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**Environmental Impact
Assessment
Environmental
Statement A887 Allt
Lagain Bhain Appendix
C1.8**

Phase 1 Habitat Survey

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Summary

This report presents the results of an ecological assessment of an area of road verge and associated habitats adjacent to the A887 Allt Lagain Bhain, West of Dundreggan. The aims of the study were to assess the conservation value of the survey area, the likely presence of rare or protected species, and to identify any features, habitats or species which would constitute potential constraints to the proposals for the construction of a replacement bridge and associated tie-ins.

An extended Phase 1 habitat and protected species walkover survey was undertaken, which comprised a search of a 50m corridor around the proposed, to identify any habitats likely to be of conservation value, and to investigate the presence (or likely presence) of protected species of plants and/or animals.

The Allt Lagain Bhain watercourse is located under the bridge that is to be replaced. The watercourse from the bridge downstream is one of the designated tributaries of the River Moriston Special Area of Conservation (SAC). The SAC is designated for freshwater pearl mussel and Atlantic salmon.

The survey area comprised a combination of roadside verges, broadleaf woodland and rough pasture, and occasional patches of bracken as well as a small stand of juniper.

Habitats suitable for bats, pine marten, badger, breeding birds, otters, fish were present throughout the scheme. Otter resting sites were recorded as well as habitat within an old bridge adjacent to the trunk road bridge suitable for use by roosting bats.

As the river is designated as an SAC, if pearl mussels are present then there is potential significant ecological impacts and similarly, if a bat roost is identified in the old bridge and the bridge, there is further potential for a significant impact.

The potential exists for accidental pollution of the Allt Lagain Bhain during the construction period, and therefore works would need to be undertaken in accordance with an appropriate mitigation and method statement. A survey for freshwater pearl mussel will be required and a statement to inform Appropriate Assessment agreed with Scottish Natural Heritage in order to characterise the impacts on the River Moriston SAC. The potential impacts of the scheme on other valuable habitats and species are described and appropriate mitigation measures recommended. Further surveys for bats, otters and badgers are also recommended.

Introduction

This report presents the results of an ecological assessment of an area of road verge and associated habitats adjacent to the A887 Allt Lagain Bhain, West of Dundreggan, undertaken by Scotland Transerv, on behalf of Transport Scotland.

The aims of the study were to assess the conservation value of the survey area, the likely presence of rare or protected species, and to identify any features, habitats or species which would constitute potential constraints to the proposals to replace the existing A887 trunk road bridge.

The surveys were undertaken by experienced ecologists from the Scotland Transerv environmental team during July 2011.

Methodology

Desk Study

Existing ecological information relating to the site and its surroundings was obtained from the following sources:

- [Scottish Natural Heritage website](#) - statutory designated sites of nature conservation value within 5km of the site,
- [the National Biodiversity Network \(NBN\) website](#) – used to access publically available records
- [Scottish Environment Protection Agency \(SEPA\) website](#) – used to find information on classification of watercourses and details of water framework directive protected areas.
- [Woodland trust](#) – details of ancient woodland, veteran and notable trees.

Field Survey

An extended Phase 1 habitat and protected species walkover survey was undertaken which comprised a search of a 50m corridor either side of the proposed works and at either end of the scheme, to identify any habitats likely to be of conservation value, and to investigate the presence (or likely presence) of protected species of plants and/or animals. The individual elements of the surveys are described below.

Phase I Habitat Survey

The habitat survey involved identifying and mapping the dominant habitat types following the Phase 1 habitat survey methodology recommended by Scottish Natural Heritage (Nature Conservancy Council, 1990). Dominant plant species were noted, as were any uncommon species or species indicative of particular habitat types, but due to the season not all species would have been visible, and there was no attempt to compile exhaustive species lists. Botanical names follow Stace (1997) for higher plants and Edwards (1999) for bryophytes.

