Appendix 9.5: Sloy Pumped Hydro Storage Scheme: Species Protection Plans

Appendix 9.5

Sloy Pumped Hydro Storage Scheme
Species Protection Plans

Document Classification | **Public**

sse Renewables

Sloy Pumped Hydro Storage Scheme
Species Protection Plans

March 2024

CONTROL SHEET

Client: Ash Design and Assessment
Project Title: Sloy Pumped Hydro Storage Scheme
Report Title: Species Protection Plans
Document number: 14104
Project number: 176783

Issue Record

Issue	Status	Author	Reviewer	Approver	Issue Date
1	FINAL	SD	DB	DB	24/03/2024
2	FINAL	SD	DB	DB	13/08/2024

EnviroCentre Limited Office Locations:

Glasgow **Edinburgh** **Inverness** **Banchory**

Registered Office: Craighall Business Park 8 Eagle Street Glasgow G4 9XA
Tel 0141 341 5040 info@envirocentre.co.uk www.envirocentre.co.uk

EnviroCentre Limited is registered in Scotland under no. SC161777.

VAT no. GB 348 6770 57.

Contents

1 Introduction 1
1.1 Terms of Reference 1
1.2 Scope of Report 1
1.3 Report Usage 1
1.4 Project Proposal Description 2
2 Baseline Conditions 3
2.1 Desk Study and Preliminary Ecological Appraisal 3
3 Species Protection Plans 6
3.1 Ecological Clerk of Works 6
3.2 Otter 6
3.3 Red Squirrel 7
3.4 Pine marten 8
3.5 Badger 9
3.6 Reptiles and Amphibians 10

Figures

Figure 1: Squirrel drey 3
Figure 2: Stone wall offering reptile and amphibian hibernation habitat 5
Figure 3: Boulders offering reptile and amphibian hibernation habitat 5

1 INTRODUCTION

1.1 Terms of Reference

EnviroCentre Limited was commissioned by Ash Design and Assessment, on behalf of Scottish and Southern Energy Renewables (SSER), to produce Species Protection Plans (SPPs) for a range of fauna considered to be at risk from proposed works to convert the current Sloy Hydroelectric Power Station to a hydro pump storage scheme. The SPPs are intended to accompany the Ecological Impact Assessment (EcIA) chapter as a Technical Appendix.

The requirement for SPPs is listed in the EIA scoping report at the request of Loch Lomond & the Trossachs National Park Authority.

1.2 Scope of Report

The aim of this report is to provide SPPs for:

- Otter (*Lutra lutra*)
- Red squirrel (*Sciurus vulgaris*)
- Pine marten (*Martes martes*)
- Badger (*Meles meles*)
- Reptiles and Amphibians

The aim is met by the following objectives:

1. Describe the project proposal for context.
2. Review all baseline and desk study information related to each species or species group.
3. Identify the risks to faunal species.
4. Specify separately for each species/species-group the avoidance and mitigation measures during the pre-works, construction and operational phases of the proposal.

1.3 Report Usage

The information and recommendations contained within this report have been prepared in the specific context stated above and should not be utilised in any other context without prior written permission from EnviroCentre Limited.

If this report is to be submitted for regulatory approval more than 12 months following the report date, it is recommended that it is referred to EnviroCentre Limited for review to ensure that any relevant changes in data, best practice, guidance or legislation in the intervening period are integrated into an updated version of the report.

EnviroCentre Limited accepts no liability for use of the report for purposes other than those for which it was originally provided, or where EnviroCentre Limited has confirmed it is appropriate for the new context.

1.4 Project Proposal Description

The proposal design includes the conversion of the existing station to a pump storage facility. This will require an extended site compound to the north of the station to facilitate on site works.

