

Appendix A11.5

Bird Report

Transport Scotland

July 2016





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1. Introduction and Methodology

- 1.1.1. This technical appendix presents the findings of data collection, field survey data and an assessment of habitat suitability for birds. It presents the results of this DMRB Stage 2 Assessment and outlines the scope of surveys proposed for the DMRB Stage 3 Assessment.
- 1.1.2. Capercaillie (*Tetrao urogallus*) has been given specific consideration in this appendix due to the particular rarity of this species. The Cairngorms National Park, which encompasses the Proposed Scheme, is the UK stronghold for capercaillieⁱ.

1.2. Designated Sites

- 1.2.1. Information on designated sites has been collected from within the following search areas:
- International sites designated for birds (Special Protection Area (SPA) and Wetlands of International Importance (Ramsar sites)) – 10km from the Proposed Scheme;
 - National sites designated for birds (Site of Special Scientific Interest (SSSI) and National Nature Reserve (NNR)) – 2km from the Proposed Scheme; and,
 - Non-statutory designated sites (Local Wildlife Site, Site of Importance for Nature Conservation (SINCs)) – 1km from the Proposed Scheme.
- 1.2.2. Information regarding the location of designated sites has been obtained from the following sources:
- Multi-Agency Geographic Information for the Countryside (MAGIC) websiteⁱⁱ;
 - Scottish Natural Heritage (SNH) 'SiteLink'ⁱⁱⁱ;
 - SNH 'Interactive Map'^{iv};
- 1.2.3. Information on non-statutory designated sites has been sourced from the Highland Biological Recording Group (HBRG) and North-east Scotland Biological Recording Centre (NESBReC).

1.3. Biological Records

- 1.3.1. Biological records of birds were requested covering 1km from the existing A9. Data was requested from the following organisations:
- Cairngorms National Park Authority (CNPA);
 - Forestry Commission Scotland;
 - HBRG;
 - NESBReC;
 - Highland Raptor Study Group;
 - Scottish Wildlife Trust;
 - SNH provided various documents concerning bird species, and in conjunction with the Royal Society for the Protection of Birds (RSPB), provided records of capercaillie.



- 1.3.2. Biological records were collected of known birds occurring within the proximity of the Proposed Scheme to inform the assessment. This data was used to inform specific and appropriate surveys at DMRB Stage 3 Assessment. This data was also used to identify habitats likely to be of importance to a given species, including those of particular conservation concern, such as capercaillie.

1.4. Habitat Suitability Assessment for Breeding and Wintering Birds

- 1.4.1. The following information has been reviewed to inform the habitat suitability assessment for birds:
- Desk based information, including information provided by consultees (e.g. SNH and local biological records centres);
 - Previous ecological studies undertaken to inform the environmental assessment of the Proposed Scheme, including a Preliminary Ecological Appraisal (PEA)^v undertaken by CH2M in 2014 for the 'North Scheme – Dalraddy – Moy' (which encompasses the Proposed Scheme); and
 - Field surveys undertaken by the Atkins Mouchel Joint Venture (AMJV) in 2016, including additional Phase 1 habitat survey of proposed junctions / widening areas not included in the 2014 PEA^{vi}.
- 1.4.2. Aerial photography and the 2014 and 2016 Phase 1 habitat survey data were examined to identify the location and extent of habitat types within an area encompassing the Proposed Scheme and surrounding land to a distance of 100m from its boundary, the 'Study Area'. This distance was considered appropriate for Stage 2, as this zone would encompass all land take required by the Proposed Scheme as well as a reasonable distance in which disturbance from construction and operation would be likely to occur.
- 1.4.3. Habitats within the Study Area were assessed for their suitability to support breeding and wintering birds. A list was compiled of the bird species with breeding ranges covering the Study Area, and a second list of bird species with wintering ranges covering the Study Area. The distributions of these species were identified using distribution maps from Snow and Perrins (1998)^{vii}. The habitat requirements of breeding and wintering bird species were then identified by referring to the descriptions in Snow and Perrins (1998)^{viii}. Each species was assigned to one of the following suitable habitat types accordingly:
- Coniferous woodland;
 - Broadleaved woodland;
 - Coniferous and broadleaved (either or mixed) woodland;
 - Grassland;
 - Heathland;
 - Water and reedbeds; and
 - Mixed habitats.
- 1.4.4. These habitat types were assigned to the equivalent Phase 1 habitat survey categories, thus identifying the extent of suitable habitats within the Study Area likely to support breeding and wintering bird species.
- 1.4.5. Each habitat type was then considered with regard to whether the bird species that they can support are listed on the Scottish Biodiversity List (SBL)^{ix}, published and maintained



by SNH. This list covers 93 bird species with various protections and conservation designations, and includes species which fulfil one or more of the following criteria:

