landscape is dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel due to the presence of mature food plants and there being some connectivity between this woodland and others close by, however this is a relatively small monoculture and not above suitable habitat potential. | Intersects full LOD, extending east. | |
| NJ 76589 03701 | Between N40 and N39 | Unknown | Mature coniferous woodland plantation with dominant Sitka spruce, northwest of Templefold Cottages.<br>This woodland has low connectivity due to it being an isolated woodland stand bordered by agricultural land and drainage channels with no green corridors present.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten and red squirrel as it is a relatively isolated woodland surrounded by intensive agricultural land, comprising of monoculture plantation, offering limited age structure for foraging and sheltering opportunities. | Intersects quarter of LOD. | |
| NJ 75591 04529 | Between N36 and N35 | Backstrip Wood | Mature upland birch woodland with downy birch, Scots pine and rare beech to the east along the ditch, northeast of South Finnercy Cottage.<br>This woodland has good connectivity to the surrounding woodlands through green corridors. The surrounding landscape is otherwise dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to there being a small range of mature food plants present and good connectivity between this woodland and others close by offering a range of age structures for foraging and sheltering opportunities. | Intersects quarter of LOD extending northeast. | Photo reference: 11.3.57 |

| Grid Reference | Tower Number | Woodland Name | Description of Survey Results | Location | Photo reference |
|---|---|---|---|---|---|
| NJ 75381 04490 | Between N36 and N34 | Unknown | Mature coniferous woodland plantation dominated by Sitka spruce, northeast of South Finnercy Cottage.<br>This woodland has good connectivity to the surrounding woodlands through green corridors. The surrounding landscape is dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to there being good connectivity between this woodland and others close by offering a range of age structures for foraging and sheltering opportunities, though this woodland only offers a mature monoculture food resource. | Intersects quarter of LOD extending northeast. | |
| NJ 74930 04707 | Between N35 and N33 | Marketmuir Wood | Mature coniferous woodland plantation dominated by Sitka spruce, northeast of Landerberry.<br>This woodland has good connectivity to the surrounding woodlands through green corridors. The surrounding landscape is dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>South of Marketmuir wood, several recordings were made of feeding remains from red squirrels.<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to there being good connectivity between this woodland and others close by offering a range of age structures for foraging and sheltering opportunities, though this woodland only offers a mature monoculture food resource. | Intersects less than a quarter of LOD extending west. | |
| NJ 75104 05403 | Between N34 and N32 | North Kirkton Wood | Mature coniferous woodland plantation with Sitka spruce, larch and Scots pine, south of South Monecht.<br>This woodland has good connectivity to the surrounding woodlands through green corridors. The surrounding landscape is dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to there being mature food plants present and good connectivity between this woodland and others close by offering a range of age structures for foraging and sheltering opportunities. | Intersects full LOD extending northwest. | |
| NJ 74928 06012 | Between N31 and N29 | Myriewell Wood | Semi-mature mixed woodland plantation consisting of Larch and Scots pine to the south with immature oak, beech and rowan present to the north, located north of South Monecht.<br>This woodland has good connectivity to the surrounding woodlands through green corridors. The surrounding landscape is dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to there being a range of semi-mature food plants present and good connectivity between | Intersects full LOD extending southwest. | |

| Grid Reference | Tower Number | Woodland Name | Description of Survey Results | Location | Photo reference |
|---|---|---|---|---|---|
| | | | this woodland and others close by, offering a range of age structures for foraging and sheltering opportunities. | | |
| NJ 74369 06582 | Between N30 and N28 | Unknown | Mature mixed woodland plantation comprised of Scots pine, beech and larch, northwest of Myriewell House.<br>This woodland has good connectivity to the surrounding woodlands through green corridors. The surrounding landscape is dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to there being a range of mature food plants present and good connectivity between this woodland and others close by offering a range of age structures for foraging and sheltering opportunities. | Intersects full LOD extending northwest. | |
| NJ 74119 08914 | Between N21 and N19 | Scaur Wood | Mature coniferous woodland plantation dominated by Sitka spruce with occasional silver birch, north of New Wester Echt.<br>This woodland has good connectivity north to Tillyfoddie woodland and southwest to Craig-na-laoigh Woodand, Barmekin Wood and woodlands in the wider landscape through green corridors, however there are several drainage channels which could affect the ability for both species to move around. The woodland is otherwise surrounded by mixed agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to this being part of a large woodland block with a small range of food plants present and good connectivity between this woodland and others close by offering a range of age structures for foraging and sheltering opportunities. | Intersect half of the LOD and extends southwest. | |
| NJ 73936 08943 | Between N20 and N18 | Tillyfoddie Wood | Mature coniferous woodland plantation dominated by Sitka spruce with occasional birch and Scots pine, north of New Wester Echt.<br>This woodland has good connectivity south to Scaur woodland and southwest to Craig-na-laoigh Woodand, Barmekin Wood and woodlands in the wider landscape through green corridors. The woodland is otherwise surrounded by mixed agricultural land.<br>Evidence of pine marten was recorded during the surveys in the form of a scat on one of the tracks.<br>No evidence was recorded of red squirrel during the surveys.<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to there being a range of mature food plants present and good connectivity between this woodland and others close by, offering a range of age structures for foraging and sheltering opportunities. | Intersects over three quarters of LOD on the western side. | |