The phases can be broadly split into:

1. Removal of amenity trees, semi-mature birch (*Betula pendula/pubescens*) and *Rhododendron ponticum* woodland, and conifer plantation woodland comprising Sitka spruce (*Picea sitchensis*), Scots pine (*Pinus sylvestris*) and Larch (*Larix decidua*) to the north of the existing station to allow an area of spoil storage. Wider rhododendron cover may be removed simultaneously to comply with the National Park initiative on reducing *Phytophora* risk, although this is not considered intrinsic to the pump storage design.
2. Creation of a compound/vehicle waiting zone in the northern outflow part of the Inveruglas visitor centre car park.
3. Construction and the storage of spoil to the north of the existing station.
4. Construction is expected to take 24 months.
5. Landscaping to recreate a native woodland on top of the spoil storage area, devoid of invasive plants.
6. Operation of the station which will include periodic extraction of water from Loch Lomond and storage of water in Loch Sloy followed by release of stored water to the existing power station to create electricity.

2 BASELINE CONDITIONS

2.1 Desk Study and Preliminary Ecological Appraisal

2.1.1 Otter

Two otter field signs identified in 2002 were returned via GMBRC, in Inveruglas Water 500m south of site and in Arklet Water burn approximately 2km east of site.

No evidence of otter was identified during the survey. It is considered that the riparian habitat along Loch Lomond shore provides sheltered commuting habitat and a variety of features that could be used as resting places such as cavities within rocks, bank vegetation and long rushes although regular human access of the area would dissuade regular establishment of resting areas. Fish are present in Loch Lomond, which together with amphibians, ground nesting birds and small mammals occurring in the riparian and adjacent habitats, offers a wide variety of foraging resources.

Otter are European Protected Species (EPS) and are therefore of International Importance.

2.1.2 Red Squirrel

Fifteen records of red squirrel sightings were returned from the desk study from SSRS, with three records located within the broadleaved woodland on site, associated with the carpark in 2018.

Five potential red squirrel dreys were recorded within the woodland in the proposed development area (Figure 1) during the 2022 Preliminary Ecological Appraisal[1].

The broadleaved and conifer woodland within the site provide suitable habitat for foraging and commuting as well as opportunities for drey creation. Woodland habitats surrounding the site would provide further red squirrel habitat, that is well connected to suitable habitat in the wider landscape.

Red squirrel are protected under Schedule 5 of the WCA and are therefore considered to be of national (UK) importance.

Figure 1: Squirrel drey

[1] EnviroCentre Limited (September 2022) Report No. 7172. Sloy Power Station Preliminary Ecological Appraisal V2

2.1.3 Pine Marten

No records of pine marten were returned from the desk study and no evidence of pine marten was identified during the survey.

The habitats on site provide suitable sheltered foraging and commuting opportunities for pine marten. Foraging opportunities such as small mammals, birds, and berries are likely present within the woodland within the site and surrounding habitats. Trees and rock piles within the woodlands could be used for den and resting sites as well as providing elevated protection from predators.

Pine marten are protected under Schedule 5 of the WCA and are therefore considered to be of national (UK) importance.

2.1.4 Badger

A record of badger in 2013 was returned from GMBRC within a 2km radius of site.

No evidence of badger was recorded during the survey. Overall, although limited by some wet areas, and areas of protruding bedrock, the woodland within the site could provide opportunity for sett creation and foraging resource.

Primary foraging habitat is available for badger within the site via amenity grassland and broadleaved woodland, and secondary foraging opportunities are also available via mixed woodland.

Further primary and secondary foraging opportunities as well as opportunities for sett creation are available via woodland to the south, west and north of the site.

Badger are protected under the Badger Protection Act and are therefore of national (UK) importance.

2.1.5 Reptiles and Amphibians

No records of reptiles were returned from the desk study.

The site and surrounding habitats offer suitable foraging and commuting habitat for reptiles including wooded areas, forest edges and bracken. Basking opportunities are also available via embankments of roads and railways and rock surfaces. The stone wall and boulders located within the woodland may also provide suitable hibernation refugia for reptiles (Figures 2 and 3). Overall, the site is assessed as providing moderate suitability for reptiles: '*Some suitable vegetation cover offering foraging opportunities, basking sites and refugia*'.

Common reptiles species including slow-worm (*Anguis fragilis*), adder (*Vipera berus*) and common lizard (*Zootoca vivipara*) are listed as priority species on the SBL and as such are considered of National (Scotland) Importance.

