Appendix F: Wintering Bird Survey Methods and Results

Survey Methods

The survey methodology used in this study is based on *Survey Methods for Use in Assessment of the Impacts of Proposed Onshore Wind Farms on Bird Communities* (SNH, 2005) specifically Section 8, which details methods for the assessment of associated infrastructure. The methodology also allows incidental bird activity visible from the VP that did not involve target species in flight to be recorded. (Target species are raptors, owls, waterfowl (wildfowl and waders), grouse and grey partridges). The results will enable an assessment of the populations of wintering non-target species using habitat within the survey area to be made.

Eight Vantage Points (VP) were chosen taking into account as much as possible criteria specified in SNH Guidance (SNH, 2005). The approximate locations of VPs were decided upon by viewsheds and studying the 1:10,000 OS map for the area in order to find positions that would provide visual coverage of as much of the route as possible, taking into account topography and distance, whilst minimising the overlap of visible airspace between VPs. The positions of each VP were finalised on site before the beginning of the first VP watch. This enabled the surveyors to make a visual assessment of the suitability of each VP and the coverage gained from various positions close to the locations previously determined from the OS map, taking into account any subtle variations in topography not apparent on the map. At each of the eight vantage points, twelve three hour watches were planned to comply with the SNH guidance.

A total of 36 hours of VP survey was carried out at 6 of the VPs. At Earls Mill North and South, 32.75 hours survey was carried out with surveyors unable to complete the remaining 3.25 hours due to access issues. The wintering VP watches were carried between 29 November 2007 and 28 March 2008.

VP watches, each of 3 hours duration (or shorter where weather conditions deteriorated), were carried out at different times of the day to account for different levels of bird activity. Barring extreme high winds, driving rain and conditions of poor visibility such as fog, in which it was not possible to record bird activity, the surveys were carried out in all conditions.

The VP watches involved continuously scanning in an arc of up to 180° using the naked eye, binoculars (typically 8x42 wide angle) and a telescope (typically x27 wide angle) and recording the information.

During each watch two recording methods were carried out according to the methodology detailed by SNH (2005). These used two different recording forms that were used simultaneously, the Activities Summary forms and Focal Animal Sampling forms.

The Activities Summary form was used to record all of the incidental bird activity visible from the VP that did not involve target species in flight. At the end of each 5-minute period the numbers of all secondary species observed were recorded. However, this was abandoned whenever a target species was detected and resumed once observations of the target species had ended. Static and flying birds were recorded separately.

The bird activity on arrival at the VP was recorded before the start of the watch. Perched birds and birds on water bodies were recorded once only on arrival at the VP. Thereafter only flying birds and previously unrecorded perching/standing/loafing birds were included in the 5-minute activity summaries, thereby minimising repeat records of the same static birds.

Methodology for the Focal Animal Sampling forms involved constantly scanning the area at each VP until a target species was detected in flight. Once detected, a target bird was watched continuously until it ceased flying or was lost from view. The time the bird was first detected and duration of the flight were recorded. The bird's flying height was estimated at the point of detection (Time 0) and at 15 second intervals thereafter, by recording it in one of the following 4 predetermined height bands that correspond to the height of the overhead line:

- 0 - 3m (low);
- 3 - 25m (low-mid);
- 25 – 50m (high-mid); and
- 50m+ (high).

The low-mid height band corresponds to the range of flight heights at which a bird flying within the overhead line airspace might collide with a wire.

The route followed by target species was plotted on a field map and was numbered 1, 2, 3 etc., for each flight recorded, and cross referenced with the recording form.

Using this methodology, the data provides more detailed information regarding flight paths, flying times and heights of soaring and over-flying birds. Specifically, this approach enables monitoring of groups such as raptors, waders and wildfowl to be carried out more effectively than could be achieved using a transect or roaming methodology.

Measure of Ornithological Importance and Vulnerability

A species' conservation status is considered in relation to its inclusion on the EC Birds Directive 1979, the Wildlife and Countryside Act 1981 (as amended), the BoCC Red and Amber Lists of species of conservation concern (RSPB 2002), the UK Biodiversity Action Plan (1995, updated 2007) lists of globally threatened/declining species and Local Biodiversity Action Plans (LBAPs).

SNH (2005) considers that a number of species are particularly sensitive to possible windfarm impacts, and these issues have been adopted for this assessment of the connecting overhead lines. They cite three species lists that are regarded as important in the assessment:

- Annex 1 of the EC Birds Directive;
- Schedule 1 of the Wildlife and Countryside Act 1981; and
- BoCC Red List species of Conservation Concern.

With respect to collision risk, SNH regards raptors and any species that are not manoeuvrable in flight to be particularly vulnerable. Birdlife International has issued guidance regarding the effects of windfarms on birds, based on literature review, conservation status and the collective experience of the Birdlife partners (Langston and Pullan, 2003). Within this guidance, a list of the most sensitive (or potentially sensitive) species and species groups has been compiled, along with the types of impact to which they are likely to be sensitive. These principles have been adopted for this assessment with regards to collision with overhead lines and Table F1 below lists those groups that were recorded during the wintering VP surveys.