Protected Species Walkover Survey

The value of the various habitats and features within the study area for invertebrates, amphibians and reptiles was critically assessed as part of the walkover survey. Habitats adjacent to the study area were also assessed with regard to reptiles and amphibians. The value of the habitats within, and adjacent to the survey corridor for breeding and over-wintering birds and all birds incidentally encountered during the surveys were recorded.

The value of the site for roosting and foraging bats was also assessed, and all mature trees and the 2 bridges were carefully scrutinised to assess their likely occupancy by roosting or hibernating bats. The woodland habitat was assessed for its suitability for red squirrels (*Sciurus vulgaris*), wildcats (*Felis sylvestris*) and pine martens (*Martes martes*), and any potential drey/den sites identified. The likely value of Allt Lagain Bhain and small burns, was critically assessed with regard to their potential value for use by otters (*Lutra lutra*) and water voles (*Arvicola terrestris*). An otter survey was undertaken by searching for characteristic signs, including holts, couches, or other resting sites, as well as spraint, footprints, and slides. Signs of water voles were searched for in parallel with the otter survey. The site was investigated for its use by badgers (*Meles meles*) by searching for the characteristic signs of badger activity including setts, latrines, paths, footprints, hairs, and feeding signs. The survey area was extended where necessary in order to search adjacent areas for badger setts.

Results

Desk Study

Designated Sites

Statutory designated sites

The Allt Lagain Bhain watercourse is part of the River Moriston Special Area of Conservation (SAC) from the point immediately downstream of the bridge to the River Moriston itself and beyond. The qualifying interests of the River Moriston SAC are Atlantic salmon (*Salmo salar*) and freshwater pearl mussels (*Margaritifera margaritifera*). The last site condition assessment available was in 2003 when Atlantic salmon were “unfavourable recovering” and freshwater pearl mussels were “unfavourable no change”.

There are no other statutory designated sites located in close proximity to the proposed scheme.

Non-statutory designated sites

The Trees for Life Dundreggan Estate lies immediately adjacent to the bridge on the north side. The 4,000 hectare estate is mainly open upland habitat and lies on the north side of Glen Moriston, one of several valleys situated to the west of Loch Ness.

Rare Plant Species

The desk study did not reveal any records of rare plant species within the site boundary, or within 1km of the site. However the following nationally scarce plants species were identified within the same 10km square NH31, namely alpine bearberry (*Arctostaphylos alpinus*), dwarf birch (*Betula nana*), intermediate wintergreen (*Pyrola media*), downy currant (*Ribes spicatum*).

Invertebrates

The desk study revealed that the following invertebrate species of conservation concern were present within the same 10km square NH31, with records also in close proximity to the site: small pearl-bordered fritillary (*Boloria selene*), pearl-bordered fritillary (*Boloria euphrosyne*), blaeberry bumble bee (*Bombus monticola*), small heath butterfly (*Coenonympha pamphilus*), large heath butterfly (*Coenonympha fullia*), Scottish wood ant (*Formica aquilonia*), Negro ant (*Formica fusca*), Formica

lemni, hairy wood ant (*Formica lugubris*), slave-making ant (*Formica sanguinea*) and freshwater pearl mussels (*Margaritifera margaritifera*).

Amphibians

There were records of common frog (*Rana temporaria*), common toad (*Bufo bufo*) and palmate newt (*Lissotriton helveticus*) within the same 10km square. There were no records of great crested newt (*Triturus cristatus*) with the nearest population of great crested newts being up to 20km from the site.

Reptiles

There are existing records of slow-worms (*Anguis fragilis*) and common lizards (*Zootoca vivipara*) within the same 10km grid square.

Birds

The desk study found records for the following schedule 1 birds within the same 10km square, namely: Hen Harrier (*Circus cyaneus*), Whooper Swan (*Cygnus cygnus*), Merlin (*Falco columbarius*), Peregrine (*Falco peregrinus*), Black-throated Diver (*Gavia arctica*), Common Crossbill (*Loxia curvirostra*), Osprey (*Pandion haliaetus*), Capercaillie (*Tetrao urogallus*), Greenshank (*Tringa nebularia*), redwing (*Turdus iliacus*), fieldfare (*Turdus pilaris*), barn owl (*Tyto alba*).