- Species is on the UKBAP list;
- Species is subject to international obligations;
- Species is rare in the UK (present in <16 10km squares);
- Species is rare in Scotland (present in <6 10km squares of the Ordnance Survey in Scotland);
- Species which have suffered >25% decline in Scotland; and / or,
- Species is endemic to Scotland.

1.4.6. On this basis, habitat types were assigned into one of the following two categories based on their importance for nature conservation:

- a) High conservation importance habitat - Habitats suitable to support breeding and/or wintering bird species listed on the SBL; and
- b) Low conservation importance habitats - Habitats suitable to support breeding and wintering bird species not listed on the SBL. These bird species represent more common and widely distributed species which are not a nature conservation priority in Scotland, but remain fully protected under the Wildlife and Countryside Act 1981.

1.5. Capercaillie

1.5.1. Important capercaillie habitat has been identified through consultation with SNH and the RSPB and review of existing habitat information (see Section 1.4). SNH and the RSPB have provided the following information within the 1km search area:

- Biological records of capercaillie, including known lek sites within 1km of the existing A9; and,
- The location and distribution of “Capercaillie Woodland” within 1km of the existing A9.

1.5.2. Gareth Marshall, the RSPB Capercaillie Project Officer, has also been contacted to assist in identifying important areas for capercaillie.

1.6. Limitations

Biological Records

1.6.1. The desk study results returned from the CNPA, NESBReC, Forestry Commission Scotland, SNH, and the RSPB as of May 2016 have provided relatively few bird records. A number of correspondents have not responded to the data request (Scottish Wildlife Trust and the Highland Raptor Study Group); whilst others do not hold bird records (HBRG). The exception is capercaillie, for which SNH and the RSPB has supplied detailed records. The absence of records received is not considered a significant constraint to the DMRB Stage 2 Assessments required due to the level of survey undertaken within the Study Area.

Habitat Suitability Assessment for Breeding and Wintering Birds

1.6.2. At this stage, a broad appraisal of the habitats present in the vicinity of the Proposed Scheme that are likely to support breeding and wintering birds has been undertaken. The habitats identified will be subject to field survey at DMRB Stage 3 Assessment.

Information used to assess the likely presence of bird species and types of habitats present is from Phase 1 habitat surveys undertaken in 2014 and aerial photography (dated 2013). Due to the age of the data and seasonal variation / change it is likely that some changes in habitat may have occurred. However, for the purposes of this assessment, the data used is considered appropriate to identify habitat types and to inform the requirement for further survey.

Capercaillie

- 1.6.3. No significant limitations to the capercaillie assessment were encountered.

2. Results

2.1. Designated Sites

- 2.1.1. Eight international (SPA and Ramsar) and five nationally designated sites (SSSI) for birds were identified within the Study Area. These are summarised, along with the principal bird species they support, in Table 2.1 and Table 2.2.
- 2.1.2. There are no LNRs or non-statutory designated sites located within the Study Area.

Table 2.1: Internationally Designated Sites within the Study Area.