The selection of target species for this assessment is based primarily on the guidance issued by SNH relating to collision risk with windfarm turbines. However, for the purposes of this assessment, this guidance has been used to assess the potential collision risk effects of overhead lines on raptors, waterfowl (including waders and wildfowl) grouse and herons. These species are referred to as 'target species'. Other species including passerines are recorded as non-target species.

Table F1 Species Groups Considered Particularly Sensitive to Wind Farm Developments and Types of Impact (from Langston and Pullan, 2003).

Species Group	Type of Impact			
	Disturbance	Barrier to Movement	Collision	Direct Habitat loss or Damage
Anatinae, ducks	✓	✓	✓	✓
Accipitridae, raptors	✓		✓	
Charadriiformes, waders	✓	✓		
Ciconiiformes, herons			✓	
Passeriformes, especially nocturnal migrants			✓	

Survey Results

Table F2 Target Species Recorded During Wintering Vantage Point Surveys

Species		Conservation and legislative status*
Common name	**Latin name**	
Buzzard	*Buteo buteo*	
Curlew	*Numenius arquata*	BoCC Amber, SLBAP
Golden plover	*Pluvialis apricaria*	EC1
Goosander	*Mergus merganser*	
Grey heron	*Ardea cinerea*	
Hen harrier	*Circus cyaneus*	EC1, WCA1, BoCC Red
Kestrel	*Falco tinnunculus*	BoCC Amber
Lapwing	*Vanellus vanellus*	BoCC Amber, SLBAP
Mallard	*Anas platyrhynchos*	
Merlin	*Falco columbarius*	EC1, WCA1, BoCC Amber
Mute swan	*Cygnus olor*	BoCC Amber
Oystercatcher	*Haematopus ostralegus*	BoCC Amber
Peregrine	*Falco peregrinus*	EC1, WCA1, BoCC Amber
Pink-footed goose	*Anser brachyrhynchus*	BoCC Amber
Red grouse	*Lagopus lagopus*	BoCC Amber, Priority Species
Sparrowhawk	*Accipiter nisus*	
Teal	*Anas crecca*	BoCC Amber

* See notes below

EC1: species included in Annex 1 of EC Birds Directive 1979 (79/409/EEC).
WCA1: species included in Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).
Priority species are those included on the UKBAP Priority List.
SLBAP: priority species under South Lanarkshire BAP.
BoCC Red/Amber refers to species included on the RSPB Red and Amber Lists of species of conservation concern (RSPB, 2002).

Table F3 Peak Counts of Target Species recorded at each Vantage Point

Species	Vantage Point							
Common Name	**Coalburn North**	**Coalburn South**	**Rob's Hill North**	**Rob's Hill South**	**Earl's Mill North**	**Earl's Mill South**	**Pagie Hill**	**Hotel**
Buzzard	6	2	1	4	3	3	2	9
Curlew	1	1	3	2	3	1	11	4
Golden plover	0	0	0	40	0	0	125	0
Goosander	0	0	0	0	2	1	0	0
Grey heron	2	1	0	0	1	1	0	0
Hen harrier	0	0	1	0	0	1	0	0
Kestrel	1	1	2	3	1	2	2	2
Lapwing	50	0	11	0	30+	0	19	7
Mallard	3	2	0	2	2	0	0	2
Merlin	0	1	0	0	0	0	0	0
Mute swan	2	0	0	0	0	0	0	0
Oystercatcher	2	2	0	0	2	0	0	0
Peregrine	0	0	0	0	2	2	0	0
Pink-footed goose	0	0	0	0	95	0	75	120
Red grouse	0	0	0	0	0	0	0	2
Sparrowhawk	1	0	0	0	0	1	0	0
Teal	6	10	0	0	0	0	0	0

Table F4 Target Species Summary Statistics for Wintering Vantage Point Survey

Species	VP from which most recorded	Total time recorded (mins)	Total time recorded (s)	Recorded time as a % of total survey time	Number of flights†	Number of flights as a % of total flights for all target species	% of flight time recorded within height bands			
							0-3m	**3-25m**	**25-50m**	**50m+**
Buzzard	Hotel	329.33	19760	15.25	208	40.70	4.06	27.96	18.29	49.68
Kestrel	Hotel	174.42	10465	8.08	151	29.55	5.81	70.03	14.47	9.69
Lapwing	Pagie Hill	36.47	2188	1.69	43	8.41	5.66	47.17	27.04	20.12
Peregrine	Earl's Mill South	32.87	1972	1.52	14	2.74	3.03	18.18	29.55	49.24
Curlew	Hotel	26.33	1580	1.22	34	6.65	15.24	51.43	20.95	12.38
Golden plover	Pagie Hill	10.35	621	0.48	7	1.37	4.44	53.33	22.22	20.00
Grey heron	Coalburn North	6.5	390	0.30	13	2.54	29.03	54.84	6.45	9.68
Pink-footed goose	Hotel	5.92	355	0.27	5	0.98	0	0	0	100
Mallard	Coalburn North	5.13	308	0.24	15	2.94	14.29	42.86	32.14	10.71

