

# Appendix 12.12

## Outline Species Protection Plan

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# 1 Introduction

## 1.1 Background

1.1.1 This Outline Species Protection Plan (OSPP) has been prepared to document specific mitigation measures identified through the Ecological Impact Assessment (EclA) of Project 7 – Glen Garry to Dalwhinnie (Central Section) of the A9 Dualling programme (hereafter referred to as the Proposed Scheme).

1.1.2 Information on important habitats, fauna and flora, including potential impacts are presented in **Chapter 12 in Volume 1**.

## 1.2 Scope

1.2.1 Prior to the commencement of construction, the Contractor will develop information contained in this OSPP to produce a Species Protection Plan that will contain, as required, updated baseline information and working methods. Prior to construction, the Species Protection Plan will be agreed in writing with the CNPA, Scottish Natural Heritage (SNH) and Scottish Environment Protection Agency (SEPA).

## 1.3 Report Structure

1.3.1 The structure of this report is presented as follows:

- Section 2 (Amphibians)
- Section 3 (Badgers)
- Section 4 (Bats)
- Section 5 (Birds)
- Section 6 (Atlantic Salmon)
- Section 7 (Sea Lamprey)
- Section 8 (Freshwater Pearl Mussel)
- Section 9 (Otter)
- Section 10 (Reptiles)
- Section 11 (Water Vole)
- Section 12 (Hare Species)
- Section 13 (Pine Marten)
- Section 14 (European Wildcat)

## 2 Amphibians

### 2.1 Introduction

- 2.1.1 An Ecological Impact Assessment (EclA) on common toad (*Bufo bufo*) has been undertaken as part of the assessment of the Proposed Scheme (see **Chapter 12, Volume 1**).
- 2.1.2 Where toad and other amphibian species are encountered during works, the Ecological Clerk of Works (ECoW) shall be contacted to advise on working methods restrictions immediately and this plan shall be updated accordingly.

### 2.2 Pre-construction Surveys

- 2.2.1 No survey work required.

### 2.3 General Mitigation

- 2.3.1 The ECoW shall be on site on a permanent basis throughout all site clearance and earthworks stages, and shall provide an advisory role with regards to amphibians.
- 2.3.2 Best practice, in line with the relevant Pollution Prevention Guidelines (PPG), shall be maintained in order to minimise the likelihood of changes to water quality or chemistry through sedimentation or spills during construction which could affect waterbodies used by amphibians during the breeding season.
- 2.3.3 All chemicals, fuels and other potentially harmful materials to be used on site shall be safely and correctly stored and labelled, in accordance with relevant legislation, in a bunded area and spill kits be made available on site, in case spills do occur.
- 2.3.4 Works in proximity to waterbodies shall be avoided during the amphibian breeding season (February to June) where feasible.
- 2.3.5 Destruction of waterbodies shall be avoided where possible; however, if necessary, works shall be undertaken during the winter months (November to January) to reduce the impact on common toad populations (i.e. avoid breeding season). Occasionally, common toad/ common frog hibernate in mud at the bottom of waterbodies. Therefore drainage methods shall be used that minimise the risk of injury to hibernating toads.
- 2.3.6 Works carried out in suitable common toad terrestrial habitat (e.g. rough grassland, tall herb and heath) between March and October (active period) shall adopt a sensitive approach to vegetation clearance (e.g. phased strimming) to protect to common toad/ common frog from injury or mortality.
- 2.3.7 **Table 2** provides indicative guidance on the optimal timing for carrying out the required mitigation for amphibians.

## 3 Badger

### 3.1 Introduction

- 3.1.1 An EclA on badger (*Meles meles*) has been undertaken as part of the assessment of the Proposed Scheme (see **Chapter 12, Volume 1**).

### 3.2 Pre-construction Surveys

- 3.2.1 Pre-construction badger surveys shall include a minimum of 30m beyond the Proposed Scheme boundary, and up to 100m for areas of potential high noise and vibration activities during construction.
- 3.2.2 Pre-construction surveys shall be carried out by suitably qualified and experienced ecologists who can identify badger signs along with active, inactive and defunct setts.
- 3.2.3 If badger setts are discovered during the pre-construction surveys, a licence may be required from SNH.
- 3.2.4 Under Section 10 of the Protection of Badgers Act 1992 licences may be granted by SNH, for specific purposes, to permit activities which would otherwise be illegal. Licences are unlikely to be issued which would require closure of badger setts during the badger breeding season (1st December to 30th June inclusive), as badgers are more sensitive to disturbance during this period and where mitigation could have negative impacts on dependant young.

