



Ref: 19752

STORY CONTRACTING

UB 240-131 VIADUCT

PRELIMINARY ECOLOGICAL APPRAISAL

FEBRUARY 2023

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PROJECT TITLE:	Story Y5 development	PARENT:	19702
	UB 240/131 - Viaduct- Condition led Repairs and Painting	PROJECT NO:	19752

START DATE/TIME:	SITE (STRUCTURE NO., LINE, CHAINAGE):	POSTCODE, OSGR, NEAREST TOWN:	COMPLETED DATE/TIME:
24/02/23 13:30	UB 240/131 - Viaduct- Condition led Repairs and Painting NEM3 2m 1298yds	G11 6EH NS 55898 66224 Yorkhill, Glasgow	24/02/23 15:00
WEATHER:	Dry and overcast	TEMPERATURE:	8-9°C

SITE COMMENTS
GENERAL
<p>IKM Consulting Limited (IKM) was commissioned by Story Contracting Ltd. (Story) to undertake a Preliminary Ecological Appraisal (PEA) survey at UB 240/131 Viaduct, Glasgow, to determine any potential and confirmed ecological constraints features which may be a constraint to their works.</p> <p>The Survey Area included the structure, the immediate surrounds within 50m. The scope of works broadly includes repairs and painting of the structure, but project specific details such as methodology, compound or access locations have not been considered in this appraisal.</p> <p>The works at the structure is part of the wider CP6 Year 5 package of works across Scotland. Timescales for the works at the structure are currently unknown.</p>
METHODOLOGY
<p><u>Desk Study</u></p> <p>A search for designated sites within 5km of the structure was made through NatureScot's SiteLink and DEFRA's MagicMap, and a review of areas of ancient woodland within 1km of the structure was made through the Ancient Woodland Inventory (AWI) using Scotland's Environment Map.</p> <p><u>Field Study</u></p> <p>The Phase 1 Habitat survey involved identifying and mapping the dominant habitat types following the Phase 1 Habitat survey methodology recommended by NatureScot (JNCC, 2010). The habitats and any features of note were recorded and mapped. Dominant plant species were noted, as were any uncommon species or species indicative of particular habitat types, but there was no attempt to compile exhaustive species lists. A Phase 1 Habitat map is provided in Figure 1, whilst photographs of specific features have been provided at the end of this report.</p> <p>The habitats within the Survey Area were assessed in terms of their suitability for protected species such as badger (<i>Meles meles</i>), bats, birds, otter (<i>Lutra lutra</i>), reptiles and water vole (<i>Arvicola amphibious</i>). Any evidence of the presence of these species, including sightings, prints, feeding signs, droppings, hairs and resting sites were recorded.</p> <p>For otter (<i>Lutra lutra</i>) and water vole (<i>Arvicola amphibious</i>), this survey was limited to an assessment of the habitats present within the Survey Area only.</p>

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Protected species such as beaver (*Castor fiber*), freshwater pearl mussel (*Margaritifera margaritifera*), great crested newt (*Triturus cristatus*), pine marten (*Martes martes*), red squirrel (*Sciurus vulgaris*) and wildcat (*Felis silvestris*) were scoped out of this survey as either the Survey Area is not within the known distribution of these species, or the Survey Area lacked any suitable habitat for these species.

The relevant legislation pertaining to the protection of these species, their habitat or resting/breeding places can be found in **Appendix A**.

The value of the structure and any trees within the Survey Area were assessed in terms of suitability for roosting bats in line with current best practice guidance (Collins, 2016). Where necessary, these features were scrutinised with binoculars and a high-powered torch. Any signs of roosting bats such as staining, and droppings were recorded, and droppings were to be collected for further analysis. No detailed internal inspections of tree roost features have been undertaken, but an external ground-based assessment has been undertaken.

During this inspection an assessment was also made to assess the potential or current use of the structure and surrounding vegetation by nesting birds. This included a search for current nests, evidence of previous nesting attempts and evidence of presence of birds including roosting individuals and droppings.