Species	VP from which most recorded	Total time recorded (mins)	Total time recorded (s)	Recorded time as a % of total survey time	Number of flights†	Number of flights as a % of total flights for all target species	% of flight time recorded within height bands			
							0-3m	3-25m	25-50m	50m+
Grey goose sp	Rob's Hill South	3.97	238	0.18	2	0.39	0	0	5.88	88.24
Sparrowhawk	Coalburn North	2.08	125	0.10	3	0.59	25	37.5	37.5	0
Goosander	Earl's Mill North	0.93	56	0.04	3	0.59	0	83.33	16.67	0
Hen harrier	Rob's Hill North	0.92	55	0.04	2	0.39	0	100	0	0
Merlin	Coalburn South	0.62	37	0.03	1	0.20	0	100	0	0
Oystercatcher	Coalburn South	0.52	31	0.02	2	0.39	0	66.67	0	33.33
Red grouse	Hotel	0.37	22	0.02	2	0.39	50	50	0	0
Teal	Coalburn North	0.37	22	0.02	5	0.98	100	0	0	0
Wildfowl sp	Earl's Mill South	0.33	20	0.02	1	0.20	25	75	0	0

Table F5 Peak Counts of Non-target Species recorded at each Vantage Point

Common name	Latin name	Coal-burn North	Coal-burn South	Rob's Hill North	Rob's Hill South	Earl's Mill North	Earl's Mill South	Pagie Hill	Hotel	Conservation and legislative status *
Black headed gull	*Turdus merula*	35+	7			10				BoCC Amber
Blackbird	*Larus ridibundus*		1		1	1			1	
Blue tit	*Cyanistes caeruleus*		1	1						
Chaffinch	*Fringilla coelebs*	2	1+	2+	10+	2	1		2+	
Coal tit	*Parus ater*	1	1	1	1					
Collared dove	*Streptopelia decaocto*				2	1				
Common gull	*Larus canus*	2	2			50+	1			BoCC Amber
Crossbill	*Loxia curvirostra*	1	1	2	4	2	4		2	WCA1
Crow	*Corvus corone*	16+	5+	6+	3+	8+	2	5+	4+	
Dipper	*Cinclus cinclus*					1				
Dunnock	*Prunella modularis*				1+					BoCC Amber
Feral pigeon	*Columba livia*	30	50							
Fieldfare	*Turdus pilaris*	15		5	5+	10+	16	10	11	BoCC Amber, WCA1
Goldcrest	*Regulus regulus*			1	1					BoCC Amber
Goldfinch	*Carduelis carduelis*	1	1		1		4		1+	
Great spotted woodpecker	*Dendrocopos major*			1						
Great tit	*Parus major*		1							
Greater black backed gull	*Larus marinus*			1					1	
Green woodpecker	*Picus viridis*			1						BoCC Amber
Greenfinch	*Carduelis chloris*			1	2				1	
Grey wagtail	*Motacilla cinerea*			1	1					BoCC Amber
Herring gull	*Larus argentatus*				3	2				BoCC Amber, Priority species
Jackdaw	*Corvus monedula*	1	10+		2	45	32			
Lesser black backed gull	*Larus fuscus*	4				2				BoCC Amber
Lesser redpoll	*Carduelis cabaret*		10		1	3	5		1	BoCC Amber, Priority species
Linnet	*Carduelis cannabina*								1	BoCC Red, Priority species
Long tailed tit	*Aegithalos caudatus*			3+	5+					
Magpie	*Pica pica*	4	3		1	2		1	2	
Meadow pipit	*Anthus pratensis*	1	5	1+	3	1	1	4+	4	BoCC Amber
Mistle thrush	*Turdus viscivorus*				1	1	2		4	BoCC Amber
Pheasant	*Phasianus colchicus*		1	1	1	1	1			

Common name	Latin name	Coal-burn North	Coal-burn South	Rob's Hill North	Rob's Hill South	Earl's Mill North	Earl's Mill South	Pagie Hill	Hotel	Conservation and legislative status *
Pied wagtail	*Motacilla alba*				1	2		1	1	
Raven	*Corvus corax*	1	4	2	1	2	2	3	4	
Reed bunting	*Emberiza schoeniclus*	1+	1	1+	1	15	2	5	1+	BoCC Red, Priority species
Robin	*Erithacus rubecula*		1	1	2+				1	
Rook	*Corvus frugilegus*	10	30+	4		15	20	7	6	
Siskin	*Carduelis spinus*	5+	2	2+	5+	2+	5+	1	3	
Skylark	*Alauda arvensis*	2+	2+	3+	5+		1	4+	8	BoCC Red, Priority species, SLBAP
Song thrush	*Turdus philomelos*			1	2	1			1	BoCC Red
Starling	*Sturnus vulgaris*	100	20		9	35	30	100	28	BoCC Red, Priority species
Stonechat	*Saxicola torquata*		1	1		1+	2	1	2	BoCC Amber
Woodpigeon	*Columba palumbus*	5			1	2	1			
Wren	*Troglodytes troglodytes*	1	2+	1	1		1		1	

