

Appendix 10.1: Sloy Pumped Hydro Storage Scheme: Breeding Bird Report



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EXECUTIVE SUMMARY

EnviroCentre Ltd was commissioned by ASH Design + Assessment on behalf of Scottish and Southern Energy Renewables (SSER) to undertake a three-visit breeding bird survey at the site known as Sloy Hydroelectric Power Station, near Inveruglas, Loch Lomond. The surveys were required to inform an Environmental Impact Assessment Report (EIAR).

A total of thirty-five species were recorded on or adjacent to site across the survey period.

Eight of the species recorded are included as Priority Species on the Scottish Biodiversity List:

- Dunnock (*Prunella modularis*);
- Lesser Redpoll (*Acanthis cabaret*);
- Reed Bunting (*Emberiza schoeniclus*);
- Siskin (*Carduelis spinus*);
- Song Thrush (*Turdus philomelos*);
- Starling (*Sturnus vulgaris*);
- Tree Pipit (*Anthus trivialis*); and
- Wood Warbler (*Phylloscopus sibilatrix*).

Four species are Red Listed birds of conservation concern, with seven Amber Listed species identified. The remaining 24 species are Green Listed with no additional conservation concern.

Potential impacts (both negative and positive) include:

- Nesting birds may be killed or injured during vegetation clearance and subsequent construction works during the breeding season (March to September);
- Removal of birch woodland and conifer plantation, to the north of Power Station to facilitate a spoil storage area will result in the loss of:
 - One confirmed Wood Warbler territory;
 - Probable and/or possible Blackbird (1), Blackcap (1), Blue Tit (1), Coal Tit (1), Goldcrest (1), Song Thrush (1), Willow Warbler (1) and Wren (1) territories;
- Vegetation removal during construction is likely to remove suitable foraging habitat and available food sources for a range of species during operation of the spoil storage and until woodland is reestablished;
- Auditory and visual disturbance during works at site could disrupt territorial and breeding behaviours, interfere with the ability of birds recorded on site to hold territories during the breeding season, and permanently affect local bird populations;
- Native woodland restoration (i.e. oak, birch, willow, alder, hazel, rowan, holly) following completion of the spoil storage (including understorey planting) would present new and potentially improved nesting opportunities for species present, such as Wood Warbler, as well as for species not recorded at the site (i.e. Pied Flycatcher, Redstart etc);
- The removal of rhododendron within the area to be cleared for the spoil storage area would create opportunities for a more diverse understorey plant assemblage to succeed, which in turn is expected to benefit a greater diversity of bird species; and
- Nest boxes for specific target species, for example Pied Flycatcher, could be installed to accelerate the provision of a breeding location.

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1 INTRODUCTION

1.1 Terms of Reference

EnviroCentre Ltd was commissioned by ASH Design + Assessment on behalf of Scottish and Southern Energy Renewables (SSER) to undertake a three-visit breeding bird survey at the site known as Sloy Hydroelectric Power Station, near Inveruglas, Loch Lomond. The surveys were required to inform an Environmental Impact Assessment Report (EIAR).

1.2 Scope of Report

This report details the survey methods and results, documenting the species recorded and presenting approximate territory numbers and locations. Following an assessment of potential impacts, mitigation actions, enhancements opportunities, and recommendations for further survey and/or licensing are prescribed.

1.3 Site Description

The site is located at Sloy Hydroelectric Power Station, centred at NN 32163 09872. The site is located within the Loch Lomond and The Trossachs National Park. The site is on undulating ground, which slopes downwards in the west, towards the shores of Loch Lomond, reaching a maximum elevation of 40 metres (m) above the sea level and a minimum of 6m. The site comprises of the power station building with associated amenity grassland, hardstanding vehicle access/parking and a mixed wood woodland bordering the north side of the power station grounds.