Non-native and invasive species such as Japanese knotweed (*Fallopia japonica*), giant hogweed (*Heracleum mantegazzianum*) and Himalayan balsam (*Impatiens glandulifera*) were also identified and mapped as far as possible, as well as other non-native plant species relevant to the Wildlife and Natural Environment (Scotland) Act (WANE) 2011.

Limitations

This survey represents a 'snapshot' of the species present at the time of the survey. The absence of evidence of a protected species from the survey does not always indicate that a species is absent from any given area where suitable habitat is present.

The assessment aims to provide a baseline of potential or confirmed (where possible) ecological constraints and is not designed to replace the need for further detailed surveys where considered necessary, based on the project proposals and assumptions.

The survey was completed during an acceptable survey season for many of the receptors potentially present at this location and further survey has been recommended where necessary. Invasive, non-native Himalayan balsam generally dies back completely during the winter months and is not always detectable during a PEA survey undertaken outwith the growing season, unless it occupies a large, extensive area where dead stems may be visible. Smaller stands or scattered plants cannot always be detected outwith the growing season.

The local Biological Records Centre was not consulted for any protected species records as part of this study.

No trackside areas were entered during this survey. All trackside areas were viewed from non-trackside vantage points where possible, but the rail corridor itself, located on top of the bridge, was not accessed during this survey.

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The structure was adjacent to the A814 road (Clydeside Expressway). This area was not directly accessed for safety reasons. This is not considered to be a limitation due to the lack of natural habitats in this area.

RESULTS

Desk Study

One area of ancient woodland (of ancient origin) was identified within 1km of the structure. This woodland is approximately 0.76km from the structure and its location is shown in **Figure 2** below.

There are two Sites of Special Scientific Interest (SSSI) within 5km of the structure as described in **Table 1**. The location of these designated sites is shown on **Figure 3** below.

Table 1: SSSI sites within 5km of the structure

Designated Site	Reason for Designation	Distance and Direction from Structure
Possil Marsh SSSI	Freshwater habitats: Meso-eutrophic loch	4.13km NE from structure
Fossil Grove SSSI	Palaeontology: Palaeozoic Palaeobotany	2.33km NW from structure

There are two Local Nature Reserves (LNR) within 5km of the structure as described in **Table 2**. The location of these designated sites is shown on **Figures 4 and 5** below.

Table 2: LNR sites within 5km of the structure

Designated Site	Reason for Designation	Distance and Direction from Structure
Dawsholm Park LNR	The mature woodland, grassland area and hedges of the park provide cover for a wide range of plants and animals. Good examples of mature beech trees (<i>Fagus sylvatica</i>), larch (<i>Larix decidua</i>), yew (<i>Taxus baccata</i>), rhododendrons (<i>Rhododendron ponticum</i>), hawthorn (<i>Crataegus monogyna</i>) and foxgloves (<i>Digitalis purpurea</i>) can be seen in the park. Sparrowhawk (<i>Accipiter nisus</i>) can be seen on occasions hunting for prey in the wooded and scrub areas. Grey squirrels (<i>Sciurus carolinensis</i>) are common in the woodland. Blue tits (<i>Parus caeruleus</i>) are seen often in the trees foraging for food.	3.02km N/ NW from structure
Hamiltonhill Claypits LNR	Hamiltonhill Claypits is a Local Nature Reserve with wooded walks and paths running alongside the Forth and Clyde Canal, between the Firhill and Applecross basins. It was once an industrial hub linked to the canal and Glasgow's history. It has grown, over many years, into a place for nature and wildlife to thrive.	2.65km NE from structure

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Field Survey

UB 240/131 was a sandstone single span viaduct with a metal deck, which carries the NEM3 railway line over the River Kelvin, as shown in **Photographs 1 and 2**. The structure adjoins UB240/130A Yorkhill Viaduct to the east and UB240/130 Ferry Road beyond this.

PEA surveys were also carried out at UB240/130 and UB240/130A, the results of which are detailed in separate reports (IKM, 2022a and b).

Habitats

A3.1 Broadleaved Scattered Trees

Scattered semi-mature and immature trees were noted along both banks of the River Kelvin. Species here included ash (*Fraxinus excelsior*), hawthorn (*Crataegus monogyna*), willow (*Salix sp.*), silver birch (*Betula pendula*) and elder (*Sambucus nigra*) as well as mature buddleia (*Buddleja davidii*).