* See notes below
EC1 species included in Annex 1 of EC Birds Directive 1979 (79/409/EEC).
WCA1 species included in Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).
Priority species are those included on the UKBAP Priority List.
SLBAP priority species under South Lanarkshire BAP.
BoCC Red/Amber refers to species included on the RSPB Red and Amber Lists of species of conservation concern (RSPB, 2002)

Legend

- Proposed Overhead Line Route
- Andershaw Substation
- Andershaw Boundary
- Coalburn Substation
- Vantage Point Location

Flight Direction & Date

- 29/11/2007
- 01/12/2007
- 13/12/2007
- 14/12/2007
- 15/12/2007
- 18/12/2007
- 19/12/2007
- 20/12/2007
- 08/01/2008
- 09/01/2008
- 10/01/2008
- 11/01/2008
- 16/01/2008
- 17/01/2008
- 23/01/2008
- 24/01/2008
- 25/01/2008
- 06/02/2008
- 07/02/2008
- 08/02/2008
- 12/02/2008
- 13/02/2008
- 14/02/2008
- 19/02/2008
- 20/02/2008
- 21/02/2008
- 27/02/2008
- 28/02/2008
- 11/03/2008
- 12/03/2008
- 13/03/2008
- 18/03/2008
- 19/03/2008
- 27/03/2008
- 28/03/2008

SP TRANSMISSION

Project	Andershaw - Coalburn Proposed 132kV Overhead Line			
Title	Figure F1: Wintering Vantage Point Surveys Buzzard			
Scale	1: 50,000	Drawn by	DAM	Rev.
Date	Apr '08	Checked by	MH	-

FABER MAUNSELL | AECOM

Legend

- Proposed Overhead Line Route
- Andershaw Substation
- Andershaw Boundary
- Coalburn Substation
- Vantage Point Location

Flight Direction & Date

- 29/11/2007
- 01/12/2007
- 13/12/2007
- 14/12/2007
- 15/12/2007
- 18/12/2007
- 19/12/2007
- 20/12/2007
- 08/01/2008
- 09/01/2008
- 10/01/2008
- 11/01/2008
- 16/01/2008
- 17/01/2008
- 23/01/2008
- 24/01/2008
- 25/01/2008
- 06/02/2008
- 07/02/2008
- 08/02/2008
- 12/02/2008
- 13/02/2008
- 14/02/2008
- 19/02/2008
- 20/02/2008
- 21/02/2008
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- 28/02/2008
- 11/03/2008
- 12/03/2008
- 13/03/2008
- 18/03/2008
- 19/03/2008
- 27/03/2008
- 28/03/2008

SP TRANSMISSION

Project	Andershaw - Coalburn Proposed 132kV Overhead Line			
Title	Figure F2: Wintering Vantage Point Surveys Curlew			
Scale	1: 50,000	Drawn by	DAM	Rev.
Date	Apr '08	Checked by	MH	-

FABER MAUNSELL | AECOM

Legend

- Proposed Overhead Line Route
- Andershaw Substation
- Andershaw Boundary
- Coalburn Substation
- Vantage Point Location

Flight Direction & Date

- 29/11/2007
- 01/12/2007
- 13/12/2007
- 14/12/2007
- 15/12/2007
- 18/12/2007
- 19/12/2007
- 20/12/2007
- 08/01/2008
- 09/01/2008
- 10/01/2008
- 11/01/2008
- 16/01/2008
- 17/01/2008
- 23/01/2008
- 24/01/2008
- 25/01/2008
- 06/02/2008
- 07/02/2008
- 08/02/2008
- 12/02/2008
- 13/02/2008
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- 20/02/2008
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- 11/03/2008
- 12/03/2008
- 13/03/2008
- 18/03/2008
- 19/03/2008
- 27/03/2008
- 28/03/2008

SP TRANSMISSION

Project	Andershaw - Coalburn Proposed 132kV Overhead Line			
Title	Figure F3: Wintering Vantage Point Surveys Golden Plover			
Scale	1: 50,000	Drawn by	DAM	Rev.
Date	Apr '08	Checked by	MH	-

FABER MAUNSELL | AECOM

Legend

- Proposed Overhead Line Route
- Andershaw Substation
- Andershaw Boundary
- Coalburn Substation
- Vantage Point Location