No records of amphibians were returned from the desk study.

No ponds are present within the site, however areas of wetland exist within the site. The loch and small seasonal waterbody within the planation woodland could be used as breeding areas during the aquatic phases of amphibian's lifecycles as well as providing foraging opportunities. Additionally, the wetland areas could also provide steppingstone commuting routes for amphibians on route to breeding ponds.

Terrestrial habitats found within site including woodland and grassland can provide resting and foraging opportunities for amphibians. Features such as the stone wall and boulders located within the woodland may also act as refugia for hibernating amphibians (Figures 2 and 3).

Common toad (*Bufo bufo*) is a SBL priority species and as such is of national (Scotland) importance.

Figure 2: Stone wall offering reptile and amphibian hibernation habitat.

Figure 3: Boulders offering reptile and amphibian hibernation habitat.

3 SPECIES PROTECTION PLANS

3.1 Ecological Clerk of Works

An Environmental/Ecological Clerk of Works (ECoW) would be appointed to audit and advise on implementation of the SPPs and any complimentary Environmental Management Plan throughout construction including monitoring and maintaining baseline data.

3.2 Otter

Pre-construction

The design has not specified any alteration or impediment of the coastline or open water associated with Inveruglas Bay. The design makes no indication that resting sites or prey availability (fish habitat) will be reduced, or that distribution of otter in Loch Lomond would be affected. Regardless, it should be assumed that otter are active in the near landscape. The following mitigation measures should be in place prior to construction:

- Maintain baseline data on otter at the site extending to 200m north and south of Inveruglas bay leading up to and including pre-works checks for otter.
- Record any field evidence and highlight the need for any alteration to this plan, further targeted study, or licensing requirements.
- All staff will be made aware of the presence of otter in the landscape and their protected status via site induction material.

During Construction

The following mitigation measures should be in place during the construction phase:

- Artificial illumination must not be directed at the water's edge or shoreline habitats.
- As otter are often most active during darkness, no work will be undertaken at Inveruglas car park, or in close proximity to Loch Lomond between dusk and dawn to allow otter behaviour to continue during darkness. Works set to the west of the A82 are unlikely to be limited to this restriction.
- High impact works such as ground works causing noise and vibration will be limited to daylight hours to avoid disturbance to nocturnal species.
- A max 20mph speed limit will be applied on site to minimise the risk of traffic colliding with otter.
- No excavations will be left open and unattended. Either cover the excavation to prevent access or create a shallow sloping edge to allow otter to escape.
- All pipe work on site will be capped when not attended. All stacks of stored pipes shall be checked daily and checked again prior to moving as otter are known to inquisitively utilise pipes for shelter.
- Stringent pollution prevention measures will be in place and managed via the CEMP, audited by the ECoW and site engineer to avoid pollution by sediment, fuels and oils to the freshwater habitat.
- Should an otter be observed, works in that area must pause and the ECoW contacted for advice. Otter will be allowed to disperse naturally before works re-commence.
- All observations will be recorded by the project ecologist to identify if trends in otter activity develop and suggest the need for additional survey, assessment, licensing or mitigation.

- Should an otter resting site be discovered the project ecologist shall ascertain the risk of disturbance from scheduled works and consult promptly with NatureScot regarding the need for licensing. The ECoW will frequently extend searches to at least 200m beyond the site boundary to highlight breeding sites, of which the construction and operational elements of the project need to be aware.

Operation

The following mitigation measures should be in place during the operational phase:

- All users of the developed site must be made aware that otter are present in the landscape, are a protected species, and a qualifying feature of designated sites associated with Loch Lomond.
- Traffic arriving and leaving the power station will be alerted to the possibility of otter crossing roads on and near to the site, by using appropriate signage and in induction material.
- Permanent lighting associated with the infrastructure will be directed to avoid spillage to the shoreline habitats or open water.
- Management of the shoreline assets will factor in the possible presence of otter within any future initiative including maintaining water quality, not impeding fish habitat, removal of invasive species, management and encouragement of native shoreline woodland which will provide opportunity for commuting and resting otter in the vicinity.