| Grid Reference | Tower Number | Woodland Name | Description of Survey Results | Location | Photo reference |
|---|---|---|---|---|---|
| NJ 74053 09380 | Between N19 and N17 | Tillbrig Wood | Mature coniferous woodland plantation dominated by Sitka spruce and Scots pine, north of New Wester Echt.<br>This woodland in the south of the A944 has good connectivity south to Scaur woodland and southwest to Craig-na-laoigh Woodand, Barmekin Wood woodlands in the wider landscape through green corridors. However north of the A944 the connectivity is low due to mixed agricultural land and the Corskie Burn.<br>No evidence of pine marten was recorded during the surveys.<br>Evidence was recorded to red squirrel during the surveys in the form of several areas with feeding remains found.<br>Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel due to the presence of mature food plants and good connectivity between this woodland and others close by offering a range of age structures for foraging and sheltering opportunities. | Intersect half of the LOD and extends northwest. | Photo reference: 11.3.58 |
| NJ 74238 09054 | Between N20 and N18 | Unknown | Mature coniferous woodland plantation, dominated by larch, southwest of Dunecht.<br>This woodland has limited connectivity to the surrounding landscape being an isolated woodland stand bordered by agricultural land on all sides with few green corridors present.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide unsuitable habitat for pine marten and red squirrel as it is a small and relatively isolated stand surrounded by intensive agricultural land and rough grassland. It also comprises a monoculture plantation offering limited diversity for foraging and sheltering opportunities. | Intersects quarter of LOD to the east. | |
| NJ 74102 09761 | Between N18 and N17 | Unknown | Mature Scots pine woodland with abundant birch, beech and holly, southwest of Upper Corksie Steading.<br>This woodland has poor connectivity to the surrounding landscape being an isolated woodland stand bordered by agricultural land and the Corskie Burn limiting connectivity to woodlands to the south.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel due to such limited connectivity to more suitable habitats in the wider landscape but acknowledging the presence of mature food plants. | Intersects half of LOD on the western side. | |
| NJ 74181 10062 | Between N17 and N16 | Corskie Wood | Mature coniferous woodland with dominant Norway spruce (*Picea abies)* and larch with downy birch, beech, Scots pine and Sitka spruce also present, west of Upper Corksie Steading.<br>This woodland has good connectivity to woodlands in the wider landscape through green corridors. The wider landscape is dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys. | Intersects over half of LOD on the western side. | |

| Grid Reference | Tower Number | Woodland Name | Description of Survey Results | Location | Photo reference |
|---|---|---|---|---|---|
| | | | Overall, this woodland is considered to provide sub-optimal habitat suitability for pine marten and red squirrel given the presence of mature food plants and due to there being connectivity between this woodland and others close by offering a range of age structures for foraging and sheltering opportunities. | | |
| NJ 74940 11029 | Between N13 and N12 | Unknown | Semi mature mixed woodland plantation with Scots pine, sessile oak (*Quercus petraea)*, silver birch, hawthorn, alder, hazel (*Corylus avellana)* and goat willow woodland, southeast of Bogendinnie.<br>This woodland has limited connectivity due to the Bogendinnie Burn and is otherwise surrounded by mixed agricultural on all other sides, with a few green corridors present.<br>No evidence of protected species was recorded during the surveys.<br>East of this woodland is Skene Moss where sightings of red squirrel had been recorded by the landowner.<br>Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel due to the range of tree species present, but there being limited connectivity between this woodland and others close by. | Intersects half of LOD on the eastern side. | |
| NJ 75370 12012 | Between N10 and N9 | Unknown | Mature coniferous woodland plantation, dominated by Sitka spruce with whitebeam, ash, downy birch, sycamore and hawthorn at the western, north of Wester Letter Steading.<br>This woodland has some connectivity to other woodlands in the surrounding landscape through green corridors. The wider landscape is dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel due to there being a range of mature food plants within the woodland and some connectivity between this woodland and others close by offering a range of age structures for foraging and sheltering opportunities. | Intersects under three quarters of LOD on the eastern side. | |
| NJ 75945 12442 | Between N9 and N6 | Unknown | Semi-mature mixed woodland plantation with birch and larch, northwest Wardes Cottages.<br>This woodland has some connectivity to other woodlands in the surrounding landscape through green corridors. The wider landscape is dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>South of this woodland feeding remains from red squirrel were recorded.<br>Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel due to there being semi-mature food plants present and some connectivity between this woodland and others close by offering a range of age structures for foraging and sheltering opportunities. | Intersects full LOD extending southeast. | |
| NJ 76354 12822 | Between N6 and N4 | Unknown | Semi-mature mixed woodland plantation with maple, willow, birch, ash, alder, rowan and Sitka spruce, northeast of Osborne. | Intersects under three quarters of | |

