

Sesswick Eel Screen Preliminary Ecological Assessment

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1. Introduction and Brief

Purpose and Scope of this Report

RammSanderson were commissioned by Severn Trent Water to undertake an ecological survey at Sesswick for the construction of eels screens on the bank of the River Dee. The purpose of eels screening is to exclude eels from the river inlet through the installation of a mesh screen. The installation of a screen will require construction of supporting structure into the riverbed, and a hydrolox or wire mesh screen being installed upon it. This will impact the banks of the river and will have impacts upon species within the river course. The survey area formed a terrestrial area on the north-western bank of the River Dee, as shown within the red line boundary in Figure 1. The site mainly comprised of a building and areas of hardstanding, with poor semi-improved grassland surrounding the building, an area of broadleaved woodland within the east of the site, and flowing ditches surrounding it. Works will take place mostly upon the river bank, however some vegetation clearance may be required for access or machinery. This report discusses impacts upon the terrestrial habitats and species within the red line boundary. Impacts upon the watercourse itself will also occur as a result of the works and should be considered separately by an aquatic ecology specialist.

Site Context and Location

The site was located at a pumping station the bank of the River Dee, in Wrexham, Wales, LL13 0TN (Central grid reference SJ 38643 46368). The site comprises a building and associated hardstanding areas, and poor semi-improved grassland verges as well as an area of broadleaved woodland and scattered trees.

2. Recommendations Summary

It should be noted that this report focuses on terrestrial ecological considerations. The implementation of an eel screen should also consider aquatic ecological considerations and may need specialist input accordingly and may include River Habitat Survey, fish presence/absence surveys etc, if not already completed. The full proposals for the site are not yet finalised and as such, recommendations within this report are made on a worst-case scenario basis regarding habitat clearance and possible impacts to species.

Further surveys are recommended for the works on site. As the watercourse is deemed particularly suitable for otter, further assessments for otter and water vole are required. Management or avoidance of Himalayan balsam will also be required, as well as further aquatic ecology surveys and assessments.

Criteria used in the table below- Needs to be actioned:

Before the work can proceed

During the work and may require additional advice, or needs ECOW input

After the work, or needs to follow best practice guidance in delivery of the work