Bats

The only bat species to be recorded within the same 10km is Daubentons (*Myotis daubentonii*). It is considered however this is due to under recording of bats within this predominantly rural area.

Other mammals

There are existing records of Eurasian otter (*Lutra lutra*), wildcat (*Felis silvestris*), badger (*Meles meles*), pine marten (*Martes martes*), Eurasian red squirrel (*Sciurus vulgaris*) and mountain hare (*Lepus timidus*) within the same 10km square. There are also records of 3 species of deer, roe (*Capreolus capreolus*), red (*Cervus elaphus*) and sika (*Cervus nippon*).

Field Survey

The main characteristics of the site are described in the following sections, with sites or features of particular conservation value detailed as appropriate.

Plants and habitats

The survey area comprised a combination of roadside verges, broadleaf woodland and fields.

Roadside Verges

The verges along this section of the A887 generally featured a narrow trimmed strip immediately adjacent to the road. The narrow strip generally comprised species-poor semi-improved grassland with a small stand of poorly developed juniper (*Juniperus communis*) as well as broom (*Cytisus scoparius*).

Fields

Fields lay on both sides of the trunk road to the east of the bridge and were also species poor semi-improved acid grassland with area of bracken (*Pteridium aquilinum*) and occasional clumps of Juncus. One field had also a number of young trees planted within it. No evidence of grazing by livestock was noted, however it is likely that deer will regularly browse the area.

Woodland

The area adjacent to the west of the road on both side was dominated by semi-natural broad leaf woodland which was dominated by silver birch, *Betula pendula*.

Running Water

The Allt Lagain Bhain flowed under the trunk road bridge and was the main watercourse associated with the scheme. A tributary of the river was culverted under the road to the west.

Protected species and other species of conservation value

Invertebrates

Wood ants

No wood ant nests were noted within the survey area. However, a nest was identified in the woodland to the north of the scheme, out with the survey area. It was considered the woodland adjacent to the scheme provided good habitat for wood ants, especially at the forest edge and clearing within the woodland which allowed penetration of sunlight which is considered essential to support the species.

Freshwater Pearl Mussels

The Allt Lagain Bhain watercourse and the River Moriston were both considered to provide useful habitat for freshwater pearl mussels.

Fish

It was considered that the Allt Lagain Bhain and River Moriston are likely to support populations of Atlantic salmon and trout and juveniles salmonids were noted during the survey. It is also likely to support European eel and may support lamprey species depending on habitat availability. The un-named tributary within the scheme is likely to be of limited value to fish

Amphibians

No evidence of amphibians was noted on site and the habitat was considered to be sub-optimal with no standing water in the vicinity. Given their restricted distribution in this part of Scotland and lack of available habitat it is unlikely that great crested newts are present.

Reptiles

The site provides poor quality habitat for reptiles such as common lizards and adders with a general lack of dry heathland habitat within the survey area. No reptiles were noted during the site visit.

Birds

It is likely that the survey area supports breeding and over-wintering birds typical of the surrounding habitat. However, during the site survey, none of the Schedule 1 birds identified during the desk study were observed on site. No evidence of old or currently used nests were identified and no birds were identified during the walkover survey.

The woodland habitat is not favoured by Schedule 1 species such as hen harrier, Whooper Swan, merlin, peregrine, greenshank, black-throated diver and osprey. Fieldfare are over wintering birds and may use the surrounding fields however, this will be on a transitory basis. Redwing use open field and are present during the summer in the north Highlands and thus could be encountered. Barn owls require rough grassland with good populations of rodents. Field edges, forest edge with grass strips and edges of watercourses all provide good hunting habitat. Capercaillie are found exclusively in native pinewood and therefore highly unlikely to be present.

Common Crossbill are primarily associated with conifers and unlikely to be present on site.