| Grid Reference | Tower Number | Woodland Name | Description of Survey Results | Location | Photo reference |
|---|---|---|---|---|---|
| | | | This woodland has some connectivity to other small patches of woodlands in the surrounding landscape through green corridors. The wider landscape is dominated by agricultural land.<br>No evidence of protected species was recorded during the surveys.<br>South of this woodland feeding remains from red squirrel were recorded.<br>Overall, this woodland is considered to provide suitable habitat for pine marten and red squirrel due to the very small size, however it is acknowledged that there are semi-mature food plants within the woodland and some limited connectivity to other small woodland blocks within the wider landscape. | LOD on the western side. | |
| NJ 76496 13091 | Between N6 and N4 | Unknown | Semi mature mixed woodland with Sitka spruce, Scots pine, rowan and downy birch, southwest of South Leylodge Farmhouse.<br>This very small woodland has poor connectivity to the surrounding landscape being an isolated woodland stand bordered by agricultural land on all sides with no green corridors.<br>No evidence of protected species was recorded during the surveys.<br>Overall, this extremely small woodland is considered to provide unsuitable habitat for pine marten and red squirrel as it is small, isolated and surrounded by intensive agricultural land. | Intersects over quarter of LOD on the eastern side. | |

### 3.5 Other Notable and Protected Species

*Mountain Hare*

3.5.1 The desk study identified 5 records of mountain hare within 5km of the Proposed Development, within the last 24 years. These were concerned in Section B and D. Records were largely located within or close to upland environments, including moorland west of Fetteresso Forest. Habitats within the Proposed Development consisted mainly of lowland, agricultural and woodlands with few areas suitable for mountain hare. No field signs of mountain hare were recorded during the surveys, however they are assumed to be present in suitable habitat.

*Brown Hare*

3.5.2 The desk study identified 293 records of brown hare within 5km of the Proposed Development, within the last 24 years. Recprds were spread throughout all Sections of the Proposed Development within woodland blocks and across agricultural land. Habitats within the Proposed Development consisted mainly of lowland, agricultural and woodlands which offers optimal habitat for brown hares. Several incidental sightings were recorded of brown hare throughout the ESA.

*Hedgehog*

3.5.3 The desk study identified 124 records of hedgehog within 5km of the Proposed Development, within the last 24 years. Records were located within woodland blocks and lowland habitats throughout the length of the Route, including urban areas. No field signs of hedgehog were recorded during the surveys; however, they are assumed to be present in suitable habitat.

*Water Shrew*

3.5.4 The desk study identified 22 records of water shrew within 5 km of the Proposed Development, within the last 24 years. Records are located within 5 km of Sections E and F. No field signs of water shrew were recorded during the surveys, however they are assumed to be present in suitable habitat.

*Amphibians*

3.5.5 The desk study identified 68 records of common toad and one record of common frog within 5 km of the Proposed Development, within the last 24 years. The ESA provides some habitat for amphibians with eleven incidental sightings of common frog, common toads, tadpoles and eggs recorded during the surveys in Sections A, B and F.

*Reptiles*

3.5.6 The desk study identified no records of palmate newt, 62 records of common lizard, one record of adder, no records of grass snake, and two records of slow worm within 5 km of the Proposed Development, within the last 24 years. The ESA provides some habitat for reptiles and there were several incidental sightings recorded during the surveys.

*Brown/ sea trout*

3.5.7 The desk study identified 439 records of brown/ sea trout within 5km of the Proposed Development, within the last 24 years. The records were located in Sections A and D to F. No field signs of brown/ sea trout were recorded during the surveys, however they are assumed to be present in suitable habitat.

*European eel*

3.5.8 The desk study identified 135 records of European eel within 5 km of the Proposed Development, within the last 24 years. The records were all located in Sections A and D to F. No field signs of European eel were recorded during the surveys, however they are assumed to be present in suitable habitat.

