



SP Energy Networks

Kennoxhead to Coalburn OHL

Breeding bird survey report

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1.0 INTRODUCTION

1.1 Purpose of this report

1.1.1 This report presents the results of breeding bird surveys and vantage point surveys undertaken at locations along the route of a proposed overhead power line connecting Kennoxhead windfarm and Coalburn substation (known in this report as 'the site' as shown in Figure 1). RSK Biocensus undertook these surveys between March 2020 and July 2021.

1.2 Landscape context

1.2.1 The site is located in west Lanarkshire, close to the town of Douglas. The proposed overhead line route stretches from Kennoxhead farm in the south to Coalburn substation in the north. A large portion of the proposed route passes through varied habitats including two disused quarries, peat bog, grazed fields and plantation woodland, and it crosses numerous water courses including Douglas Water.

1.2.2 The site and survey locations are shown in **Figure 1**.

1.3 Development proposals

1.3.1 The proposed development is a 132kV overhead line grid connection between Kennoxhead wind farm (Grid ref: 277165E 624386N) and Coalburn substation (Grid ref: 282510E 637337N) in South Lanarkshire.

1.3.2 The overhead line will be constructed using a twin wooden pole structure in an H style formation. The overhead line will be c.16 km in length and constructed using wooden poles with lines c.13 m in height.

1.3.3 A temporary site compound will be set up which will include cabins, a carpark, welfare facilities and stores. The preparation of the land for temporary areas will include some site clearance, minor earthworks to level the site, drainage works for the carpark and installation of services.

1.3.4 To allow access to the site, temporary roads will be required. This will comprise trackway/terrafirma panels or stone roads laid on top of geomembranes. Bog mats and temporary track mats will be used to cross areas of soft-ground where existing access tracks are not available.

2.0 METHODS

2.1 Desk-based study

2.1.1 A desk-based assessment was carried out to collate existing ornithological information pertaining to the proposed development and its surroundings. This included a search for statutory and non-statutory designated sites with ornithological qualifying interest features, as listed below:

- Internationally designated sites - Special Protection Areas (SPAs) and Ramsar sites, within 10 km of the proposed development.
- Nationally designated sites - Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs), within 2 km of the proposed development.
- Non-statutory designated sites within 1 km of the proposed development.

2.1.2 Searches for statutory designated sites were undertaken using the Multi-Agency Geographic Information for the Countryside (MAGIC) website and NatureScot SiteLink. Non-statutory designated site information was obtained from Glasgow Museums Biological Records Centre.

2.1.3 Records of breeding raptors within 2km of the refined study area (as of January 2019) were requested from South Strathclyde Raptor Study Group.

2.1.4 Records of priority species within 1 km of the proposed development were also requested from Glasgow Museums Biological Records Centre.

2.2 Vantage point survey

2.2.1 Vantage point (VP) surveys were initially undertaken from four locations along the proposed route. This was later narrowed to two locations following revision of the potential route options. The locations of these two vantage points are given in **Table 1**.

2.2.2 Survey locations were agreed following consultation with NatureScot. A year of monitoring was considered appropriate, taking into consideration the amount of data already available on the species assemblage in the vicinity due to previous survey work carried out for neighbouring developments.

Table 1: vantage point locations

Vantage point	Grid reference	Habitat description
1b	NS 78379 24762	Located on Kennox Hill in an area of upland peat habitat. Overlooking a gully formed by the Kennox water, a water-filled quarry pit and mature and felled forestry.
2a	NS 80611 33669	Located on an area of disused opencast workings near Coalburn, the tracks in the area are now used by residents for leisure. Overlooking a water-filled quarry pit, grassland, scrub and coniferous woodland.

- 2.2.3 Due to restrictions imposed during the Covid 19 pandemic, the VP surveys took place between March 2020 and May 2021.
- 2.2.4 A total of 36 hours of survey effort took place at each VP, consisting of two three-hour watches, monthly between March and August. Details of survey dates, times, and weather are shown in **Appendix A**.
- 2.2.5 All VP surveys were three hours in duration with a minimum resting period of 30 minutes between surveys, in line with NatureScot guidance (NatureScot, 2014).
- 2.2.6 Surveyors remained at one location and used binoculars to scan the viewshed. When target species were sighted, details of their flight direction, height and amount of time spent in each height band were noted.
- 2.2.7 Target species were selected based on NatureScot guidance for overhead lines (NatureScot, 2016). Species susceptible to OHL collision were targeted, including waterfowl, waders, raptors and game birds. A list of target species is shown in **Appendix C**.

2.3 Breeding bird survey

- 2.3.1 Due to restrictions caused by the covid-19 pandemic, breeding bird surveys were undertaken over the course of two years, between June 2020 and July 2021. The survey methodology is adapted from the Common Bird Census (CBC) methodology devised jointly by the British Trust for Ornithology (BTO), the Royal Society for the Protection of Birds (RSPB) and the Joint Nature Conservancy Council (JNCC), (Gilbert et al. 1998).
- 2.3.2 A transect route was walked incorporating all features that may function as nesting bird habitat within and immediately adjacent to the overhead line route. All birds seen or heard were recorded onto base maps along with notes of behaviour that may indicate breeding. All surveys were undertaken early in the morning at or just after sunrise to coincide with the period of peak bird activity.
- 2.3.3 The breeding bird surveys comprised six survey visits (as per the recently developed bird survey guidance (<https://birdsurveyguidelines.org/>)).

Determination of Breeding Status

- 2.3.4 The breeding status of each species is classified into three categories: Confirmed breeding; Probable breeding; and Possible breeding. The behaviour, sex, age and location of individual birds allow conclusions to be drawn about breeding status, based on categories devised by the European Ornithology Atlas Committee (EOAC 1979). Breeding evidence used in this report follows EOAC guidelines and these are given in **Appendix C**. It is also possible that species are merely present in a habitat for a short period and are not actually breeding. Birds not thought to be breeding and birds only recorded flying-over the site are classed as non-breeding.

2.4 Raptor survey

- 2.4.1 Due to restrictions caused by the covid-19 pandemic, breeding raptor surveys took place over the course of two years. Three visits were undertaken, in June 2020, March 2021, and April 2021 to record the location of locally breeding raptors.
- 2.4.2 The first survey covered the north and south ends of the proposed route and a 500m buffer, while the second visits covered the entirety of the refined route option and a 500m buffer.
- 2.4.3 Surveyors looked for raptor activity indicative of site occupation territorial display and evidence of breeding, with observations made beyond the buffer by surveyors using binoculars to scan suitable habitats for raptors.
- 2.4.4 The survey combined species-specific methods described in Hardey et al. 2013, to survey simultaneously all raptor species with the potential to be present. Particular attention was given to suitable features within the survey area including cliffs, craggy outcrops, and dense patches of heather. These areas were scanned from a distance before being approached for a closer inspection for evidence of raptors such as pellets and feathers, where it was safe to do so. Forest rides were also walked, and suitable trees checked for goshawk nests.
- 2.4.5 The breeding status of any raptor recorded during survey was assessed on criteria listed in Hardey et al. (2013).

2.5 Constraints and limitations

- 2.5.1 Restrictions caused by the Covid-19 pandemic meant that surveyors were unable to access the site for several months in 2020, causing interruptions to the survey programme. Given the additional survey effort undertaken this interruption is not thought to have significantly altered the conclusions reached.

3.0 RESULTS – DESK-BASED STUDY

3.1 Overview

3.1.1 There are several statutory sites within 2km of the site boundary which include birds as part of their designations. 18 protected bird species have previously been recorded within 2km of the site boundary.

3.2 Statutory Sites

3.2.1 There are 14 statutory designated sites within 2 km of the study area boundary, comprising one Special Protection Area (SPA), two Special Areas of Conservation (SAC), nine Sites of Special Scientific Interest (SSSI), two Important Bird Areas (IBA). These sites are listed in **Table 2** in order of proximity to the site. Note only those sites that have cited ornithological interest features are included.

Table 2: Statutory sites within 2 km of the site boundary

Site Name	Designation	Approximate Distance (m)
Muirkirk and North Lowther Uplands	SPA	0
The Muirkirk and North Lowther Uplands SPA comprises three adjacent upland areas, together with Airds Moss, a low-lying blanket bog. The predominant habitats include semi-natural areas of blanket bog, acid grassland and heath. The boundaries of the SPA are coincident with those of North Lowther Uplands SSSI, Blood Moss and Slot Burn SSSI, Garpel Water SSSI, Ree Burn and Glenbuck Loch SSSI and coincident with those of Muirkirk Uplands SSSI, except for the exclusion of the Upper Heilar and Tarmac forestry plantations on Airds Moss and the exclusion of Blood Moss, south of Dalblair. This SPA qualifies by regularly supporting populations of Golden Plover (<i>Pluvialis apricaria</i>), Hen Harrier (<i>Circus cyaneus</i>), Merlin (<i>Falco columbarius</i>), Peregrine (<i>Falco peregrinus</i>) and Short-eared Owl (<i>Asio flammeus</i>)		
North Lowther Hills	IBA	0
The North Lowther Hills IBA is an upland block to the east of Airds Moss, comprising moorland and areas of active blanket bog. The IBA supports a range of breeding upland bird species.		
North Lowther Uplands	SSSI	0
The North Lowther Uplands SSSI contains the Bail Hill Geological Conservation Review (GCR) site which displays a section through the “throat” of a volcano. This was active 480 million years ago at a time when the Southern Uplands were being laid down as sediments on the floor of an ancient ocean, the Iapetus Ocean. The area around Bught Craig shows a wide variety of rock types erupted by the volcano and a number of different rock types that collapsed into the volcano before it became extinct. The SSSI supports a range of upland habitats and associated species showing good examples of the characteristic plant communities of the Southern Uplands. The dominant habitats include blanket bog, wet and dry heaths and acid grassland. On		