Site Name	Designation	Distance from Proposed Scheme (m)	Section	Chainage	Summary of Reasons of Site Notification
Loch Vaa: UK9002751	SPA	80m east of Proposed Scheme	Section 6a to Section 6	10900 to 11700	The SPA qualifying species are breeding Slavonian grebe (<i>Podiceps auritus</i>).
Kinveachy Forest: UK9002581	SPA	600m west of the Proposed Scheme	Section 3 to Section 10	5700 to 22300	SPA qualifying features include the capercaillie and breeding Scottish crossbill (<i>Loxia scotica</i>).
Cairngorms: UK9002241	SPA	950m south-east of Proposed Scheme	Section 1 to Section 3b	0000 to 6600	The SPA qualifying features are breeding capercaillie, dotterel (<i>Charadrius morinellus</i>), golden eagle (<i>Aquila chrysaetos</i>), merlin (<i>Falco columbarius</i>), osprey (<i>Pandion haliaetus</i>), peregrine (<i>Falco peregrinus</i>) and Scottish crossbill.
River Spey – Insh Marshes: UK9002231	SPA	2.4km south of the Proposed Scheme	N/A	N/A	The SPA supports populations of European importance of osprey, spotted crane (<i>Porzana porzana</i>), and wood sandpiper (<i>Tringa glareola</i>) during the breeding season and hen harrier (<i>Circus cyaneus</i>) and whooper swan (<i>Cygnus Cygnus</i>) over winter.



Site Name	Designation	Distance from Proposed Scheme (m)	Section	Chainage	Summary of Reasons of Site Notification
Abernethy Forest: UK9002561	SPA	4km east of Proposed Scheme	Section 5 to Section 7	4000 to 14300	SPA qualifying features include breeding populations of capercaillie, osprey and Scottish crossbill.
Cairngorms Massif: UK9020308	SPA	5.5km south of Proposed Scheme	Section 1 to Section 7	0000 to 14500	A qualifying feature is breeding populations of golden eagle.
Craigmore Woods: UK9001801	SPA	10km east of the Proposed Scheme	Section 2 to Section 9	14200 to 19000	SPA qualifying feature is breeding populations of capercaillie.
River Spey-Insh Marshes: UK13053	Ramsar	2km south of southern end of section	N/A	N/A	The site supports an assemblage of breeding birds indicative of high wetland value and diversity including population levels of whooper swan of international importance (an average of 1.7% of GB population in winter).

Table 2.2: Nationally Designated Sites within the Study Area.

Site Name	Designation	Distance from Proposed Scheme (m)	Section	Chainage	Summary of Reasons of Site Notification
Alvie Site Code 53	SSSI	Adjacent to south-bound carriage-way of A9 at Alvie	Section 1	100 to 2400	Alvie SSSI is an important breeding area for goldeneye (<i>Bucephala clangula</i>).
Kinveachy Forest Site Code 864	SSSI	0.3km west of A9	Section 3 to Section 10	5700 to 22300	The pinewoods of Kinveachy Forest are one of the major remnants of Caledonian pine forest in Strathspey. Kinveachy Forest forests support a characteristic pinewood breeding bird assemblage which includes capercaillie, Scottish crossbill, and crested tit (<i>Lophophanes cristatus</i>).
Loch Vaa Site Code 1065	SSSI	0.3km east of A9	Section 6a to Section 6	10900 to 11700	Loch Vaa is important as a breeding site for two nationally rare bird species, Slavonian grebe and goldeneye.

Site Name	Designation	Distance from Proposed Scheme (m)	Section	Chainage	Summary of Reasons of Site Notification
North Rothiemurchus Pinewood Site Code 1241	SSSI	1km south-east of A9	Section 1 to Section 3b	0000 to 6600	The site is notified for its breeding bird assemblage and specifically for its breeding populations of capercaillie, crested tit, Scottish crossbill and osprey.
River Spey-Insh Marshes Site Code 1364	SSSI	2km south of southern end of section	N/A	N/A	One of the most important features of this area is the rich assemblage of breeding birds, including osprey, rare ducks such as wigeon (<i>Anas penelope</i>), shoveler (<i>Anas clypeata</i>) and goldeneye and a major concentration of breeding waders such as redshank (<i>Tringa totanus</i>), common snipe (<i>Gallinago gallinago</i>) and Eurasian curlew (<i>Numenius arquata</i>). During the winter the fens are used by up to 200 migrant whooper swans.

2.2. Biological Records

- 2.2.1. Bird data was provided by NESBReC, who supplied records of recent bird sightings, and SNH/RSPB who provided data on capercaillie. Table 2.3 summarises the NESBReC records by species.
- 2.2.2. No records of birds were returned from the CNPA or Forestry Commission Scotland.

