

ELLENDALE
ENVIRONMENTAL

Moncrieffe Causeway, Perth
Preliminary Ecological Assessment (PEA)
For Perth & Kinross Council

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South Office
41 Esmead
Chippenham, Wiltshire
SN15 3PR

North Office
292 Portobello High Street
Edinburgh
EH15 2AS

0131 563 9326
info@ellendale-environmental.co.uk



Version

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CIC v1.0	20/05/24	Stewart Parsons	Emma Parsons	30/05/24

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The report, and the information contained in it, is intended to be valid for a maximum of 12 months from the date of the survey, providing no significant alterations to the site have occurred.



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1. Introduction

1.1 Commission

Ellendale Environmental Limited was commissioned by Perth & Kinross Council to undertake a Preliminary Ecological Assessment (PEA) at Moncrieffe Causeway on the River Tay in Perth ('the site'). It is proposed to undertake works to repair the causeway ('the proposed works').

1.2 Site Details

The site is located to the east of Perth and is a causeway linking Perth to Moncrieffe Island, which at low tide is the only vehicular access to the golf course and allotments on Moncrieffe Island, at OS grid reference NO 12227 23267.

Figure 1: Site location



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1.3 Survey Objectives

On the basis of the brief provided by the client, Ellendale Environmental conducted an ecological survey of the site and a 50m buffer (where accessible and appropriate) to fulfil the following needs:

- Obtain baseline information on the current habitats and ecological features in and around the site;
- Identify any further specialist surveys that may be required;
- Identify the presence (or potential presence) of any protected species whose disturbance may require consent under The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) or the Wildlife and Countryside Act, 1981 (as amended); and
- Identify any species or habitats which may require special mitigation during the works.



2. Methodology

2.1 Data Search

Publicly available databases, including MAGIC, NatureScot SiteLink and the NBN Atlas, were consulted for historical evidence of:

- Statutory land-based designations;
- Non-statutory land-based designations; and
- Protected and notable species.

The data search was conducted within a 2km (5km for bats) radius of the site boundaries.

2.2 Phase 1 Habitat Survey

A Phase 1 Habitat survey of the site area was undertaken, and the habitats present on the site were mapped following the Phase 1 survey methodology (JNCC, 2010), listing the plant species associated with each habitat. This methodology was a Phase 1 habitat survey, whereby all habitats were surveyed and recorded onto a base plan, and any habitats that were considered to be of potential interest to nature conservation were recorded through the use of target notes to annotate a Phase 1 habitat map.

2.3 Invasive Non-Native Species (INNS)

The presence of any invasive weeds, such as Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandulifera* and/or giant hogweed *Heracleum mantegazzianum*, was also recorded through the use of target notes.

2.4 Preliminary Protected Species Walkover

The site and surrounding areas were examined for signs of protected species. The presence/potential presence of protected or notable species of conservation concern was recorded using target notes, following the Chartered Institute of Ecological and Environmental Management guidance (CIEEM, 2012).

2.5 Survey Area

The survey covered the entire site and areas within 50m (where accessible and appropriate).



2.6 Survey Limitations

The aim of this survey was not to record every species present on the site, as one survey acts as a snap-shot, recording only those species which are present at the time or whose presence can be indicated through the occurrence of field signs, such as feeding remains, droppings or places used for shelter or foraging.

Evidence collected has been used to draw conclusions about the flora and fauna within the boundary of the site and to provide an assessment of their ecological and nature conservation value.

Weather was not a limiting factor to the survey. The prevailing conditions at the time of the survey are summarised in Table 1.

Table 1: Survey weather conditions

SURVEY DATE	TEMPERATURE (°C)	WIND SPEED (MPH)	CLOUD COVER / PRECIPITATION
05/05/24	13.2	Ave 0.0 Max 1.5	100% cloud cover, dry and warm with an occasional light breeze.

2.7 Surveyor

The survey was undertaken by Stewart Parsons, Director and Principal Ecologist of Ellendale Environmental, who is a full member of CIEEM and Chartered Environmentalist (CEnv). Stewart has over 20 years' professional experience of ecological surveys across the UK.