3.5.9 For further information on the desk study findings, refer to **Volume 5, Appendix 11.1: Desk Study and Legal/Policy Context.**

# 4. INTERPRETATION

## 4.1 Otter

4.1.1 The desk study identified 199 records of otter within 5km of the Proposed Development, within the last 24 years. These were located on a number of watercourses throughout all Sections A to F inclusive, such as the River Tay, River South Esk and the River Dee which are all hydrologically connected to the Proposed Development.

4.1.2 The River South Esk, Bog Burn and Noran Water in Section B, the West Water and the River North Esk in Section C, Bervie Water in Section D, and the Cowie Water, Burn of Sheeoch and the River Dee in Section E were all considered to provide optimal habitat for otter. These watercourses provided optimal habitat for otter as they were typically larger, main watercourses that contain flow at all times of the year, which increases the likelihood of foraging recourses being present for the otters and allows them to commute along the watercourses. These watercourses mostly have rocky substrates and banksides with vegetation that overhangs offering suitable resting opportunities.

4.1.3 Further watercourses such as, the Kerbet Water and Dean water in section A, Kings Burn in Section B, the Cruick Water, Black Burn and Downie Burn in Section C, the Black Burn and the Luther Water and the Burn of Elfhill in Section D, the Black Burn in Section E and the Gormack Burn in Section F were classified as proving sub-optimal habitat for otters due to the adjacent land and land uses providing pressure on the watercourses which in turn reduces the opportunities for shelter and foraging.

4.1.4 Finally, all other watercourses throughout the ESA were narrow and heavily canalised or part of extensive field drain networks which offer either unsuitable or suitable habitat for otters. It is likely that these watercourses will be used on occasion by otter by they are unlikely to form part of their core territory and are unlikely to support breeding otter due to the lack of shelter and foraging resources.

4.1.5 Field surveys and findings confirmed that otter are utilising the following rivers for commuting, foraging and sheltering purposes. Evidence of otter was found on all optimal watercourses above, with a resting site found on the West Water and temporary resting sites found on the River South Esk and the River North Esk. These watercourses in Sections B, C, D and E, particularly those where resting sites were found, are each therefore considered likely to constitute part of an otter's core territory, however the LOD only crosses a small section of this core territory. Evidence in the form of spraints and sightings was recorded on the Dean Water in Section A, the Cruick Water in Section B, the Luther Water in Section C and the Gormack and Corkie Burns in Section F. Due to the lack of resting sites both more permanent and temporary these watercourses are less likely to be part of core territories for otters, however in some cases they will be used by otter sporadically.

## 4.2 Beaver

4.2.1 The desk Study identified 1415 records of beaver within 5km of the Proposed Development, within the last 24 years. These records were recorded in Section A and B only, along watercourses such as the Kerbet Water and Dean Water which are part of the River Tay SAC. It is not considered likely that the beaver population's range extends northeast beyond Kirriemuir, though it is understood to be expanding[20].

4.2.2 Habitats within the Proposed Development ranged widely from unsuitable for beaver to optimal. All of the main watercourses within Section A and three within Section B were found to be unsuitable for beaver while one, the River South Esk, was considered suitable and three, the King's Burn, King's Burn Tributary and the Noran Water, were considered sub-optimal. The Burn of Elfhill in Section D and Cowie Water and Black Burn in Section E were also considered suitable for beaver, while the Bervie Water in D was considered sub-optimal. The only watercourse within the Proposed Development considered optimal for beaver was the Burn of Sheeoch in Section E.

4.2.3 Field surveys found no evidence of beavers to be present within the ESA which is due to a large part of the ESA being dominated by mixed agricultural land, channelised watercourses and the lack of scrub and woodland in close proximately to the watercourse. However, there were a few watercourses which provided sub-optimal or suitable habitats for beaver with areas of woodland or scrub with young trees present either between 5 to 50 m from the water's edge for sub-optimal and beyond 50 m for suitable. This provides foraging and construction materials for the beavers. Watercourses such as the Kings Burn and Noran

[20] IUCN/CPSG, 2022. Scotland's Beaver Strategy 2022-2045. IUCN SSC Conservation Planning Specialist Group, MN, USA. Available online: https://www.nature.scot/sites/default/files/2025-07/scotland-s-beaver-strategy-31-august-2022.pdf. [Accessed August 2025].

Water in Section B, the Bervie water in Section D and the Cowie Water, Black Burn and Burn of Sheeoch in Section E were classified to have sub-optimal or suitable habitat for beaver. Due to the lack field evidence found, these watercourses are unlikely to make up part of beavers core territory.

### 4.3 Water Vole

4.3.1 The desk Study identified 8 records of water vole records within 5km of the Proposed Development, within the last 24 years. These were located in Sections A and in D to F, along watercourse such as the Carron Water and tributaries of the river Dee which are both hydrologically connected to the Proposed Development.