Table 2.3: Caption NESBReC Bird Records Arranged by Species

Species	No. Records
Barn owl (<i>Tyto alba</i>)	5
Black grouse (<i>Lyrurus tetrix</i>)	1
Bullfinch (<i>rhula pyrrhula</i>)	1
Cuckoo (<i>Cuculus canorus</i>)	1
Golden eagle	4
Goldeneye	3
Greylag goose (<i>Anser anser</i>)	1
Kestrel (<i>Falco tinnunculus</i>)	8
Lapwing (<i>Vanellus vanellus</i>)	1
Osprey	1
Peregrine	2
Red kite (<i>Milvus milvus</i>)	3



Species	No. Records
Song thrush (<i>Turdus philomelos</i>)	1
Spotted flycatcher (<i>Muscicapa striata</i>)	1
Swift (<i>Apus apus</i>)	15
Wood warbler (<i>Phylloscopus sibilatrix</i>)	2
Woodcock (<i>Scolopax rusticola</i>)	1
Yellowhammer (<i>Emberiza citrinella</i>)	1
Total records	52

2.2.3. SNH and the RSPB was consulted for information on capercaillie within the Study Area. There were 35 records held of capercaillie within this area (Table 2.3).

Table 2.4: Records of Capercaillie held within the Study Area.

Date	Location	Survey Type	Records
16/08/2010	Baddengorm (NH888241)	Brood count	Broodless hen
01/06-30/06/2005	Baddengorm (NH891239)	Casual	Cock, hen and two poults
01/07-31/07/2006	Baddengorm (NH891239)	Casual	Hen and two poults
05/06/2001	Baddengorm (NH894235)	Casual	Single hen
02/05/2008	Cranniach Wood (NH906200)	Cold search	Cock droppings
02/05/2008	Cranniach Wood (NH905201)	Cold search	Hen droppings
01/04/2008	Cranniach Wood (NH905205)	Casual	Single hen
11/08/2008	Boat Wood/Loch Vaa (NH914179)	Brood count	Hen and two poults
23/04/2009	Inverlaidnam Hill (NH852235)	Cold search	Hen droppings/gritting in borrow pit
23/04/2009	Inverlaidnam Hill (NH859235)	Cold search	Hen droppings
18/04/2012	Inverlaidnam Hill (NH850235)	Lek survey	Single hen
01/05/2012	Inverlaidnam Hill (NH856233)	Cold search	Cock and hen droppings
16/04/2008	Inverlaidnam Hill (NH849235)	Lek survey	Single hen
16/04/2008	Inverlaidnam Hill (NH851235)	Cold search	Widespread hen and cock droppings
20/08/2007	Inverlaidnam Hill (NH853236)	Brood count	Broodless hen
08/08/2008	Inverlaidnam Hill (NH853235)	Brood count	Broodless hen
08/08/2008	Inverlaidnam Hill (NH854235)	Brood count	Broodless hen
20/08/2007	Inverlaidnam Hill (NH854237)	Casual	Single hen
05/01/2004	Inverlaidnam Hill (NH854234)	National survey	Droppings
11/1998-02/1999	Inverlaidnam Hill (NH852236)	National survey	Single cock
16/04/2011	Inverlaidnam Hill (NH852235)	Cold search	Cock droppings



Date	Location	Survey Type	Records
13/11/2009	Inverlaidnam Hill (NH855233)	National survey	Droppings
27/04/2010	Cranniach Wood (NH908196)	Cold search	Droppings
05/12/2008	Kinveachy Face (NH888134)	Casual	Droppings
09/05/2012	Kinveachy Face (NH904179)	Cold search	Cock droppings
09/05/2012	Kinveachy Face (NH906190)	Cold search	Cock droppings
09/05/2012	Kinveachy Face (NH907190)	Cold search	Cock droppings
10/12/2007	Kinveachy Face (NH905193)	Casual	Droppings
10/12/2007	Kinveachy Face (NH906190)	Casual	Droppings
08/11/2003	Kinveachy Face (NH900171)	National survey	Single cock
12/05/2010	Kinveachy Face (NH891145)	Cold search	Hen droppings
12/05/2010	Kinveachy Face (NH903178)	Cold search	Cock droppings
25/04/1993	Dalnamein (NN731706)	Casual	Single hen
N/A*	Baddengorm Wood (NH893239)	N/A	Lek site
N/A*	Inverlaidnam Hill (NH849230)	N/A	Lek site

*These are known lek sites and dates / survey type information is not applicable.