Site Name	Designation	Approximate Distance (m)
<p>flatter areas the vegetation largely comprises a range of blanket bog and wet heath communities. The North Lowther Uplands SSSI also has a mosaic of upland grassland habitats. The range of habitats, many of them heather dominated, provide a mosaic of breeding and foraging habitats for the diverse upland bird community which is of national importance. Amongst the species present are Curlew (<i>Numenius arquata</i>), Dunlin (<i>Calidris alpina</i>), Golden Plover (<i>Pluvialis apricaria</i>), Hen Harrier (<i>Circus cyaneus</i>), Merlin (<i>Falco columbarius</i>), Peregrine (<i>Falco peregrinus</i>), Raven (<i>Corvus corax</i>), Red Grouse (<i>Lagopus lagopus</i>), Redshank (<i>Tringa totanus</i>), Short-eared Owl (<i>Asio flammeus</i>), Snipe (<i>Gallinago gallinago</i>), Teal (<i>Anas crecca</i>), Wheatear (<i>Oenanthe oenanthe</i>) and Whinchat (<i>Saxicola rubetra</i>). The breeding population of hen harriers is of both national and European importance.</p>		
Airds Moss and Muirkirk Uplands	IBA	0
<p>The Airds Moss and Muirkirk Uplands IBA includes the largest remaining continuous block of unforested moorland in South West Scotland. The main habitats include heather and grass moorland and blanket bog.</p>		
Muirkirk Uplands	SSSI	0
<p>The Muirkirk Uplands SSSI includes two upland areas situated to the north and south of the town of Muirkirk and Airds Moss, a low-lying blanket bog. The protected natural features include localised exposures of fossiliferous rock, upland habitats and blanket bog, an associated assemblage of breeding birds, a breeding population of Short-eared Owl (<i>Asio flammeus</i>), plus breeding and non-breeding (wintering) populations of Hen Harrier (<i>Circus cyaneus</i>). There are extensive areas of intact wet heath and blanket bog typified by <i>Erica tetralix</i> (Cross-leaved Heath) and <i>Sphagnum</i> sp. (Bog Mosses). Where modification of blanket bog has taken place through drainage, grazing and burning the vegetation is dominated by <i>Eriophorum vaginatum</i> (Hare's-tail Cotton-grass). Fine examples of drier heathland vegetation are found on steeper, more well-drained ground. A mosaic of upland grassland habitats is also present. The blanket bog of Airds Moss displays features typical of this habitat but is unusual in that these have developed at a relatively low altitude. Fen and acid grassland habitats are found around the periphery of the moss. The mosaic of habitats within the Muirkirk Uplands supports a diverse upland breeding bird community which is of national importance. The upland moorland bird assemblage includes Buzzard (<i>Buteo buteo</i>), Curlew (<i>Numenius arquata</i>), Dunlin (<i>Calidris alpina</i>), Golden Plover (<i>Pluvialis apricaria</i>), Hen Harrier (<i>Circus cyaneus</i>), Merlin (<i>Falco columbarius</i>), Peregrine (<i>Falco peregrinus</i>), Red Grouse (<i>Lagopus lagopus</i>), Redshank (<i>Tringa totanus</i>), Ring Ouzel (<i>Turdus torquatus</i>), Short-eared Owl (<i>Asio flammeus</i>), Snipe (<i>Gallinago gallinago</i>), Stonechat (<i>Saxicola rubicola</i>), Teal (<i>Anas crecca</i>), Wheatear (<i>Oenanthe oenanthe</i>) and Whinchat (<i>Saxicola rubetra</i>). The site is of particular importance, both nationally and internationally, for breeding Hen Harrier and Short-eared Owl. Hen harriers also winter within the site in nationally important numbers.</p>		

3.3 Non-Statutory sites

3.3.1 There are no non-statutory designated sites within 2 km of the site boundary.

3.4 Other notable sites

3.4.1 There are 42 areas of ancient woodland within 2 km of the site boundary, with 26 of these falling within the site boundary itself. These areas of woodland are likely to support a diverse assemblage of breeding birds.

3.5 Notable bird species

3.5.1 At least 45 bird species are recorded from places within 2 km of the site boundary. Species that are protected by law under The Wildlife and Countryside Act 1981 as amended by The Wildlife and Natural Environment (Scotland) Act 2011 and have been recorded in the search area are listed in the table below (excluding species protected only against collection for sale); a full species list is given in **Appendix D**.

Table 3: Notable bird species records within 2 km of the site boundary

Latin Name	Common Name	Legally Protected Status	Most Recent	No of Records	Within 100m	Within 1km	Within 2km
Birds						P	
<i>Accipiter gentilis</i>	Goshawk	WCA1	2018	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Alcedo atthis</i>	Kingfisher	WCA1	2003	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Anser anser</i>	Greylag Goose	WCA1	2018	182	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Bucephala clangula</i>	Goldeneye	WCA1	2018	9	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Charadrius dubius</i>	Little Ringed Plover	WCA1	2018	9	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Circus aeruginosus</i>	Marsh Harrier	WCA1	2016	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Circus cyaneus</i>	Hen Harrier	WCA1	2015	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Cygnus cygnus</i>	Whooper Swan	WCA1	2018	52	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Falco columbarius</i>	Merlin	WCA1	2003	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Fringilla montifringilla</i>	Brambling	WCA1	2018	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Limosa limosa</i>	Black-tailed Godwit	WCA1	2018	62	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Loxia curvirostra</i>	Common Crossbill	WCA1	2018	57	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Pandion haliaetus</i>	Osprey	WCA1	2004	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Porzana porzana</i>	Spotted Crake	WCA1	2014	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Tringa glareola</i>	Wood Sandpiper	WCA1	2015	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Tringa nebularia</i>	Greenshank	WCA1	2016	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Tringa ochropus</i>	Green Sandpiper	WCA1	2018	20	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Latin Name	Common Name	Legally Protected Status	Most Recent	No of Records	Within 100m	Within 1km	Within 2km
<i>Turdus pilaris</i>	Fieldfare	WCA1	2018	434	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Note - P relates to records with 4 figure or tetrad grid references that could potentially be anywhere within a 1 km or 2 km square.

3.6 Breeding raptors

- 3.6.1 Records from the raptor study group indicate that four raptor species were recorded as showing signs of breeding behaviour within 2km of the study area boundary between 2015-2019.
- 3.6.2 Of these species, three have been proven to have bred successfully, these are peregrine (*Falco peregrinus*), goshawk (*Accipiter gentilis*), and short-eared owl (*Asio flammeus*).
- 3.6.3 Due to the risk of persecution, the exact locations of recorded nests are confidential, and not presented in this report

4.0 RESULTS – VANTAGE POINT SURVEY

4.1 Overview

4.1.1 A total of fifteen target species were observed during the VP surveys. Of these, thirteen species were observed flying at potential collision risk height (0-20m) with the OHL. Bird activity was concentrated around the waterbodies and watercourses close to the VPs. A summary of the activity from each VP is given below:

4.2 Vantage point 1b

Target Species

4.2.1 Nine target species were observed at vantage point 1b, of which eight were observed flying at potential collision risk height with the OHL (0-20m). 225 flights of target species were observed overall.

4.2.2 Five secondary species were also observed from VP 1b. Bird flight activity was concentrated along the gully containing the Kennox Water and around the water-filled quarry pit south of Chapel Hill. Maps of flight paths are shown in **Figures 1-3** and survey details in **Appendix A**.

Table 4: Target species recorded at vantage point 1b, total number of flights and flights at collision risk height during survey period

Species	Total number of flights	Number of flights at collision risk height
Pink-footed goose (<i>Anser brachyrhynchus</i>)	180	0
Canada goose (<i>Branta canadensis</i>)	5	5
Greylag goose (<i>Anser anser</i>)	8	8
Black-headed gull (<i>Chroicocephalus ridibundus</i>)	2	2
Herring gull (<i>Larus argentatus</i>)	15	9
Curlew (<i>Numenius arquata</i>)	5	5
Lapwing (<i>Vanellus vanellus</i>)	6	6
Hen harrier (<i>Circus cyaneus</i>)	2	2
Peregrine (<i>Falco peregrinus</i>)	1	1

Raptors

4.2.3 Two target raptor species were observed at VP 1b: peregrine and hen harrier. A peregrine was observed flying northwest along the Kennox Water valley, at potential collision risk height. Both male and female hen harriers were seen, hunting along the Kennox Water, and around Chapel Hill, both at potential collision risk height.

Geese and Ducks

- 4.2.4 Both Canada goose and graylag goose were regularly observed at VP 1b, on the water-filled quarry pit south of Chapel Hill. All of the flights associated with these species were to or from the flooded quarry pit, either along the eastern flank of Chapel Hill or over Chapel Hill towards the north.
- 4.2.5 Flocks of migrating pink-footed goose were observed flying high (well above potential collision risk height) above the site in March 2020 and April 2021.

Gulls

- 4.2.6 Herring gulls and black-headed gulls were observed from VP 1b on several occasions. They were observed flying at potential collision risk height both around the flooded quarry pit and along the Kennox Water.

Waders

- 4.2.7 Lapwing and curlew were observed around the edges of the flooded quarry pit and on Chapel Hill. Curlew were heard calling from the edges of the forestry plantations to the west of the planned overhead line route.

Secondary species

- 4.2.8 Raven (*Corvus corax*), buzzard (*Buteo buteo*), kestrel (*Falco tinnunculus*), common gull (*Larus canus*) and cormorant (*Phalacrocorax carbo*) were also observed from VP 1b.

4.3 Vantage point 2a

Target Species

- 4.3.1 Eleven target species were observed at vantage point 2a. Of the target species, 130 flights at potential collision risk height were observed on site, 50 of which were by black-headed gulls. Five secondary species were also observed from VP 2a. Activity from the target species, including flights at potential collision risk height, was concentrated around the water-filled disused gravel pit, and the shrub habitat to the south of the quarry pit. Maps of flight paths are shown in **Figures 4 to 7**, and survey details in **Appendix A**.

