

Morgan Sindall

Trebanos WwTW Outfall

Preliminary Ecological Appraisal Report

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COMMERCIAL IN CONFIDENCE



Client: Morgan Sindall

Project reference: P00009789

Date of issue: January 2024

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Report should be cited as:

“APEM (2024). *Trebanos WwTW Outfall – Preliminary Ecological Appraisal Report*. APEM Report P00009789. Morgan Sindall, January 2024, V1.0, Final, 38 pp.”

Revision and Amendment Register

Version	Date	Section(s)	Page(s)	Summary of Changes	Checked by	Approved by
1	30/01/2024	All	All	V1 for issue	Lorna Rowe	Jessica Kent

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Non-Technical Summary		
Site Name	Trebanos Wastewater Treatment Works (WwTW) Outfall	
Proposed Works	Morgan Sindall, on behalf of Dŵr Cymru Welsh Water (DCWW), propose to install a new outfall south-west of the existing Trebanos WwTW, adjacent to the River Tawe / Afon Tawe (Afon Tawe).	
Methods	Extended Phase 1 Habitat Survey and Desk Study.	
Ecological Receptor	RAG Status ¹	Recommendations
Designated sites		Best practice pollution prevention methods (including dust and silt control) should be adhered to at all times during the site clearance and construction phases.
Habitats		Vegetation removal should be minimised as far as possible. All recommendations in the tree survey report should be adhered to (ArbTS, 2024). A flood risk activity permit should be obtained from Natural Resources Wales as the works area is on the banks of the River Tawe / Afon Tawe, which is a main river. Best practice pollution prevention methods (including dust and silt control) should be adhered to at all times during the construction phase.
Amphibians		No further survey recommendations.
Bats		No further survey recommendations. Additional lighting should be avoided. If it is required then the lighting scheme should be reviewed by an ecologist and be designed in accordance with current best practice guidance (ILP & BCT, 2023).
Hazel dormouse		The risk to dormice is considered very low and further surveys are considered disproportionate to the scale of the vegetation removal proposed. As suitable habitat exists in the wider area, there is a small risk that dormice could opportunistically pass through the works area. A Precautionary Ecological Method Statement has been

¹ **Green:** No adverse effects anticipated, and no further survey effort / mitigation required. **Amber:** Adverse effects are possible and further survey effort / mitigation is required. **Red:** Adverse effects will occur in the absence of mitigation and further survey effort / mitigation is required.

		produced for the Site (APEM, 2023) which includes reasonable avoidance measures for dormice. In the unlikely event that dormice (or evidence of) are found during the works, all works will cease and a licence from NRW is likely to be required.
Otter		A pre-works check for otter holts within 250 m up and downstream of the Site should be undertaken 4-6 weeks prior to works commencing. If an otter holt is identified, further survey effort and a licence from NRW may be required.
Fish		Two methods are being considered to install the new outfall. If a cofferdam is being placed into the flow of the River Tawe / Afon Tawe, this will likely result in a small amount of trapped water within the works area and will require a fish rescue. The second method involves the cofferdam being placed flush with the existing structure, which means there is likely to be no water trapped within the work area. A fish rescue will not be required for this method, but it is recommended that an Ecological Clerk of Works is present during cofferdam installation.
Badger		A pre-works check for badger setts within a 30 m buffer of the Site should be carried out 4-6 weeks before the works commence. If a badger sett is identified, further survey effort and a licence from Natural Resources Wales may be required.
Water vole		No further recommendations.
Reptiles		No further recommendations.
Wild birds		Any vegetation removal within the Site should be carried out between September and February inclusive to avoid bird nesting season. If this is not possible, vegetation should be thoroughly checked by a suitably qualified ecologist for the presence of nesting birds, prior to clearance. This check will involve a physical inspection for the presence of nests. The pre-works check should be undertaken as close to and no longer than 48 hours prior to the vegetation

		removal taking place. If nesting birds and active nests are present, works in these areas surrounding the nest will immediately cease and will not re-commence until all chicks have fledged or the nest is deemed inactive by an ecologist. The location of the buffer surrounding the nest will be demarcated with tape to ensure it remains protected until the nest becomes inactive.
Plants and fungi		No further recommendations.
Terrestrial / aquatic Invertebrates		No further recommendations.
Other mammals		Best practice measures such as covering open pipework and excavations at the end of each day or installing mammal ramps should be adhered to, to avoid any mammals (and other wildlife) becoming trapped. If additional lighting is a requirement (permanent or temporary) it should be reviewed by an ecologist prior to installation to assess the effects to nocturnal hedgehogs.
INNS		Japanese knotweed and Himalayan Balsam were recorded on Site. Appropriate biosecurity measures should be set out (e.g., in the contractor RAMs) and adhered to during all phases of the development. If removal of soil at the Site is required, liaison with an invasive non-native species specialist should be undertaken to avoid the spread of these invasive species.

1. Introduction

1.1 Purpose and Brief

As part of a Dŵr Cymru Welsh Water (DCWW) scheme, APEM Ltd (APEM) were commissioned by Morgan Sindall in July 2023 to undertake a Preliminary Ecological Appraisal (PEA), ground level tree assessment and otter survey at an area of land near Trebanos Wastewater Treatment Works (WwTW), hereafter referred to as the 'Site'.

This report provides the survey methodology and results of the PEA carried out at the Site in July 2023. Following interpretation of the results, the report provides an assessment of the potential effects of the proposals on habitats and protected species. It also provides recommendations for further surveys, mitigation or licences that are required in advance of any works being undertaken at the Site.

Due to the small-scale nature of the proposed works, it is understood that the Local Planning Authority have agreed that a PEA report is suitable for submission with the planning application and that demonstration of Net Benefit for Biodiversity is not required.

The key objectives of a PEA, as defined by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017) are to:

- Identify the likely ecological constraints associated with a project;
- Identify any mitigation measures likely to be required following the 'Mitigation Hierarchy'²;
- Identify any additional surveys that may be required to inform an Ecological Impact Assessment (EclA); and,
- Identify the opportunities offered by a project to deliver ecological enhancement.

1.2 Site Description

The Site is located in Trebanos, Neath Port Talbot, Wales (nearest postcode: SA7 9JE; National Grid Reference (NGR): SN 70950 02121).

The Site comprises a small section of footpath and small trees adjacent to the River Tawe / Afon Tawe. The Site is bordered by improved grassland field to the north and the River Tawe

² A sequential process to avoid, mitigate and compensate negative ecological impacts and effects.

/ Afon Tawe to the south, east and west; the Tawe corridor is designated as a Site of Interest for Nature Conservation (SINC).

In the wider area, the Site is surrounded by a mixture of residential development and farmland, including a network of hedgerows and blocks of woodland.