Flight Direction & Date

- 29/11/2007
- 01/12/2007
- 13/12/2007
- 14/12/2007
- 15/12/2007
- 18/12/2007
- 19/12/2007
- 20/12/2007
- 08/01/2008
- 09/01/2008
- 10/01/2008
- 11/01/2008
- 16/01/2008
- 17/01/2008
- 23/01/2008
- 24/01/2008
- 25/01/2008
- 06/02/2008
- 07/02/2008
- 08/02/2008
- 12/02/2008
- 13/02/2008
- 14/02/2008
- 19/02/2008
- 20/02/2008
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- 27/02/2008
- 28/02/2008
- 11/03/2008
- 12/03/2008
- 13/03/2008
- 18/03/2008
- 19/03/2008
- 27/03/2008
- 28/03/2008

SP TRANSMISSION

Project	Andershaw - Coalburn Proposed 132kV Overhead Line			
Title	Figure F4: Wintering Vantage Point Surveys Goosander			
Scale	1: 50,000	Drawn by	DAM	Rev.
Date	Apr '08	Checked by	MH	-

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Legend

- Proposed Overhead Line Route
- Andershaw Substation
- Andershaw Boundary
- Coalburn Substation
- Vantage Point Location

Flight Direction & Date

- 29/11/2007
- 01/12/2007
- 13/12/2007
- 14/12/2007
- 15/12/2007
- 18/12/2007
- 19/12/2007
- 20/12/2007
- 08/01/2008
- 09/01/2008
- 10/01/2008
- 11/01/2008
- 16/01/2008
- 17/01/2008
- 23/01/2008
- 24/01/2008
- 25/01/2008
- 06/02/2008
- 07/02/2008
- 08/02/2008
- 12/02/2008
- 13/02/2008
- 14/02/2008
- 19/02/2008
- 20/02/2008
- 21/02/2008
- 27/02/2008
- 28/02/2008
- 11/03/2008
- 12/03/2008
- 13/03/2008
- 18/03/2008
- 19/03/2008
- 27/03/2008
- 28/03/2008

SP TRANSMISSION

Project	Andershaw - Coalburn Proposed 132kV Overhead Line			
Title	Figure F5: Wintering Vantage Point Surveys Grey Goose Sp			
Scale	1: 50,000	Drawn by	DAM	Rev.
Date	Apr '08	Checked by	MH	-

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Legend

- Proposed Overhead Line Route
- Andershaw Substation
- Andershaw Boundary
- Coalburn Substation
- Vantage Point Location

Flight Direction & Date

- 29/11/2007
- 01/12/2007
- 13/12/2007
- 14/12/2007
- 15/12/2007
- 18/12/2007
- 19/12/2007
- 20/12/2007
- 08/01/2008
- 09/01/2008
- 10/01/2008
- 11/01/2008
- 16/01/2008
- 17/01/2008
- 23/01/2008
- 24/01/2008
- 25/01/2008
- 06/02/2008
- 07/02/2008
- 08/02/2008
- 12/02/2008
- 13/02/2008
- 14/02/2008
- 19/02/2008
- 20/02/2008
- 21/02/2008
- 27/02/2008
- 28/02/2008
- 11/03/2008
- 12/03/2008
- 13/03/2008
- 18/03/2008
- 19/03/2008
- 27/03/2008
- 28/03/2008

SP TRANSMISSION

Project	Andershaw - Coalburn Proposed 132kV Overhead Line			
Title	Figure F6: Wintering Vantage Point Surveys Grey Heron			
Scale	1: 50,000	Drawn by	DAM	Rev.
Date	Apr '08	Checked by	MH	-

FABER MAUNSELL | AECOM

Legend

- Proposed Overhead Line Route
- Andershaw Substation
- Andershaw Boundary
- Coalburn Substation
- Vantage Point Location

Flight Direction & Date

- 29/11/2007
- 01/12/2007
- 13/12/2007
- 14/12/2007
- 15/12/2007
- 18/12/2007
- 19/12/2007
- 20/12/2007
- 08/01/2008
- 09/01/2008
- 10/01/2008
- 11/01/2008
- 16/01/2008
- 17/01/2008
- 23/01/2008
- 24/01/2008
- 25/01/2008
- 06/02/2008
- 07/02/2008
- 08/02/2008
- 12/02/2008
- 13/02/2008
- 14/02/2008
- 19/02/2008
- 20/02/2008
- 21/02/2008
- 27/02/2008
- 28/02/2008
- 11/03/2008
- 12/03/2008
- 13/03/2008
- 18/03/2008
- 19/03/2008
- 27/03/2008
- 28/03/2008

SP TRANSMISSION

Project	Andershaw - Coalburn Proposed 132kV Overhead Line			
Title	Figure F7: Wintering Vantage Point Surveys Hen Harrier			
Scale	1: 50,000	Drawn by	DAM	Rev.
Date	Apr '08	Checked by	MH	-

FABER MAUNSELL | AECOM

Legend

- Proposed Overhead Line Route
- Andershaw Substation
- Andershaw Boundary
- Coalburn Substation
- Vantage Point Location