### 3.3 General Mitigation

- 3.3.1 The ECoW shall be on site on a permanent basis throughout all site clearance and earthworks stages, especially if works are taking place close to known badger setts identified in pre-construction surveys, to ensure all mitigation relevant to badger is implemented.
- 3.3.2 If potential setts or badger themselves are encountered on site, all works shall cease until the ECoW has inspected the site and provided advice on any additional mitigation measures which may be required. Site personnel shall be informed of this procedure prior to any site activity during a toolbox talk.
- 3.3.3 Any pipes shall be capped or sealed at the end of every working day to prevent badger from accessing. Any holes or trenches shall have exit ramps comprising a formed slope or wooden plank capable of supporting a badger at 45 degrees, to allow any badger a safe escape. All areas shall be checked at the beginning of the shift to ensure exit ramps are still intact and no badger have entered during the night.
- 3.3.4 All chemicals and materials to be used on site shall be safely and correctly stored and labelled, in accordance with relevant legislation, ideally on a bund and spill kits be made available on site in case spills do occur.
- 3.3.5 **Table 2** provides guidance on the optimal timing for carrying out the required mitigation for badger.

### 3.4 Works in proximity to an active sett

- 3.4.1 If setts are identified during pre-construction surveys, an exclusion zone shall be implemented to protect the sett. The ECoW shall define an appropriate exclusion zone depending on the nature of works (e.g. piling or excavation works will require a large buffer to minimise disturbance).
- 3.4.2 If works are required within 30m of an active sett, the nature of the work shall be reviewed by the site agent and ECoW. If necessary, specific mitigation plans and, where appropriate, licences shall be obtained from SNH to facilitate disturbance, temporary closure of a sett or permanent closure, destruction and sett replacement.
- 3.4.3 Fencing to mark exclusion zones shall be installed prior to site work commencing and shall be clearly marked with coloured tape to prevent site personnel from entering the area. Site staff shall be informed of the purpose of the exclusion zone prior to any site activity during a toolbox talk.

## 4 Bats

### 4.1 Introduction

- 4.1.1 An EclA on common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*) has been undertaken as part of the assessment of the Proposed Scheme (see **Chapter 12, Volume 1**).

### 4.2 Pre-construction Surveys

- 4.2.1 Pre-construction bat roost surveys shall extend to a minimum of 50m beyond the Proposed Scheme.
- 4.2.2 Structures and individual trees, which are likely to be impacted by works, shall be inspected by suitably qualified and experienced ecologists to assess their potential to support roosting bats. Features with potential to support roosting bats shall require further survey to determine if bats are present in line with the most up to date survey guidelines<sup>1</sup>, including hibernation surveys on structures considered to have low potential for hibernating bats; Dalnaspidal culvert (ch. 400), Allt Ruidh nan Sg oilearan NCN7 culvert (ch. 1,500) and the Allt a' Chaorainn (ch. 3,000).
- 4.2.3 If evidence of roosting bats is identified, an EPS license may be required from SNH. The requirement for licensing shall be determined with respect to the nature and timing of works in proximity to bat roosts.

### 4.3 General Mitigation

- 4.3.1 The ECoW shall be on site on a permanent basis throughout all site clearance and earthworks stages, particularly if works are taking place in proximity to a bat roost, to ensure all mitigation relevant to bats is implemented.
- 4.3.2 If evidence of bats or bats themselves are encountered on site all works shall cease until the ECoW has inspected the site and provided advice on any additional mitigation measures which may be required. Site personnel shall be informed of this procedure and how to identify signs of bats (e.g. urine staining/ droppings) prior to any site activity, during a toolbox talk.
- 4.3.3 Any tree felling shall be undertaken by experienced contractors to reduce the potential for direct mortality of roosting bats. Due to the requirement for the soft felling of low risk bat suitability trees, the contractors must also have relevant tree climbing qualifications to allow for this protective procedure.

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<sup>1</sup> Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guideline (3<sup>rd</sup> edn). The Bat Conservation Trust, London

- 4.3.4 Where habitat features suitable for flight lines are affected by temporary works, these shall be re-instated as soon as possible during construction. The use of artificial features could be applied during construction stage.

## 4.4 Avoiding impacts on bat roosts

- 4.4.1 The most effective way of avoiding any impacts on bats is to schedule construction work at an appropriate time of year when bats are absent and works can be undertaken without impacting on them. Adequate survey effort of any roost sites identified within the Proposed Scheme and a good understanding of the species present will help establish the optimum time to carry out works.
- 4.4.2 Optimum seasons to carry out works with respect to different types of roosts (all inclusive) (also illustrated within **Table 2**):
- Maternity roosts: 1st October to 1st May
  - Summer roosts (not a proven maternity roost): 1st September to 1st May
  - Hibernation roosts: 1st May to 1st October
  - Mating/ swarming roosts: 1st November to 1st August.