3. Results

3.1 Data Search

A 2km data search for existing designated sites and biological records was undertaken from MAGIC¹, NatureScot Sitelink² and the NBN Atlas³.

Statutory designated sites

The following statutory designated sites were identified within 2km of the site:

- Kinnoull Hill Site of Special Scientific Interest (SSSI) is located approximately 0.8km south-east of the site; and
- The site is also located within River Tay Special Area of Conservation (SAC).

These designated sites and their qualifying features are not considered to be at risk from the proposed works.

Non-statutory designated sites

No non-statutory designated sites are located within 2km of the site.

Protected and notable species

The following terrestrial protected and notable species were identified within 2km of the site boundaries by the data search:

- Beaver *Castor fiber*⁴ (243 records, the closest of which is located on the causeway and was recorded in 2017. The most recent record within 2km of the site boundaries was in 2023);

¹ Magic database. <http://www.magic.gov.uk/MagicMap.aspx> Accessed on 14/05/24.

² NatureScot Sitelink database <https://sitelink.nature.scot/map> Accessed on 14/05/24.

³ NBN Atlas database. [NBN Atlas - UK's largest collection of biodiversity information](#) Accessed on 14/05/24.

⁴ NBN Trust (2024). *Castor fiber* on the NBN Atlas: [Castor fiber : Beaver | NBN Atlas](#) The National Biodiversity Network (NBN) Atlas. <https://ror.org/00mcxye41> [Page visited 2024-05-14].



- West European hedgehog *Erinaceus europaeus* (243 records, the closest of which is located 143m south-west and was recorded in 2016. The most recent record within 2km of the site boundaries was in 2023);
- Eurasian badger *Meles meles*⁵ (one record, located 700m north of the site, recorded in 2020); and
- Eurasian red squirrel *Sciurus vulgaris*⁶ (797 records, the closest of which is located immediately east of the site recorded in 2018. The most recent record within 2km of the site boundaries was in 2023).

The following bat species were identified within 5km of the site boundaries by the data search:

- Common pipistrelle *Pipistrellus pipistrellus*⁷ (21 records, the closest of which is located 0.3km south-west of the site, the most recent of which recorded in 2015);
- Daubenton's bat *Myotis daubentonii*⁸ (six records, the closest and most recent of which is located 3.6km south-west of the site, recorded in 1994);
- Soprano pipistrelle *Pipistrellus pygmaeus*⁹ (five records, the closest and most recent of which is located 4.1km south-east of the site, recorded in 2014); and
- Brown long-eared bat *Plecotus auritus*¹⁰ (nine records, the closest and most recent of which is located 0.8km south-east of the site, recorded in 2004).

⁵ NBN Trust (2024). *Meles meles* on the NBN Atlas: [Meles meles : Eurasian Badger | NBN Atlas](https://ror.org/00mcxye41) The National Biodiversity Network (NBN) Atlas. <https://ror.org/00mcxye41> [Page visited 2024-05-14].

⁶ NBN Trust (2024). *Sciurus vulgaris* on the NBN Atlas: [Sciurus vulgaris : Eurasian Red Squirrel | NBN Atlas](https://ror.org/00mcxye41) The National Biodiversity Network (NBN) Atlas. <https://ror.org/00mcxye41> [Page visited 2024-05-14].

⁷ NBN Trust (2024). *Pipistrellus pipistrellus* on the NBN Atlas: [Pipistrellus pipistrellus : Common Pipistrelle | NBN Atlas](https://ror.org/00mcxye41). The National Biodiversity Network (NBN) Atlas. <https://ror.org/00mcxye41> [Page visited 2024-05-14].

⁸ NBN Trust (2024). *Myotis daubentonii* on the NBN Atlas: [Myotis daubentonii : Daubenton's Bat | NBN Atlas](https://ror.org/00mcxye41) The National Biodiversity Network (NBN) Atlas. <https://ror.org/00mcxye41> [Page visited 2024-05-14].