1.3 The Proposed Works

Morgan Sindall (on behalf of DCWW) intend to install an outfall on the banks of the River Tawe / Afon Tawe, south-west of the existing WwTW. The scheme will require the removal of ground level bramble, and several small trees. A cofferdam around the area may also be required. It is understood that the proposed works require planning permission.

This report has been informed by the following documents:

- Site Location Plan – Planning (Drawing Number: B16421-102503-07-ZZ-DR-TA-PN9060), Capital Delivery Alliance Cynghrair Cyflawni Cyfalaf, January 2024.
- Pipe Network Final Effluent to Outfall Plan & Profile (Drawing Number: B16241-103503-01-ZZ-DR-CA-CI5050), Capital Delivery Alliance Cynghrair Cyflawni Cyfalaf, November 2023.
- Pipe Network (Option 1) Final Effluent To Outfall Plan & Profile (Drawing Number: B16241-103503-01-ZZ-DR-CA-CI5050), Capital Delivery Alliance Cynghrair Cyflawni Cyfalaf, January 2023.
- Headwall Outfall Details (Drawing Number: B16241-102503-01-ZZ-DR-CA-CI5051), Capital Delivery Alliance Cynghrair Cyflawni Cyfalaf, January 2023.

1.4 The Survey Area

The survey area for the PEA included the outfall location and a 30 m buffer, where access allowed, as requested by Morgan Sindall.

2. Legislation and Planning Policy

2.1 Legislation

A framework of international, national and local legislation exists to protect and conserve wildlife and habitats. The following core legislation exists to protect habitats and species of nature conservation importance.

- The Conservation of Habitats and Species 2017 (as amended);
- The Wildlife and Countryside Act 1981 (as amended);
- Environment Act 2021;
- Environment (Wales) Act 2016;
- The Hedgerow Regulations 2017;
- The Invasive Alien Species (Enforcement and Permitting) Order 2019;
- The Protection of Badgers Act 1992; and,
- Wild Mammals (Protection) Act 1996.

The Environment (Wales) Act 2016 placed a strengthened biodiversity duty on public authorities. Section 6 requires public bodies to “maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions”. Section 7 of the Act outlines the steps to maintain and enhance biodiversity.

2.2 National Planning Policy

The Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Assembly Government and is supplemented by a series of Technical Advice Notes (TANs) (Welsh Government, 2021) with the most relevant for ecology being TAN 5: Nature Conservation and Planning (Welsh Government, 2009). TAN 5 provides advice on how the land use planning system should contribute to protecting and enhancing biodiversity. A summary of the main points in TAN 5 relevant to the ecological assessment of the development is provided below.

- Local planning authorities have a duty to take reasonable steps to further the conservation and enhancement of biodiversity.
- The planning system has a key role to play in helping to reverse the decline in biodiversity.
- Addressing the consequences of climate change should be a central part of any measures to conserve biodiversity. Development plan strategies, policies and development proposals must consider the need to:
 - Support the conservation of biodiversity (wildlife and habitats);
 - Ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity;

- Ensure statutorily and non-statutorily designated sites are properly protected;
- Safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests.
- Biodiversity and resilience should be considered at an early stage in development planning.
- All reasonable steps must be taken to maintain and enhance biodiversity.
- Development should not cause any significant loss of habitats or populations of species and must provide a net benefit for biodiversity.
- Planning authorities must have regard to the relative significance of international, national and local designations. Statutorily designated sites must be protected from damage and deterioration.
- Statutorily protected species protected under European or UK legislation are material considerations if a development would result in disturbance or harm, and the range and population of the species should be sustained.
- 'Planning authorities must follow a step-wise approach to maintain and enhance biodiversity and build resilient ecological networks by ensuring that any adverse environmental effects are firstly avoided, then minimized, mitigated, and as a last resort compensated for; enhancement must be secured wherever possible'.
- Emphasis to the importance of trees, hedgerows and woodlands (especially ancient woodland) is also given, and states 'ancient woodland and semi-natural woodlands and individual ancient, veteran and heritage trees are irreplaceable natural resources.'
- Green infrastructure should be incorporated into development through appropriate site selection and use of creative design.

A recent letter from the Welsh Government's Chief Planner to the Heads of Planning (Welsh Government, 2019) has strengthened the requirement for LPAs to ensure NBB in all planning applications. The letter states that development applications which do not propose biodiversity enhancements will be refused unless they include other significant material considerations.

Since publication of the latest edition of the PPW, updates have also been made to Chapter 6 (which relates to conserving and enhancing the natural environment). These were published in a Heads of Planning Letter (Welsh Government, 2023), summarising the main changes to policy as follows:

- Green Infrastructure: a stronger emphasis has been placed on taking a proactive approach to green infrastructure covering cross boundary considerations, identifying key outputs of green infrastructure assessments, the submission of proportionate green infrastructure statements with planning applications and signposting Building with Nature standards.
- Net Benefit for Biodiversity and the Step-wise Approach: further clarity is provided on securing NBB through the application of the step-wise approach, including the acknowledgement of off-site compensation measures as a last resort, and the green infrastructure statement as a means of demonstrating the step-wise approach is made

explicit. The importance of strategic collaboration to identify and capture larger scale opportunities for securing NBB is recognised.

- Protection for Sites of Special Scientific Interest: strengthened approach to the protection of SSSIs, with increased clarity on the position for site management and exemptions for minor development necessary to maintain a 'living landscape'. Other development is considered unacceptable as a matter of principle.
- Trees and Woodlands: closer alignment with the step-wise approach, along with promoting new planting as part of development based on securing the right tree in the right place.

2.3 Local Planning Policy

The Site lies within the jurisdiction of Neath Port Talbot County Borough Council. The Adopted Local Development Plan (LDP) (Neath Port Talbot, 2016) includes specific environmental policies that are of relevance to the ecology of the Site, as detailed below:

Important Biodiversity and Geodiversity Sites - proposals that would affect Local Nature Reserves (LNRs), Sites of Interest for Nature Conservation (SINCs), sites meeting SINC criteria will only be permitted where they conserve and where possible enhance the natural heritage importance of the site; or the development could not reasonably be located elsewhere, and the benefits of the development outweigh the natural heritage importance of the site.

Important Natural Features - proposals that would adversely affect ecologically or visually important natural features such as trees, woodlands, hedgerows / field boundaries, watercourses or ponds will only be permitted where measures put in place to ensure that they are retained and protected wherever possible; or the biodiversity value and role of the relevant feature has been taken into account and where removal is unavoidable, mitigation measures are agreed.

Environmental Protection – air water and ground quality and the environment generally will be protected and where feasible improved.

Pollution and Land Stability - proposals which would be likely to have an unacceptable adverse effect on health, biodiversity and/or local amenity or would expose people to unacceptable risk will not be permitted including air pollution, noise pollution, light pollution, contamination, land instability, water (including groundwater) pollution.