4.3.2 The ESA is largely dominated by mixed agricultural land and heavily modified channelised watercourses with some main larger watercourses present. The majority of the watercourses within the ESA were moderate to fast flowing, with stony beds and rocky banksides lacking extensive swards of rushes, therefore in the context of the ESA as a whole, suitable habitat for water vole was rare. Within the ESA only one unnamed burn in Section B, northwest of Dragon Hall Farm was classified as sub-optimal for water vole and another, Weiris burn, classified as suitable as it had an abundance of rush (*Juncus* spp.) vegetation for the water voles to foraging on, along with the water being relatively slow flowing allowing them to swim and commute. Finally, the land adjacent to the watercourse was dominated by neutral grassland that offered some sheltering opportunities.

4.3.3 No evidence of water vole was recorded during the surveys. It is likely that they are present in extremely low densities and are highly localised due to the lack of habitats suitable recorded within the ESA.

### 4.4 Atlantic Salmon

4.4.1 The desk study reported 169 records for Atlantic salmon within 5 km of Sections A and C to F, with records concentrated along the River Dee and its tributaries within Sections E to F.With the exception of the Noran Water, the watercourses assessed during the habitat suitability surveys in Sections A-B were found to be affected by factors such as barriers to fish movement, extensive quantities of silt and lack of suitable spawning substrate, and pressures from adjacent intensive agricultural land use. Where there were clear barriers to fish movement, Atlantic salmon was assessed to be likely absent, although the potential for this species to be present couldn't be ruled out on the Kerbet Water, Dean Water, and Kings Burn.

4.4.2 The Noran Water in Section B and the Burn of Sheeoch in Section E were found to have habitat conditions that offer potential for Atlantic salmon. These watercourses were found to have a width and depth with associated flow speed that provides suitable conditions for Atlantic salmon, extensive areas of substrate for spawning with only limited areas of silt, and a wide riparian vegetation strip that buffers the watercourse from adjacent land uses and provides shade to maintain cool water temperatures. Atlantic salmon was assessed to be likely present on these watercourses.

### 4.5 Pine Marten

4.5.1 The desk Study identified 467 records of pine marten within 5km of the Proposed Development, within the last 24 years. These were located in woodlands throughout all Sections A and C to F inclusive. A high concentration of records are located within woodland blocks north of Brechin and within Fetteresso Forest, both of which are connected to the Proposed Development via woodland corridors.

4.5.2 Field surveys concluded that Fetteresso Forest and Durris Forest were considered to provide optimal habitat for pine marten due to the diversity of mature tree species present and size of the woodland. Approximately one third of all woodland blocks within the ESA were considered to provide sub-optimal habitat for pine marten, with another third considered to provide suitable habitat. Many of these woodlands extended out with the ESA. Evidence of pine marten was recorded north of Jericho (Section A), near Forestmuir (Section B), northeast of Auchenreoch House and Inverury Wood (Section C), in Durris (Section D) and in Fetteresso Forest (Sections D and E). These woodlands were not connected to one and another.

4.5.3 Pine marten can have very large home ranges and are known to utilise a range of habitat types, preferring old growth woodland with varied ages and species structure, with mature trees offering cavities in which they can shelter and breed without the threat of predation by foxes.

4.5.4 Given the habitat suitability identified throughout the ESA and locations of pine marten evidence recorded, it is considered likely that the ESA forms part of several pine marten territories and that they are expected to be present at low densities throughout the ESA.

### 4.6 Red Squirrel

4.6.1 The desk Study identified 9291 records of red squirrel within 5km of the Proposed Development, within the last 24 years. These were located in woodlands throughout all Sections A to F inclusive. Records are located within woodland blocks (broadleaved, mixed and coniferous) across the entire Route.

4.6.2 Field surveys concluded that Fetteresso Forest and Durris Forest were considered to provide optimal habitat for red squirrel due to the diversity of mature tree species present and size of the woodland. Approximately one third of all woodland blocks within the ESA were considered to provide sub-optimal habitat for red squirrel, with another third considered to provide suitable habitat. Many of these woodlands extended out with the ESA.

4.6.3 In Section A, evidence of red squirrel was recorded in a Scots pine woodland, southeast of Arniefoul and in a mixed woodland block, south of Upper Hayston Farm. In Section B, red squirrels were recorded in Lochty Wood, in Section C in a woodland block which runs alongside of the West Water, northeast of Auchenreoch House and in Inverury Wood, in Section D and E in Fetteresso Forest and finally in Section F in Tillbrig Wood. These woodlands were not connected to one and another connected. Evidence recorded was either feeding remains or sightings, no dreys were recorded. This highlights that these woodlands are being used for foraging and sheltering and that red squirrel is a highly mobile species that uses multiple dreys at any one time.