2.2.4. SNH published an assessment of the estimated breeding populations of selected bird species compiled from a range of sources in 2012^x. This information includes estimated numbers of breeding pairs of raptors in the Central Highlands Natural Heritage Zone^{xixixixixiv} (Table 2.5).

Table 2.5: Estimated breeding pairs of raptor species for the Central Highlands Natural Heritage Zone^{xv}

Species	Occupied Territories
Golden eagle	12
Peregrine	9
Hen harrier	15-20
Osprey	81

2.3. Habitat Suitability Assessment for Breeding Birds

2.3.1. Ninety-one bird species were identified that have breeding ranges that overlap the Study Area, and for which habitat is present within the Study Area. Of these species, 26 are listed on the SBL. Table 2.6 lists the 91 species, whether they are listed on the SBL, and the habitat within which they are likely to be supported.

Table 2.6: Bird species which could breed within the Study Area, whether they appear on the SBL^{xvi}, and the type of habitat most likely to support the species

Common Name	SBL Listed	Habitat Type
Honey buzzard	Yes	Grassland/Heathland
Hen harrier	Yes	Grassland/Heathland



Common Name	SBL Listed	Habitat Type
Goshawk		Broadleaved Woodland
Sparrowhawk		Mixed
Buzzard		Mixed
Osprey	Yes	Coniferous and Broadleaved Woodland
Kestrel	Yes	Grassland/Heathland
Merlin	Yes	Grassland/Heathland
Peregrine	Yes	Mixed
Red grouse		Heathland
Black grouse	Yes	Coniferous Woodland
Capercaillie	Yes	Coniferous Woodland
Red-legged partridge		Grassland/Heathland
Partridge	Yes	Grassland/Heathland
Quail		Grassland/Heathland
Pheasant		Mixed
Oystercatcher		Grassland/Heathland
Golden plover	Yes	Grassland/Heathland
Lapwing	Yes	Grassland
Snipe		Grassland/Heathland
Curlew	Yes	Grassland/Heathland
Redshank		Grassland/Heathland
Greenshank		Grassland/Heathland
Common sandpiper		Grassland/Heathland
Rock dove		Mixed
Stock dove		Coniferous Woodland
Wood pigeon		Coniferous and Broadleaved Woodland
Collared dove		Mixed
Cuckoo	Yes	Mixed
Barn owl	Yes	Grassland
Tawny owl		Broadleaved Woodland
Long-eared owl		Coniferous and Broadleaved Woodland
Short-eared owl	Yes	Heathland
Nightjar	Yes	Heathland
Swift	Yes	Mixed
Green woodpecker		Grassland/Heathland
Great spotted woodpecker		Coniferous and Broadleaved Woodland
Sand martin		Mixed
Swallow		Mixed
House martin		Mixed
Tree pipit	Yes	Mixed



Common Name	SBL Listed	Habitat Type
Meadow pipit		Grassland/Heathland
Grey wagtail		Mixed
Pied wagtail		Mixed
Dipper		Water and Reeds
Wren		Mixed
Robin		Mixed
Redstart		Broadleaved Woodland
Stonechat		Heathland
Wheatear		Grassland/Heathland
Ring ouzel	Yes	Grassland/Heathland
Blackbird		Mixed
Song thrush	Yes	Mixed
Redwing	Yes	Mixed
Mistle thrush		Coniferous and Broadleaved Woodland
Grasshopper warbler	Yes	Water and Reeds
Sedge warbler		Water and Reeds
Whitethroat		Mixed
Garden warbler		Mixed
Blackcap		Mixed
Wood warbler	Yes	Broadleaved Woodland
Chiffchaff		Mixed
Willow warbler		Mixed
Goldcrest		Mixed
Spotted flycatcher	Yes	Broadleaved Woodland
Pied flycatcher		Broadleaved Woodland
Long-tailed tit		Mixed
Crested tit		Coniferous Woodland
Coal tit		Coniferous and Broadleaved Woodland
Blue tit		Mixed
Great tit		Mixed
Treecreeper		Coniferous and Broadleaved Woodland
Jay		Mixed
Magpie		Mixed
Jackdaw		Mixed
Rook		Mixed
Carrion crow		Mixed
Raven		Grassland/Heathland
House sparrow		Mixed
Tree sparrow		Mixed