3. Methodology

3.1 Desk Study

A desk study was undertaken to identify the existing ecological information for the Site and surrounding area.

Records of European and nationally designated sites were obtained from the Multi Agency Geographic Information for the Countryside (MAGIC) Interactive (DEFRA, 2024). Records of non-statutory sites, as well as protected and notable species were obtained from Aderyn (the local environmental records centre for Wales) on 18th January 2024 (Aderyn, 2024).

All species records in the data search have been reviewed and considered as part of the desk study. Historic records (i.e., those older than 10 years³) have not been included in the results section as standard, except where they are of particular relevance to the Site or proposed works.

3.2 Field Surveys

3.2.1 Extended Phase 1 Habitat Survey

The Phase 1 habitat survey was undertaken by Senior Ecologist, Charlotte Alsop BSc MRes (Qualifying CIEEM membership) and Jack Blackburn, Consultant Ecologist BSc (Hons) on 4th July 2023. The weather conditions at the time of the survey were 15°C, no precipitation and 9 mph wind.

The Phase 1 habitat survey involved undertaking a detailed walkover of the Site marked out by the survey boundary detailed in Section 1.4 and shown in Figures 1 and 2, Appendix A. Observations of flora and fauna along with the location and extent of habitats were noted. The presence of any invasive non-native species (INNS) was also recorded.

During the survey habitats within the Site were mapped according to Phase 1 Habitat survey methodology (JNCC, 2016). The survey area was inspected for field evidence and suitability to support the following protected species:

- Bats (*Chiroptera* spp.);
-

³ Whilst records older than 10 years are unlikely to be representative of current local species populations, they can provide valuable data regarding historic populations and changes in species distributions.

- Hazel dormouse (*Muscardinus avellanarius*);
- Great crested newt (*Triturus cristatus*) and other amphibians;
- Otter (*Lutra lutra*);
- Fish;
- Badger (*Meles meles*);
- Water vole (*Arvicola amphibius*);
- Reptiles;
- Wild birds;
- Plants and fungi;
- Terrestrial and aquatic invertebrates; and,
- Other protected or notable mammal species (such as hedgehog (*Erinaceus europaeus*) and white-clawed crayfish (*Austropotamobius pallipes*)).

In the context of this report, rare, protected, or otherwise notable species of flora or fauna were those considered to meet any of the following criteria:

- Species protected by legislation;
- Priority species (Environment Wales Act, 2016);
- Nationally or locally rare or scarce species; and,
- Species of conservation concern (e.g., JNCC Red List, RSPB / BTO Red or Amber Lists).

3.2.2 Otter Survey

An otter survey was carried out alongside the Phase 1 habitat survey.

During the otter survey, the suitability of the River Tawe / Afon Tawe to support otters was assessed by boat and surveyors recorded any evidence of holts, feeding remains, slides, latrines, spraints, and footprints. The survey followed standard industry guidance (Chanin, 2003) extending 250 m upstream and downstream of the Site (where access by boat allowed).

All field signs were noted during the survey, as well as logging type, location, condition, and age for later interpretation to distinguish any differences in habitat use and activity. Binoculars were used to assist in the clear identification of field signs if necessary.

3.2.3 Ground Level Tree Assessment

The ground level tree assessment (GLTA) was carried out alongside the Phase 1 habitat survey.

All trees within the survey area were assessed for their potential to support roosting bats. All inspections were carried out from ground level, using a high-powered torch and close-focusing binoculars. Details of potential roost features (PRFs) were noted, and any evidence of the presence of bats were searched for.

The suitability of each tree was assessed using professional judgement and categorised according to the best practice guidance that was available at the time of the survey (Collins, 2016). Each tree was categorised as either 'negligible', 'low', 'moderate', or 'high' potential to support roosting bats. The aim of the survey is to determine the available roosting resources present and the need for further survey and / or mitigation.

3.3 Assessment of Ecological Features

The assessment of impacts from construction and operation has followed the methodology set out by CIEEM (2017). In line with this guidance, the following definitions are used for impacts and effects:

- Impact – Actions resulting in changes to an ecological feature. For example, the construction activities of a development removing a hedgerow.
- Effect – Outcome to an ecological feature from an impact. For example, the effects on a dormouse population from loss of a hedgerow.

CIEEM guidelines (CIEEM, 2018) state that the importance of an ecological feature⁴ should be considered within a defined geographical context. It is recommended that the following frame of reference be used, or adapted to suit local circumstances:

- International;
- National (UK);
- Country (Wales);
- Regional (South Wales);
- County (Neath Port Talbot);
- Local (Trebanos); and,
- Site.

3.3.1 Zone of Influence

All species, habitats and integrated plant and animal communities that occur within the 'zone of influence' (Zoi) of the proposed development are defined as potential 'ecological receptors'. The Zoi for ecological receptors varies, depending on the nature and behaviour of the receptors, and the type of impact that may affect them.

The Zoi of the proposed works on ecological receptors is considered to be the Site plus the distances listed in Table 1 below.

⁴ An ecological feature is defined as a habitat, species or ecosystem.

Table 1 Zol for the proposed works

Ecological Receptor	Maximum Zol
Statutory designated European sites	Up to 5 km
Statutory designated European sites for which bats are a qualifying feature.	Up to 10 km
Statutory designated national sites	Up to 2 km
Non-statutory sites	Up to 1 km
Protected or notable habitats	On and adjacent to the Site
Protected or notable species	On and adjacent to the Site
Invasive non-native plant species	On the Site

3.4 Personnel

The survey work was undertaken by Charlotte Alsop and Jack Blackburn. The reporting was completed by Millie Coe, Consultant BSc MSc (Qualifying CIEEM membership), reviewed by Lorna Rowe BSc (Hons) ACIEEM, Principal Ecologist and approved by Dr Jessica Kent MCIEEM, Associate Director.

3.5 Limitations

The field to the north of the Site was surveyed from the field boundary as access had not been granted at the time of survey and livestock (horses) were present in the field. Although a detailed species list was not produced for this field, the habitat type present was easily identifiable due to its managed condition, and this is not considered to be a significant limitation.

The results presented in this report represent those at the time of survey and reporting, and data collected from available sources.

4. Results and Discussion

4.1 Statutory and Non-statutory Sites

Table 2 details the statutory and non-statutory sites located within the ZoI of the Site.