3.3 Red Squirrel

Pre-construction

The plantation woodland area known to have hosted squirrel dreys will be removed to facilitate the spoil storage area; remove larch trees with *Phytophora* risk; and remove the risk of windblown trees following the modification of the forestry block. Red squirrel resting sites/movement/behaviours will likely be disrupted during forestry operations. The following mitigation measures should be in place prior to construction:

- Maintain baseline data on red squirrel at the site extending to at least 50m surrounding the construction site boundary, leading up to and including pre-works checks for red squirrel prior to tree removal.
- Record any field evidence and highlight the need for any alteration to this plan, further targeted study, or licensing requirements.
- All staff will be made aware of the presence of red squirrel in the landscape and their protected status via site induction material.
- Tree removal will be scheduled for late autumn/winter to avoid impacts to breeding squirrel dreys.
- Trees noted to have a drey structure present will be retained and monitored (i.e direct observation, camera trap, thermal imagery) to determine if they are active. All forestry works will be informed of drey locations.
- Breeding dreys (if suspected) will be retained with a 50m exclusion zone. Summer/winter dreys (if active) will be retained with at least a 10m exclusion zone. No trees containing dreys will be removed unless the ECoW is confident that the drey is inactive.
- Where red squirrel dreys/shelters will be impacted by works, a NatureScot Works Affecting Red Squirrel licence would be pursued. A detailed SPP and a location map showing the locations of the dreys/shelters affected by the proposal would be provided as supporting evidence.

During Construction

The following mitigation measures should be in place during the construction phase:

- Following tree removal and during construction, all staff will be aware that red squirrel may be active in the habitats directly adjacent to the working area.
- A max 20mph speed limit will be applied on site to minimise the risk of traffic colliding with red squirrel.
- Should a red squirrel be observed, works in that area must pause and the ECoW contacted for advice. Red squirrel will be allowed to disperse naturally before works re-commence.
- All observations will be recorded by the project ecologist to identify if trends in red squirrel activity develop and suggest the need for additional survey, assessment, licensing or mitigation.
- All observations of grey squirrel (*Sciurus carolinensis*) must be reported to the ECoW and the ECoW will forward this to Saving Scotland's Red Squirrels[2] for implementation of a control measure locally.

Operation

The following mitigation measures should be in place during the operational phase:

- All users of the developed site must be made aware that red squirrel are present in the landscape, and are a protected species.
- Traffic arriving and leaving the power station will be alerted to the possibility of red squirrel crossing roads on and near to the site, by using appropriate signage and in induction material.
- All observations of grey squirrel (*Sciurus carolinensis*) must be reported to the SSER environment team and they will forward this to Saving Scotland's Red Squirrels for implementation of a control measure locally.
- Landscaping of the site will aim to recreate native woodland and manage the wider site towards restoration of woodland habitats which will provide a quality habitat for red squirrel in the future.

3.4 Pine Marten

Pre-construction

No evidence of pine marten has been recorded on or adjacent to the site however it is assumed that pine marten are active in the landscape, are a recovering population, and have an important ecosystem role, particularly beneficial as a predator of grey squirrel. Forestry operations and spoil storage may disrupt movement or behaviour of pine marten temporarily. The following mitigation measures should be in place prior to construction:

- Maintain baseline data on pine marten at the site extending to at least 50m surrounding the construction site boundary, leading up to and including pre-works checks for pine marten field evidence prior to tree removal.
- Record any field evidence and highlight the need for any alteration to this plan, further targeted study, or licensing requirements.

[2] Saving Scotland's Red Squirrels https://scottishsquirrels.org.uk/

- All staff will be made aware of the presence of pine marten in the landscape and their protected status via site induction material.

During Construction

The following mitigation measures should be in place during the construction phase:

- A max 20mph speed limit will be applied on site to minimise the risk of traffic colliding with pine marten.
- Should a pine marten be observed, works in that area must pause and the ECoW contacted for advice. Pine marten will be allowed to disperse naturally before works re-commence.
- All observations will be recorded by the project ecologist to identify if trends in pine marten activity develop and suggest the need for additional survey, assessment, licensing or mitigation.