Table 5: Target species recorded at vantage point 2a and total number of flights and flights at collision risk during survey period

Species	Total number of flights	Number of flights at collision risk height
Greylag goose	3	0
Canada goose	22	22
Black-headed gull	63	50
Herring gull	1	1
Snipe (<i>Gallinago gallinago</i>)	2	2
Ringed plover (<i>Charadrius hiaticula</i>)	2	2

Species	Total number of flights	Number of flights at collision risk height
Lapwing	36	35
Oystercatcher (<i>Haematopus ostralegus</i>)	7	7
Curlew	6	6
Common sandpiper (<i>Actitis hypoleucos</i>)	5	5

Raptors

4.3.2 No target raptor species were observed at VP2a.

Geese and Ducks

4.3.3 Of the two goose species observed flying at VP2a, only a Canada goose were observed flying at potential collision risk height. Overall, there were 22 Canada goose flights at potential collision risk height.

4.3.4 No mute swan flights were observed, however mute swan was observed on the flooded quarry pit, indicating that they would have flown in and out through the potential collision risk height band, although this was not observed.

Gulls

4.3.5 Black-headed gull and herring gull were both observed flying at collision risk height. Black-headed gull activity was concentrated around the island in the flooded quarry pit, and it is likely that they were nesting in that location. A single herring gull was observed flying from rest at the shore of the flooded quarry pit.

Waders

4.3.6 Six species of wader were observed at VP2a, namely snipe, ringed plover, lapwing, oystercatcher, curlew, and common sandpiper. All six were observed flying at potential collision risk height. Snipe were observed displaying to the south of the flooded quarry pit, indicating that they were breeding in that area.

4.3.7 Activity for the other five species was concentrated around the shores and island of the flooded quarry pit, where the birds were observed resting and periodically flushed by other bird activity or by dog walkers.

Secondary species

4.3.8 Secondary species observed at VP2a were raven, buzzard, tufted duck (*Aythya fuligula*), mallard (*Anas platyrhynchos*) and grey heron (*Ardea cinerea*).

5.0 RESULTS – BREEDING BIRD SURVEY

5.1 Overview

5.1.1 A total of 55 species were recorded; of these 54 species were confirmed breeding, probable breeding or possible breeding. A complete species list summarising breeding status, based on EOAC criteria, is presented in **Appendix B**.

5.2 Breeding Status

5.2.1 Interpreting the data using the EOAC criteria, 11 species (20%) are confirmed as breeding, 29 (53%) as probable breeding species, 14 (25%) as possible breeding. In addition, one species (2%) is categorised as non-breeding species.

5.3 Birds of Conservation Concern

5.3.1 Of all the bird species recorded, 28 are Birds of Conservation Concern (BOCC) (Stanbury et al. 2021). Their associated conservation and breeding status are presented in Table 3.4. A summary of the number of notable bird species recorded and their associated EOAC breeding status is given in **Table 6**. Key points from the data are summarised below.

5.3.2 No species included under Annex 1 of the EU Birds Directive or listed on Schedule 1 of The Wildlife and Countryside Act 1981 were recorded on site during the breeding bird surveys.

5.3.3 A total of 10 red listed bird species were recorded on site during the breeding bird surveys. Of these, cuckoo (*Cuculus canorus*), lapwing, skylark (*Alauda arvensis*) and starling (*Sturnus vulgaris*) have been confirmed as breeding on site. Curlew, linnet (*Linaria cannabina*), and ringed plover were classified as probable breeders on site. House martin (*Delichon urbicum*) and lesser redpoll (*Acanthis cabaret*) were classified as possibly breeding on site. Herring gull was recorded flying over, however, as breeding habitat for the species is not available on site they have been classified as not breeding on site.

5.3.4 A total of 18 amber listed species have been recorded on site during the breeding bird surveys. Of these, common sandpiper, greylag goose, kestrel (*Falco tinnunculus*), meadow pipit (*Anthus pratensis*), oystercatcher (*Haematopus ostralegus*), and willow warbler (*Phylloscopus trochilus*) have been confirmed as breeding on site. Black-headed gull, dunnock (*Prunella modularis*), mallard, reed bunting (*Emberiza schoeniclus*), sedge warbler (*Acrocephalus schoenobaenus*), snipe, song thrush (*Turdus philomelos*), and wren (*Troglodytes troglodytes*) were classified as probably breeding on site. Grey wagtail (*Motacilla cinerea*), sparrowhawk (*Accipiter nisus*), wheatear (*Oenanthe oenanthe*) and woodpigeon (*Columba palumbus*) were classified as possibly breeding on site.

Table 6: Bird Species Recorded during the Breeding Bird Surveys of Conservation Concern, their Conservation Status and their Breeding Status

English name	BoCC Red / Amber	SBL/ UKBAP species	Species Summary	Breeding Status
Black-headed gull (<i>Chroicocephalus ridibundus</i>)	Amber	SBL	Flocks seen in suitable nesting habitat, guarding behaviour observed	Probable
Common sandpiper (<i>Actitis hypoleucos</i>)	Amber		Seen in suitable habitat on several occasions, distraction display and alarm calls observed.	Confirmed
Cuckoo (<i>Cuculus canorus</i>)	Red	SBL, UKBAP	Multiple males and females observed, males observed calling and displaying territorial behaviour on several visits	Confirmed
Curlew (<i>Numenius arquata</i>)	Red	SBL, UKBAP	Observed in suitable habitat on several occasions, alarm calls heard.	Probable
Dunnock (<i>Prunella modularis</i>)	Amber		Heard singing on several occasions	Probable
Grey wagtail (<i>Motacilla cinerea</i>)	Amber		Individuals observed in suitable nesting habitat	Possible
Greylag goose (<i>Anser anser</i>)	Amber		Juveniles observed	Confirmed
Herring gull (<i>Larus argentatus</i>)	Red	SBL, UKBAP	Seen flying through site	Not breeding
House martin (<i>Delichon urbicum</i>)	Red		Seen flying on several occasions	Possible
Kestrel (<i>Falco tinnunculus</i>)	Amber		Adults observed feeding young	Confirmed
Lapwing (<i>Vanellus vanellus</i>)	Red	SBL, UKBAP	Observed in suitable nesting habitat on several occasions, distraction displays seen	Confirmed
Lesser redpoll (<i>Acanthis cabaret</i>)	Red	SBL, UKBAP	Flock seen in suitable habitat	Possible
Linnet (<i>Linaria cannabina</i>)	Red	SBL, UKBAP	Flocks observed in suitable habitat on several occasions	Probable
Mallard (<i>Anas platyrhynchos</i>)	Amber		Pairs observed in suitable habitat on several occasions	Probable
Meadow pipit (<i>Anthus pratensis</i>)	Amber		Seen and heard on every survey, seen carrying food	Confirmed
Oystercatcher (<i>Haematopus ostralegus</i>)	Amber		Several pairs observed in same locations on several occasions, nest observed	Confirmed
Reed bunting (<i>Emberiza schoeniclus</i>)	Amber	SBL, UKBAP	Pairs observed in suitable habitat on several occasions	Probable
Ringed plover (<i>Charadrius hiaticula</i>)	Red		Observed in suitable habitat, alarm calls heard	Probable

English name	BoCC Red / Amber	SBL/ UKBAP species	Species Summary	Breeding Status
Sedge warbler (<i>Acrocephalus schoenobaenus</i>)	Amber		Territorial singing observed on several occasions	Probable
Skylark (<i>Alauda arvensis</i>)	Red	SBL, UKBAP	Seen and heard on every survey, seen carrying food	Confirmed
Snipe (<i>gallinago gallinago</i>)	Amber		Courtship displays observed on several occasions	Probable
Song thrush (<i>Turdus philomelos</i>)	Amber	SBL, UKBAP	Territorial singing observed on several occasions	Probable
Sparrowhawk (<i>Accipiter nisus</i>)	Amber		Observed in suitable nesting habitat	Possible
Starling (<i>Sturnus vulgaris</i>)	Red	SBL, UKBAP	Recently fledged young observed	Confirmed
Wheatear (<i>Oenanthe oenanthe</i>)	Amber		Observed on one survey	Possible
Willow warbler (<i>Phylloscopus trochilus</i>)	Amber		Seen and heard on every survey, seen carrying food	Confirmed
Woodpigeon (<i>Columba palumbus</i>)	Amber		Observed in suitable nesting habitat	Possible
Wren (<i>Troglodytes troglodites</i>)	Amber		Territorial singing observed on several occasions	Probable

6.0 RESULTS – BREEDING RAPTOR SURVEY

6.1 Target species

- 6.1.1 Goshawk activity was recorded in the Long Plantation, near Douglas in April 2021 and it is assumed that breeding occurred.
- 6.1.2 Both male and female hen harrier were recorded during the vantage point surveys at VP 1b and it is possible that they were breeding in the area. However, these birds seem to have since been displaced by the wind farm construction works in the vicinity.

6.2 Secondary species

- 6.2.1 Kestrel were confirmed as breeding north of Coalburn, with adult birds seen bringing food to juveniles.

7.0 CONCLUSION

- 7.1.1 A total of 57 bird species were recorded during the breeding season bird surveys. Overall, the 2020/21 breeding bird surveys show that the habitats within the proposed development provide suitable breeding habitat for a range of bird species.
- 7.1.2 Particular areas of interest for wintering birds are the water-filled quarry pits at Kennoxhead and Coalburn, as well as the upland bog habitats found at Kennoxhead; along the dismantled railway near Douglas; and north of Coalburn. These areas are frequented by several species which are at particular risk of collision with OHL.
- 7.1.3 Target species observed along the overhead line route which are at particular risk of collision with powerlines include Canada goose, pink-footed goose, graylag goose, mute swan, herring gull, black-headed gull, lapwing, curlew, oystercatcher, snipe peregrine, goshawk, and hen harrier.
- 7.1.4 Of a total of 55 species recorded during the BBS surveys, 54 species were confirmed breeding, probable breeding or possible breeding.
- 7.1.5 Goshawk and kestrel were found to be breeding along the route.
- 7.1.6 The results of the surveys in relation to the proposed development are discussed in the ornithology chapter of the associated environmental impact assessment report which will be produced for the project.