Table 2 Designated Sites

Site Name	Designation Type	Distance and Direction from Site (km)
Statutory		
Glais Moraine	Site of Special Scientific Interest (SSSI)	1.6 km south-west
Non-statutory		
Neath Port Talbot (NPT) Watercourses	Site of Importance for Nature Conservation (SINC)	0 km – blanket designation for Neath Port Talbot
NPT Ancient Semi-Natural Woodland	SINC	0 km – immediately adjacent west of the Site
Tawe Corridor	SINC	0 km – immediately adjacent south, east and west of the Site
Swansea Canal	SINC	0.1 km west
Gelli-Onnen	SINC	0.4 km west
Graig Ola - Cwm-cymach, Glais	SINC	0.4 km south
Craig Cilhendre Woods	Wildlife Trust Reserve	0.5 km east

4.1.1 Potential for Adverse Effects

The proposed installation of the outfall is confined to a small section of footpath and line of trees adjacent to the River Tawe / Afon Tawe. The Glais Moraine SSSI is designated for its geomorphological features such as composition of till, sand and gravel. Due to the small scale of the proposed works and large intervening distance between the Site and this SSSI, no direct or indirect adverse effects are anticipated.

Non-statutory sites located adjacent to or within 200 m of the Site include the blanket SINC designation to all watercourses in NPT, the NPT Ancient Semi-Natural Woodland, the Tawe Corridor and Swansea Canal SINC. The proposed works, despite small scale, have the potential to indirectly affect the Tawe Corridor, Swansea Canal, NPT watercourses and NPT Woodland SINC through pollution and surface run-off during the construction phase if no mitigation is put in place.

Due to the intervening distances between the remaining designated sites and the proposed works area, and lack of impact pathways (hydrological or terrestrial), adverse effects to the remaining designated sites (non-statutory) are not anticipated.

4.2 Habitats

4.2.1 Habitat Descriptions

The habitats identified within the survey area during the Phase 1 Habitat survey are described in Table 3. A Phase 1 Habitat map of the Site is provided at the end of the report in Figure 2, Appendix A and photographs are presented in Appendix B.

Table 3 Habitat Descriptions

Phase 1 Habitat Name and Code	Description and Species Present
A2.2 Scattered scrub	The primary habitat along the River Tawe / Afon Tawe (Photographs 1, 3 and 4). Bramble (<i>Rubus fruticosus</i>).
A3.1 Scattered trees	Small sapling and semi-mature trees present along the footpath (Photographs 1, 3 and 4). Ash (<i>Fraxinus excelsior</i>), willow (<i>Salix</i> sp.), sycamore (<i>Acer pseudoplatanus</i>).
B4 Improved grassland	The field to the north of the Site comprises improved grassland which was grazed by horses at the time of the survey (Photograph 2). No species list was taken for this habitat due to access constraints. Please refer to Section 3.5 for more information.
G2 Running water	The River Tawe / Afon Tawe runs immediately south of the proposed outfall location (Photograph 4).
J4 Bare ground	Footpath with grass verge (Photographs 1, 3 and 4). Bird's-foot trefoil (<i>Lotus corniculatus</i>), perennial rye-grass (<i>Lolium perenne</i>), ribwort plantain (<i>Plantago lanceolata</i>), ivy (<i>Helix helix</i>), Japanese knotweed (<i>Fallopia japonica</i>), Himalayan balsam (<i>Impatiens glandulifera</i>), thistle (<i>Cirsium</i> sp.), yarrow (<i>Achillea millefolium</i>), Yorkshire fog (<i>Holcus lanatus</i>), knapweed (<i>Centaurea</i> sp.), field buttercup (<i>Ranunculus arvensis</i>), gorse (<i>Ulex</i> sp.), bedstraw (<i>Galium</i> sp.).

4.2.2 Ecological Importance and Potential for Adverse Effects

The scattered scrub and scattered trees on Site are of some ecological value due to their potential to support protected species (such as birds), however the scattered trees were mostly young and are likely to be important at the Site level. A small number of trees will be removed to facilitate the proposed works, however due to the low ecological value of this habitat, their removal is unlikely to significantly affect the overall value of the river corridor.

The proposed works could indirectly affect retained trees through pollution and root compaction.

The River Tawe / Afon Tawe is of moderate ecological value due to its potential to support protected species (such as otters) and is likely to be of local importance. The proposed works could affect the watercourse through pollution during the installation of the outfall.

The grassland and bare ground habitats are of very low ecological importance due to the lack of species diversity.

4.3 Species

4.3.1 Bats

Aderyn returned 33 records of bats in the data search (Aderyn, 2024), including for the following species: brown long-eared bat (*Plecotus auratus*), common pipistrelle (*Pipistrellus pipistrellus*), Daubenton's bat (*Myotis daubentonii*), Natterer's bat (*Myotis nattereri*), and noctule (*Nyctalus noctula*). The closest record is located approximately 0.2 km north-west of the Site and is for a Daubenton's bat, natterer's bat and noctule bat commuting along the Swansea Canal in 2015. Of the 33 records returned, 11 were for bat roosts (or possible roosts); all other records are for foraging / commuting bats, or injured animals. The nearest bat roost record is located within a residential area approximately 0.6 km north of the Site and was for several bats including pups (species unconfirmed) recorded in 2014.

No field evidence was recorded on Site during the survey and the scattered trees due to be removed for the proposed works were assessed as having negligible potential for roosting bats. No adverse effects to roosting bats are anticipated as result of the proposed works.

The scattered trees and the watercourse offer suitable foraging and commuting habitat for bats. The other habitats (improved grassland) are likely to be of very low importance to foraging bats, as they are unlikely to support an abundance of invertebrate prey on which bats may feed. The woodland habitats to the south and east of the Site offer suitable foraging, commuting and roosting habitat for bats.

Due to the small-scale nature of the vegetation removal required, foraging and commuting bats are unlikely to be affected by habitat fragmentation. If additional lighting is required (either temporary or permanent), this could indirectly impact foraging and commuting bats through disturbance.

4.3.2 Hazel Dormouse

No records for hazel dormouse were returned by the local records centre (Aderyn, 2024). However, there are records for dormouse within 5 km of the Site, held by NBN Atlas (National Biodiversity Network, 2024).

No field evidence was recorded on Site during the survey.

The scrub and trees at the Site are unlikely to support dormice due to the lack of structure for nesting and poor species assemblage for foraging. Additionally, the River Tawe / Afon Tawe floods regularly into the adjacent habitats which further reduces its suitability for dormice.

The woodland habitats to the south and east of the Site are more suitable for use by dormice, however these areas will not be affected by the proposed works. The risk to dormice is considered very low and further surveys are considered disproportionate to the scale of the vegetation removal proposed. As suitable habitat exists in the wider area, there is a small risk that dormice could opportunistically pass through the works area.

4.3.3 Great Crested Newt and Other Amphibians

No records for great crested newt (GCN) were returned by the local records centre (Aderyn, 2024). There is no suitable aquatic habitat for great crested newts within 500 m of the Site. The nearest waterbody which may be suitable for breeding is located approximately 1.5 km from the Site. However, it is physically separated from the Site by the River Tawe and a main road (A4067) which are likely to limit the movement of GCN into the Site. Furthermore, the Site is located at the very edge of the known range of GCN in Wales (Haysom, *et al.*, 2018). Therefore, it is considered unlikely that GCN are present at the Site, and the risk of adverse effects (direct or indirect) to GCN is very low, as a result of the proposed scheme. This species has been scoped out of further assessment in this report.