Bats

No trees were identified as containing features potentially suitable for roosting and/or hibernating bats. The road bridge itself considered to be low to medium potential for roosting bats while the historic masonry arch bridge was medium to high potential with several dry cavities capable of supporting bats.

Given its location adjacent to the watercourse and woodland, the site is likely to be of only high value to foraging or commuting bats.

Red squirrels

The woodland adjacent to the scheme was considered to provide suitable habitat for red squirrels. However, during the walkover survey, no dreys or other signs of red squirrel were identified.

Water voles

No signs of water voles or habitat suitable for the species were identified during the survey. The lack of wetland, ditches or watercourses containing standing or slow flowing water makes it unlikely they will be present on site.

Pine marten

The surrounding woodland was considered to provide suitable habitat for pine marten, although no evidence of this species was recorded during the survey.

Badger

No evidence of active badger use was recorded within the survey area. However, a disused sett was identified south of the scheme boundary. A total of 6 entrances were identified and hair were found. However, spoil at the entrances was overgrown and no paths, latrines or other signs of active used were found. One of the sett entrances appeared to be currently being used by otters.

Otter

Otter appear to be using a disused badger sett as a resting place. Fresh spraint was found at of the sett entrances in close proximity to the River Moriston. A further actively used couch with fresh spraint was found in a cavity within the Allt Lagain

Bhain river bank on the left bank. Further potential resting places were identified approximately 80m upstream of the trunk road on both sides of the river. There was however no signs of active used identified.

Wildcat

No evidence of the presence of wildcats, and no potential den sites, were recorded during the survey. The surrounding forest was however considered to provide good habitat for the species.

Discussion and recommendations

The Allt Lagain Bhain forms part of the River Moriston SAC, and is therefore of high nature conservation value for freshwater pearl mussels and salmonids populations. Due to the scope of the survey it was not possible to determine the status of these species in the vicinity of the works. Further fish habitat survey and freshwater pearl mussel survey of the watercourse in the vicinity of the bridge and further downstream will therefore be required.

The old masonry arch bridge adjacent to the existing trunk road bridge is due to be demolished as part of the works. A survey of the old bridge identified should therefore be undertaken to confirm the presence or absence of roosting bats. The survey should be carried out well in advance of the bridge works in order to allow time for a licence application to be prepared. This survey should be undertaken through an endoscopic inspection, with dawn and dusk emergence surveys carried out as required.

In parallel with the surveys described above, it would be appropriate to carry out further otter surveys in order to determine change in use of the area on a temporal basis. Consideration should be given to incorporating a ledge and associated fencing into the design of the new bridge in order to allow passage under the trunk road for otters during high flow conditions.

Wood ants, are on the 'Scottish Biodiversity List' and are considered to be of nature conservation value. They can be highly mobile in their distribution and given the quality of the habitat, further surveys should be undertaken prior to the works being carried out to ensure they have not moved into the works area. If they do enter the works area, the most effective mitigation will be to translocate nest prior to works commencing.

The impact on birds is likely to be minimal given the relatively small area of habitat clearance, and its proximity to the existing trunk road. It will be important to ensure that site clearance is undertaken out with the bird breeding season. If this is not

possible, a breeding bird survey will require to be undertaken and appropriate mitigation developed.

Further survey of the dis-used badger sett should be undertaken to ensure it does not come back into use, and mitigation developed as appropriate.

Pre-construction surveys should also be undertaken for red squirrel, pine marten and wildcat to ensure they have not become active in the area and mitigation developed as appropriate.

Conclusions

The proposed scheme involves the replacement of a bridge with on-line widening of an existing road. There is potential disturbance to European Protected Species (bats and otters) and this may result in the destruction of resting places. Areas of ancient woodland will be permanently removed and the works are being undertaken over an aquatic Special Area of Conservation. There is this the potential for significant ecological impact both during construction and operation of the scheme. Further surveys will determine the scale of any impact and the need for full EIA.

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