The Breeding Bird Survey was extended to cover the Sloy Hydroelectric Power Station, the area of mixed woodland around Inveruglas car park to the east of the power station and a small area of mixed woodland to the north and south of the power station. This area is shown in Appendix A.

1.4 Relevant Legislation & Policy

European and national legislation and policy relevant to the proposed development in terms of nature conservation are listed below. Cognisance has been taken of these instruments in the preparation of this report.

- The Conservation of Natural Habitats and of Wild Flora and Fauna EC Directive (92/43);
- The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended);
- The Conservation of Wild Birds and their Habitats EC Directive (2009/147/EC)¹;
- The Wildlife and Countryside Act 1981 (as amended) (WCA);
- The Nature Conservation (Scotland) Act 2004;
- The Wildlife and Natural Environment (Scotland) Act 2011 (WANE);
- The British Standard for Biodiversity BS 42020:2013;
- Scottish Planning Policy (2014) sections 193 to 218;

¹ http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm (Accessed May 2023)

- Scottish Biodiversity Strategy: *2020 Challenge For Scotland's Biodiversity* (2013)² and *Biodiversity Strategy to 2045: Tackling the Nature Emergency* (draft)³.
- The Scottish Biodiversity List (SBL)⁴; and
- Birds of Conservation Concern 5 (2021)⁵.

1.5 Report Usage

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² <https://www.gov.scot/publications/2020-challenge-scotlands-biodiversity-strategy-conservation-enhancement-biodiversity-scotland/>

³ <https://www.gov.scot/publications/scottish-biodiversity-strategy-2045-tackling-nature-emergency-scotland/>

⁴ <https://www.nature.scot/doc/scottish-biodiversity-list>

⁵ Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. (2021) The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds* 114: 723-747. Available online at <https://britishbirds.co.uk/content/status-our-bird-populations> (Accessed May 2023).

2 METHODS

To ascertain the ornithological activity on site, a field survey was undertaken to obtain up-to-date, site-specific data for the 2023 breeding season. The field work was undertaken by Matt Sullivan, Principal Consultant at EnviroCentre Limited and an Associate member of the Chartered Institute of Ecology and Environmental Management (ACIEEM). The survey followed standard methods endorsed by NatureScot, detailed further in this section.

2.1 Breeding Bird Survey

Survey visits were based on the British Trust for Ornithology (BTO) Common Bird Census (CBC) and Breeding Bird Survey (BBS) methods and was designed to coincide with the main breeding period, covering the time when most breeding species would be present (including any late returning migrant species such as Spotted Flycatcher). A route through the survey area was walked at a constant steady pace, with all birds on or adjacent to the site recorded on a scale map, with approximate numbers of pairs/territories calculated by overlaying the three survey maps and applying BTO Breeding Evidence criteria⁶.

2.2 Survey Dates

The three-visit breeding bird survey visits were undertaken on the following dates:

- Visit 1 – 28th April 2023
- Visit 2 – 19th May 2023
- Visit 3 – 23rd June 2023

2.3 Bird Conservation Criteria

The criteria used to define the current conservation status of UK bird populations are the SBL and the Birds of Conservation Concern (BoCC) Red, Amber, and Green Lists. Additional legal protection is given to a select group of species through their inclusion in Schedule 1 of the WCA, for which it is an offence to intentionally or recklessly disturb at, on or near an active nest.

Taking account of the Scottish Biodiversity Strategy, the conservation status of the recorded species was evaluated by their inclusion on the SBL and by using the RSPB / BTO Conservation Status Criteria from the lists of BoCC: a simple 'traffic light' method to gauge conservation importance for those species which are not afforded protection under international or national legislation. The criteria used to evaluate this conservation concern are listed below:

Red-listed criteria

- Globally threatened;
- Historical population decline in UK during 1800 – 1995;
- Rapid ($\geq 50\%$) decline in UK breeding population over last 25 years; and
- Rapid ($\geq 50\%$) contraction of UK breeding range over last 25 years.