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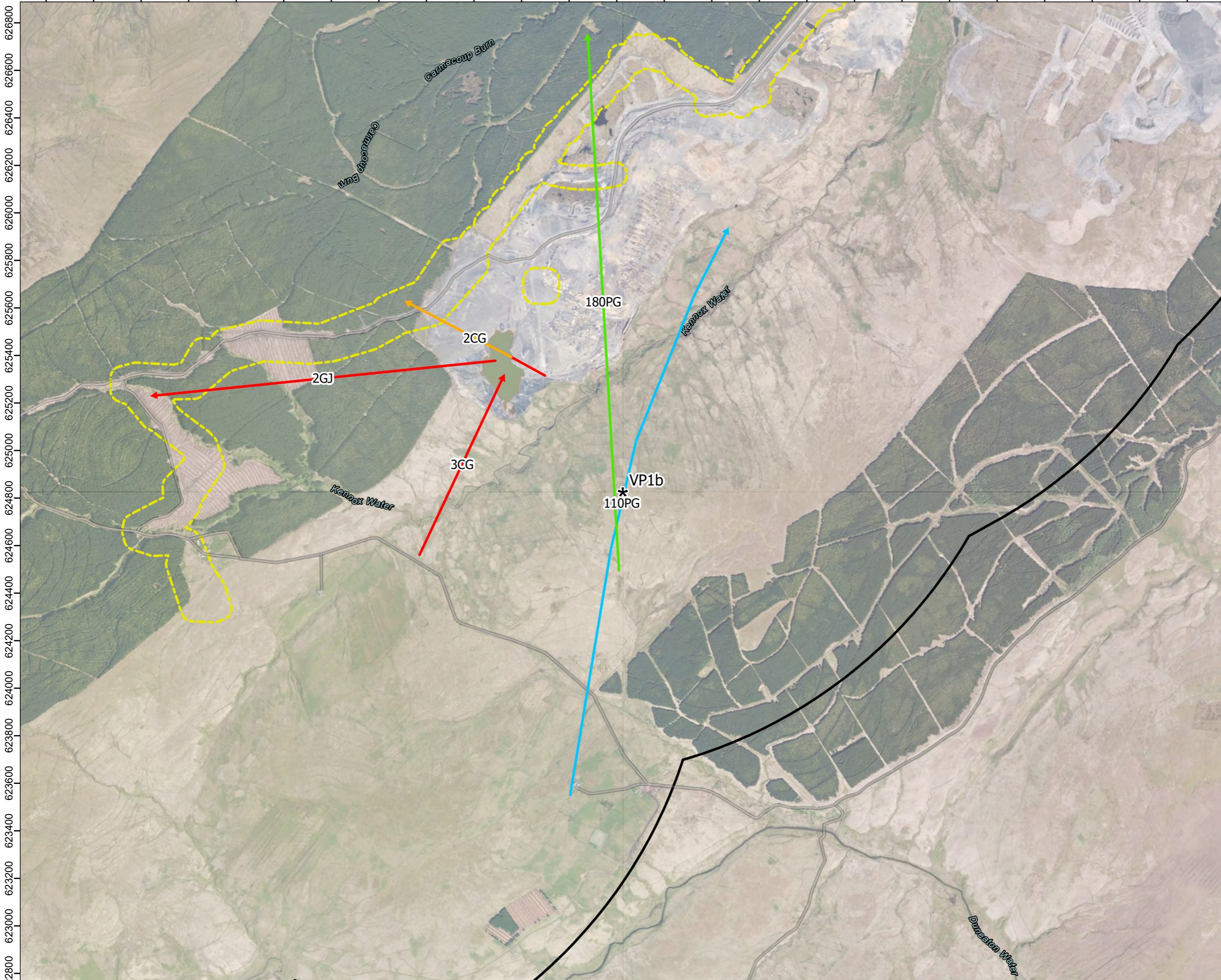
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FIGURES

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Legend:

- 50m Working area buffer
- 2km Buffer
- * Vantage point location

Flight Altitude

- <20m
- 20 - 50m
- 50 - 100m
- >100m

BTO Code	Common Name
CG	Canada Goose
GJ	Greylag Goose
PG	Pink-footed Goose

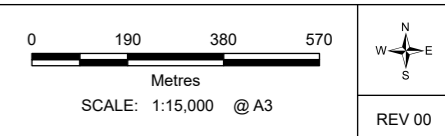


Rev	Date	Description	Drm	Chk	App
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Kennoxhead

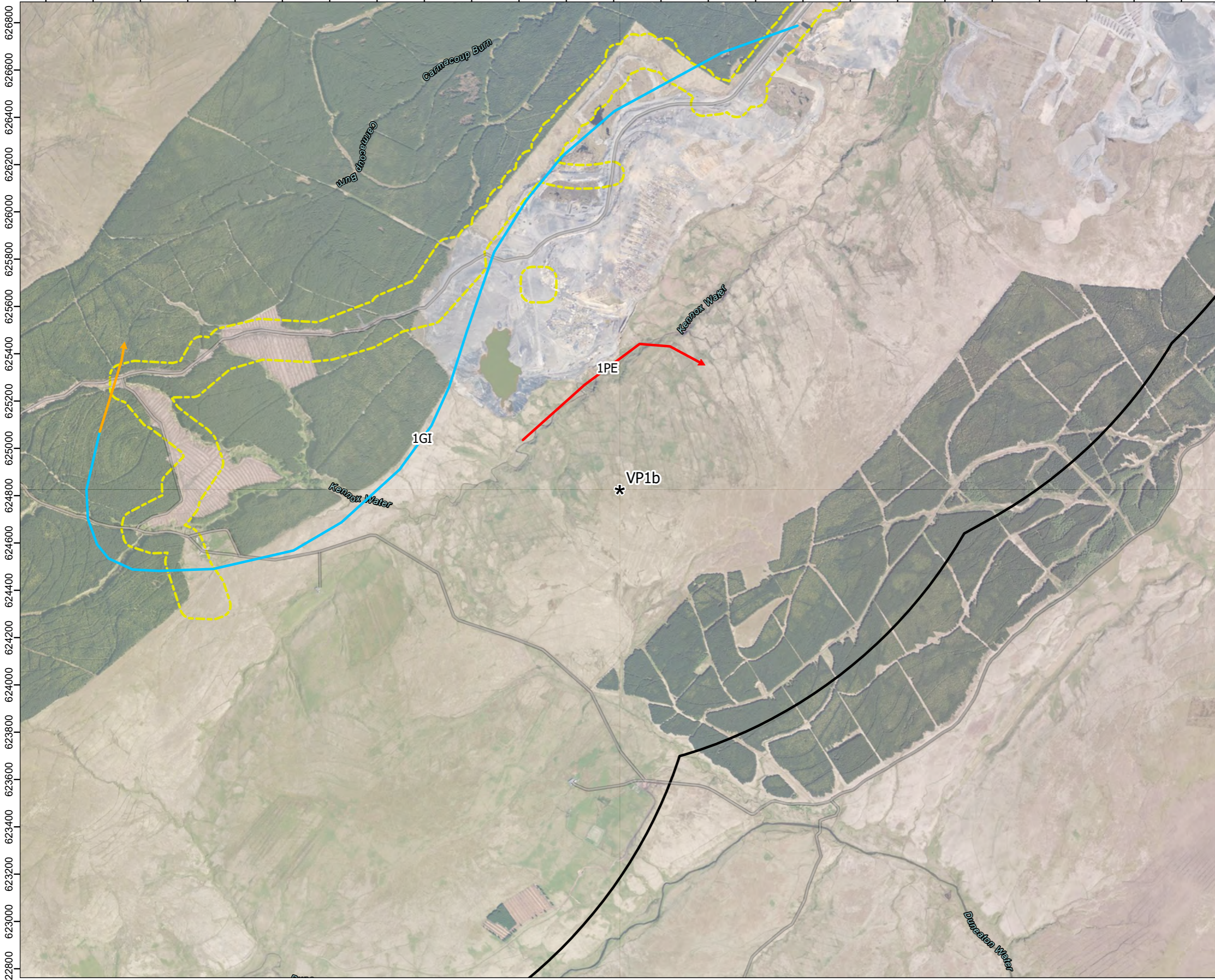


TITLE: Figure 1:
Summer Vantage Point Surveys
Geese
VP1b



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Legend:

- 50m Working area buffer
- 2km Buffer
- * Vantage point location

Flight Altitude

- <20m
- 20 - 50m
- 50 - 100m
- >100m

BTO Code	Common Name
GI	Goshawk
PE	Peregrine



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Kennoxhead



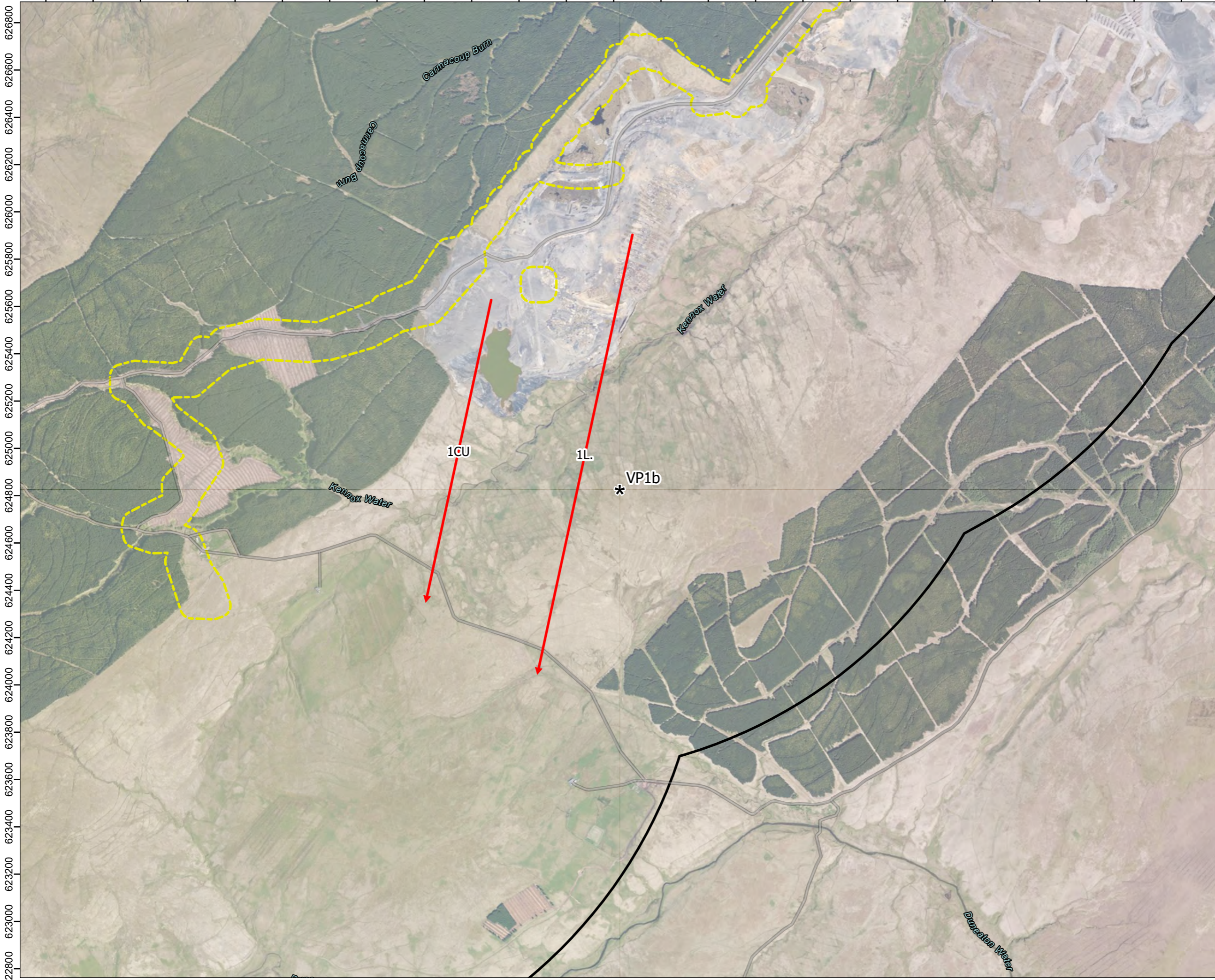
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Summer Vantage Point Surveys
Raptors
VP1b

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REV 00

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- Legend:**
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 - 2km Buffer
 - * Vantage point location
- Flight Altitude**
- <20m
 - 20 - 50m
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 - >100m

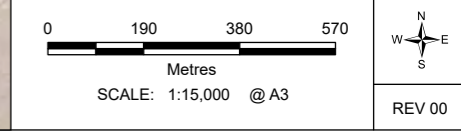
BTO Code	Common Name
CU	Curlew
L.	Lapwing
OC	Oystercatcher
RP	Ringed Plover
SN	Snipe



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Kennoxhead

TITLE: Figure 3:
Summer Vantage Point Surveys
Waders
VP1b



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631600 631800 632000 632200 632400 632600 632800 633000 633200 633400 633600 633800 634000 634200 634400 634600 634800 635000 635200 635400 635600



- Legend:**
- 50m Working area buffer
 - 2km Buffer
 - ★ Vantage point location

- Flight Altitude**
- <20m
 - 20 - 50m
 - 50 - 100m
 - >100m

BTO Code	Common Name
CG	Canada Goose
GJ	Greylag Goose
PG	Pink-footed Goose



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Kennoxhead

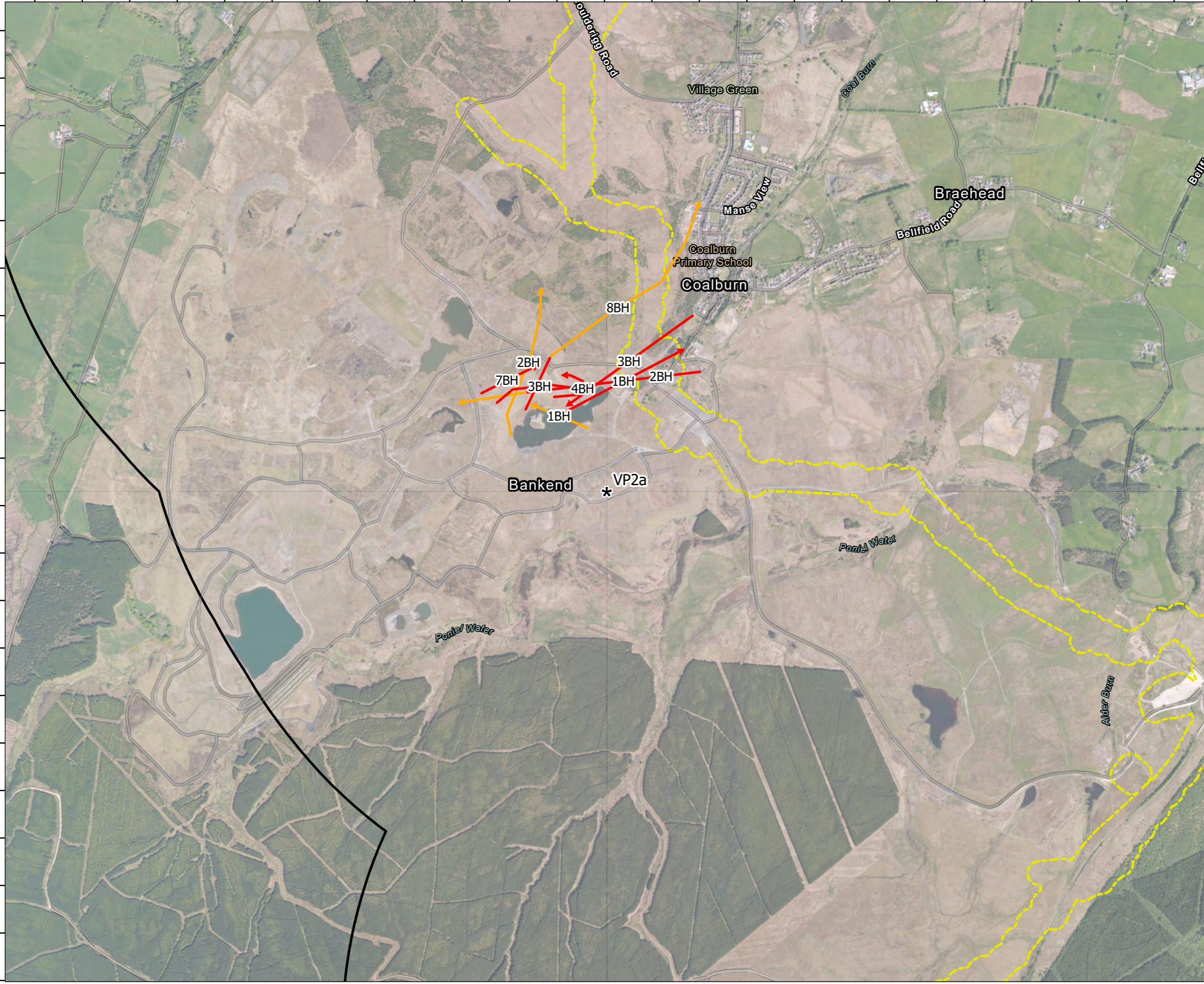
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Summer Vantage Point Surveys
Geese
VP2a

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- Legend:**
- 50m Working area buffer
 - 2km Buffer
 - ★ Vantage point location
- Flight Altitude**
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 - 50 - 100m
 - >100m

BTO Code	Common Name
BH	Black-headed Gull

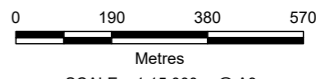


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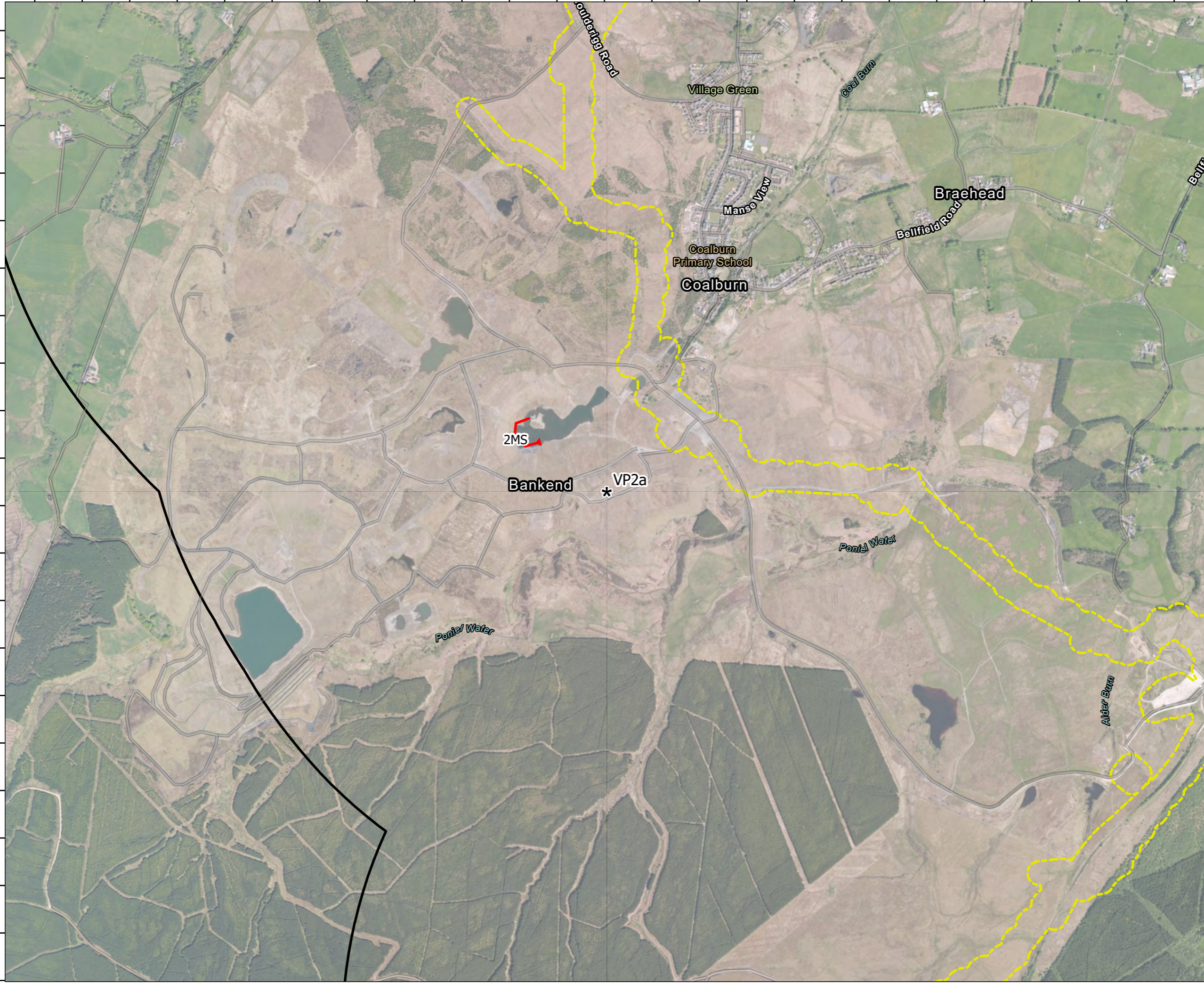
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Gulls
VP2a