Twenty five records for amphibians were returned by the local records centre (Aderyn, 2024), including for common frog (*Rana temporaria*), common toad (*Bufo bufo*), smooth newt (*Lissotriton vulgaris*), and palmate newt (*Lissotriton helveticus*). The nearest amphibian record is for a common frog, approximately 0.5 km south of the Site, at the edge of farmland.

Due to a lack of suitable aquatic habitat within 500 m, it is considered unlikely that the proposed works will affect GCN and other amphibians.

4.3.4 Otter

Aderyn returned five records for otter within the search area (Aderyn, 2024), the nearest of which was recorded 0.3 km northeast of the Site in the River Tawe, immediately adjacent to the Trebanos WWTW, in 2011. Most records returned for otter are from along the River Tawe / Afon Tawe.

The River Tawe / Afon Tawe, immediately south of the Site, is likely to support an abundance of prey for otter, and likely provides suitable habitat for holts and other resting places along its banks.

During the otter survey, two spraints were identified within 250 m upstream and downstream of the Site. One spraint approximately 180 m downstream of the Site (NGR: SN 70771 02109) and one spraint approximately 85 m upstream of the Site (NGR: SN 71035 02096).

No holts were identified within 250 m upstream and downstream of the Site and therefore the proposed works are unlikely to cause disturbance to otters. However, if otters move into the Site in the period between the survey and works commencing, the proposed scheme has the potential to adversely affect otters through disturbance during the construction phase.

If additional lighting is required (temporary or permanent), this could also cause indirect effects through light pollution and disturbance.

4.3.5 Fish

Aderyn returned seven records of fish in the data search (Aderyn, 2024), including following species: brown trout (*Salmo trutta*) and European eel (*Anguilla anguilla*). The nearest record was of a brown trout 0.6 km north of the Site in the River Tawe / Afon Tawe in 2015.

The River Tawe / Afon Tawe, immediately south of the Site, provides suitable habitat for fish.

To install the required outfall, there is potential to directly affect fish through pollution and surface run-off during the construction phase. The effects are likely to be restricted to the construction phase through temporary disturbance. A cofferdam around the area will be erected, which could result in fish strandings, if left unmitigated.

4.3.6 Badger

Aderyn returned three records for badger within the search area (Aderyn, 2024), the nearest of which was recorded 0.8 km north-east of the Site along a main road (A4067).

No evidence of badger was recorded on Site during the survey.

The grassland and trees at the Site provide suitable foraging habitat for badgers. The woodland to the south and east of the Site provide suitable sett building habitat. Badgers are a mobile species, and it is possible that badgers may use the Site for foraging or sett building, prior to the commencement of the scheme.

Should badger be present on Site, the proposed scheme has the potential to directly affect the species through damage to setts, injury or entrapment of animals (and other mammals) during construction, and loss of habitat.

If additional lighting is required (temporary or permanent), this could also indirectly affect badgers through disturbance.

4.3.7 Water Vole

No records of water vole were returned in the data search (Aderyn, 2024) and no evidence of water vole was recorded on Site during the survey.

The River Tawe / Afon Tawe is not considered suitable for water vole due to the fast-flowing water, and there are no other suitable habitats for water vole on Site.

Due to a lack of records and suitable habitat, no adverse effects to water vole are anticipated from the proposed works, and this species is scoped out of further assessment in this report.

4.3.8 Reptiles

Aderyn returned 21 records for reptiles within the search area (Aderyn, 2024), including for common lizard (*Zootica vivipara*), grass snake (*Natrix helvetica*) and slow worm (*Anguis fragilis*). The nearest record is for a grass snake, located approximately 0.4 km south-west of the Site in 2019.

The river corridor provides some suitability for reptiles; however, this is limited due to its disturbed nature (for example, from public access and flooding). The grassland habitats immediately adjacent to the Site may provide some foraging opportunities for reptiles, but these habitats are intensively mown or grazed, and offer little shelter for reptiles.

Given the small scale of vegetation removal required, and the sub-optimal nature of the habitats on Site, it is considered unlikely that reptiles will be adversely affected by the proposed works.

4.3.9 Wild Birds

Aderyn returned 1,226 records for birds as part of the data search (Aderyn, 2024), including Schedule 1 species such as hobby (*Falco subbuteo*), kingfisher (*Alcedo atthis*), osprey (*Pandion haliaetus*), peregrine (*Falco peregrinus*). The closest record was of kingfisher located approximately 0.6 km north of the Site⁵, along the River Tawe / Afon Tawe, in 2010.

The trees and scattered scrub on Site provide suitable nesting habitat for common nesting birds. The River Tawe / Afon Tawe is fast flowing and floods regularly into the adjacent habitats, the banks are also overgrown with vegetation and so it is considered unlikely to provide suitable nesting sites for kingfishers, which prefer slow moving waterbodies with exposed sandy banks (Habibon, *et al.*, 2021).

Due to the specific breeding requirements of the remaining Schedule 1 birds, and the lack of these habitats on Site, no adverse effects are considered likely.

If any vegetation clearance is undertaken during the breeding season (March – August inclusive), the proposed scheme has the potential to directly affect nesting birds through killing or injuring animals, or the destruction of nests, during the construction phase if tree

⁵ Not recorded as a nesting site.

felling is required. The scheme also has the potential to indirectly affect breeding birds through habitat loss.

4.3.10 *Plants and Fungi*

Aderyn returned 48 records for plants / fungi as part of the data search (Aderyn, 2024), including bluebell (*Hyacinthoides non-scripta*), maidenhair fern (*Adiantum capillus-veneris*), and norther yellow-cress (*Rorippa islandica*) and date waxcap (*Hygrocybe spadicea*). The nearest plant record is for a northern yellow-cress, located approximately 0.6 km northeast of the Site, along the River Tawe / Afon Tawe, in 2019. The nearest fungi record is for a date waxcap, located approximately 1 km southeast of the Site.

The habitats at the Site were common and are unlikely to support protected or notable plants. Any adverse effects to vegetation are likely to be restricted to the construction phase and will recover in the medium term.

4.3.11 *Terrestrial and Aquatic Invertebrates*

The Site is dominated by low quality scrub, bare ground and improved grassland. These habitats are unlikely to support a diverse assemblage of invertebrates. The River Tawe / Afon Tawe is likely to support a range of aquatic invertebrates.

Adverse effects on invertebrates are likely to be restricted to temporary displacement during the proposed works and vegetation clearance. No long-term adverse effects are anticipated, and invertebrates are scoped out of further assessment in this report.