Table 1: Summary of Impacts

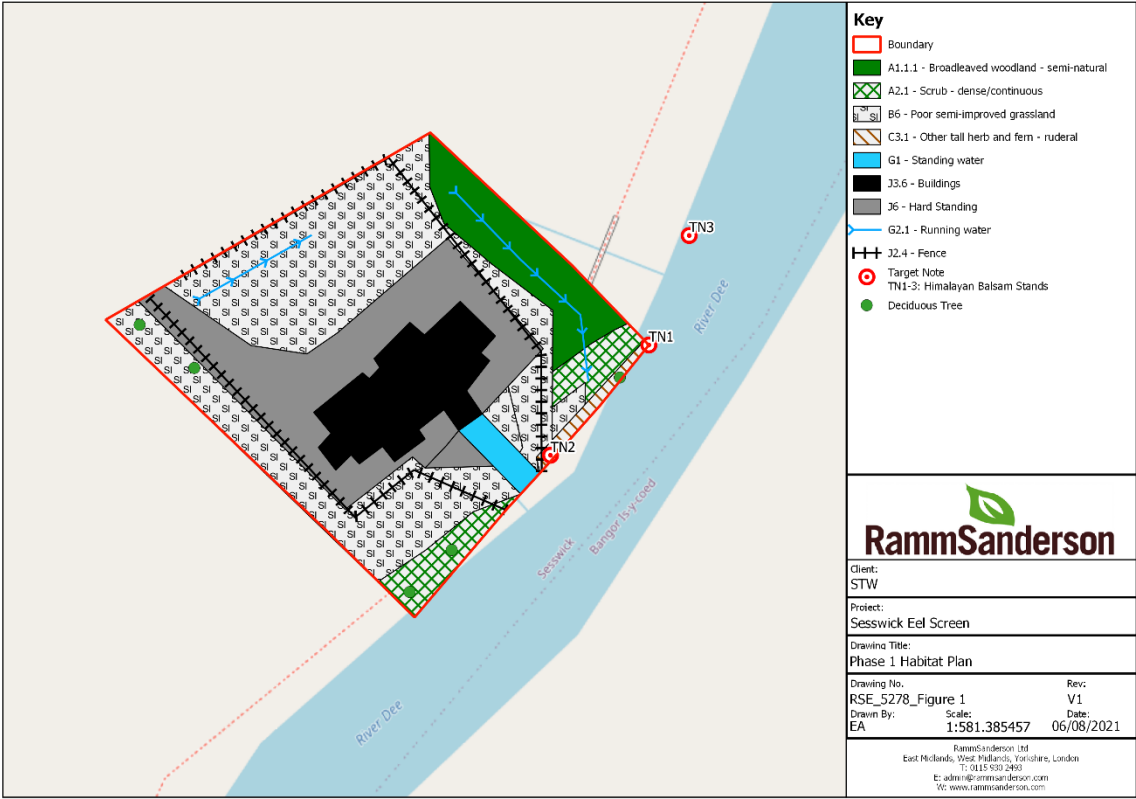
Ecological Feature	Timing of action	Section	Risk
1. Designated Sites - the works are to take place on the banks of the River Dee, a Site of Special Scientific Interest and Special Area of Conservation. As such, consultation with the local planning authority will be required. With the possibility of a Habitat Regulations Assessment (HRA). Further specialised aquatic ecology surveys are to feed into the HRA.	All year round	5	
2. Otter – Further otter surveys are required as the banks of the river are considered suitable, with the profile having suitable laying up areas.	Between April and September.	5	
3. Other freshwater fauna – the River Dee provides a habitat for a range of protected fish. Further specialised aquatic ecology assessments should be carried out to inform the impact appraisal as the River Dee is a designated site and aquatic species may be impacted by the works.	All year round		
4. Bats – If removal of any trees is required for access, further ground level tree assessments to assess the potential for roosting bats is required. Should any trees have moderate to high roosting potential further aerial tree climb surveys (if safe to climb) or nocturnal surveys will be required. This will consist of either 2 tree climbs or 2 nocturnal surveys (generally a dusk and a dawn survey).	Ground level tree assessment can be carried out at any time of year. Aerial trees climb and nocturnal surveys can be undertaken from April – September.	5	
5. Should trees have low bat roosting potential these trees can be soft felled.			
6. Habitats – The Himalayan Balsam on site must either require avoidance using a suitable buffer to avoid the spread of seeds around site and off-site. If this is not possible, a specialist should be contracted to remove the invasive species.	All year round	5	
7. Nesting Birds – Any removal of vegetation for machinery or access should be timed to avoid nesting bird season (April to October). Should this not be possible a nesting bird check will be required up to 24hrs before the planned works will be required. Should any nesting birds be found, works should not start until all chicks have fledged.	Works should be timed to avoid nesting bird season (April to October). If not possible a nesting bird check will be required.	5	
8. Badger – No evidence of badger was noted on site, however best practice guidelines should be followed during the works, including capping off pipes, covering trenches, sloping of excavations etc	All year round	5	

Ecological Feature	Timing of action	Section	Risk
9. Reptiles and amphibians – There is a low risk of transient reptiles and amphibians utilising the site and therefore a precautionary method of works should be followed during the works.	Vegetation clearance should be undertaken in the active reptile and great crested newt season (March to October).	5	
10. Biodiversity - the site requires a 15% biodiversity net gain as per STW guidelines. A Biodiversity Enhancement Plan is to be separately issued.	All year round	5	

3. Maps

Phase 1 Map

Figure 1: Phase 1 Habitat Plan



4. Results

Surveyors and Survey Conditions

The survey was carried out by Gareth Parry MSc, BSc (Hons). Gareth has been a professional ecologist for the past 11 years. Gareth holds a class 2 license for bats (2018-35942-CLS-CLS) and a class 1 license for GCN (2014-5508-CLS-CLS). The survey was completed during suitable conditions as detailed in the table below

Table 2: Summary of conditions during survey

Abiotic Factor	Survey 1
Survey type	Preliminary Ecological Appraisal
Date completed	27/01/2021
Temperature (°C)	297
Wind speed (Beaufort Scale)	0
Cloud cover (Oktas Scale)	0
Precipitation	0

Phase 1 Habitat survey

The survey area included a building, hardstanding, broadleaved woodland, scrub, poor semi-improved grassland, broadleaved scattered trees and tall ruderal.

Habitats types detailed below are listed in order of the JNCC (2010) Handbook. The species list provided in this report reflect only those taxa observed during the survey.