Flight Direction & Date

- 29/11/2007
- 01/12/2007
- 13/12/2007
- 14/12/2007
- 15/12/2007
- 18/12/2007
- 19/12/2007
- 20/12/2007
- 08/01/2008
- 09/01/2008
- 10/01/2008
- 11/01/2008
- 16/01/2008
- 17/01/2008
- 23/01/2008
- 24/01/2008
- 25/01/2008
- 06/02/2008
- 07/02/2008
- 08/02/2008
- 12/02/2008
- 13/02/2008
- 14/02/2008
- 19/02/2008
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- 12/03/2008
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- 18/03/2008
- 19/03/2008
- 27/03/2008
- 28/03/2008

SP TRANSMISSION

Project	Andershaw - Coalburn Proposed 132kV Overhead Line			
Title	Figure F8: Wintering Vantage Point Surveys Kestrel			
Scale	1: 50,000	Drawn by	DAM	Rev.
Date	Apr '08	Checked by	MH	-

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Legend

- Proposed Overhead Line Route
- Andershaw Substation
- Andershaw Boundary
- Coalburn Substation
- Vantage Point Location

Flight Direction & Date

- 29/11/2007
- 01/12/2007
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- 14/12/2007
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Project	Andershaw - Coalburn Proposed 132kV Overhead Line			
Title	Figure F9: Wintering Vantage Point Surveys Lapwing			
Scale	1: 50,000	Drawn by	DAM	Rev.
Date	Apr '08	Checked by	MH	-

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Legend

- Proposed Overhead Line Route
- Andershaw Substation
- Andershaw Boundary
- Coalburn Substation
- Vantage Point Location

Flight Direction & Date

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Project	Andershaw - Coalburn Proposed 132kV Overhead Line			
Title	Figure F10: Wintering Vantage Point Surveys Mallard			
Scale	1: 50,000	Drawn by	DAM	Rev.
Date	Apr '08	Checked by	MH	-

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Legend

- Proposed Overhead Line Route
- Andershaw Substation
- Andershaw Boundary
- Coalburn Substation
- Vantage Point Location

Flight Direction & Date

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Project	Andershaw - Coalburn Proposed 132kV Overhead Line			
Title	Figure F11: Wintering Vantage Point Surveys Merlin			
Scale	1: 50,000	Drawn by	DAM	Rev.
Date	Apr '08	Checked by	MH	-

FABER MAUNSELL | AECOM

Legend

- Proposed Overhead Line Route
- Andershaw Substation
- Andershaw Boundary
- Coalburn Substation
- Vantage Point Location

Flight Direction & Date

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Project	Andershaw - Coalburn Proposed 132kV Overhead Line			
Title	Figure F12: Wintering Vantage Point Surveys Oystercatcher			
Scale	1: 50,000	Drawn by	DAM	Rev.
Date	Apr '08	Checked by	MH	-

FABER MAUNSELL | AECOM

Legend

- Proposed Overhead Line Route
- Andershaw Substation
- Andershaw Boundary
- Coalburn Substation
- Vantage Point Location

Flight Direction & Date

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SP TRANSMISSION

Project	Andershaw - Coalburn Proposed 132kV Overhead Line			
Title	Figure F13: Wintering Vantage Point Surveys Peregrine			
Scale	1: 50,000	Drawn by	DAM	Rev.
Date	Apr '08	Checked by	MH	-

FABER MAUNSELL | AECOM

Legend

- Proposed Overhead Line Route
- Andershaw Substation
- Andershaw Boundary
- Coalburn Substation
- Vantage Point Location

Flight Direction & Date

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Project	Andershaw - Coalburn Proposed 132kV Overhead Line			
Title	Figure F14: Wintering Vantage Point Surveys Pink-Footed Goose			
Scale	1: 50,000	Drawn by	DAM	Rev.
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Legend

- Proposed Overhead Line Route
- Andershaw Substation
- Andershaw Boundary
- Coalburn Substation
- Vantage Point Location

Flight Direction & Date

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Project	Andershaw - Coalburn Proposed 132kV Overhead Line			
Title	Figure F15: Wintering Vantage Point Surveys Red Grouse			
Scale	1: 50,000	Drawn by	DAM	Rev.
Date	Apr '08	Checked by	MH	-

FABER MAUNSELL | AECOM

Legend

- Proposed Overhead Line Route
- Andershaw Substation
- Andershaw Boundary
- Coalburn Substation
- Vantage Point Location

Flight Direction & Date

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Project	Andershaw - Coalburn Proposed 132kV Overhead Line			
Title	Figure F16: Wintering Vantage Point Surveys Sparrowhawk			
Scale	1: 50,000	Drawn by	DAM	Rev.
Date	Apr '08	Checked by	MH	-

FABER MAUNSELL | AECOM

Legend

- Proposed Overhead Line Route
- Andershaw Substation
- Andershaw Boundary
- Coalburn Substation
- Vantage Point Location

Flight Direction & Date

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SP TRANSMISSION

Project	Andershaw - Coalburn Proposed 132kV Overhead Line			
Title	Figure F17: Wintering Vantage Point Surveys Teal			
Scale	1: 50,000	Drawn by	DAM	Rev. -
Date	Apr '08	Checked by	MH	