Operation

The following mitigation measures should be in place during the operational phase:

- All users of the developed site must be made aware that pine marten may be present in the landscape and are a protected species.
- Traffic arriving and leaving the power station will be alerted to the possibility of pine marten crossing roads on and near to the site, by using appropriate signage and in induction material.
- Landscaping of the site will aim to recreate native woodland and manage the wider site towards restoration of woodland habitats which will provide a quality habitat for pine marten in the future.

3.5 Badger

Pre-construction

No evidence of badger has been recorded on or adjacent to the site however it is assumed that badger are active in the wider landscape. Forestry operations and spoil storage may disrupt movement or behaviour of badger temporarily. The following mitigation measures should be in place prior to construction:

- Maintain baseline data on badger at the site extending to at least 50m surrounding the construction site boundary, leading up to and including pre-works checks for badger field evidence prior to tree removal.
- Record any field evidence and highlight the need for any alteration to this plan, further targeted study, or licensing requirements.
- All staff will be made aware of the presence of badger in the landscape and their protected status via site induction material.

During Construction

The following mitigation measures should be in place during the construction phase:

- A max 20mph speed limit will be applied on site to minimise the risk of traffic colliding with badger.
- Should a badger be observed, works in that area must pause and the ECoW contacted for advice. Badger will be allowed to disperse naturally before works re-commence.

- All observations will be recorded by the project ecologist to identify if trends in badger activity develop and suggest the need for additional survey, assessment, licensing or mitigation.

Operation

The following mitigation measures should be in place during the operational phase:

- All users of the developed site must be made aware that badger may be present in the landscape, and are a protected species.
- Traffic arriving and leaving the power station will be alerted to the possibility of badger crossing roads on and near to the site, by using appropriate signage and in induction material.
- Landscaping of the site is likely to include fencing to exclude herbivores. However this fencing will include small gateways at ground level for smaller mammals (such as badger, fox, hedgehog, etc.) to access.

3.6 Reptiles and Amphibians

Pre-construction

No direct evidence of reptiles or amphibians has been found at the site, however. suitable habitat is present and as such it can be assumed that both species groups are present in the landscape. The following mitigation measures should be in place prior to construction:

- Prior to forestry operations, spoil storage operations or any ground works, the ECoW will guide the principle contractor in constructing a series of small stone piles, paritally buried in turf material (from site-won material), outside of the proposed spoil storage area.
- The ECoW will then identify features within the spoil storage area which may be used as refugia (i.e. stone piles, deadwood stacks) and conduct a soft dismantle of these features and translocate any reptiles or amphibians to the compensatory structures. Dismantling of these features will not occur between November and March to avoid the hibernation period.
- Forestry operators will be briefed that any observations of reptiles or amphibians will be reported to the ECoW and works in that area paused until further assessment can be made, the animal safely translocated, or revisions to the Species Protection Plan made.

During Construction

The following mitigation measures should be in place during the construction phase:

- Following forestry operations, the area demarcated for spoil storage will be regularly checked by the ECoW for the presence of reptiles and amphibians with careful translocation undertaken where required.
- Where clearance of long grass or other dense vegetation is required, a two-stage cut would be applied to allow any reptiles, amphibians or small mammals present to disperse of their own volition. The first cut should be made to a height of no less than 150mm, with a minimum of one hour and a visual inspection before a second cut to ground level.
- All staff will be made aware of the presence of reptiles and amphibians in the landscape and their protected status via site induction material.
- Observations of reptiles or amphibians will be reported to the ECoW and works in that area paused until further assessment can be made, the animal safely translocated, or revisions to the Species Protection Plan made.

Operation

The following mitigation measures should be in place during the operational phase:

- Landscaping of the site will include retention of the compensatory refugia, allowance of wetland/standing water to form as surface water collects in hollows and use of material resulting from ongoing woodland operations to create deadwood stacks.