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- Legend:**
- 50m Working area buffer
 - 2km Buffer
 - ★ Vantage point location
- Flight Altitude**
- <20m
 - 20 - 50m
 - 50 - 100m
 - >100m

BTO Code	Common Name
MS	Mute Sawn



Rev	Date	Description	Drn	Chk	App
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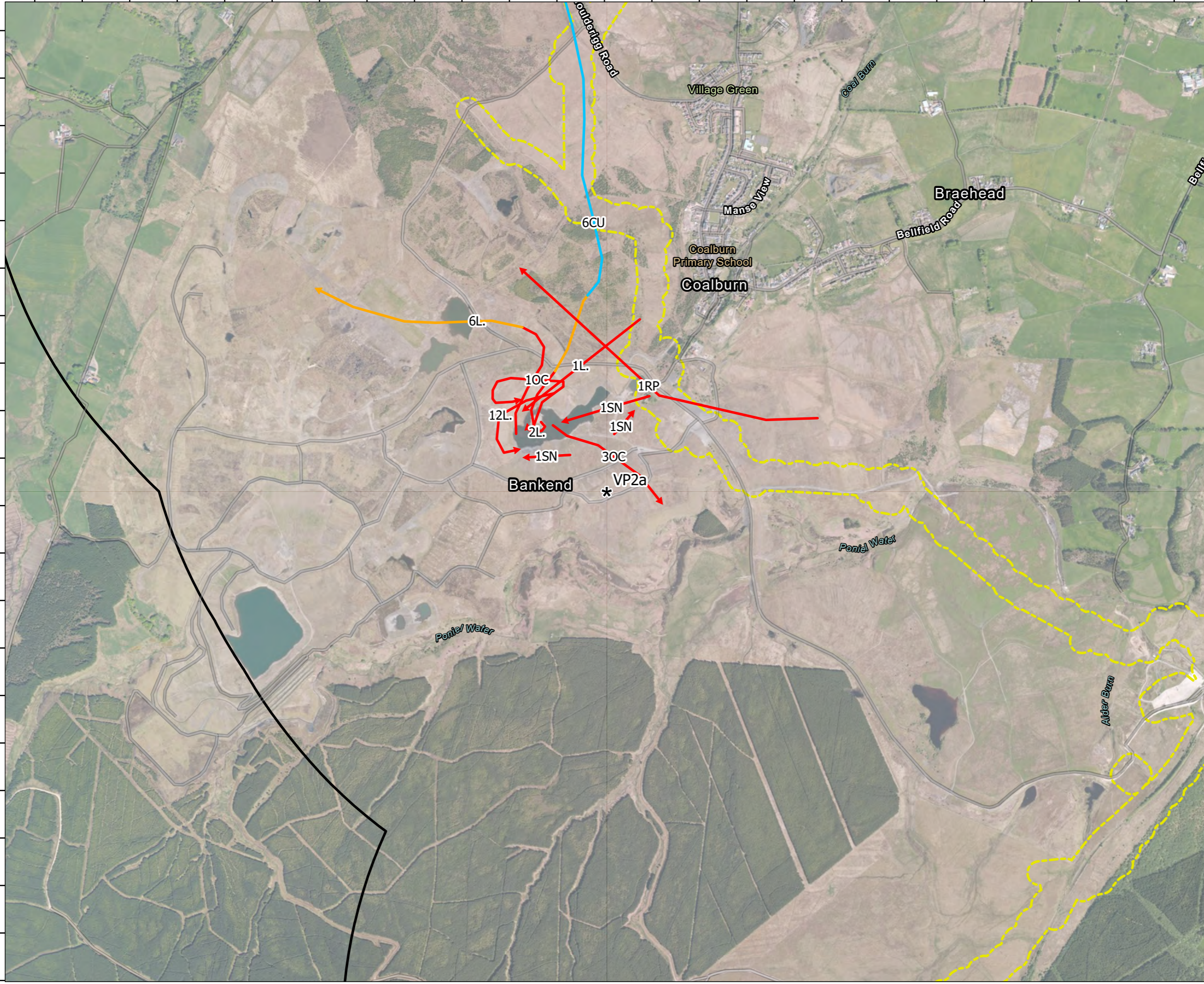
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Summer Vantage Point Surveys
Swans
VP2a

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631600 631800 632000 632200 632400 632600 632800 633000 633200 633400 633600 633800 634000 634200 634400 634600 634800 635000 635200 635400 635600



- Legend:**
- 50m Working area buffer
 - 2km Buffer
 - ★ Vantage point location

- Flight Altitude**
- <20m
 - 20 - 50m
 - 50 - 100m
 - >100m

BTO Code	Common Name
CU	Curlew
L.	Lapwing
OC	Oystercatcher
RP	Ringed Plover
SN	Snipe

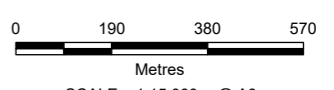


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Kennoxhead



TITLE: Figure 7:
Summer Vantage Point Surveys
Waders
VP2a



REV 00

APPENDIX A – VANTAGE POINT SURVEY RESULTS

Table 7: Survey dates and weather

Date	Vantage point	Weather conditions
12/03/2020	1b	Wind 4E, cloud 7/8, heavy sleet showers, visibility good, cloud height >500m frost and snow on the ground, 2°C
13/03/2020	2a	Wind 2E, cloud 2/8, no rain, visibility good, cloud height >500m. Frost on site and snow on high ground.
15/06/2020	1b	Wind 1NE, cloud 8/8, no rain, starting foggy, visibility poor to good, cloud height <150m to >500m. 12°C
09/06/2020	2a	Wind 1N, cloud 6-8/8, no rain. Visibility moderate to good, cloud height >500m. 11°C
24/07/2020	1b	Wind 1-2SW, cloud 8/8, no rain. Visibility moderate to good, cloud height <150m to >500m.
27/07/2020	2a	Wind 2W, cloud 8/8, heavy showers. Visibility good, cloud height 150-500m.
27/08/2020	1b	Wind 1E, cloud 8/8, showers. Visibility good to moderate, cloud height 150-500m..
19/08/2020	2a	Wind 1S, cloud 7-3/8, light showers. Visibility good, cloud height 150->500m, 15-1811°C
15/04/2021	1b	Wind 1S, cloud 1/8, no rain, Visibility good, cloud height >500m.
14/05/2021	1b	Wind 1E, cloud 6/8, no rain. Visibility good, cloud height >500m
13/05/2021	2a	Wind 2NE, cloud 7/8, heavy showers. Visibility good, cloud height >500m.

APPENDIX B – BREEDING BIRD SURVEY DETAILS

Table 8: all bird species recorded during breeding bird surveys, their conservation status and their breeding status

English name	EU Birds Directive Annex 1	WCA 1981 Sch 1	BoCC Red / Amber	UK or Local BAP	Species Summary	Breeding Status
Skylark (<i>Alauda arvensis</i>)			Red		Seen and heard on every survey, seen carrying food	Confirmed
Blackbird (<i>Turdus merula</i>)					Heard singing in suitable habitat on several occasions	Probable
Black-headed gull (<i>Chroicocephalus ridibundus</i>)			Amber		Flocks seen in suitable nesting habitat, guarding behaviour observed	Probable
Blue tit (<i>Cyanistes caeruleus</i>)					Heard singing on several occasions	Probable
Buzzard (<i>Buteo buteo</i>)					Pairs observed in suitable nesting habitat	Probable
Canada goose (<i>Branta canadensis</i>)					Juveniles observed in several locations	Confirmed
Carrion crow (<i>Corvus corone</i>)					Observed on several occasions in suitable nesting habitat	Possible
Chaffinch (<i>Fringilla coelebs</i>)					Heard singing on several occasions	Probable
Chiffchaff (<i>Phylloscopus collybita</i>)					Heard singing in suitable habitat on several occasions	Probable
Coal tit (<i>Periparus ater</i>)					Heard singing on several occasions	Probable
Collared dove (<i>Streptopelia decaocto</i>)					Heard calling on several occasions	Possible
Common sandpiper (<i>Actitis hypoleucos</i>)			Amber		Seen in suitable habitat on several occasions, distraction display and alarm calls observed.	Confirmed
Cuckoo (<i>Cuculus canorus</i>)			Red		Multiple males and females observed, males observed calling and displaying territorial behaviour on several visits	Confirmed
Curlew (<i>Numenius arquata</i>)			Red		Observed in suitable habitat on several occasions, alarm calls heard.	Probable
Dunnock (<i>Prunella modularis</i>)			Amber		Heard singing on several occasions	Probable