4.6.4 Several woodlands in Sections E, Durris Wood, Loch of Park and Collonach plantation were considered optimal and sub-optimal and while no evidence was recorded, this does not infer absence. Also in Section F, Coldstream Planation, Scaur Wood and Tillyfoddie Wood were considered sub-optimal and while no evidence was recorded, this does not infer absence. This shows that there is optimal and sub-optimal habitat within the wider landscape.

# ANNEX 11.3.1 PHOTOGRAPHS

Scottish & Southern Electricity Networks

TRANSMISSION

## CONTENTS

# ANNEX 11.3.1 – PROTECTED SPECIES PHOTOGRAPHS

## 1.1 Otter, Beaver and Water Vole

1.1.1 **Table 11.3.1.1: Example Otter, Beaver and Water Vole Photographs – Section A** presents example photographs of habitats in Section A with potential to support otter, beaver or water vole.

**Table 11.3.1.1: Example Otter, Beaver and Water Vole Photographs – Section A**

| Photograph | Photograph |
|---|---|
|  |  |
| Photo reference: 11.3.1<br>Kerbet Water with sub-optimal habitat for otter, but unsuitable for beaver and water vole. | Photo reference 11.3.2<br>Field drain connected to the Kerbet Water with unsuitable habitat for otter, beaver and water vole. |
|  |  |
| Photo reference: 11.3.3<br>Dean Water with sub-optimal habitat for otter, but unsuitable for beaver and water vole. | Photo reference: 11.3.4<br>Another image of Dean Water to show the river bank from a different angle. |

## 1.2 Red Squirrel and Pine Marten

1.2.1 **Table 11.3.1.2: Example Red Squirrel and Pine Marten Photographs – Section A** presents example photographs of woodlands that were assessed for their potential to support red squirrels and pine martens in section A.

**Table 11.3.1.2: Example Red Squirrel and Pine Marten Photographs – Section A**

| Photograph | Photograph |
|---|---|
|  <br>Photo reference: 11.3.5<br>Red squirrel feeding remains found in coniferous woodland south of Hayston Hill. |  <br>Photo reference: 11.3.6<br>Coniferous woodland south of Hayston Hill. Suitable red squirrel and pine marten habitat. |
|  <br>Photo reference: 11.3.7<br>Broadleaved woodland northwest of Hayston Hill. Sub-optimal red squirrel and pine marten habitat. |  <br>Photo reference: 11.3.8<br>Broadleaved woodland northwest of Douglastown with suitable red squirrel and unsuitable pine marten habitat. |

## 1.3 Mountain Hare

1.3.1 **Table 11.3.1.3: Example Mountain Hare Photographs – Section A** presents photographs of potential mountain hare habitat in section A.

**Table 11.3.1.3: Example Mountain Hare Photographs – Section A**

| Photograph | Photograph |
|---|---|
|  |  |
| Photo reference: 11.3.9<br>Potential mountain hare habitat northwest of Petterden. | Photo reference: 11.3.10<br>Potential mountain hare habitat northwest of Petterden. |

## 1.4 Otter, Beaver and Water Vole

1.4.1 **Table 11.3.1.4: Example Otter, Beaver and Water Vole Photographs – Section B** presents example photographs of watercourses in section B with potential to support otter, beaver or water vole.

**Table 11.3.1.4: Example Otter, Beaver and Water Vole Photographs – Section B**

| Photograph | Photograph |
|---|---|
|  |  |
| Photo reference: 11.3.11<br>King's Burn with sub-optimal otter and beaver habitat but unsuitable water vole habitat. | Photo reference: 11.3.12<br>King's Burn Tributary with sub-optimal otter and beaver habitat but unsuitable water vole habitat. |

| Photograph | Photograph |
|---|---|
|  <br>Photo reference: 11.3.13<br>Noran Water is an optimal habitat for otters; it is however sub-optimal for beavers and unsuitable for water voles. |  <br>Photo reference: 11.3.14<br>River South Esk with optimal otter habitat but unsuitable beaver and water vole habitat. |
|  <br>Photo reference: 11.3.15<br>Otter spraint site found under bridge on the banks of Bog Burn. |  <br>Photo reference: 11.3.16<br>Bog Burn, a watercourse optimal for otters, but unsuitable for water voles and beavers. |

## 1.5 Red Squirrel and Pine Marten

1.5.1 **Table 11.3.1.5: Example Red Squirrel and Pine Marten Photographs – Section B** presents example photographs of different habitats that could support red squirrel and pine marten in section B.