FABER MAUNSELL | AECOM

Legend

- Proposed Overhead Line Route
- Andershaw Substation
- Andershaw Boundary
- Coalburn Substation
- Vantage Point Location

Flight Direction & Date

- 29/11/2007
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SP TRANSMISSION

Project	Andershaw - Coalburn Proposed 132kV Overhead Line			
Title	Figure F18: Wintering Vantage Point Surveys Wildfowl Sp			
Scale	1: 50,000	Drawn by	DAM	Rev.
Date	Apr '08	Checked by	MH	-

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Appendix G: Archaeological Significance Criteria

Impact Significance	Criteria
Very Large	Within cultural heritage it is highly unlikely this category will be assigned to a beneficial effect. Cultural heritage features assigned this level of impact significance will represent key factors in the decision making process.
	Adverse – Assets of international or national importance which are partially damaged, or assets of national or regional value which are almost wholly damaged or destroyed, leading to an almost complete loss of integrity or information. Mitigation measures will have had minimal effect in reducing the significance of impact.
	Beneficial – These effects will virtually restore an asset or its setting and re-establish its significance. Previous negative impacts will be reversed. Effects will significantly contribute to international, national, regional and local policies for the enhancement and promotion of heritage.
Large	These effects are considered to be very important in the decision making process. These effects are important at a national level and to statutory bodies.
	Adverse – these effects will damage cultural heritage assets, their setting or context, so that their integrity or understanding is destroyed or is severely compromised, such that the resource can no longer be appreciated or understood. Effects will seriously conflict with national, regional and local policies. Mitigation measures may not deal appropriately with all aspects of the impact.
	Beneficial – these effects will halt rapid degradation or erosion of assets of national or regional importance, or result in significant restoration of setting and reestablishment of significance to heritage assets. Effects will significantly contribute to national, regional and local policies for the enhancement and promotion of heritage.
Moderate	These effects are likely to be important to considerations, but not key factors, in the decision making process, unless cumulative effects combine to raise the overall significance. These impacts are likely to be important at a regional level and to statutory bodies.
	Adverse – these effects will damage cultural heritage assets, or their setting, so that their integrity or understanding is compromised but not destroyed. Effects will be at odds with local and regional policies for heritage. Adequate mitigation measures can be specified.
	Beneficial – these effects are likely to result in the halting of degradation or erosion of heritage assets or result in the restoration of characteristic features or setting so that understanding and appreciation is improved. Effects will positively contribute to local and regional heritage policies.
Slight	These effects are unlikely to be critical factors in the decision making process, but are likely to be important factors in the design of a project. These effects are important at a local level. There may be some contribution to, or variance with local heritage policies.
	Adverse – the proposals will damage cultural heritage assets, or their setting, so that their integrity or understanding is diminished but not compromised. Adequate mitigation measures can be specified.
	Beneficial – the proposals will stabilise cultural heritage assets or enhance their setting, so that their integrity is maintained or understanding is improved.
Neutral	No effects upon cultural heritage or the effects are negligible. There is no conflict with, or contribution to, policies for protection of heritage resources.