G2 Running Water

The River Kelvin was present within the Survey Area. This was a large, fast flowing river, approximately 10-15m wide and of an unknown depth and substrate. The River Kelvin is a tributary of the larger River Clyde to the south. The section of river present within the Survey Area had vegetated but highly engineered banks.

J1.2 Amenity Grassland

This habitat, which was well maintained and mown, was present to the west of structure, and surrounding public paths and residential properties to the south and east of the structure. These areas also supported scattered immature trees including sycamore (*Acer pseudoplatanus*), oak (*Quercus sp.*), ash and yew (*Taxus baccata*).

J3.6 Buildings

A block of student apartments was present to the north of the Survey Area. This building, of new, modern construction, was not directly accessed but viewed where possible from publicly accessible areas.

J4 Bare Ground

Bare ground was present within the Survey Area, and this included the railway corridor on top of the structure as well as areas of hardstanding roads and footpaths.

Protected Species

Badger

No evidence of badger was identified within the Survey Area. The structure itself and the surrounding urban, built-up landscape is generally considered to be unsuitable for supporting badger. Badger are not considered any further in this appraisal.

Bats

UB240/131

UB240/131 is shown as **Target Note B01 on Figure 1**. This structure had four sandstone column piers supporting a metal deck. No obvious suitable features were noted on the deck of the structure, but small gaps were noted in between the sandstone brickwork at the top of both western-most piers, which may be suitable for single or small numbers of roosting bats. Examples of these potential roost features are shown in **Photographs 3 and 4** below.

This structure was assessed as supporting **Low** potential for active season roosting and **Negligible** potential for winter hibernation.

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Clydeside Expressway Road Bridge

This structure, located to the southwest of the Survey Area is shown as **Target Note B02 on Figure 1** below. This superstructure was of precast concrete and metal construction and offered no obvious features which could be utilised by roosting bats. This structure was assessed as supporting **Negligible** potential for both active season roosting and winter hibernation.

Adjacent UB240/130A

The adjacent structure, UB240/130A is shown as **Target Note B03 on Figure 1** below.

Full details regarding this structure are provided in a separate PEA report (IKM 2022), but this structure lacked any features suitable for roosting bats and as such, was assessed as supporting **Negligible** potential for both active season roosting and winter hibernation.

Trees

All trees within the Survey Area were assessed in terms the potential to support roosting bats. There were no trees with features beyond **Negligible** potential to support roosting bats. In general, the trees within the Survey Area were both not of an age to support potential features, or in good condition, with the majority showing no evidence of damage or disease that may lead to cavities or potential roost features that could be exploited by roosting bats.

The River Kelvin riparian corridor, scattered trees, and residential properties within in the Survey Area all may provide opportunity for roosting, foraging and commuting bats within the wider landscape.

Birds

No evidence of nesting birds was identified on the structure. UB240/131 may offer some ledges to support roosting or nesting bird species such as feral pigeon (*Columba livia*) where the top of the wallheads meet the deck of the structure.

Adjacent UB240/130A supports ledges at the top of each pier of the structure and each one had evidence of bird use (droppings; considered to be feral pigeon).

Artificial bird boxes were noted on the scattered immature trees located within the area of amenity grassland to the south of the Survey Area. These boxes may provide suitable nesting spaces for species such as blue tit (*Cyanistes caeruleus*) or great tit (*Parus major*).

Past nesting attempts (old nest structures) likely belonging to species such as magpie (*Pica pica*) or wood pigeon (*Columba palumbus*) were also noted in scattered trees in the Survey Area, as shown as **Target Notes 01, 02 and 03 on Figure 1**.

The scattered trees along the banks of the River Kelvin within the Survey Area also offer suitable nesting habitat for species common to the geographical area.

Otter

No evidence of otter was identified within the Survey Area. The banks of the River Kelvin, although vegetated in places were also highly engineered and modified with metal and concrete retaining walls/flood protection walls, an example of which is shown in **Photograph 5**. These areas were considered to support no suitability for otter resting sites, and therefore, lowered the Survey Areas potential to support otter. The Kelvin may, however, offer some suitable otter foraging or commuting habitat within the wider landscape, and occasional use of the Survey Area by otter cannot be ruled out from this survey alone.