**Table 11.3.1.5: Example Red Squirrel and Pine Marten Photographs – Section B**

| Photograph | Photograph |
|---|---|
|  |  |
| Photo reference: 11.3.17<br>Lochty Wood with sub-optimal red squirrel and pine marten habitat. | Photo reference: 11.3.18<br>Forestmuir Wood with sub-optimal red squirrel and pine marten habitat. |

## 1.6 Otter, Beaver and Water Vole

1.6.1 **Table 11.3.1.6: Example Otter, Beaver and Water Vole Photographs – Section C** presents example photographs of watercourses in section C which were assessed for their potential to support otter, beaver and water vole.

**Table 11.3.1.6: Example Otter, Beaver and Water Vole Photographs – Section C**

| Photograph | Photograph |
|---|---|
|  |  |
| Photo reference: 11.3.19<br>Cruick Water with optimal otter habitat but not suitable for beaver and water vole. | Photo reference: 11.3.20<br>Otter spraint recorded on a large boulder in the West Water. |

| Photograph | Photograph |
|---|---|
|  |  |
| Photo reference: 11.3.21<br>West Water with optimal otter habitat, but unsuitable for beaver and water vole. | Photo reference: 11.3.22<br>Otter spraint recorded on the banks of River North Esk. |
|  |  |
| Photo reference: 11.3.23<br>River North Esk with optimal otter habitat, but unsuitable habitat for beaver and water vole. | Photo reference: 11.3.24<br>Black Burn with sub-optimal otter habitat but unsuitable beaver and water vole habitat. |

## 1.7 Red Squirrel and Pine Marten

1.7.1 **Table 11.3.1.7: Example Red Squirrel and Pine Marten Photographs – Section C** presents both example photographs of woodlands which were assessed for their potential to support red squirrel and pine marten as well as evidence of their presence.

**Table 11.3.1.7: Example Red Squirrel and Pine Marten Photographs – Section C**

| Photograph | Photograph |
|---|---|
|  <br>Photo reference: 11.3.25<br>Little Brechin Wood with sub-optimal red squirrel and pine marten habitat. |  <br>Photo reference: 11.3.26<br>Pine marten scat found near to a bridge over West Water. |
|  <br>Photo reference: 11.3.27<br>Inverury Wood with suitable red squirrel and pine marten habitat. |  <br>Photo reference: 11.3.28<br>Clearly Wood mixed woodland with suitable red squirrel and pine marten habitat. |
|  <br>Photo reference: 11.3.29<br>Lady Jane's Plantation with suitable red squirrel and pine marten habitat. |  <br>Photo reference: 11.3.30<br>Greenbottom Wood mixed woodland with sub-optimal red squirrel and pine marten habitat. |

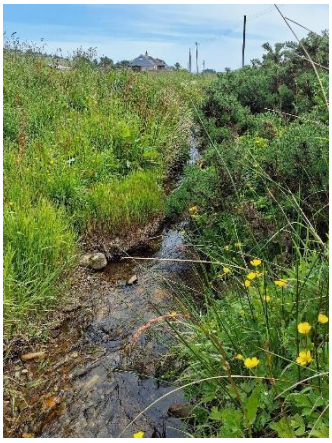
| Photograph | Photograph |
|---|---|
|  |  |
| Photo reference: 11.3.31<br>Capo Plantation with unsuitable habitat suitability for both pine marten and red squirrel. | Photo reference: 11.3.32<br>Narrow mixed broadleaf plantation, north of Cowieshill Cottage which provides sub-optimal hbaiat for both pine marten and red squirrel. |

## 1.8 Otter, Beaver and Water Vole

1.8.1 **Table 11.3.1.8: Example Otter, Beaver and Water Vole Photographs – Section D** presents example photographs of watercourses in section D which were assessed for their potential to support otter, beaver and water vole.

**Table 11.3.1.8: Example Otter, Beaver and Water Vole Photographs – Section D**

| Photograph | Photograph |
|---|---|
|  |  |
| Photo reference: 11.3.33<br>Black Burn, with sub-optimal otter habitat but no suitable beaver and water vole habitat. | Photo reference: 11.3.34<br>Otter spraint recorded under bridge on the banks of Luther Water. |

| Photograph | Photograph |
|---|---|
|  <br>Photo reference: 11.3.35<br>Luther Water, with sub-optimal otter and unsuitable beaver and water vole habitat. |  <br>Photo reference: 11.3.36<br>Bervie Water, with optimal otter habitat but no suitable water vole or beaver habitat. |
|  <br>Photo reference: 11.3.37<br>Otter spraint recorded on banks of Bervie Water. |  <br>Photo reference: 11.3.38<br>Burn of Annamuick, with suitable otter habitat but no suitable beaver or water vole habitat. |

## 1.9 Red Squirrel and Pine Marten

1.9.1 **Table 11.3.1.9: Example Red Squirrel and Pine Marten Photographs – Section D** presents example photographs of Fetteresso Forest which was assessed for its potential to support red squirrel and pine marten.