Appendix H: Archaeological Gazetteer

Identifiers	Grid Reference	Period	Site Description	No. on Fig 10.1
WoSASPIN4128; NS 83 NW 43	NS 8202 3765	Post-Medieval	A courtyard farmstead, comprising four roofed buildings, one unroofed building, one unroofed structure and three enclosures is depicted on the 1st edition of the OS 6-inch map.	1
Historic Mapping	NS 8141 3790	Post-Medieval	Old Johnshill. Shown on the 1st edition of the OS map.	2
Historic Mapping	NS 8166 3718	Post-Medieval	Johnshill. A farm shown on the 1st edition OS map.	3
Historic Mapping	NS 8129 3710	Post-Medieval	Farm recorded as Acretophead on the 1st edition OS map.	4
WoSASPIN5243; NS 83 NW 62	NS 8115 3685	Medieval/ Post-Medieval	An extensive area of straight, narrow rig has been recorded on oblique aerial photography on Hollandbush golf course, extending into the field to the east.	5
WoSAPIN41041; NS 83 NW 35.1	NS 8135 3625	Post-Medieval	Auchlochan Colliery, Shafts No. 9 and 10. Extraction started in 1894 and ceased in the 1968. The shafts were brick lined and the washery handled coal from other sites.	6
Historic Mapping	NS 8113 3643	Post-Medieval	Glaikhead farm recorded on the 1st edition OS map.	7
Historic Mapping	NS 8140 3600	Post-Medieval	Line of the mineral railway linking the Auchlochan Colliery pits.	8
WoSASPIN4126; NS 83 NW 46	NS 8077 3546	Post-Medieval	Single unroofed building at Coalburn shown on first edition OS map.	9
Historic Mapping	NS 8071 3544	Modern	Drainage ponds and pump house shown on the 1991 OS map.	10
Historic Mapping	NS 8060 3524	Post-Medieval	“Old Limekilns” shown on the 1st edition OS map.	11
WoSASPIN12277 ; NS 83 NW 36	NS 8035 3525	Post-Medieval	Coalburn coal mine.	12
Historic Mapping	NS 8055 3506	Post-Medieval	Sheepfold.	13
Historic Mapping	NS 8070 3405	Post-Medieval	Line of Caledonian Railway, Lesmahogow Branch.	14
Historic Mapping	NS 8071 3390	Post-Medieval	Tramway shown on 2nd edition OS map.	15
Historic Mapping	NS 8057 3401	Post-Medieval	Water tank shown on 2nd edition OS map.	16
Historic Mapping	NS 8029 3397	Post-Medieval	Dalquhandy Colliery Pits 1 and 2 shown on the 2nd edition OS map.	17
Historic Mapping	NS 8029 3370	Post-Medieval	Westown Colliery Pits 1 and 2 shown on the 2nd edition OS map.	18
Historic Mapping	NS 8049 3364	Post-Medieval	Middlemuir Row. Possible Houses shown on the 2nd edition OS map.	19
WoSASPIN1732; WoSASPIN41262	NS 8117 3323	Post-Medieval	An enclosure at Brackenside depicted on the 1st edition OS map.	20
Historic Mapping	NS 8154 3197	Post-Medieval	Sheep ree noted on the 1st edition OS map and on aerial photographs.	21
Aerial Photographs	NS 8193 3175	Post-Medieval	Sheepfold noted on aerial photographs.	22
Historic Mapping	NS 8205 3165	Post-Medieval	Sheepfold noted on the 1st edition OS map.	23
Historic Mapping	NS 8165 3115	Modern	Shooting point for rifle range shown on the 1912 OS map.	24
Historic Mapping	NS 8190 3116	Modern	Targets for rifle range at 200, 300, 400 yards etc. Shown on the 1912 OS map.	25
Historic Mapping	NS 8179 3020	Post-Medieval	Line of the Mutrkirk Branch Railway. First shown on the 2nd edition OS map.	26

Identifiers	Grid Reference	Period	Site Description	No. on Fig 10.1
WoSASPIN1576; NS 83 SW 21	NS 8160 3061	Unknown	Circular depression 6m across and banked on downslope. Of indeterminate origin.	27
Historic Mapping	NS 8159 3013	Post-Medieval	Sheep ree noted on the 1st edition OS map.	28
Historic Mapping	NS 8197 2867	Post-Medieval	Jeanfield. A building shown on the 1st edition OS map.	29
WoSASPIN41244 ; NS 82 NW 25	NS 8205 2839	Post-Medieval	A single unroofed building annotated 'Ruin' is depicted on the first edition of the OS 6-inch map.	30
WoSASPIN17304	NS 8205 2836	Post-Medieval	"Elvinskill", a ruined building depicted on the first edition OS mapping.	31
WoSASPIN4124; NS 82 NW 26	NS 8180 2776	Post-Medieval	A single unroofed structure depicted on early edition OS mapping.	32
WoSASPIN22664	NS 8162 2767	Post-Medieval	A possible kiln site at Kiln Hill based upon place-name evidence.	33
WoSASPIN4084; WoSASPIN1006; WoSASPIN4084; NS 82 NW 24	NS 8175 2756	Post-Medieval	Earls Mill, Mill Lade, Pond and sluice is depicted on the first edition OS mapping. Now a farmstead. Line of the lade is visible on aerial photography and early edition OS mapping.	34
WoSASPIN1006; NS 82 NW 3	NS 8190 2714	Post-Medieval	Glentaggart Colliery remains including two spoil heaps and two buildings.	35
WoSASPIN2267; NS 82 NW 15	NS 8166 2708	Post-Medieval	Glentaggart Cottage and enclosure depicted on early edition OS mapping.	36
Walkover Survey	NS 8212 2710	Unknown	Possible mining pits identified during the walkover survey of the area.	37
WoSASPIN22691	NS 8234 2697	Post-Medieval	A sheepfold or 'sheep ree' shown on the first edition OS mapping.	38
WoSASPIN1006; NS 82 NW 6	NS 8290 2670	Unknown	Two oval huts are recorded, and two small mounds (huts or middens) and a turf house, hollow-ways and a stone fold built into an earlier turf dyke. This is probably a depopulated settlement or shieling group.	39
WoSASPIN1006; NS 82 NW 5	NS 8299 2659	Unknown	A circular enclosure and banks. This may be a hut circle and contemporary field banks.	40
WoSASPIN22679	NS 8306 2650	Post-Medieval	A possible enclosure, sheepfold or tip.	41
WoSASPIN22682	NS 8343 2613	Post-Medieval	A sheepfold shown on 1863 OS mapping.	42
WoSASPIN22684	NS 8343 2613	Post-Medieval	A sheepfold shown on 1863 OS mapping.	43
NS 73 SE 7	NS 7995 3365	Post-Medieval	Bankend Colliery	44

Andershaw to Coalburn 132kV Overhead Line
SP Energy Networks
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