English name	EU Birds Directive Annex 1	WCA 1981 Sch 1	BoCC Red / Amber	UK or Local BAP	Species Summary	Breeding Status
Goldcrest (<i>Regulus regulus</i>)					Heard singing in suitable habitat on several occasions	Probable
Goldfinch (<i>Carduelis carduelis</i>)					Pairs observed in suitable nesting habitat	Probable
Great spotted woodpecker (<i>Dendrocops major</i>)					Individuals observed in suitable nesting habitat	Possible
Great tit (<i>Parus major</i>)					Heard singing on several occasions	Probable
Grey heron (<i>Ardea cinerea</i>)					Individuals observed in suitable nesting habitat	Possible
Grey wagtail (<i>Motacilla cinerea</i>)			Amber		Individuals observed in suitable nesting habitat	Possible
Greylag goose (<i>Anser anser</i>)			Amber		Juveniles observed	Confirmed
Herring gull (<i>Larus argentatus</i>)			Red		Seen flying through site	Not breeding
House martin (<i>Delichon urbicum</i>)			Red		Seen flying on several occasions	Possible
Jackdaw (<i>Corvus monedula</i>)					Flocks observed in suitable habitat on several occasions	Probable
Kestrel (<i>Falco tinnunculus</i>)			Amber		Adults observed feeding young	Confirmed
Lapwing (<i>Vanellus vanellus</i>)			Red		Observed in suitable nesting habitat on several occasions, distraction displays seen	Confirmed
Lesser redpoll (<i>Acanthis cabaret</i>)			Red		Flock seen in suitable habitat	Possible
Linnet (<i>Linaria cannabina</i>)			Red		Flocks observed in suitable habitat on several occasions	Probable
Long-tailed tit (<i>Aegithalos caudatus</i>)					Flock observed in suitable habitat	Possible
Magpie (<i>Pica pica</i>)					Pairs seen on several occasions	Probable
Mallard (<i>Anas platyrhynchos</i>)			Amber		Pairs observed in suitable habitat on several occasions	Probable
Meadow pipit (<i>Anthus pratensis</i>)			Amber		Seen and heard on every survey, seen carrying food	Confirmed
Mute swan (<i>Cygnus olor</i>)					Pairs observed in suitable habitat	Probable
Nuthatch (<i>Sitta europaea</i>)					Heard singing on multiple occasions	Probable

English name	EU Birds Directive Annex 1	WCA 1981 Sch 1	BoCC Red / Amber	UK or Local BAP	Species Summary	Breeding Status
Oystercatcher (<i>Haematopus ostralegus</i>)			Amber		Several pairs observed in same locations on several occasions, nest observed	Confirmed
Pheasant (<i>Phasianus colchicus</i>)					Individuals observed in suitable habitat	Possible
Pied wagtail (<i>Motacilla alba</i>)					Individuals observed in suitable nesting habitat	Possible
Raven (<i>Corvus corax</i>)					Seen on every survey	Probable
Reed bunting (<i>Emberiza schoeniclus</i>)			Amber		Pairs observed in suitable habitat on several occasions	Probable
Ringed plover (<i>Charadrius hiaticula</i>)			Red		Observed in suitable habitat, alarm calls heard	Probable
Robin (<i>Erithacus rubecula</i>)					Heard singing on several occasions	Probable
Sedge warbler (<i>Acrocephalus schoenobaenus</i>)			Amber		Territorial singing observed on several occasions	Probable
Snipe (<i>gallinago gallinago</i>)			Amber		Courtship displays observed on several occasions	Probable
Song thrush (<i>Turdus philomelos</i>)			Amber		Territorial singing observed on several occasions	Probable
Sparrowhawk (<i>Accipiter nisus</i>)			Amber		Observed in suitable nesting habitat	Possible
Starling (<i>Sturnus vulgaris</i>)			Red		Recently fledged young observed	Confirmed
Stonechat (<i>Saxicola rubicola</i>)					Pairs observed in suitable habitat	Probable
Swallow (<i>Hirundo rustica</i>)					Seen flying on several occasions	Possible
Tufted duck (<i>Aythya fuligula</i>)					Pairs observed in suitable habitat	Probable
Wheatear (<i>Oenanthe oenanthe</i>)			Amber		Observed on one survey	Possible
Willow warbler (<i>Phylloscopus trochilus</i>)			Amber		Seen and heard on every survey, seen carrying food	Confirmed
Woodpigeon (<i>Columba palumbus</i>)			Amber		Observed in suitable nesting habitat	Possible
Wren (<i>Troglodytes troglodites</i>)					Territorial singing observed on several occasions	Probable

Table 9: survey dates and weather conditions

Date	Weather conditions
10/06/2020 – 17/06/2020	10-11/6: light breeze from NE, light showers, light cloud. 10°C. 17/6: no wind, fog, 13°C.
12/04/2021 – 14/04/2021	No wind, snow on the ground, initially no cloud, becoming overcast. 0°C.
05/05/2021 – 07/05/2021	Light air from W, no cloud, no rain, 8°C.
02/06/2021 – 11/06/2021	2/6-4/6: light breeze from SE, light to no cloud 15°C-20°C. 11/6: moderate breeze from SW, overcast, showers, 15°C.
23/06/2021 – 25/06/2021	
12/07/2021 – 15/07/2021	Humid, overcast, 18°C-20°C. Light breeze from NE, occasional heavy showers.

APPENDIX C – DETERMINATION OF BREEDING STATUS

The following evidence is used to define breeding categories during breeding bird surveys.

Possible Breeding

1. Species observed in breeding season in possible nesting habitat.
2. Singing male(s) present (or breeding calls heard) in breeding season

Probable Breeding

1. Pair observed in suitable nesting habitat in breeding season
2. Permanent territory presumed through registration of territorial behaviour (song, etc.) on at least two different days a week or more apart at the same place
3. Courtship and display
4. Visiting a probable nest site
5. Agitated behaviour or anxiety calls from adults
6. Brood patch on adult examined in the hand
7. Nest building or excavating nest-hole

Confirmed Breeding

1. Distraction-display or injury feigning
2. Used nest or eggshells found (occupied or laid within period of survey)
3. Recently fledged young (nidicolous species) or downy young (nidifugous species)
4. Adults entering or leaving nest-site in circumstances indicating occupied nest (including high nest or nest-holes, the contents of which cannot be seen) or adult seen incubating
5. Adult carrying faecal sac or food for young
6. Nest containing eggs
7. Nest with young seen or heard

APPENDIX D – LIST OF TARGET SPECIES

Table 10: List of bird species targeted for survey

Target / Secondary species	Latin name	Common name
Target	<i>Gavia arctica</i>	Black-throated diver
Target	<i>Gavia stellata</i>	Red-throated diver
Target	<i>Cygnus cygnus</i>	Whooper swan
Target	<i>Cygnus colombianus</i>	Bewick's swan
Target	<i>Cygnus olor</i>	Mute swan
Target	<i>Anser albifrons</i>	White-fronted goose
Target	<i>Anser fabialis</i>	Bean goose (Greenland or European)
Target	<i>Anser anser</i>	Greylag goose
Target	<i>Anser brachyrhynchus</i>	Pink-footed goose
Target	<i>Branta canadensis</i>	Canada goose
Target	<i>Anas penelope</i>	Wigeon
Target	<i>Anas strepera</i>	Gadwall
Target	<i>Anas crecca</i>	Teal
Target	<i>Anas acuta</i>	Pintail
Target	<i>Anas clypeata</i>	Shoveler
Target	<i>Aythya farina</i>	Pochard
Target	<i>Mergus merganser</i>	Goosander
Target	<i>Mergus serrator</i>	Red-breasted merganser
Target	<i>Circus cyaneus</i>	Hen harrier
Target	<i>Haliaeetus albicilla</i>	White-tailed eagle
Target	<i>Milvus milvus</i>	Red kite
Target	<i>Falco peregrinus</i>	Peregrine
Target	<i>Aquila chrysaetos</i>	Golden eagle
Target	<i>Accipiter gentilis</i>	Goshawk
Target	<i>Pandion haliaetus</i>	Osprey
Target	<i>Falco columbarius</i>	Merlin
Target	<i>Tyto alba</i>	Barn owl
Target	<i>Asio flammeus</i>	Short eared owl
Target	<i>Pluvialis apricaria</i>	Golden plover
Target	<i>Charadrius hiaticula</i>	Ringed plover
Target	<i>Haematopus ostralegus</i>	Oystercatcher
Target	<i>Numenius arquata</i>	Curlew

Target / Secondary species	Latin name	Common name
Target	<i>Vanellus vanellus</i>	Lapwing
Target	<i>Calidris alpina</i>	Dunlin
Target	<i>Limosa limosa</i>	Black-tailed godwit
Target	<i>Gallinago gallinago</i>	Snipe
Target	<i>Tringa totanus</i>	Redshank
Target	<i>Tringa nebularia</i>	Greenshank
Target	<i>Phalaropus lobatus</i>	Red-necked phalarope
Target	<i>Tetrao tetrix</i>	Black grouse
Target	<i>Tetrao urogallus</i>	Capercaillie
Target	<i>Caprimulgus europaeus</i>	Nightjar
Target	<i>Streptopelia turtur</i>	Turtle dove
Target	<i>Lagopus lagopus</i>	Red grouse
Target	<i>Larus argentatus</i>	Herring gull
Target	<i>Sterna dougallii</i>	Roseate tern
Target	<i>Chroicocephalus ridibundus</i>	Black-headed gull
Target	<i>Botaurus stellaris</i>	Bittern
Secondary	<i>Accipiter nisus</i>	Sparrowhawk
Secondary	<i>Falco tinnunculus</i>	Kestrel
Secondary	<i>Buteo buteo</i>	Buzzard
Secondary	<i>Corvus corax</i>	Raven
Secondary	<i>Phalacrocorax carbo</i>	Cormorant
Secondary	<i>Ardea cinerea</i>	Grey heron
Secondary	<i>Anas platyrhynchos</i>	Mallard
Secondary	<i>Larus marinus</i>	Great black-backed gull
Secondary	<i>Larus fuscus</i>	Lesser black-backed gull
Secondary	<i>Larus canus</i>	Common gull

APPENDIX E – NOTEWORTHY SPECIES RECORDS

Table 11 displays noteworthy bird species records that are located within 2 km of the site boundary. These species records were obtained from Glasgow Museums Biological Records Centre. The Latin and common names for species are given as well as their level of designation. A glossary defining abbreviations used in the table is given in **Table 12**. If a species is not included in the table below it does not necessarily mean the species is absent from the search area, but rather that data-holding organizations do not have records of it in these locations.