## 4.5 Works in proximity to a roost

- 4.5.1 Where works cannot be scheduled during an appropriate time of year, roosts identified within proximity to works will require an exclusion zone to prevent disturbing the bat roost. The ECoW shall define an appropriate exclusion zone depending on factors such as species present, type of roost and the nature of works. The exclusion zone shall be clearly marked with coloured tape to prevent site personnel from entering the area. Site staff shall be briefed on the purpose of the exclusion zone during a toolbox talk.
- 4.5.2 Works that are expected to cause disturbance to a roost site (i.e. the required exclusion zone cannot be satisfied) or may damage/ destroy the roost will require a licence from SNH. The licence conditions shall be agreed in consultation with SNH.

## 5 Birds

### 5.1 Introduction

5.1.1 An EclA on breeding and non-breeding birds has been undertaken as part of the assessment of the Proposed Scheme (see **Chapter 12, Volume 1**).

### 5.2 Pre-construction Surveys

5.2.1 Pre-construction breeding bird surveys shall extend to a minimum of 500m beyond the Proposed Scheme.

5.2.2 The protection plan for breeding birds shall be updated in line with pre-construction bird surveys which shall be undertaken in the season prior to construction works commencing.

5.2.3 Ongoing monitoring, throughout construction, to identify risks to key species shall be undertaken in accordance to an agreed construction monitoring plan.

5.2.4 Avoidance distances from Schedule 1 species confirmed breeding within the Proposed Scheme shall be undertaken in accordance within the guidance detailed in **Table 1**.

Table 1: Stand-off distances recommended for Schedule 1 breeding bird species

Species	Avoidance Distances	Reference source
Merlin	300-500m Depending on local conditions and topography	Ruddock and Whitfield (2007) <sup>2</sup>
Crossbill sp.	50-150m – Depending on local conditions, topography and existing vegetation screening	Ruddock and Whitfield (2007)
Black-tailed godwit	150-500m - Depending on local conditions, topography and existing vegetation screening	Reijennen et al (1995) <sup>3</sup> , Cutts et al (1999) <sup>4</sup> , RSPB (2009) <sup>5</sup> .

5.2.5 For other breeding bird species, not legally protected from disturbance under Schedule 1 of the Wildlife and Countryside Act, appropriate buffers around breeding sites shall be applied to prevent nest abandonment or failure. The exact nature of buffer requirements shall be determined with the ECoW taking into account the timing, local conditions and species involved.

<sup>2</sup> Ruddock M. & Whitfield D.P. (2007). A review of Disturbance Distances in Selected Bird Species. A Report from Natural Research Projects Ltd to Scottish Natural Heritage.

<sup>3</sup> Reijnen R., Foppen. R, and Meeuwssen. (1996). The Effects of Traffic on The Density Of Breeding Birds in Dutch Agricultural Grasslands. Biological Conservation, 75. 225-260.

<sup>4</sup> Cutts N and Allen J. (1999). Avifaunal Disturbance Assessment: Flood Defence Work, Saltend. Report to Environmental Agency. Institute of Estuarine and Coastal and Estuarine Studies, University of Hull.

<sup>5</sup> RSPB (2009). Guidance Note: Distribution of Breeding Birds in Relation to upland Wind Farms.

## 5.3 Mitigation

- 5.3.1 The ECoW shall be on site on a permanent basis throughout all site clearance and earthworks stages, particularly if works are taking place in proximity to nesting/roosting sites, to ensure all mitigation relevant to birds is implemented.
- 5.3.2 Where possible, vegetation/ ground clearance shall be avoided throughout the breeding bird season (March – August inclusive). Where site clearance operations are required throughout the breeding season the ECoW will ensure that any ground scheduled to be cleared is free of all breeding bird species.
- 5.3.3 Construction phasing shall take into account seasonal constraints in key areas of habitat for breeding species. The following considerations shall be taken into account when programming works (also illustrated in **Table 2**):
- Site clearance of conifer plantation shall take into account the off-peak breeding season observed by crossbill – clearance of conifers where crossbill are present shall be undertaken between August and December
  - Site clearance and earthworks shall be kept to a minimum in areas to the west of the A9 between ch.600 – ch.1,400 during the main period for wading bird breeding (March to July inclusive)
  - The ECoW will monitor breeding birds throughout construction and advise on site or task specific mitigation to avoid (where legally required) or minimise disturbance to breeding birds.

## 6 Atlantic Salmon

### 6.1 Introduction

6.1.1 An EclA on Atlantic salmon (*Salmo salar*) has been undertaken as part of the assessment of the Proposed Scheme (see **Chapter 12, Volume 1**).