**Table 11.3.1.9: Example Red Squirrel and Pine Marten Photographs – Section D**

| Photograph | Photograph |
|---|---|
|  |  |
| Photo reference: 11.3.39<br>Fetteresso Forest, an optimal red squirrel and pine marten habitat. | Photo reference: 11.3.40<br>Fetteresso Forest, an optimal red squirrel and pine marten habitat. |

## 1.10 Otter, Beaver and Water Vole

1.10.1 Table 11.3.1.10 presents example photographs of watercourses in Section E which were assessed for their potential to support otter, beaver and water vole.

**Table 11.3.1.10: Example Otter, Beaver and Water Vole Photographs – Section E**

| Photograph | Photograph |
|---|---|
|  |  |
| Photo reference: 11.3.41<br>Cowie Water, with optimal otter habitat, suitable beaver habitat but unsuitable for water voles. | Photo reference: 11.3.42<br>Burn of Sheeoch, with optimal otter and beaver habitat but no suitable water vole habitat. |

| Photograph | Photograph |
|---|---|
|  |  |
| Photo reference: 11.3.43<br>Another image of Burn of Sheeoch, sandy banks and fallen trees visible. | Photo reference: 11.3.44<br>Black Burn which offer sub-optimal habitat for otters, suitable habitat for beavers and unsuitable habit for water vole. |

## 1.11 Red Squirrel and Pine Marten

1.11.1 **Table 11.3.1.11: Example Red Squirrel and Pine Marten Photographs – Section E** shows example photographs of woodlands in section E which were assessed for their potential to support red squirrel and pine marten.

**Table 11.3.1.11: Example Red Squirrel and Pine Marten Photographs – Section E**

| Photograph | Photograph |
|---|---|
|  |  |
| Photo reference: 11.3.45<br>Fetteresso Forest with optimal pine marten and red squirrel habitat. | Photo reference: 11.3.46<br>Fetteresso Forest, an optimal pine marten and red squirrel habitat. |

| Photograph | Photograph |
|---|---|
|  |  |
| Photo reference: 11.3.47<br>Durris Forest with optimal pine marten and red squirrel habitat. | Photo reference: 11.3.48<br>Free Church Wood with sub-optimal pine marten and red squirrel habitat. |
|  |  |
| Photo reference: 11.3.49<br>Pine marten recorded on camera trap in Durris Forest. | Photo reference: 11.3.50<br>Pine marten recorded on camera trap in Durris Forest. |

## 1.12 Mountain Hare

1.12.1 **Table 11.3.1.12: Example Mountain Hare Photographs – Section E** presents example photographs of habitat which has the potential to support mountain hare in section E.

**Table 11.3.1.12: Example Mountain Hare Photographs – Section E**

| Photograph | Photograph |
|---|---|
|  |  |
| Photo reference: 11.3.51<br>Fetteresso Forest with potential mountain hare habitat. | Photo reference: 11.3.52<br>Potential mountain hare habitat north of Fetteresso Forest. |

## 1.13 Otter, Beaver and Water Vole

1.13.1 **Table 11.3.1.13: Example Otter, Beaver and Water Vole Photographs – Section F** presents example photos of watercourses that were assessed for their potential to support otter, beaver and water vole in section F.

**Table 11.3.1.13: Example Otter, Beaver and Water Vole Photographs – Section F**

| Photograph | Photograph |
|---|---|
|  <br>Photo reference: 11.3.53<br>Gormack Burn with sub-optimal otter habitat but no suitable water vole or beaver habitat. |  <br>Photo reference: 11.3.54<br>Otter spraint found on the banks of Corskie Burn. |
|  <br>Photo reference: 11.3.55<br>Corskie Burn with suitable otter habitat but no suitable beaver or water vole habitat. |  <br>Photo reference: 11.3.56<br>Bogendinny Burn with suitable habitat for otter but no suitable habitat for beaver and water vole. |

## 1.14 Red Squirrel and Pine Marten

1.14.1 **Table 11.3.1.14: Example Red Squirrel and Pine Marten Photographs – Section F** shows example photographs of woodlands that were assessed for their potential to support red squirrel and pine marten in section F.

**Table 11.3.1.14: Example Red Squirrel and Pine Marten Photographs – Section F**

| Photograph | Photograph |
|---|---|
|  |  |
| Photo reference: 11.3.57<br>Backstrip woodland which provides sub-optimal habitat suitability for both red squirrel and pine marten. | Photo reference: 11.3.58<br>Tillybrig Wood with sub-optimal red squirrel and pine marten habitat. |