⁹ NBN Trust (2024). *Pipistrellus pygmaeus* on the NBN Atlas: [Pipistrellus pygmaeus : Soprano Pipistrelle | NBN Atlas](https://ror.org/00mcxye41) The National Biodiversity Network (NBN) Atlas. <https://ror.org/00mcxye41> [Page visited 2024-05-14].

¹⁰ NBN Trust (2024). *Plecotus auritus* on the NBN Atlas: [Plecotus auritus : Brown Long-eared Bat | NBN Atlas](https://ror.org/00mcxye41) The National Biodiversity Network (NBN) Atlas. <https://ror.org/00mcxye41> [Page visited 2024-05-14].



Bird species

Approximately 110 bird species have been recorded within 2km of the site and are shown on the NBN Atlas; however, none of these records are within the site boundaries.

3.2 Phase 1 Habitat Survey

The site is located to the east of Perth and is a causeway linking Perth to Moncrieffe Island, which at low tide is the only vehicular access to the golf course and allotments on Moncrieffe Island.

There are three Phase 1 habitat types recorded on the site, namely:

- G.2 Running water;
- A.1.1.1 Broad-leaved woodland (semi-natural); and
- C.3.1 Tall ruderal.

G.2 Running water

The River Tay is approximately 40m wide through the survey area, with Moncrieffe Causeway located to the north of Moncrieffe Island. The left bank borders a public park with some residential properties to the southern end of the survey area. The bank is dominated by a mix of mature broad-leaved woodland.

A railway bridge crosses the river to the south of the survey area where gabion reinforcement is present around bridge footings forming a walkway across the river. Downstream the right bank borders allotments and a golf course and is heavily used for recreational purposes. A significant old rock revetment was noted to be present on the downstream right bank which is breaking down.

The substrate within the river corridor was characterised by silt and fine sand, coarse sand, gravel, pebble, cobbles, boulders and bedrock, with an average water depth of 0.5m; although this was noted to vary between 0.1m and 1.0m across the survey area.



Photograph 1: showing a view of Moncrieffe Causeway



A.1.1.1 Broad-leaved woodland (semi-natural)

Along the bank of the River Tay there are areas of broad-leaved woodland, which is semi-natural. Species present include alder *Alnus glutinosa*, silver birch *Betula pendula*, Scots pine *Pinus sylvestris*, horse chestnut *Aesculus hippocastanum*, European larch *Larix decidua*, sycamore *Acer pseudoplatanus*, dog-rose *Rosa canina* and elder *Sambucus nigra*.

Ground flora included dog's mercury *Mercurialis perennis*, ransoms (wild garlic) *Allium ursinum*, willow herb *Epilobium sp.*, lupins *Lupinus sp.*, ribwort plantain *Plantago lanceolata*, cleavers *Galium aparine*, common nettle *Urtica dioica*, vetchling *Lathyrus sp.*, wood avens *Geum urbanum*, angelica *Angelica sp.* and hairy wood rush *Luzula pilosa*.



Photograph 2: showing a view of the woodland habitat



C.3.1 Tall ruderal

A small area of ruderal vegetation is present along the banks of the river where the habitat has been allowed to grow longer through a lower level of management. Species present included willowherb, common nettle, ribwort plantain, lupins, cleavers, broad-leaved dock *Rumex obtusifolius*, dandelion with saplings of sycamore, silver birch and broom *Cytisus scoparius*.

3.3 Invasive Non-Native Species (INNS)

Giant hogweed was identified during the survey along the banks of the river. This is an invasive non-native species (INNS) to the UK and is a toxic plant that can cause severe skin blisters, burns and even blindness. Japanese knotweed was also identified during the survey along the river banks, particularly to the north of the causeway where it forms a dense stand on the island adjacent to the right bank of the River Tay.