Table 11: Noteworthy species records within 2km of the site boundary

Latin Name	Common Name	Designation
<i>Accipiter gentilis</i>	Goshawk	WCA1
<i>Actitis hypoleucos</i>	Common Sandpiper	Amber
<i>Alauda arvensis</i>	Skylark	SBL, Red
<i>Alcedo atthis</i>	Kingfisher	WCA1, SBL, Amber
<i>Anas crecca</i>	Teal	Amber
<i>Anas penelope</i>	Wigeon	Amber
<i>Anser anser</i>	Greylag Goose	WCA1, Amber
<i>Anser brachyrhynchus</i>	Pink-footed Goose	Amber
<i>Anthus pratensis</i>	Meadow Pipit	Amber
<i>Anthus trivialis</i>	Tree Pipit	SBL, Red
<i>Asio flammeus</i>	Short-eared Owl	SBL, Amber
<i>Branta leucopsis</i>	Barnacle Goose	SBL, Amber
<i>Bucephala clangula</i>	Goldeneye	WCA1, Amber
<i>Calidris alpina</i>	Dunlin	SBL, Amber
<i>Calidris ferruginea</i>	Curlew Sandpiper	Amber
<i>Charadrius dubius</i>	Little Ringed Plover	WCA1
<i>Charadrius hiaticula</i>	Ringed Plover	Red
<i>Circus aeruginosus</i>	Marsh Harrier	WCA1, SBL, Amber
<i>Circus cyaneus</i>	Hen Harrier	WCA1, SBL, Red
<i>Cygnus cygnus</i>	Whooper Swan	WCA1, SBL, Amber
<i>Egretta garzetta</i>	Little Egret	Amber
<i>Emberiza schoeniclus</i>	Reed Bunting	SBL, Amber
<i>Falco columbarius</i>	Merlin	WCA1, SBL, Red
<i>Falco tinnunculus</i>	Kestrel	SBL, Amber
<i>Fringilla montifringilla</i>	Brambling	WCA1, SBL
<i>Hirundo rustica</i>	Swallow	Amber
<i>Lagopus lagopus subsp. scotica</i>	Red Grouse (scotica)	SBL, Amber

Latin Name	Common Name	Designation
<i>Limosa limosa</i>	Black-tailed Godwit	WCA1, SBL, Red
<i>Linaria cannabina</i>	Linnet	SBL, Red
<i>Loxia curvirostra</i>	Common Crossbill	WCA1
<i>Muscicapa striata</i>	Spotted Flycatcher	SBL, Red
<i>Numenius arquata</i>	Curlew	SBL, Red
<i>Pandion haliaetus</i>	Osprey	WCA1, SBL, Amber
<i>Phoenicurus phoenicurus</i>	Redstart	Amber
<i>Picus viridis</i>	Green Woodpecker	Amber
<i>Porzana porzana</i>	Spotted Crake	WCA1, SBL, Amber
<i>Pyrrhula pyrrhula</i>	Bullfinch	SBL, Amber
<i>Riparia riparia</i>	Sand Martin	Amber
<i>Tachybaptus ruficollis</i>	Little Grebe	Amber
<i>Tringa glareola</i>	Wood Sandpiper	WCA1, SBL, Amber
<i>Tringa nebularia</i>	Greenshank	WCA1, Amber
<i>Tringa ochropus</i>	Green Sandpiper	WCA1, SBL, Amber
<i>Turdus philomelos</i>	Song Thrush	SBL, Red
<i>Turdus pilaris</i>	Fieldfare	WCA1, Red
<i>Vanellus vanellus</i>	Lapwing	SBL, Red

APPENDIX F – ABBREVIATIONS

Table 12 displays abbreviations of protected species legislation.

Table 12: Glossary of abbreviations used in this report:

Code	Full Title	Explanation
Amber	Amber list	Amber listed species have a population status in the UK of medium conservation concern.
BA	The Protection of Badgers Act 1992	Legislation making it an offence to kill, injure or take a Badger, or to damage or interfere with a sett unless a licence is obtained from a statutory authority.
BAP	Biodiversity Action Plan	A plan that identifies threats to significantly important species and habitats, and sets out targets and actions to enhance or maintain biodiversity.
DA	The Deer Act 1991	All wild deer with the exception of Muntjac (<i>Muntiacus reevesi</i>) and Chinese Water deer (<i>Hydropotes inermis</i>) are protected by a closed season.
GB RDB	Red Data Book Species	Species identified in one of the UK Red Data 2001.
GB RDB(CR)	Critically Endangered	An IUCN Red List designation for species at an extremely high risk of extinction.
GB RDB(EN)	Endangered	An IUCN Red List designation for species at a very high risk of extinction.
GB RDB(VU)	Vulnerable	An IUCN Red List designation for species at high risk of extinction.
HAP	Habitat Action Plan	A plan that identifies threats to a priority habitat and sets out targets and actions to enhance or maintain that habitat.
HR-1994(Sch 2)	European Protected Species (Schedule 2)	Animals protected on <i>Schedule 2 of the Conservation (Natural Habitats &c.) Regulations 1994 as amended in Scotland</i>
HR-1994(Sch 4)	European Protected Species (Schedule 4)	Plants protected on <i>Schedule 4 of the Conservation (Natural Habitats &c.) Regulations 1994 as amended in Scotland</i>
IUCN	International Union for Conservation of Nature and Natural Resources (also	A worldwide partnership and conservation network to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure

Code	Full Title	Explanation
	known as The World Conservation Union)	that any use of natural resources is equitable and ecologically sustainable.
LBAP	Local Biodiversity Action Plan	A plan that identifies threats to locally important species and habitats, and sets out targets and actions in Species Action Plans and Habitat Action Plans to enhance or maintain biodiversity at the county or regional level.
LHAP	Local Habitat Action Plan	A plan that identifies threats to a locally important priority habitat and sets out targets and actions to enhance or maintain that habitat.
LSAP	Local Species Action Plan	A plan that identifies threats to locally important species, and sets out targets and actions to prevent losing that species from the local area.
Notable	Scarce and threatened invertebrates	Invertebrate species which are estimated to occur within the range of 16 to 100 10km squares but subdivision into Notable A and Notable B categories is not possible as there is insufficient information available).
Notable:A	Scarce and threatened invertebrates	Taxa which do not fall within Red Data Book categories but which are none-the-less uncommon in Great Britain and thought to occur in 30 or fewer 10km squares of the National Grid or, for less well-recorded groups, within seven or fewer vice-counties.
Notable: B	Scarce and threatened invertebrates	Taxa which do not fall within Red Data Book categories but which are none-the-less uncommon in Great Britain and thought to occur in between 31 and 100 10km squares of the National Grid or, for less-well recorded groups between eight and twenty vice-counties.
NN	Nationally Notable	Designation for invertebrate taxa that are thought to be notably important in the UK.
NR	Nationally Rare	Species in 15 or fewer hectads in Great Britain.
NS	National Scarce	Species in 16-100 hectads in Great Britain.
OSPAR	OSPAR	Species listed on <i>The Convention for the Protection of the Marine Environment of the North-East Atlantic</i>
Red	Red List	Red listed species have a population status in the UK with high conservation concern.
SAP	Species Action Plan	A plan that identifies threats to significantly important species, and sets out targets and actions to prevent losing that species to extinction.

Code	Full Title	Explanation
SBL	Scottish Biodiversity List	A list of animals, plants and habitats that Scottish Ministers consider to be of principal importance for biodiversity conservation in Scotland.
WCA	<i>The Wildlife & Countryside Act 1981 as amended by The Wildlife and Natural Environment (Scotland) Act 2011</i>	Containing 4 Parts and 17 Schedules, the Act covers protection of wildlife (birds, and some animals and plants), the countryside, National Parks, and the designation of protected areas, and public rights of way. All wild plants in Britain are protected from intentional uprooting by an unauthorized person, but land owners, land occupiers, persons authorized by either of these or persons authorized in writing by the Local Authority for the area are exempt. Protection for some species may be limited to certain Sections of the Act (e.g. S13(2)).
WCA1	Schedule 1 of <i>The Wildlife & Countryside Act 1981 as amended by The Wildlife and Natural Environment (Scotland) Act 2011</i>	<p>This Schedule lists birds protected by special penalties at all times, but virtually all wild birds have some protection in law.</p> <p>Acts which are prohibited for all wild birds (except derogated 'pest' species) include intentional killing, injuring or taking; taking, damaging or destroying nests in use or being built; taking or destroying eggs; possessing or having control of (with certain exceptions but including live for dead birds, parts or derivative); setting or permitting certain traps, weapons, decoys or poisons. Selling, offering or exposing for sale, possessing or transporting for sale any live wild bird, egg or part of an egg or advertising any of these for sale, or dead wild bird including parts or derivatives are also prohibited. Many birds must be formally registered and ringed if kept in captivity.</p> <p>Schedule 1 WCA birds are additionally protected from intentional or reckless disturbance while building a nest, or when such a bird is in, on or near a nest containing eggs or young, or intentional or reckless disturbance of dependent young.</p>
WCA5	Schedule 5 of <i>The Wildlife & Countryside Act 1981 as amended by The Wildlife and</i>	Schedule 5 animals are protected from intentional killing, injuring or taking; possessing (including parts or derivatives); intentional or reckless damage, destruction or obstruction of any structure or place used for shelter or protection; selling, offering or exposing for sale,

Code	Full Title	Explanation
	<i>Natural Environment (Scotland) Act 2011</i>	possessing or transporting for the purpose of sale (alive or dead, including parts or derivatives). Protection of some species is limited to certain Sections of the Act (e.g. S9(1), S9(4a), S9(4b), S9(5)).
WCA8	Schedule 8 of The <i>Wildlife & Countryside Act 1981</i> as amended by <i>The Wildlife and Natural Environment (Scotland) Act 2011</i>	Plants and fungi protected from intentional picking, uprooting, destroying, trading (including parts or derivatives), etc.