Table 3: Summary of habitats and areas

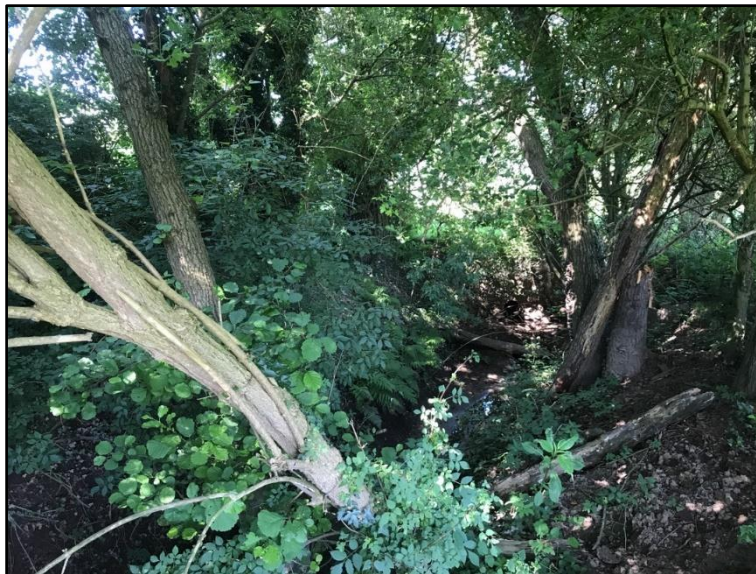
Habitats	Amount (m2)
Broad leaved woodland	304
Dense Scrub	186
Poor Semi-improved Grassland	1355
Tall Ruderal	40
Standing Water	55
Building	351
Hardstanding	721
Flowing Ditch	55m length

Habitats

Broad Leaved Semi – Natural Woodland

An area of broadleaved woodland is located in the south-east of the site. This comprised abundant hawthorn (*Crataegus monogyna*), with frequent alder (*Alnus spinosa*), and occasional willow (*Salix sp.*) and ash (*Fraxinus excelsior*). The understory was sparse and comprised frequent bramble (*Rubus fruticosus*) and occasional young ash and elder. The ground flora comprised abundant nettle (*Urtica dioica*) and ivy (*Hedera helix*), with occasional scaly male fern (*Dryopteris affinis*), red campion (*Silene dioica*) and herb Robert (*Geranium robertianum*), as well as common bindweed (*Convolvulus arvensis*) on the fence. There was also rarely occurring Himalayan balsam (*Impatiens glandulifera*).

Figure 2: Broad leaved Woodland



Scrub (Continuous)

Two areas of scrub were located in the north-east of the site, dominated by bramble, with abundant creeping thistle (*Cirsium arvense*), and spear thistle (*Cirsium vulgare*). There was also frequent Himalayan balsam and hoary willowherb (*Epilobium parviflorum*), and occasional cow parsley (*Anthriscus sylvestris*) and red dead nettle (*Lamium purpureum*), as well as rarely occurring ragwort (*Jacobaea vulgaris*), hogweed (*Heracleum sphondylium*) and yarrow (*Achillea millefolium*).

Figure 3: Dense Continuous Scrub



Scattered Broadleaved Trees

There were scattered trees along the riverbank comprising ash, willow and alder, with one mature ash near the gate. There were also two single stands of hawthorn.

Figure 4: Scattered Broadleaved Trees**Poor Semi - Improved Grassland**

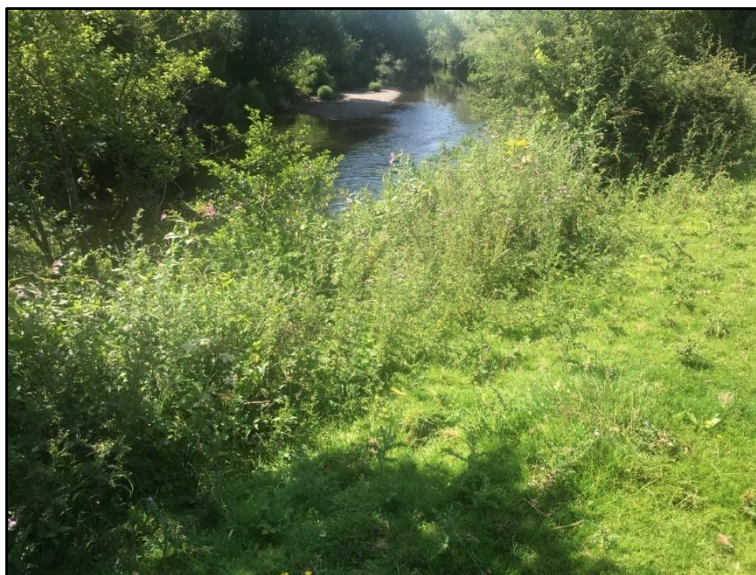
Poor semi-improved grassland was located around the site forming grass verges surrounding the building. This habitat was similar in assemblage to fields surrounding the site and was dominated by perennial rye grass (*Lolium perenne*), with abundant cock's foot (*Dactylis glomerata*), Yorkshire fog (*Holcus lanatus*), frequent meadow buttercup (*Ranunculus acris*), creeping buttercup (*Ranunculus repens*), creeping thistle and white clover (*Trifolium repens*). There was also occasional dandelion (*Taraxacum sp.*), mayweed (*Tripleurospermum*), plantain (*Plantago sp.*) and rarely occurring chickweed (*Stellaria media*).