Photograph 3: showing a view of the giant hogweed



Photograph 4: showing a view of the Japanese knotweed





3.4 Preliminary Protected Species Walkover

The site was inspected for signs of protected species during the walkover and the results are outlined below. Overall, the site is assessed as providing low suitability to support protected species and no evidence of protected species were detected during the survey.

3.4.1 Protected Species

Birds

The woodland habitat present along the banks of the River Tay provides suitable habitat for nesting and foraging birds. The survey was conducted within the bird breeding season; however, no active or old nests were noted to be present. Mature trees within the site are also suitable to support larger bird species; however, no nests were found to suggest raptor species are breeding within the woodland.

It was noted during the survey that the banks of the river are heavily impacted by people and dogs, and this may limit the suitability of the habitat to support bird species.

Badger

The habitat is limited in its suitability to support badger due to the regular human and dog activity and no evidence of badger activity such as latrines or setts was noted to be present during the survey. Badger are therefore assessed as being absent from the survey area.

Bats

It was noted that the trees along the riverbank are managed with limbs having been removed. Many of the trees are mature; however, the removed limbs are likely to have had the most suitable roosting features for bats such as dead branches, cracks and hollows. Trees along the banks are therefore limited in their suitability to support roosting bats; however, they do provide foraging habitat for bat species, which will also use the river habitat for foraging.

European beaver

Beaver are known to be present along the River Tay and the woodland habitat along its banks provides suitable foraging habitat for this species. However, regular



disturbance of the habitat by people and dogs will deter beaver from using the area for shelter and no burrows or dens were found.

It was also noted during the survey that most of the banks along the survey area are reinforced and this will further reduce the suitability for this species.

Otter

The river and adjacent woodland habitat along the banks is suitable to support foraging otter *Lutra lutra*. Several potential resting sites were noted where the banks overhang the water edge; however, no evidence of otter using these features was found. Regular disturbance of the habitat by people and dogs will deter otter from using the area for shelter, and no holts or resting sites were found.

An otter spraint was identified on the bank of Moncrieffe Island in an area of exposed substrate where footprints were also found. A cavity was found in the bank near to the spraint; however, no evidence was found to suggest it is being used by otter.

Photograph 5: showing an otter spraint on the bank of Moncrieffe Island





Water vole

The habitat along the river provides suitable habitat to support water vole *Arvicola amphibius*; however, no evidence was found and no historic records of this species were found via the data search. This species is therefore not considered to be present.

Great crested newt

There was no feature on or near the site with the potential to offer breeding opportunities for great crested newts (GCN) *Triturus cristatus*. The River Tay is a substantial feature and is known to support large populations of fish which would predate adult newts, their eggs and larvae.

The banks could offer potentially suitable foraging and commuting opportunities for GCN; however, no evidence was found. In addition, no refugia or hibernacula were found which could support this species.

Red squirrel

Vegetation along the banks of the river provides suitable habitat for red squirrel which have been recorded along the habitat; however, none were observed during the survey.

3.4.2 Notable Species

Brown hare

The site provides limited habitat for this species and no evidence was found during the survey to indicate brown hare *Lepus europaeus* are present.

West European hedgehog

The site provides suitable foraging habitat for hedgehog; however, no evidence was found during the survey.

Common reptiles and amphibians

There was no evidence of these species; however, the terrestrial habitat could potentially provide foraging and commuting opportunities, particularly should the vegetation in the public open space be left uncut.



The most likely species in this damp low-lying riparian site would be slow worm *Anguis fragilis*, but if the vegetation is regularly kept short the site would not offer optimal conditions for this species.

There was no feature on or near the site with the potential to offer breeding opportunities for common amphibian species. The watercourse present within the survey area is a substantial features and is likely to support large populations of fish which would predate adult amphibians, their eggs and larvae.



4. Conclusions

4.1 Conclusion

The site is located to the east of Perth and is a causeway linking Perth to Moncrieffe Island, which at low tide is the only vehicular access to the golf course and allotments on Moncrieffe Island. The left bank of the river borders a public park with a footpath and broad-leaved trees along the riverbank. Downstream the right bank borders allotments and a golf course and is heavily used for recreational purposes. The survey was conducted 250m upstream and downstream of the causeway and three Phase 1 habitat types were recorded on the site.