### 6.2 General Mitigation

- 6.2.1 The ECoW shall be on site on a permanent basis throughout construction and shall provide an advisory role with regards to Atlantic salmon.
- 6.2.2 Best practice, in line with the relevant PPGs, shall be maintained in order to minimise the likelihood of changes to water quality or chemistry through sedimentation or spills during construction which could affect freshwater species including Atlantic salmon.
- 6.2.3 During construction, all chemicals and materials to be used on site shall be safely and correctly stored and labelled in accordance with relevant legislation, within a bund and spill kits shall be made available on site in case spills do occur.
- 6.2.4 With the exception of works taking place at watercourses and culverts; compounds, access tracks and construction shall be located at least 10m from a watercourse, wherever possible, to reduce the risk of accidental spillages and pollution incidents.
- 6.2.5 All refuelling operations shall be undertaken a minimum of 30m from any watercourse.
- 6.2.6 Toolbox talks shall be provided to ensure all construction site personnel are aware of key environmental features and hazards with respect to Atlantic salmon.
- 6.2.7 Where temporary in-channel works are required, sensitive spawning seasons shall be avoided (October to February inclusive).
- 6.2.8 Percussive construction works (e.g. piling/ blasting) shall also be avoided in proximity to the River Truim and tributaries where spawning habitat is present during sensitive periods.
- 6.2.9 Should avoidance of works/ works rescheduling not be possible during sensitive periods, suitable exclusion zones (to be agreed with SNH and the local fisheries board) shall be implemented.
- 6.2.10 Upstream/ downstream permeability shall be maintained throughout any in-channel works.
- 6.2.11 As culvert structures under the A9 will be extended to accommodate the new dualled road, any tributaries which are known to support Atlantic salmon shall incorporate natural substrate along the base, in conjunction with fish baffles, to assist with upstream passage of fish.
- 6.2.12 Riparian vegetation along all watercourses shall be retained where practicable, and only removed in the immediate works area.
- 6.2.13 Any night time works taking place shall have lighting directed away from watercourses and noise shall be kept to a minimum.
- 6.2.14 Seasonal constraints are illustrated on **Table 2**.

# 7 Sea Lamprey

## 7.1 Introduction

7.1.1 An EclA on Sea Lamprey (*Petromyzon marinus*) has been undertaken as part of the assessment of the Proposed Scheme (see **Chapter 12, Volume 1**).

## 7.2 General Mitigation

7.2.1 The ECoW shall be on site on a permanent basis throughout the construction stage and shall provide an advisory role with regards to sea lamprey.

7.2.2 Best practice, in line with the relevant PPGs, shall be maintained in order to minimise the likelihood of changes to water quality or chemistry through sedimentation or spills during construction which could affect freshwater species including sea lamprey.

7.2.3 During construction, all chemicals and materials to be used on site shall be safely and correctly stored and labelled in accordance with relevant legislation, within a bund and spill kits shall be made available on site in case spills do occur.

7.2.4 With the exception of works taking place at watercourses and culverts; compounds, access tracks and construction shall be located at least 10m from a watercourse, wherever possible, to reduce the risk of accidental spillages and pollution incidents.

7.2.5 All refuelling operations shall be undertaken a minimum of 30m distant to any watercourse.

7.2.6 Toolbox talks shall be provided to ensure all construction site personnel are aware of key environmental features and hazards with respect to sea lamprey.

7.2.7 Where temporary in-channel works are required, sensitive migration/ spawning/ breeding seasons shall be avoided (October to June inclusive).

7.2.8 Percussive construction works (e.g. piling/ blasting) shall also be avoided in proximity to the river during sensitive periods.

7.2.9 Should avoidance of works/ works rescheduling not be possible during sensitive periods, suitable exclusion zones (to be agreed with SNH and the local fisheries board) shall be implemented.

7.2.10 Upstream/ downstream permeability shall be maintained throughout any in-channel works.

7.2.11 Riparian vegetation shall be retained where practicable, and only removed in the immediate works area.

7.2.12 Any night time works taking place, shall have lighting directed away from watercourses and noise shall be kept to a minimum.

7.2.13 Seasonal constraints are illustrated on **Table 2**.

## 8 Freshwater Pearl Mussel

### 8.1 Introduction

- 8.1.1 An EclA on freshwater pearl mussel (FWPM) (*Margaritifera margaritifera*) has been undertaken to inform the assessment of the Proposed Scheme (see **Chapter 12, Volume 1**).

### 8.2 Pre-construction Surveys

- 8.2.1 Where temporary in-channel works are required in the Spey catchment, pre-works checks should be carried out by a suitably licenced ecologist to confirm absence of FWPM 100m upstream and 500m downstream of works.