No records for white-clawed crayfish were returned by Aderyn (Aderyn, 2024). The Site is well outside of the known range for white-clawed crayfish (Buglife, 2013). The River Tawe / Afon Tawe is sub-optimal for crayfish as freshwater streams, less than 1 m deep, are preferred habitat for this species.

Due to a lack of records and sub-optimal habitat, no adverse effects to white-clawed crayfish are anticipated as a result of the proposed scheme and this species has been scoped out of further assessment in this report.

4.3.12 *Other Protected or Notable Mammals*

53 records for hedgehog were returned as part of the data search (Aderyn, 2024). The nearest record for hedgehog is located 0.5 km to the north of the Site, at the edge of a residential area, in 2010.

The scrub offers suitable foraging habitat for the hedgehog, and the grassland habitats may also be used for foraging.

The proposed scheme has the potential to directly affect hedgehogs through killing or injury during the construction phase. The proposed scheme may also indirectly affect hedgehogs through increased lighting, if required.

4.3.13 Invasive Non-Native Species

No records of INNS were returned by Aderyn in the data search (Aderyn, 2024).

The footpath grass verge provides a suitable habitat for invasive plant species to grow and spread, due to its close proximity to the River Tawe / Afon Tawe.

Japanese knotweed and Himalayan balsam were recorded amongst the scrub along the River Tawe / Afon Tawe (see TN1 on Figure 2). Both of these species are listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (The Wildlife and Countryside Act (as amended), 1981).

The proposed scheme has the potential to result in the spread of these species within and outside of the Site.

5. Conclusions

In the absence of mitigation proposed works have the potential to adversely affect the following ecological receptors:

- **Designated sites:** The proposed works have the potential to affect the non-statutory sites located adjacent to or within 200 m of the Site, including the blanket SINC designation to all watercourses in Neath Port Talbot (NPT), the NPT Ancient Semi-Natural Woodland, the Tawe Corridor and Swansea Canal SINCs, through pollution and surface run-off during the construction phase if no mitigation is put in place.
- **Habitats:** The proposed works have the potential to impact the retained scattered trees and the watercourse through pollution and root compaction.
- **Bats:** If additional lighting is required (either temporary or permanent), this could indirectly impact foraging and commuting bats through disturbance.
- **Dormouse:** The risk to dormice is considered very low and further surveys are considered disproportionate to the scale of the vegetation removal proposed. As suitable habitat exists in the wider area, there is a small risk that dormice could opportunistically pass through the works area.
- **Otter:** If otters build holts near the works area in the period between the surveys and works commencing, there is the potential to adversely affect otters through disturbance. There is also the potential for entrapment of animals (and other mammals) during construction. If additional lighting is required (temporary or permanent), this could also indirectly affect otter through disturbance.
- **Fish:** The proposed scheme has the potential to effect fish via disturbance through pollution and surface run-off during the construction phase. Additionally, creation of a dry works area is required around the outfall section of the river, which could result in fish strandings.
- **Badger:** If badgers build setts near the works in the period between the surveys and works commencing there is the potential for disturbance to setts. There is also the potential for entrapment of animals (and other mammals) during construction. If additional lighting is required (temporary or permanent), this could also indirectly affect badgers through disturbance.
- **Wild Birds:** The proposed scheme has the potential to directly affect common nesting birds through killing or injuring animals and destruction of nests.
- **Other Protected or Notable Mammals:** The proposed scheme has the potential to directly affect mammals such as hedgehogs through killing or injury and habitat loss. The proposed scheme may also indirectly affect hedgehogs through increased lighting, if required.
- **Invasive Non-Native Species:** Japanese knotweed and Himalayan balsam are present on Site and the proposed scheme has the potential to spread these species within and outside of the Site if vegetation clearance is required.

6. Recommendations

Following the initial surveys at the Site, the following recommendations for further survey effort and or mitigation measures have been made.

Table 4 Ecological Recommendations

Ecological Receptor	Recommendation
Designated sites	Best practice pollution prevention methods (including dust and silt control) should be adhered to at all times during the construction phase.
Habitats	Vegetation removal should be minimised as far as possible. All recommendations in the tree survey report should be adhered to (ArbTS, 2024). A flood risk activity permit should be obtained from Natural Resources Wales as the works area is on the banks of the River Tawe / Afon Tawe, which is a main river. Best practice pollution prevention methods (including dust and silt control) should be adhered to at all times during the construction phase.
Hazel Dormouse	A Precautionary Ecological Method Statement has been produced for the Site (APEM, 2023) which includes reasonable avoidance measures for dormice. In the unlikely event that dormice (or evidence of) are found during the works, all works will cease and a licence from NRW is likely to be required.
Otter	A pre-works check for otter holts within 250 m up and downstream of the Site should be undertaken 4-6 weeks prior to works commencing. If an otter holt is identified, further survey effort and a licence from NRW may be required.
Fish	Two methods are being considered to install the new outfall. If a cofferdam is being placed into the flow of the River Tawe / Afon Tawe, this will likely result in a small amount of trapped water within the works area and will require a fish rescue. The second method involves the cofferdam being placed flush with the existing structure, which means there is likely to be no water trapped within the work area. A fish rescue will not be required for this method, but it is recommended that an Ecological Clerks of Works is present during cofferdam installation.

Ecological Receptor	Recommendation
Badger	A pre-works check for badger setts within a 30 m buffer of the Site should be carried out 4-6 weeks before the works commence. If a badger sett is identified, further survey effort and a licence from NRW may be required.
Wild Birds	Any vegetation removal within the Site should be done between September and February inclusive to avoid the bird nesting season. If this is not possible, vegetation should be thoroughly checked by a suitably qualified ecologist for the presence of nesting birds, prior to clearance. This check will involve a physical inspection for the presence of nests. The pre-works check should be undertaken as close to and no longer than 48 hours prior to the vegetation removal taking place. If nesting birds and active nests are present, works in these areas surrounding the nest will immediately cease and will not re-commence until all chicks have fledged or the nest is deemed inactive by an ecologist. The location of the buffer surrounding the nest will be demarcated with tape to ensure it remains protected until the nest becomes inactive.
Other Protected or Notable Mammals	Best practice measures such as covering open pipework and excavations at the end of each day or installing mammal ramps should be adhered to, to avoid any mammals (and other wildlife) becoming trapped. If additional lighting is a requirement (permanent or temporary) it should be reviewed by an ecologist prior to installation to assess the effects to nocturnal hedgehogs.
Invasive Non-Native Species	Japanese knotweed and Himalayan Balsam were recorded on Site. Appropriate biosecurity measures should be set out (e.g. in the contractor RAMs) and adhered to during all phases of the development. If removal of soil at the Site is required, liaison with an invasive non-native species specialist should be undertaken to avoid the spread of these invasive species.
Nocturnal Wildlife	Additional lighting should be avoided. If it is required then the lighting scheme should be reviewed by an ecologist and be designed in accordance with current best practice guidance (ILP & BCT, 2023)