The river provides suitable habitat for commuting otter and a spraint was identified on an exposed stone on the bank of Moncrieffe Island. A cavity nearby to the spraint was inspected but no evidence of it being used by otter was found. No other evidence of otter was found during the survey and no suitable holts were found to be present within the woodland habitat adjacent to the river.

The woodland habitat and scattered trees adjacent to the river provide the most suitable habitat for protected species, namely nesting birds. The survey was conducted within the breeding bird season; however, no nests were noted to be present. Dipper and mallard were both noted on the river during the survey; however, no nests were found, and no birds were flushed from the habitat.

It was noted that the trees along the riverbank are managed with limbs having been removed. Many of the trees are mature; however, the removed limbs are likely to have had the most suitable roosting features for bats such as dead branches, cracks and hollows. Trees along the banks are therefore limited in their suitability to support roosting bats; however, they do provide foraging habitat for bat species, which will also use the river habitat for foraging.

Beaver are known to be present along the River Tay and the woodland habitat along the banks provides suitable foraging habitat for this species. However, regular disturbance of the habitat by people and dogs will deter beaver from using the area for shelter and no burrows or dens were found.



A separate survey for Fresh Water Pearl Mussel (FWPM) was undertaken and this did not find any evidence of FWPM in the river. During the survey adult brown trout *Salmo trutta* were spotted rising in the pool habitats, some trout parr among the shallows of the left bank and large groups of juvenile and adult European minnows *Phoxinus phoxinus* were also observed. Upstream of the causeway, European flounder *Platichthys flesus* was also sighted.

It was noted that the river habitat is regularly used, and recreational activities will likely disturb the habitat reducing the suitability for protected species to be present. Several people were noted in the river on the edges of the causeway and around Moncrieffe Island during the survey, and dogs were noted on several occasions entering the water close to the survey area.

Japanese knotweed and giant hogweed were found along the riverbanks forming dense stands in places. All care should be taken to ensure these are not spread by the works. In addition, giant hogweed can cause severe skin irritation if touched. All personnel should be briefed to ensure they do not become exposed to it.

Overall, the site is assessed as providing low suitability to support protected species and no evidence of protected species were detected during the survey.

4.2 Mitigation

Site personnel should be made aware of protected species and if any are recorded on site, all works should stop, and a suitably qualified ecologist contacted.

Nesting birds

Should any vegetation of the site require removing, this should be undertaken out with the breeding bird season (March – August, inclusive), as all nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended).

If works are undertaken within this period, a nesting bird survey would be required no more than 24 hours prior to the works. If nesting birds were found, these areas of the site would need to be protected from disturbance until the young have fledged naturally.



General mitigation measures

The following general mitigation measures will be in place for the duration of the works:

- A suitably qualified and experienced ecologist will remain available to the site during the works to ensure no animals are harmed during the works and that best practice is followed;
- All operatives and staff are to remain vigilant for signs of wildlife during the works;
- In the event something of ecological value is discovered and assessed by the retained ecologist as requiring protection, the area will be fenced off;
- No works will be permitted within fenced-off areas without first agreeing the works with the retained ecologist;
- Vegetated areas within the site will be strimmed prior to any ground works being started in these undisturbed areas and kept short during the works;
- Areas of mown vegetation within the site will be continuously kept short throughout the works to ensure the ground does not become favourable for the site fauna;
- Accidental damage to trees and shrubs will be treated immediately with damaged branches cut-back using hand tools to leave a clean cut;
- If any trenches are left open overnight, they will be inspected every morning for trapped animals. Wooden planks will be left in the trenches to allow animals to escape. An ecologist will be available to rescue any animals and release them;
- All excavations will have 'escape route' provision so that should an animal fall in they would be able to escape;
- Where vegetated areas are used for the storage of materials these will be regularly mown to dissuade animals using them during the period of the works and materials will be stored off of the ground to avoid creating refugia for animals;
- Containers or storage sheds will be closed when not used to prevent entry by wildlife;
- Ground levelling will not create any areas of refugia that could be used by animals; and
- Vehicle movements will be restricted to the site ensuring that other areas are not affected.