Common Name	SBL Listed	Habitat Type
Chaffinch		Mixed
Greenfinch		Mixed
Goldfinch		Mixed
Siskin	Yes	Coniferous Woodland
Linnet	Yes	Heathland
Twite		Heathland
Crossbill		Coniferous Woodland
Scottish crossbill		Coniferous Woodland
Yellowhammer		Grassland
Reed bunting		Water and Reeds
Corn bunting		Grassland

- 2.3.2. Cross referencing the above habitat types with data from the Phase 1 habitat survey of the Proposed Scheme showed that approximately 617.7ha (95.4% of the Study Area) could be used by species of high conservation importance. The remaining 29.7ha (4.6% of the Study Area) was suitable for use only by species of low conservation priority.

2.4. Habitat Suitability Assessment for Wintering Birds

- 2.4.1. Sixty-seven bird species were identified that have winter ranges that overlap the Study Area, and for which supporting habitat is present within the Study Area. Of these species, 14 are listed on the SBL. Table 2.7 lists the 67 species, whether they are listed on the SBL, and their associated habitat types.

Table 2.7: Bird species which could winter within the Study Area, their habitat, and whether they appear on the SBL

Common Name	SBL Listed	Habitat Type
Goshawk		Broadleaved Woodland
Sparrowhawk		Mixed
Buzzard		Mixed
Rough-legged buzzard		Mixed
Kestrel	Yes	Grassland/Heathland
Merlin	Yes	Grassland/Heathland
Peregrine	Yes	Mixed
Red kite		Grassland/Heathland
Red grouse		Heathland
Black grouse	Yes	Coniferous Woodland
Capercaillie	Yes	Coniferous Woodland
Red-legged partridge		Grassland/Heathland
Partridge	Yes	Grassland/Heathland
Pheasant		Mixed
Water rail		Water and Reeds



Common Name	SBL Listed	Habitat Type
Moorhen		Water and Reeds
Coot		Water and Reeds
Lapwing	Yes	Grassland
Jacksnipe		Grassland/Heathland
Snipe		Grassland/Heathland
Rock dove		Mixed
Stock dove		Coniferous Woodland
Wood pigeon		Coniferous and Broadleaved Woodland
Collared dove		Mixed
Barn owl	Yes	Grassland
Tawny owl		Broadleaved Woodland
Long-eared owl		Coniferous and Broadleaved Woodland
Short-eared owl	Yes	Heathland
Green woodpecker		Grassland/Heathland
Great spotted woodpecker		Coniferous and Broadleaved Woodland
Meadow pipit		Grassland/Heathland
Pied wagtail		Mixed
Dipper		Water and Reeds
Wren		Mixed
Robin		Mixed
Stonechat		Heathland
Blackbird		Mixed
Fieldfare		Grassland
Redwing	Yes	Mixed
Mistle thrush		Coniferous and Broadleaved Woodland
Goldcrest		Mixed
Long-tailed tit		Mixed
Crested tit		Coniferous Woodland
Coal tit		Coniferous and Broadleaved Woodland
Blue tit		Mixed
Great tit		Mixed
Treecreeper		Coniferous and Broadleaved Woodland
Jay		Mixed
Magpie		Mixed
Jackdaw		Mixed
Rook		Mixed
Carrion crow		Mixed
Raven		Grassland/Heathland
House sparrow		Mixed

Common Name	SBL Listed	Habitat Type
Tree sparrow		Mixed
Chaffinch		Mixed
Brambling	Yes	Mixed
Greenfinch		Mixed
Goldfinch		Mixed
Siskin	Yes	Coniferous Woodland
Linnet	Yes	Heathland
Crossbill		Coniferous Woodland
Scottish crossbill		Coniferous Woodland
Snow bunting	Yes	Heathland
Yellowhammer		Grassland
Reed bunting		Water and Reeds
Corn bunting		Grassland

- 2.4.2. Cross referencing the above habitat preferences with data from the Phase 1 habitat survey of the Proposed Scheme showed that 608.7ha (94.0% of the Study Area) could be used by species with a high conservation importance. The remaining 38.8ha (6% of the Study Area) was suitable for use by species with a low conservation importance.