⁶ BTO Breeding Evidence Codes. Available at: <https://www.bto.org/sites/default/files/u36/downloads/breedingcodes.pdf>

Amber-listed criteria

- Moderate (25-49%) decline in UK breeding population over last 25 years;
- Moderate (25-49%) contraction of UK breeding range over last 25 years;
- Moderate (25-49%) decline in UK non-breeding population over last 25 years;
- European Red List of Birds Species (ERLOB) that have been categorised as Critically Endangered, Endangered or Vulnerable;
- Five year mean of 1-300 breeding pairs in UK;
- $\geq 50\%$ of UK breeding population in 10 or fewer sites, but not rare breeders;
- $\geq 50\%$ of UK non-breeding population in 10 or fewer sites;
- $\geq 20\%$ of European breeding population in UK; and
- $\geq 20\%$ of NW European (wildfowl), East Atlantic Flyway (waders) or European (others) non-breeding population in UK.

Green-listed criteria

No identified threat to the population's status.

3 RESULTS

A total of thirty-five species was recorded on or adjacent to site across the survey period.

Eight of the species recorded are included as Priority Species on the SBL:

- Dunnock (*Prunella modularis*);
- Lesser Redpoll (*Acanthis cabaret*);
- Reed Bunting (*Emberiza schoeniclus*);
- Siskin (*Carduelis spinus*);
- Song Thrush (*Turdus philomelos*);
- Starling (*Sturnus vulgaris*);
- Tree Pipit (*Anthus trivialis*); and
- Wood Warbler (*Phylloscopus sibilatrix*).

Four of the species recorded are Red-Listed species of conservation concern. These are:

- Lesser Redpoll, Starling, Tree Pipit and Wood Warbler - which have all suffered severe longer-term declines in breeding populations.
- In addition, Tree Pipit and Wood Warbler have suffered moderate declines in their UK range.

Seven of the species recorded are Amber-Listed species of conservation concern. These are:

- Dunnock, Reed Bunting, Song Thrush, and Willow Warbler (*Phylloscopus trochilus*) – which have all suffered moderate longer-term declines in their UK breeding populations;
- Wren (*Troglodytes troglodytes*) has a UK breeding population of international importance;
- Common Gull (*Larus canus*) has a UK non-breeding population of international importance; and
- Red-breasted Merganser (*Mergus serrator*) has suffered a moderate longer-term decline in its non-breeding UK population.

The remaining twenty-three species are Green-Listed species and therefore not covered in the above legislation and are considered to have no additional conservation concern.

A full list of the species recorded alongside their legal protection and conservation status can be found in Appendix B. Approximate territory numbers, estimated using BTO Breeding Evidence standards¹² are listed in Appendix C.

4 ASSESSMENT AND DISCUSSION

4.1 Summary of Species Recorded

Of the thirty-five species recorded during the surveys, twenty-two of these were either confirmed or suspected of breeding within the survey area. Of the species not breeding on site, these were birds either flying over the site, present on Loch Lomond only but breeding elsewhere on the loch, or in the case of Tree Pipit, a recent returning migrant on its way to a different breeding area.

Of the breeding species within the survey area, none of these were present in numbers or had population sizes that would represent importance at national, regional, or local levels. The largest population of a breeding species within the survey area was three. Four species had three confirmed or probable breeding territories within the survey area – Wood Warbler, Blackbird (*Turdus merula*), Chiffchaff (*Phylloscopus collybita*) and Robin (*Erithacus rubecula*).

Although birds were present in low numbers throughout the survey area, all major natural habitats on site supported breeding species. Semi-improved broadleaved woodland, which comprises most of the survey area, inevitably supported most breeding species, although the conifer plantations did support species such as Coal Tit (*Periparus ater*), Goldcrest (*Regulus regulus*) and Song Thrush. Although a non-native invasive species, Rhododendron on site did support Blackcap (*Sylvia atricapilla*) Wren and Willow Warbler territories.