### 8.3 General Mitigation

- 8.3.1 The ECoW shall be on site on a permanent basis throughout all site clearance and earthworks stages and shall provide an advisory role with regards to FWPM.
- 8.3.2 Best practice, in line with the relevant PPGs, shall be maintained in order to minimise the likelihood of changes to water quality or chemistry through sedimentation or spills during construction which could affect freshwater species including FWPM.
- 8.3.3 During construction, all chemicals and materials to be used on site shall be safely and correctly stored and labelled in accordance with relevant legislation, within a bunded area and spill kits shall be made available on site.
- 8.3.4 With the exception of works taking place at watercourses and culverts; compounds, access tracks and construction shall be located at least 10m from a watercourse, wherever possible, to reduce the risk of accidental spillages and pollution incidents.
- 8.3.5 All refuelling operations shall be undertaken a minimum of 30m from any watercourse.
- 8.3.6 If FWPM are encountered during works, activity in the area shall cease until this protection plan has been updated and a specific mitigation plan has been drawn up and appropriate license obtained from SNH where required.

## 9 Otter

### 9.1 Introduction

9.1.1 An EclA on otter (*Lutra lutra*) has been undertaken as part of the assessment of the Proposed Scheme (see **Chapter 12, Volume 1**).

### 9.2 Surveys

9.2.1 Pre-construction otter surveys shall be carried out in relevant watercourses within 250m of the study area.

9.2.2 Pre-construction surveys shall be carried out by suitably qualified and experienced ecologists, who can identify active otter shelters that could be affected by the works. Three types of shelter are used by otter:

- Holt: underground structure which may be excavated by otter but often they utilise and adapt existing structures such as rabbit holes and cavities amongst tree roots or rock piles. A holt is confirmed active if it contains field signs, e.g. spraints
- Natal holt: a discreet holt used for breeding, where mother and cubs will remain to up to three months. These sites are difficult to identify in the field and typically require camera traps to confirm breeding.
- Couch: above ground resting place which can range from a constructed nest-like structure to a depression in tall vegetation.

9.2.3 Due to the presence of otter resting areas on the Allt a' Chaorainn an EPS Mitigation Licence is required at this location.

9.2.4 If further active otter resting areas are identified during pre-construction surveys, these will also need to be licensed from SNH in order for works to be undertaken in proximity to recorded areas.

### 9.3 General Mitigation

9.3.1 The ECoW shall be on site on a permanent basis throughout all site clearance and earthworks stages, particularly if works are taking place in proximity to an active otter resting place, to ensure all mitigation relevant to otter is implemented.

9.3.2 Site personnel shall be made aware of a procedure detailing what to do if signs of otter, or otter themselves, are encountered during construction. All work within 30m must cease, and the ECoW shall inspect the site and advise on any additional mitigation which may be required.

9.3.3 Works within 100m of waterbodies or watercourses showing regular use by otter (i.e. spraints) shall not take place at night or within one hour of sunset and sunrise.

9.3.4 Any temporarily exposed pipe systems shall be capped when contractors are off site to prevent otter from gaining access. Mammal exit ramps shall be installed into all exposed trenches and holes to prevent otter from becoming trapped when contractors are off site. These areas shall be checked at the beginning of the shift to ensure they are still intact and no otter have entered in the night.

- 9.3.5 Best practice, in line with the relevant PPGs, shall be maintained in order to minimise the likelihood of changes to water quality or chemistry through sedimentation or spills during construction which could indirectly affect otter.
- 9.3.6 During construction, all chemicals and materials to be used on site shall be safely and correctly stored and labelled, ideally on a bund and spill kits shall be made available on site in case spills do occur.

## 9.4 Works in proximity to an active otter shelter

- 9.4.1 Active non-breeding holts or couches identified within 30m of works, which will not be damaged during works, shall require an exclusion zone from the otter shelter to prevent disturbance. The ECoW shall determine an appropriate exclusion zone depending on the nature of works (e.g. piling works will require a large buffer to prevent disturbance).
- 9.4.2 If a breeding site is suspected within 200m of works, site work shall not commence, or will be suspended if construction work is underway, until it had been established that breeding is not occurring.
- 9.4.3 If breeding is confirmed, ideally works shall be suspended in the area for up to 10 weeks until the cubs are able to move to an alternative habitat.
- 9.4.4 If this is not possible, a large exclusion zone (100 – 200m) shall be required from the otter shelter to avoid disturbance to otter. The exact size of the exclusion zone will be influenced by the type of works and topography.
- 9.4.5 The ECoW shall observe and advise on the installation of exclusion fencing to ensure it does not affect otter movement. Fencing shall be installed prior to site work commencing and shall be clearly marked with coloured tape to prevent site personnel from entering the area. Site staff shall be briefed on the purpose of the exclusion zone during a Toolbox Talk. The ECoW shall regularly examine the fencing to ensure it remains intact and provides protection to otter.
- 9.4.6 Works that are expected to cause disturbance to otter (i.e. the required exclusion zone cannot be satisfied) or may damage/ destroy their place of shelter will require a licence from SNH. The licence conditions shall be agreed in consultation with SNH.