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Appendices

Appendix A – Figures

Appendix B – Survey Photographs

Appendix C – Relevant Protected Species Legislation

Appendix A – Figures

- Figure 1 – Site Location Map
- Figure 2 – Phase 1 Habitat Map



Figure Reference: Site Location Map

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Trebanos WwTW Outfall PEA
P9789

Site Location Map

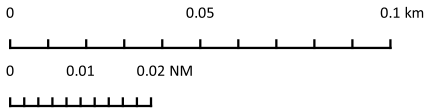
Legend

 Survey area



Notes
Basemap: Contains Ordnance
Survey data © Crown copyright
and database rights (2024). OS
OpenData

Coordinate System:
WGS 84 / Pseudo-Mercator



Scale: 1:3200 @ A4 Date: 30/01/2024 Drawn by: MC Checked by: LR Approved by: JK

Riverview
A17 The Embankment Business Park
Heaton Mersey
Stockport
SK4 3GN
<http://www.apemltd.com>
+44 (0) 161 442 8938



Figure 1.0

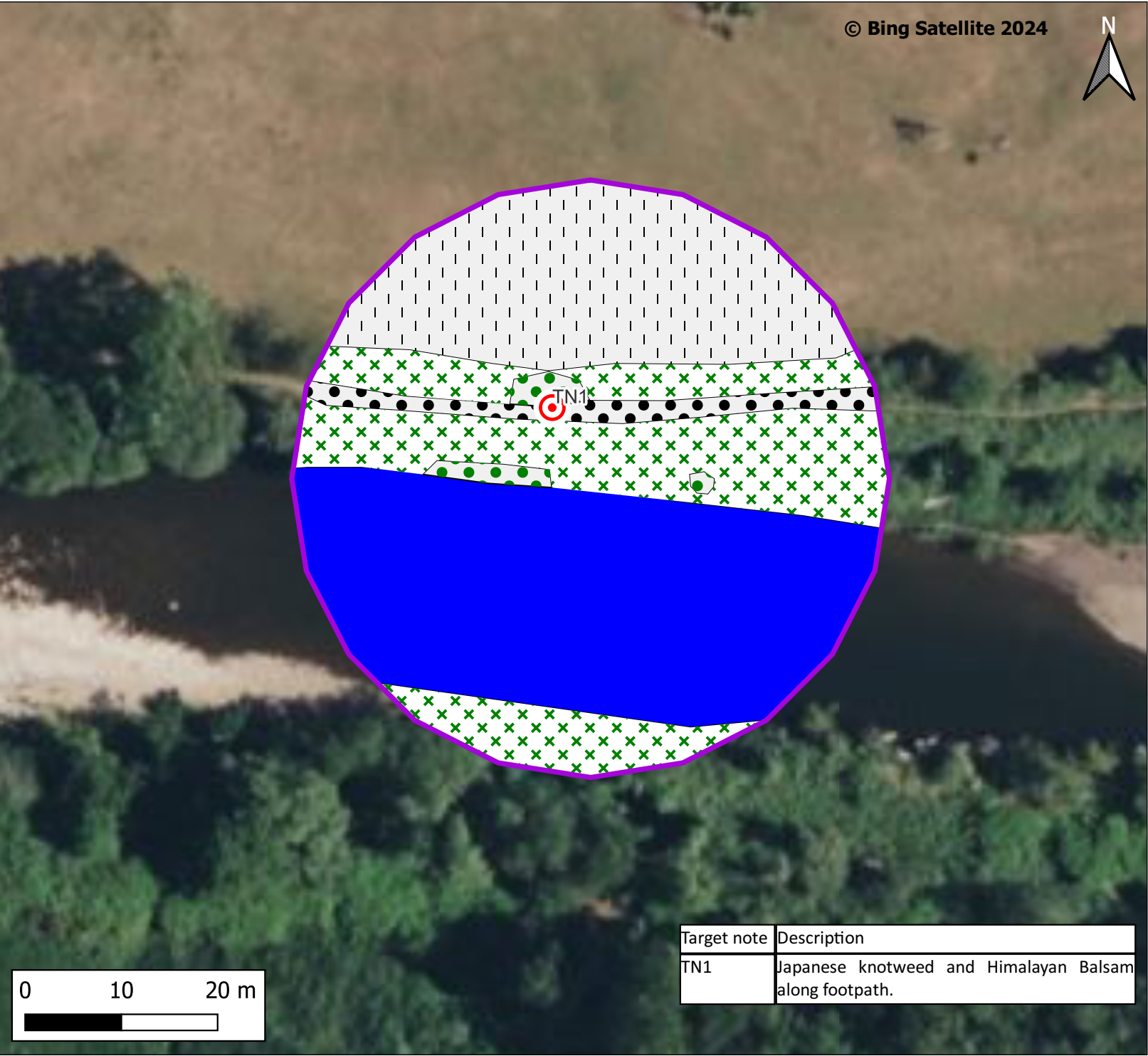


Figure Reference: Trebanos WwTW Outfall PEA Phase 1 Habitat Survey Map

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Trebanos WwTW Outfall PEA

P9789

Phase 1 Habitat Survey Map

Legend

 Survey area

 Target notes

Phase 1 Habitats

 A2.2 - Scrub - scattered

 A3.1 - Broadleaved Parkland/ scattered trees

 B4 - Improved grassland

 G2 - Running water

 J4 - Bare ground



Notes

Basemap: Contains Ordnance Survey data © Crown copyright and database rights (2024). OS OpenData

Coordinate System:
WGS 84 / Pseudo-Mercator

© Bing Satellite 2024

0 0.01 0.02 km

0 0 0.01 NM

Scale: 1:900 @ A4 Date: 30/01/2024 Drawn by: MC Checked by: LR Approved by: JK

Riverview
A17 The Embankment Business Park
Heaton Mersey
Stockport
SK4 3GN
<http://www.apemltd.com>
+44 (0) 161 442 8938



Figure 2.0

Appendix B – Survey Photographs



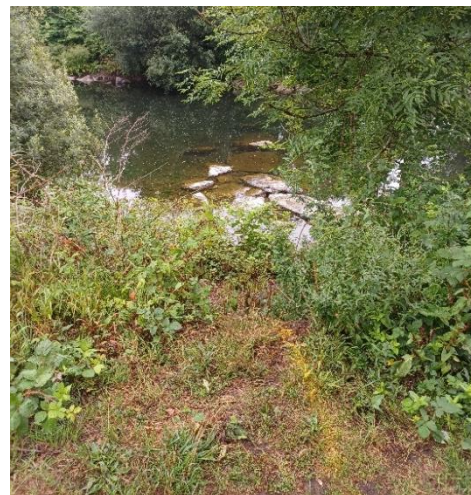
Photograph 1: Scattered trees present along the footpath.