4.2 Potential Impacts

The proposed development has the potential to result in the following negative impacts if avoidance, mitigation and enhancement is not implemented:

- Nesting birds may be killed or injured during vegetation clearance and subsequent construction works during the breeding season (March to September);
- Removal of birch woodland and conifer plantation, to the north of Power Station to facilitate a spoil storage area will result in the loss of:
 - One confirmed Wood Warbler territory;
 - Probable and/or possible Blackbird (1), Blackcap (1), Blue Tit (*Cyanistes caeruleus*) (1), Coal Tit (1), Goldcrest (1), Song Thrush (1), Willow Warbler (1) and Wren (1) territories;
- Vegetation removal during construction is likely to remove suitable foraging habitat and available food sources for a range of species during operation of the spoil storage and until woodland is reestablished; and
- Auditory and visual disturbance during works at site could disrupt territorial and breeding behaviours, interfere with the ability of birds recorded on site to hold territories during the breeding season, and permanently affecting local bird populations.

Potential positive impacts include:

- Native woodland restoration (i.e. oak, birch, willow, alder, hazel, rowan, holly) following completion of the spoil storage (including understorey planting) would present new and potentially improved nesting opportunities for species present, such as Wood Warbler, as well as for species not recorded at the site (i.e. Pied Flycatcher, Redstart etc);
- The removal of rhododendron within the area to be cleared for the spoil storage area would create opportunities for a more diverse understorey plant assemblage to succeed, which in turn would be expected to benefit a greater diversity of bird species; and

- Nest boxes for specific target species, for example Pied Flycatcher, could be installed to accelerate the provision of a breeding location.

4.3 Mitigation and Licensing

It is expected that no vegetation clearance or tree removal will be carried out during the peak nesting bird season (March to September inclusive).

If this is unavoidable, a pre-works inspection for nesting birds must be conducted by a suitably experienced Ecological Clerk of Works (ECoW) prior to any vegetation clearance across the site. Where nesting birds are recorded, an exclusion buffer (with radius determined by the ECoW based on species and location) will be marked around the nest.

No activity may take place within this exclusion zone until the ECoW confirms that either the young have fledged, the brood has failed, or nest has become inactive.

No licencing is required for works proposed under the current plans.

APPENDICES

A BREEDING BIRD SURVEY AREA



Imagery Source: Bing Maps. Image courtesy of Ordnance Survey © 2023 TomTom

Legend

Proposed Development Area

Do not scale this map

Client
ASH Design & Assessment

Project
Sloy Pumped Hydro Storage Scheme

Title
Site Plan

Status
FINAL

Drawing No. 16783-QGIS003	Revision R1	Date 15 Sept 2022
Drawn SK	Checked MZ	Approved DB

Scale
1:2,000 @ A3

Rev	Date	Amendment	Initials
R1	13 AUG 2024	Project name and site boundary change	SD