## 10 Reptiles

### 10.1 Introduction

- 10.1.1 An EclA on common lizard (*Zootoca vivipara*), slow worm (*Anguis fragilis*) and adder (*Vipera berus*) has been undertaken as part of the assessment of the Proposed Scheme (see **Chapter 12, Volume 1**).

### 10.2 General Mitigation

- 10.2.1 The ECoW shall be on site on a permanent basis throughout all site clearance and earthworks stages and shall provide an advisory role with regards to reptiles.
- 10.2.2 Pre-construction surveys will be carried out in potential hibernation sites to determine if reptiles are present, and the population sizes.
- 10.2.3 Works carried out in suitable reptile habitat (e.g. rough grassland, tall herb and heath) between March and October (active period) shall adopt a sensitive approach to vegetation clearance to protect reptiles from injury or mortality. Initially, vegetation shall be taken down to 100mm in height and then to ground level in monthly intervals. Once cut, any holes on exposed ground shall be hand dug under supervision of the ECoW to ensure no reptiles are sheltering within.

- 10.2.4 Potential hibernation sites (e.g. logs or rock piles and stone walls, rabbit warrens) shall be removed during the active period (March to October – shown in **Table 2**). Reptiles may use these features for shelter during the day; therefore they shall only be removed once a pre-construction check has confirmed no reptiles are present. If the feature is difficult to inspect and the absence of reptiles cannot be confirmed, the feature shall be carefully dismantled by hand. Any reptiles present shall be relocated to a safe area pre-determined after the pre-construction surveys are undertaken.
- 10.2.5 Storage of materials and equipment shall be kept on pallets and not on ground level or suitable habitat, to reduce the likelihood of them being used by reptiles for shelter. In addition, material storage areas and machinery shall be checked regularly for reptiles throughout the works, including wheel arches and temporary tracks, especially in the spring and summer months, as reptiles may use these areas for shelter or for basking.
- 10.2.6 Temporary and permanent exclusion fencing will be erected where suitable to protect reptiles and to remove them from the affected areas. A solid barrier may be required around the areas which will remain in place during the works to stop reptiles recolonising the habitat.
- 10.2.7 If reptiles are encountered in a particular area on site, all works shall cease until the ECoW has inspected the site and provided advice on any additional mitigation measures which may be required. Site personnel shall be informed of this procedure prior to any site activity during a toolbox talk.

# 11 Water Vole

## 11.1 Introduction

- 11.1.1 An EclA on water vole (*Arvicola amphibious*) has been undertaken as part of the assessment of the Proposed Scheme (see **Chapter 12, ES Volume 1**).

## 11.2 Pre-construction Surveys

- 11.2.1 Pre-construction water vole surveys shall be carried out in relevant watercourses within 50m of the study area, additional to pre-construction surveys within mire habitat between the A9 and Highland Mainline railway, where there is potential for burrows and above ground nests.
- 11.2.2 Pre-construction surveys shall be carried out in the active season (May to September) prior to construction and shall consist of two visits spread cover the active season in line with the most up to date survey guidance (Dean, M. *et al*, 2016<sup>6</sup>).
- 11.2.3 Pre-construction surveys shall be carried out by suitably qualified and experienced ecologists who can identify water vole field signs.
- 11.2.4 If active water vole colonies are discovered during the pre-construction surveys, a licence may be required from SNH.
- 11.2.5 Further surveys may be required to estimate the number of water voles present within a colony as this will inform mitigation.

## 11.3 General Mitigation

- 11.3.1 The ECoW shall be on site on a permanent basis throughout all site clearance and earthworks stages, particularly if works are taking place in proximity to a water vole colony, to ensure all mitigation relevant to water vole is implemented.
- 11.3.2 Best practice, in line with the relevant PPGs, shall be maintained in order to minimise the likelihood of changes to water quality or chemistry through sedimentation or spills during construction which could affect water vole.
- 11.3.3 During construction, all chemicals and materials to be used on site shall be safely and correctly stored and labelled, ideally on a bund and spill kits be made available on site in case spills do occur.
- 11.3.4 Site personnel shall be made aware of an emergency procedure detailing what to do if signs of water vole or the animal themselves are encountered during construction. All work within 10m

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<sup>6</sup> Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016). *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Series)*. Eds Fiona Mathews and Paul Chanin. The Mammal Society, London