4.3 Working Near Water

Works in or near water have the potential to cause serious pollution or impact on the bed and banks of a watercourse and on the quality and quantity of the water. Most pollution incidents are avoidable. With careful planning, the risk of site work causing pollution can be reduced. Many measures needed to prevent pollution cost very little, especially if they are included at the planning stage of any activity.

Major causes of environmental harm associated with working in or near watercourses include:

- Silt, e.g., disturbance of riverbed or bank, dewatering and pumping of excavations, run-off from exposed ground, plant washing, roads and river crossings;
- Cement and concrete, which is very alkaline and corrosive and can cause serious pollution;
- Chemicals and solvents – oil storage, refuelling, vehicle and plant washing, trade materials etc.;
- Cleaning debris – e.g., dust, debris & wastewater;
- Herbicides – e.g., spraying application; and
- Waste materials (including special waste) e.g., oily wastes, spent acids and solvents.

It is therefore recommended that environmental best practice will be followed during the works, including:

- Ensuring comprehensive risk assessments have been undertaken and subsequent risk management plans are implemented;
- Use of silt fencing and secondary booms to contain pollutants in the event of substances entering the water; and
- Ensuring hydrocarbon spill kits are available during the works.



5. Target Notes

5.1 Botanical Target Notes (TN)

TN1 - A small island to the north of the causeway covered with broad-leaved woodland and a dense understory of Japanese knotweed.

TN2 - River Tay.

TN3 - A side channel of the River Tay which was slow flowing at the time of the survey and densely populated with Japanese knotweed.

TN4 - An area of broad-leaved woodland along the riverbank which has an understory of tall ruderal vegetation, as well as stands of Japanese knotweed and giant hogweed.

TN5 - Moncrieffe Causeway.

TN6 - River Tay.

TN7 - An area of broad-leaved woodland along the riverbank which has an understory of tall ruderal vegetation. The area was heavily used for recreational purposes at the time of the survey.

TN8 - An area of broad-leaved woodland along the riverbank which has an understory of tall ruderal vegetation, as well as stands of Japanese knotweed and giant hogweed.

5.2 Animal Target Notes (AN)

AN1 - Dense vegetation provides suitable habitat for nesting birds, as well as potential for beaver dens and otter holts.

AN2 - European flounder identified at the causeway during the survey for FWPM.

AN3 - Dense vegetation provides suitable habitat for nesting birds, as well as potential for beaver dens and otter holts.

AN4 - Dense vegetation provides suitable habitat for nesting birds, as well as potential for beaver dens and otter holts.

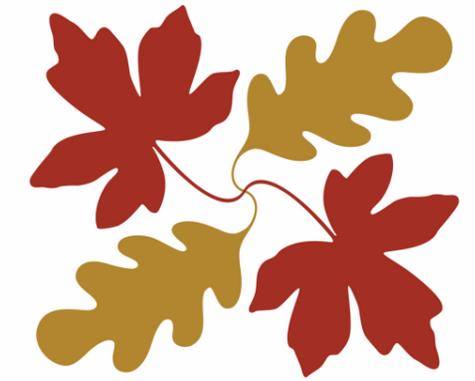


AN5 - Otter spraint found on an exposed rock at the edge of the river.

AN6 - Dense vegetation provides suitable habitat for nesting birds, as well as potential for beaver dens and otter holts.