Photograph 2: Improved grassland, grazed by horses.



Photograph 3: Hardstanding footpath with a grass verge.



Photograph 4: Location of outfall.

Appendix C – Relevant Protected Species Legislation

Badgers

Badgers are protected under the Protection of Badgers Act 1992, in England and Wales. It is not permitted to:

- Wilfully kill, injure, take, possess, or cruelly ill-treat a badger (or attempt to do so).
- Intentionally or recklessly damage or destroy a sett or obstruct access to it.
- Cruelly ill-treat a badger.
- Disturb a badger whilst they are occupying a sett.
- Dig for a badger.
- Cause a dog to enter a badger sett.

Bats

In the United Kingdom (UK) all bat (*Chiroptera* spp.) species and their roosts are legally protected. This protection is detailed in the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2019 (amendment (EU Exit)).

Together these pieces of legislation make it a criminal offence to:

- Deliberately take, injure or kill a wild bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
- Damage or destroy a place used by bats for breeding or resting (roosts) (even if bats are not occupying the roost at the time);
- Possess or advertise/ sell/ exchange a bat of a species found in the wild (dead or alive) or any part of a bat; and
- Intentionally or recklessly, obstruct access to a bat roost.

Wild Birds

Nesting and nest building birds are protected under the Wildlife and Countryside Act. It is an offence to:

- Intentionally kill, injure or take any wild bird;
- Take, damage or destroy the nest of any wild bird when it is in use or is being built; and,
- Take or destroy an egg of any wild bird.

Additional protection is given to the rare birds listed in Schedule 1 of the Act where it is an offence intentionally or recklessly to:

- Disturb a Schedule 1 bird while it is building a nest or is in, on or near a nest containing eggs or young; or,
- Disturb dependent young of a Schedule 1 bird

There are several exceptions to the offences created by the Wildlife and Countryside Act, including acting under a licence.

Great Crested Newts

Great crested newts are listed on Appendix II of the Bern Convention and on Annexes II and IV of the EU Natural Habitats Directive. In England and Wales, the great crested newt is protected under Schedule 2 of the Conservation of Habitats and Species Regulations 2010 and under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). In Scotland, great crested newts are protected under Schedule 2 of the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended).

It is an offence to:

- Intentionally or deliberately capture, kill, or injure great crested newt;
- Intentionally or recklessly damage, destroy, and disturb great crested newt in a place used for shelter or protection, or obstruct access to such areas;
- Damage or destroy a great crested newt breeding site or resting place;
- Possess a great crested newt, or any part of it, unless acquired lawfully; and
- Sell, barter, exchange, transport, or offer for sale great crested newt or parts of them.

The legislation covers all newt life stages such that eggs, tadpoles and adult newts are all equally protected.

Hazel Dormice

Hazel dormice, their breeding sites and resting places are protected by Conservation of Habitats and Species Regulations 2010 and under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

The following constitutes an offence under the legislation:

- Deliberately capture, injure or kill hazel dormice;
- Damage or destroy a dormouse resting place or breeding site;
- Deliberately or recklessly disturb a hazel dormouse while it's in a structure or place of shelter or protection;
- Block access to structures or places of shelter or protection; and,
- Possess, sell, control or transport live or dead hazel dormice, or parts of hazel dormice.

Otter

Otters are fully protected as a European protected species under listed under Annex II of the Habitats Directive and under Sections 9 and 11 of the Wildlife and Countryside Act 1981.

It is an offence to:

- Capture, kill, disturb or injure otters (on purpose or by not taking enough care);

- Damage or destroy a breeding or resting place (deliberately or by not taking enough care);
- Obstruct access to their resting or sheltering places (deliberately or by not taking enough care); and,
- Possess, sell, control or transport live or dead otters, or parts of otters.

Badgers

Badgers are protected and so are the setts they live in. Under the Protection of Badgers Act 1992, in England and Wales it is an offence to:

- Wilfully kill, injure or take a badger (or attempt to do so);
- Cruelly ill-treat a badger;
- Dig for a badger;
- Intentionally or recklessly damage or destroy a badger sett or obstruct access to it;
- Cause a dog to enter a badger sett; and,
- Disturb a badger when it is occupying a sett.

Reptiles

Reptiles (adder, grass snake, common lizard and slow worm) are protected through part of Section 9 (1) of the Wildlife & Countryside Act 1981 (as amended) against intentional killing and injuring (note the provision in Section 9 (1) of Wildlife & Countryside Act 1981 prohibiting “taking” does not apply to reptiles).

Butterflies and Moths

Wild butterflies and moths listed in Schedule 5 of the Wildlife and Countryside Act 1981 received full protection against the following offences:

- Intentional killing, injuring, taking;
- Possession or control (live or dead animal, part or derivative);
- Damage to or destruction of any structure or place used by a scheduled animal for shelter or protection;
- Disturbance of any animal occupying such a structure or place;
- Obstructed access to any such structure or place;
- Selling, offering for sale, possessing or transporting for the purpose of sale (live or dead animal, part or derivative); and,
- Advertising for buying or selling live or dead animal, part or derivative.

This applies to the following moth species: barberry carpet (*Pareulype berberata*), black-veined moth (*Siona lineata*), Essex emerald (*Thetidia smaragdaria*), fiery clearwing (*Pyropteron chrysidiformis*), fisher's estuarine moth (*Gortyna borelii lunata*), New Forest burnet (*Zygaena viciae argyllensis*), reddish buff (*Acosmetia caliginosa*), Sussex emerald (*Thalera fimbrialis*)

And the following butterfly species: heath fritillary (*Melitaea athalia*), high brown fritillary (*Fabriciana adippe*), large blue (*Phengaris arion*), large copper (*Lycaena dispar*), marsh fritillary (*Euphydryas aurinia*) and swallowtail (*Papilio machaon*).

Hedgehog

Hedgehogs have some degree of legal protection in the UK:

- They are listed on Schedule 6 of the Wildlife and Countryside Act 1981 which makes it illegal to kill or capture wild hedgehogs, with certain methods listed;
- They are also listed under the Wild Mammals Protection Act 1996, which prohibits cruel treatment of hedgehogs; and,
- They are a Priority Species under the NERC Act 2006 and Environment Wales Act 2016 which confers a 'duty of responsibility' to public bodies.

Invasive Non-Native Species

Schedule 9 of The Wildlife and Countryside Act 1981 (as amended) and The Invasive Alien Species (Enforcement and Permitting) Order (2019) aim to control the spread of invasive non-native species. Under these acts it is illegal to distribute or allow the spread of certain invasive non-native invasive species throughout the environment.