- must cease, and the ECoW shall inspect the site and advise on any additional mitigation which may be required.
- 11.3.5 No tracking with heavy machinery shall be undertaken until it can be confirmed as far as reasonably practicable that water vole are not present in the works area. This will ensure water vole are not affected by direct mortality or indirect mortality through being trapped inside a burrow.
- 11.3.6 Water vole habitat within 10m of works shall require an exclusion zone to ensure their burrows are protected from damage, destruction or obstruction and to prevent disturbance to water vole whilst in their burrows. The ECoW shall determine an appropriate exclusion zone depending on the nature of works (e.g. piling works will require a large buffer to prevent disturbance).
- 11.3.7 Works that are expected to cause disturbance to water vole whilst in their burrows (i.e. the required exclusion zone cannot be satisfied) or may damage, destroy or obstruct their place of shelter (burrows) will require a licence from SNH.
- 11.3.8 As water vole colonies have been identified within the study area, displacement or trapping and translocation of water voles shall be required, therefore works will require an SNH development licence. Licence conditions (e.g. the best method of exclusion and suitable receptor site) will be agreed in consultation with SNH.
- 11.3.9 Any trapping and relocation of water vole will need to consider the planning and implementation of any trapping or fencing requirements, which will be most successful when undertaken between March - April , as illustrated in **Table 2** (dependent on weather conditions) in advance of works (Dean, M. et al, 2016<sup>6</sup>). Any site works will need to be planned to take account of this narrow time-frame.
- 11.3.10 The presence of American mink (*Neovison vison*) (a major predator of water vole) must be established prior to any trapping of water vole in the study area and associated relocation to receptor areas, to prevent the predation of water voles. Signs of American mink shall be reported and surveyed for throughout the construction period to ensure they do not become established prior to water vole habitat mitigation, where they will predate released water voles and cause increased mortality.

## 12 Hare Species

### 12.1 Introduction

An EclA on hare species (*Lepus Spp.*) has been undertaken as part of the assessment of the Proposed Scheme (see **Chapter 12, Volume 1**).

### 12.2 Pre-construction Surveys

12.2.1 No survey work required.

### 12.3 General Mitigation

12.3.1 The ECoW shall be on site on a permanent basis throughout all site clearance and earthworks stages, to provide an advisory role with regards to hare species.

12.3.2 Site workers shall be made aware of a procedure detailing what to do if signs of hares, or the animals themselves, are encountered during construction. All work must cease, and the ECoW shall inspect the site and advise on any additional mitigation which may be required.

12.3.3 Any pipes shall be capped or sealed at the end of every working day to prevent hare species from accessing. Any holes or trenches shall have exit ramps comprising a formed slope or wooden plank capable of supporting hare at 45 degrees, to allow any hare a safe escape. All areas shall be checked at the beginning of the shift to ensure exit ramps are still intact and no hare have entered while active works have not been located around such excavations. Hares shall be allowed to escape site, beyond works areas, and move out into the wider landscape if found.

## 13 Pine Marten

### 13.1 Introduction

- 13.1.1 An EclA on pine marten (*Martes martes*) has been undertaken as part of the assessment of the Proposed Scheme (see **Chapter 12, Volume 1**).

### 13.2 Pre-construction Surveys

- 13.2.1 Pre-construction surveys shall be carried out in all suitable pine marten habitat within 250m of the study area.
- 13.2.2 The surveys shall be carried out by suitably qualified and experienced ecologists who can identify signs of pine marten presence (e.g. scat) and potential den sites. It is difficult to distinguish pine marten scat from other species and therefore any potential pine marten scat shall be collected and sent for DNA analysis to confirm presence.
- 13.2.3 If an active pine marten den is identified during pre-construction surveys, a licence may be required from SNH.

### 13.3 General Mitigation

- 13.3.1 The ECoW shall be on site on a permanent basis throughout all site clearance and earthworks stages, to provide an advisory role with regards to pine marten.
- 13.3.2 Site workers shall be made aware of an emergency procedure detailing what to do if signs of pine marten or the animal themselves are encountered during construction. All work must cease, and the ECoW shall inspect the site and advise on any additional mitigation which may be required.
- 13.3.3 Any temporarily exposed pipe systems to be capped when contractors are off site to prevent pine marten from gaining access. Mammal exit ramps must be installed into all exposed trenches and holes to prevent pine marten from becoming trapped when contractors are off site. These areas shall be checked at the beginning of the shift to ensure they are still intact and no pine marten have entered in the night.
- 13.3.4 Generally, pine marten are nocturnal or crepuscular, therefore, where possible, works shall be restricted to daylight hours to minimise disturbance (e.g. noise, light or human activity) to pine marten.
- 13.3.5 In the unlikely occurrence that a pine marten den is identified during pre-construction surveys, an exclusion zone must be implemented to prevent disturbance. Where pine marten are not breeding, the exclusion zone shall be a minimum of 30m from the works, a larger exclusion zone will be required if percussive works (e.g. piling) are being carried out. Where dens are known or suspected of being used for breeding, an exclusion zone of at least 100m is required.
- 13.3.6 The ECoW shall observe and advise on the installation of exclusion fencing to ensure it does not affect pine marten movement. Fencing shall be installed prior to site work commencing and shall be clearly marked with coloured tape to prevent site personnel from entering the area. Site staff shall be briefed on the purpose of the exclusion zone during a Toolbox Talk. The ECoW shall regularly examine the fencing to ensure it remains intact and provides protection to pine marten.