Figure 5: Improved Grassland

Tall Ruderal

Tall ruderal vegetation was located along the riverbank, dominated by nettle but with areas of locally dominant Himalayan balsam. The habitat also comprised abundant creeping thistle and spear thistle, frequent hoary willowherb, Himalayan balsam and bramble, occasional meadowsweet (*Filipendula ulmaria*), cow parsley, sedge (*Carex sp.*) and red dead nettle, and rarely occurring ragwort, hogweed and yarrow.

Figure 6: Tall Ruderal



Buildings and Operational Infrastructure/Hardstanding

One building was present on site. This was a solid brick single storey pumping station and associated infrastructure works. This building is not to be impacted by the works.

Figure 7: Building 1



Hard standing

There were areas of hardstanding surrounding the building for access of vehicles and pedestrians.

Figure 8: Hardstanding



Standing Water

An area of water was present in the form of the outfall from the pumping station and as such had negligible ecological value.

Flowing Ditch

Two flowing ditches were present within the site boundary. They were culverted and the banks of the ditches comprised the same habitats as the poor semi-improved grassland.

Protected and Notable Species

Amphibians

Two ponds were located within 500m of the site. These were, however, located more than 250m from the site. The site has limited suitability for GCN, other than a small area of woodland and grassland verges that offer suitable foraging and commuting habitat for terrestrial phase GCN. The woodland on site is unlikely to be impacted during the works as the proposals are regarding the river bank. As such, the Zone of Influence for the site is considered to be 250m, and the ponds fall outside of it. There are several ditches within 250m of the site, however these are flowing and are therefore unsuitable for GCN.

Bats

The buildings on site were had limited suitability for roosting bats. Furthermore, the buildings are not to be impacted by the works and as such bat roosts in buildings are removed from further discussion within this report.

Several trees on site, within the woodland and scattered around the building presented potential suitability for roosting bats due to their maturity and the presence of ivy cover and potential roosting features.

The site was assessed as offering negligible suitability for foraging bats due to the limited vegetation cover, with the small area of woodland being particularly noted for its provision of foraging habitat, but not being connected to further areas suitable for foraging. The river adjacent to the site offers a commuting corridor and may be desirable for bats in the local area.

Badger

No evidence of badger was found on site, however the woodland on site offers suitable sett digging opportunities. And the grassland offers suitable commuting and foraging habitat. Transient badgers are considered likely to be utilising the site for foraging and commuting.

Otter, Water Vole and White-clawed Crayfish

The watercourse (River Dee) adjacent to the site was considered suitable for otter, and the closest record for this species was 39m from the site boundary. No evidence of otter was identified during the walkover survey, however the vegetation and structure of the banks offered suitable habitat for foraging and resting sites.

The River Dee had limited suitability for water vole, due to the fast flow. The culverted ditch on site also presents limited suitability for water vole as this is likely dry for a proportion of the year. Furthermore, no records for the species were returned.

The river is not considered suitable to support white-clawed crayfish as there is a known population of signal crayfish with the watercourse, and the water quality is limited. As such, this species is not considered further within this report.

Birds

The site offers suitable habitat for a range of bird species within the broadleaved woodland and scattered trees, including species of conservation concern, as identified within the desk study. The nearest bird record was for woodcock and barn owl, located 380m ESE. The habitat suitable for birds is not considered extensive enough for large numbers of any bird species to be impacted and is not considered likely to support any Schedule 1 bird species.

Reptiles

The woodland and grassland on site were considered suitable to support commuting, foraging and refuge seeking reptiles that may pass through the site. The habitats suitable for reptiles were too limited in extent to support significant populations of reptiles, however transient individuals may traverse the site.

Other Fauna

The woodland habitat on site is suitable for foraging and commuting hedgehogs. There were local records for this species returned within the desk study.

Furthermore, the watercourse being impacted by the works offers suitable habitat for a range of fish, and there are local records for lamprey, Atlantic salmon and European eel. As such, fish species could be impacted directly and indirectly by the works.

Notable and Invasive Non-Native Plants

Himalayan balsam was identified within the ground flora of the woodland on site. This species is included on schedule 9 of the Wildlife and Countryside Act 1981, and as such it is an offence to spread it into the wild.

5. Discussion and Recommendations

Designated Sites

The site is located adjacent to the River Dee, which is designated as a Site of Special Scientific Interest, and a Special Area of Conservation. The site itself is not listed within the Impact Risk Zone categories for the river, as this refers to aviation proposals, air pollution and combustion processes. However, the