6. Extended Phase 1 Habitat Map



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Drawing Title;
Moncrieffe Causeway, Perth
Extended Phase 1 Map

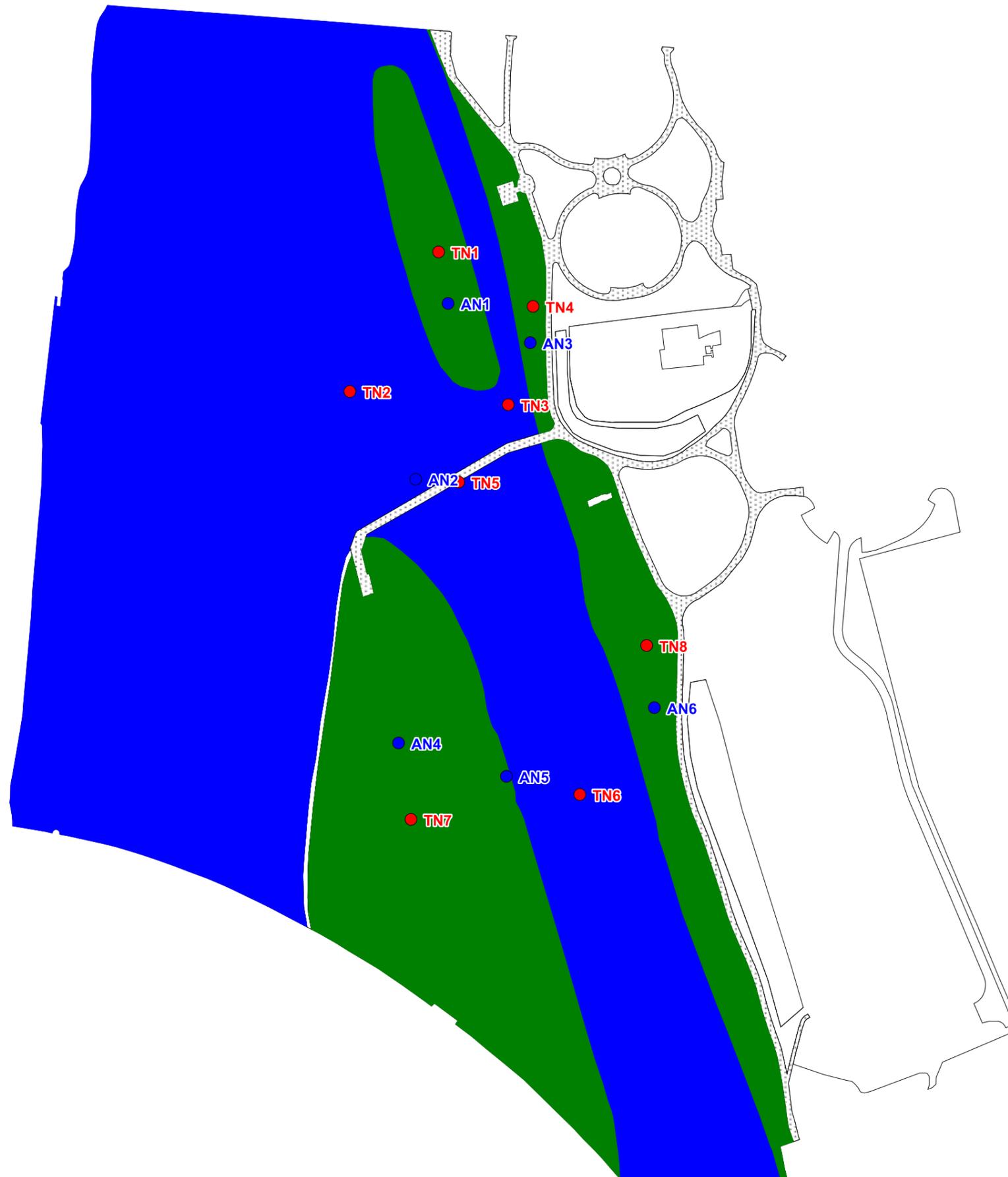
Client;
Perth and Kinross Council

Date;
30/05/24

Drawn By;
SP

Project Number;
EEL793

Version Number;
v1.0



Target Note

● TN

Animal Note

● AN

Woodland and Scrub

■ Broad-leaved Woodland

Miscellaneous

■ Hard Standing/Bare Earth

Water

■ Running Water