- 13.3.7 Works that are expected to cause disturbance to pine marten (i.e. the required exclusion zone cannot be satisfied) or may damage, destroy or obstruct their place of shelter (dens) will require a licence from SNH. The licence conditions shall be agreed in consultation with SNH.

# 14 European Wildcat

## 14.1 Introduction

- 14.1.1 An EclA on European wildcat (*Felis silvestris*) has been undertaken as part of the assessment of the Proposed Scheme (see **Chapter 12, Volume 1**).

## 14.2 Pre-construction Surveys

- 14.2.1 Pre-construction surveys of suitable wildcat habitats shall be undertaken and shall extend to 200m beyond the study area.
- 14.2.2 The surveys shall be carried out by suitably qualified and experienced ecologists who can identify signs of wildcat presence and potential den sites.
- 14.2.3 If evidence of wildcat is identified during pre-construction surveys, a licence may be required from SNH.

## 14.3 General Mitigation

- 14.3.1 The ECoW shall be on site on a permanent basis throughout all site clearance and earthworks stages, particularly if works are taking place in proximity to a wildcat den, to ensure all mitigation relevant to wildcat is implemented.
- 14.3.2 Site workers shall be made aware of an emergency procedure detailing what to do if signs of wildcat, or the animal themselves, are encountered during construction. All work must cease and the ECoW shall inspect the site and advise on any additional mitigation which may be required.
- 14.3.3 Any temporarily exposed pipe systems must be capped when contractors are off site to prevent wildcat from gaining access. Mammal exit ramps must be installed into all exposed trenches and holes to prevent wildcat from becoming trapped when contractors are off site. These areas shall be checked at the beginning of the shift to ensure they are still intact and no wildcat have entered in the night.
- 14.3.4 Generally wildcat are nocturnal or crepuscular (active at dusk and dawn) therefore, where possible, works shall be restricted to daylight hours to minimise disturbance (e.g. noise, light or human activity) to wildcat.
- 14.3.5 Where pre-construction surveys identify a wildcat den, works in the area shall avoid the main wildcat breeding season (March to August). If this is not possible, a 200m exclusion zone from the works if required to prevent disturbance to wildcat.
- 14.3.6 The ECoW shall observe and advise on the installation of exclusion fencing to ensure it does not affect wildcat movement. Fencing shall be installed prior to site work commencing and shall be clearly marked with coloured tape to prevent site personnel from entering the area. Site staff shall be briefed on the purpose of the exclusion zone during a Toolbox Talk. The ECoW shall regularly examine the fencing to ensure it remains intact and provides protection to wildcat.
- 14.3.7 Works that are expected to cause disturbance to wildcat (i.e. the required exclusion zone cannot be satisfied) or may damage, destroy or obstruct their place of shelter (dens) will require a licence from SNH. The licence conditions shall be agreed in consultation with SNH.

Table 2: Guidance on the optimal timing for carrying out ecological mitigation

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Breeding birds general	Vegetation clearance not restricted		Vegetation clearance possible with precautions overseen by ECoW						Vegetation clearance not restricted			
Breeding birds (Crossbill)	Where ECoW determines Crossbill are present breeding conifer removal restricted during possible breeding season.							Where ECoW determines crossbill are not breeding, conifer removal can take place subject to absence of other constraints				
Badger	Badger sett closure restricted					Badger sett closure under licence possible, if required					Badger sett closure restricted	
Bats (Maternity)	No restrictions around breeding sites			Restrictions to works around breeding sites					No restrictions around breeding sites			
Bats (summer)	No restrictions around summer sites			Restrictions to works around summer sites				No restrictions around summer sites				
Bats (mating)	No restrictions around mating sites						Restrictions to works around mating sites			No restrictions around mating sites		
Bats (Hibernation)	Restrictions to works around hibernation sites			No restrictions to works around hibernation sites					Restrictions to works around hibernation sites			
Atlantic Salmon	Avoid in-channel works in spawning habitat when eggs, alevins and fry present			In-channel works possible with migratory fish and parr present					Avoid in-channel works in spawning habitat when eggs, alevins and fry present			
Sea lamprey	In-stream works possible				Avoid in stream works during spawning		In-stream works possible					
Amphibians and Reptiles	Avoid damage to hibernation features		Sensitive management of habitats during active season, e.g. phased removal of grassland/ heathland								Avoid damage to hibernation features	
Water Vole	Avoid all works in water vole habitat		Mitigation by displacement		Avoid all works in water vole habitat							
			Mitigation by trapping and relocation			Avoid all works in water vole habitat		Possible trapping and relocation		Avoid all works in water vole habitat		
Wildcat			Works to avoid main breeding seasons if located near a den					Works near to a den				