2.5. Capercaillie

- 2.5.1. The majority of the woodland, including coniferous plantation woodland and semi-natural broad-leaved woodland, is suitable for supporting capercaillie. Information supplied by SNH and the RSPB identifies the majority of the woodland to the west of the A9 from Craigellachie through to the River Dulnain (Sections 3a to 8) as having the potential to support capercaillie (see woodland areas on Phase 1 habitat map, Figure 11.4a). In addition, the extensive coniferous woodland blocks to the north and south of Carrbridge (Sections 7 to 9), and within the Kinveachy area (Sections 6a to 7), are also recognised as being important habitat for this species with many records for capercaillie concentrated within these locations.

3. Scope of DMRB Stage 3 Assessment

- 3.1.1. The information on birds gathered in the vicinity of the Proposed Scheme is intended to guide the need for, scope and extent of further bird surveys to inform the DMRB Stage 3 Assessment.

3.2. Biological Records and Consultation

- 3.2.1. Organisations yet to supply biological records will be contacted to secure any relevant information for the DMRB Stage 3 Assessment. Specifically, the Highland Raptor Study Group and Scottish Raptor Study Group will be contacted for their records.
- 3.2.2. Consultation with SNH and the RSPB will be continued at DMRB Stage 3 Assessment to assist with the interpretation of the status of bird species within the vicinity of the Proposed Scheme and the identification of potentially significant impacts on populations of these bird species.

3.3. Breeding Bird Surveys

- 3.3.1. Surveys of breeding birds will be undertaken during spring and summer seasons and will identify species that are likely to be most sensitive to changes in habitat or disturbance, in particular SBL species. Survey areas will be identified within the following habitat types:
- Broad-leaved woodland (semi-natural and plantation);
 - Coniferous woodland (semi-natural and plantation);
 - Mixed woodland (semi-natural and plantation);
 - Scrub;
 - Moorland;
 - Heathland
 - Bogs; and
 - Grassland.
- 3.3.2. The method employed for breeding bird survey will broadly conform to the method used for the Common Bird Census (CBC) survey, devised and run by the British Trust for Ornithology^{xvii} (BTO). The CBC method is designed to provide detailed information on bird population numbers and territories within a given area.
- 3.3.3. Bird surveys will be undertaken within a corridor 500m either side of the Proposed Scheme. In woodland, where sightlines are restricted, an area 200-250m from the Proposed Scheme will be covered as visual disturbance effects of the road will be moderated by woodland beyond this distance. In heathland and open habitats, the survey area will extend to the full 500m corridor.
- 3.3.4. The survey timing will seek to coincide with the highest levels of bird activity, which typically occur from half an hour after dawn until around 10:00. Surveys will not be carried out in heavy rain, poor visibility or strong wind when birds are less likely to be active and are less able to be seen.
- 3.3.5. All species of bird identified either by sight or sound during the survey will be recorded using standard BTO codes. Where possible, further information such as sex and age will also be recorded along with observed activity, such as singing or nest building. Birds will be recorded in the standard method recommended for the CBC. All data will be recorded onto OS base maps of the survey areas. Five survey visits will be made to each site, once a month from March to July, in accordance with best practice.

3.4. Winter Bird Surveys

- 3.4.1. Winter bird surveys will be undertaken within habitat types identified as likely to support wintering birds, giving particular consideration to important species such as those on the SBL. Winter bird surveys will begin in November and continue, once a month through to March. The method used will be specifically designed taking in account methods used by the BTO and RSPB (e.g. Farmland Bird Survey and the Pinewood Bird Survey) to provide a census of wintering bird communities. Data collection will involve direct counting of birds whilst walking transects through habitat of interest.
- 3.4.2. The survey area will comprise a corridor 500m either side of the Proposed Scheme. In woodland, where sightlines are restricted, an area 200-250m from the Proposed Scheme will be covered as visual disturbance effects of the road will be moderated by

woodland beyond this distance. The surveys will involve surveyors walking transects through suitable habitat, recording the locations where birds are seen, their species and abundance.