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B LEGAL PROTECTION AND CONSERVATION STATUS

Species		Conservation & Legal Status				
Common Name	Scientific Name	Schedule 1	SBL	Red	Amber	Green
Lesser Redpoll	<i>Acanthis cabaret</i>		X	X		
Starling	<i>Sturnus vulgaris</i>		X	X		
Tree Pipit	<i>Anthus trivialis</i>		X	X		
Wood Warbler	<i>Phylloscopus sibilatrix</i>		X	X		
Dunnock	<i>Prunella modularis</i>		X		X	
Reed Bunting	<i>Emberiza schoeniclus</i>		X		X	
Song Thrush	<i>Turdus philomelos</i>		X		X	
Siskin	<i>Carduelis spinus</i>		X			X
Common Gull	<i>Larus canus</i>				X	
Red-breasted Merganser	<i>Mergus serrator</i>				X	
Willow Warbler	<i>Phylloscopus trochilus</i>				X	
Wren	<i>Troglodytes troglodytes</i>				X	
Blackbird	<i>Turdus merula</i>					X
Blackcap	<i>Sylvia atricapilla</i>					X
Blue Tit	<i>Cyanistes caeruleus</i>					X
Buzzard	<i>Buteo buteo</i>					X
Canada Goose	<i>Branta canadensis</i>					X
Carrion Crow	<i>Corvus corone</i>					X
Chaffinch	<i>Fringilla coelebs</i>					X
Chiffchaff	<i>Phylloscopus colybita</i>					X
Coal Tit	<i>Parus ater</i>					X
Garden Warbler	<i>Sylvia borin</i>					X
Great spotted Woodpecker	<i>Dendrocopus major</i>					X
Great Tit	<i>Parus major</i>					X
Goldcrest	<i>Regulus regulus</i>					X
Goldfinch	<i>Carduelis carduelis</i>					X
Jay	<i>Garrulus glandarius</i>					X
Long-tailed Tit	<i>Aegithalos caudatus</i>					X
Pied Wagtail	<i>Motacilla alba yarelli</i>					X
Raven	<i>Corvus corax</i>					X
Robin	<i>Erithacus rubecula</i>					X
Sand Martin	<i>Riparia riparia</i>					X
Swallow	<i>Hirundo rustica</i>					X
Treecreeper	<i>Certhia familiaris</i>					X
Woodpigeon	<i>Columba palumbus</i>					X

C ESTIMATED TERRITORY NUMBERS

Species		Estimated Territories			
Common Name	Scientific Name	Confirmed	Probable	Possible	Non-breeding*
Lesser Redpoll	<i>Acanthis cabaret</i>			1	
Starling	<i>Sturnus vulgaris</i>				X
Tree Pipit	<i>Anthus trivialis</i>				X
Wood Warbler	<i>Phylloscopus sibilatrix</i>	1	2		
Duncock	<i>Prunella modularis</i>		1		
Reed Bunting	<i>Emberiza schoeniclus</i>			1	
Siskin	<i>Carduelis spinus</i>			1	
Common Gull	<i>Larus canus</i>				X
Red-breasted Merganser	<i>Mergus serrator</i>				X
Song Thrush	<i>Turdus philomelos</i>		2		
Willow Warbler	<i>Phylloscopus trochilus</i>		2		
Wren	<i>Troglodytes troglodytes</i>		1	1	
Blackbird	<i>Turdus merula</i>		2	1	
Blackcap	<i>Sylvia atricapilla</i>		2		
Blue Tit	<i>Cyanistes caeruleus</i>		2		
Buzzard	<i>Buteo buteo</i>				X
Canada Goose	<i>Branta canadensis</i>				X
Carrion Crow	<i>Corvus corone</i>				X
Chaffinch	<i>Fringilla coelebs</i>				
Chiffchaff	<i>Phylloscopus collybita</i>	1	2		
Coal Tit	<i>Parus ater</i>		1		
Garden Warbler	<i>Sylvia borin</i>		1		
Great spotted Woodpecker	<i>Dendrocopus major</i>		1		
Great Tit	<i>Parus major</i>	1	1		
Goldcrest	<i>Regulus regulus</i>			1	
Goldfinch	<i>Carduelis carduelis</i>	1		1	
Jay	<i>Garrulus glandarius</i>				X
Long-tailed Tit	<i>Aegithalos caudatus</i>			1	
Pied Wagtail	<i>Motacilla alba yarelli</i>				X
Raven	<i>Corvus corax</i>				X
Robin	<i>Erithacus rubecula</i>	1	2		
Sand Martin	<i>Riparia riparia</i>				X
Swallow	<i>Hirundo rustica</i>				X
Treecreeper	<i>Certhia familiaris</i>			1	
Woodpigeon	<i>Columba palumbus</i>				X