3.5. Capercaillie

3.5.1. Further survey and assessment for capercaillie will be undertaken at DMRB Stage 3 Assessment and will include the following:

- Capercaillie leks within 1km of the Proposed Scheme will be identified through further consultation with the RSPB and SNH.
- A habitat suitability assessment of woodland within 1km of the Proposed Scheme to assess their suitability for supporting capercaillie.
- Field surveys to determine capercaillie activity will be undertaken during February and March and will cover an area encompassing the Proposed Scheme plus an additional 500m.

3.5.2. The habitat suitability assessment and field surveys will be undertaken in accordance with SNH guidance for capercaillie assessment^{xviii}.

ⁱ Snow, D.W. and Perrins, C.M. (1998). The Birds of the Western Palearctic, Concise Edition. Oxford University Press, Oxford.

ⁱⁱ Multi-Agency Geographic Information for the Countryside (2016) Interactive Map. Available at: <http://magic.defra.gov.uk/MagicMap.aspx> (Accessed 22/06/2016).

ⁱⁱⁱ Scottish Natural Heritage (2016) Site Link. Available at: <http://gateway.snh.gov.uk/sitelink/index.jsp> (Accessed 22/06/2016).

^{iv} Scottish Natural Heritage (2016) Interactive Map. Available at: <http://www.snh.gov.uk/publications-data-and-research/snhi-information-service/map/> (Accessed 22/06/2016)

^v CH2MHill (2015). Preliminary Ecological Appraisal. North Scheme – Dalraddy to Moy

^{vi} CH2MHill (2015). Preliminary Ecological Appraisal. North Scheme – Dalraddy to Moy

^{vii} Snow, D.W. and Perrins, C.M. (1998). The Birds of the Western Palearctic, Concise Edition. Oxford University Press, Oxford.

^{viii} Snow, D.W. and Perrins, C.M. (1998). The Birds of the Western Palearctic, Concise Edition. Oxford University Press, Oxford.

^{ix} The Scottish Government (2013) Scottish Biodiversity List. Available at:

<http://www.gov.scot/Topics/Environment/Wildlife-Habitats/16118/Biodiversitylist/SBL> (Accessed 22/06/2016)

^x Scottish National Heritage (2012). Regional population estimates of selected Scottish breeding birds

^{xi} Eaton, M.A., Dillon, I.A., Stirling-Aird, P. & Whitfield, D.P. (2007). Status of the Golden Eagle *Aquila chrysaetos* in Britain in 2003. *Bird Study* 54: 212-220.

Whitfield, D.P., Fielding, A.H., McLeod, D.R.A., Morton, K., Stirling-Aird, P. & Eaton, M.A. (2007). Factors constraining the distribution of Golden Eagles *Aquila chrysaetos* in Scotland. *Bird Study* 54: 199-211.

^{xii} Unpublished data held by the Raptor Study Groups, updated for the 2010 breeding season.

^{xiii} Banks, A.N., Coombes, R.H. & Crick, H.Q.P. (2003) The Peregrine Falcon breeding population of the UK & Isle of Man in 2002. Research Report 330. BTO, Thetford; with unpublished updates from the Scottish Raptor Monitoring Scheme database 2003-2008.

^{xiv} Unpublished data from the 2010 national survey, supplemented by Scottish Raptor Monitoring Scheme and Rare Breeding Bird Panel reports up to 2008, and Scottish Raptor Study Group data for 2011.

^{xv} Scottish National Heritage (2012). Regional population estimates of selected Scottish breeding birds

^{xvi} The Scottish Government (2013) Scottish Biodiversity List. Available at:

<http://www.gov.scot/Topics/Environment/Wildlife-Habitats/16118/Biodiversitylist/SBL> (Accessed 22/06/2016)

^{xvii} Marchant, J. (1983). Common Bird Census Instruction. British Trust for Ornithology, Thetford.

^{xviii} Scottish Natural Heritage (2013). Guidance: Capercaillie Survey Methods. Available at:

<http://www.snh.gov.uk/docs/A863292.pdf> (Accessed 22/06/2016).