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Reptiles

No evidence of common reptile species was identified within the Survey Area. There is some suitable habitat for reptiles along the vegetated banks of the River Kelvin, which may offer some suitable habitat for hunting or basking in the wider landscape; however, the highly disturbed and built-up nature of the areas around the Survey Area may lower its suitability to support these species.

Water Vole

No suitable habitat for this species was identified within the Survey Area. The River Kelvin was not considered suitable for supporting a water vole population given its size and fast flow, ruling out the potential for this species to colonise this watercourse. Water vole are not considered any further within this appraisal.

Invasive, Non-native Species (INNS)

Giant hogweed

Dead stems of giant hogweed were noted on the eastern bank of the River Kelvin. Although the full extent of the infestation could not be established during this survey, the dead stems extended along a 15-20m stretch of the bank, the central location of which is shown as **Target Note 04, on Figure 1**, and in **Photograph 6** below.

Dead stems of giant hogweed were also noted at the northwest corner of the structure, as shown as **Target Note 05 on Figure 1**, and in **Photograph 7** below. The full extent of this infestation could not be determined as the dead stems appeared to have been flattened/disturbed on the ground.

Non-native Species (NNS)

Scattered buddleia (*Buddleja davidii*) plants were noted growing within the Survey Area, including along both banks of the River Kelvin.

NEXT STEPS

The structure and the 50m Survey Area have been surveyed in their entirety, excluding the private properties and the Clydeside Expressway Road within the Survey Area.

Designated Sites

Any works at this structure are not expected to result in any direct or indirect impacts on the area of ancient woodland within 1km, given the distance between these two features.

Any works at this structure are not expected to result in any direct or indirect impacts on any of the designated sites within 5km, as they are not structurally or functionally connected to the structure.

Habitats

The habitats within the Survey Area are common and widespread within the wider landscape but if any trees are to be lost to accommodate the works, this will result in a high impact, given the time it takes to reach maturity. All trees should be retained where possible.

It is recommended that for any temporary compound and laydown areas to be utilised for the works, areas of existing hardstanding are utilised, or suitable measures are put in place to re-instate the land to as before values either through ground protection (i.e., temporary roadway or protection matting) to allow full re-establishment in the shortest time possible.

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Protected Species

Bats

UB240/131

The UB240/131 structure (**Target Note B03, Figure 1**) was assessed as supporting **Low** bat roost potential and as such, further survey is required at this structure to determine presence or likely absence of evidence of roosting bats. A single activity survey should be undertaken in accordance with current best practice guidelines (Collins, 2016) for structures assessed as supporting **Low** bat roost potential. A minimum of one activity survey is required to be completed between May and August, inclusive, during suitable weather conditions.

UB240/130A and Clydeside Expressway Road Bridge

These structures (**Target Notes B02 and B03, Figure 1**) were assessed as supporting **Negligible** bat roost potential, and as such, no further survey at these structures is required at this stage. If, however, for any reason the works do not commence by the start of July 2024 (18 months from the date of this survey), a resurvey of this structure will be required to ensure that the baseline assessment has not changed.

For any night-time working at the structure, a lighting plan should be in place to ensure that site lighting is restricted to the works area only with minimal light spill to the wider area. The area should not be lit when site staff are not in attendance.

General

As the railway corridor, River Kevin riparian corridor, scattered trees and residential properties within in the Survey Area, may all provide opportunity for roosting, foraging and commuting bats within the wider landscape; a lighting plan should be in place to ensure that site lighting is restricted to the works area only with minimal light spill to the wider corridor and embankments. The area should not be lit when site staff are not in attendance.

Birds

The UB240/131 structure and habitats surrounding the structure support suitable nesting habitat.

If the works at the structure are to commence within the nesting bird season (March-August in Scotland, inclusive), it is recommended that a nesting bird check of all works areas is undertaken prior to the start of works, no more than 48 hours ahead of works, by a suitably qualified ecologist.

It should be noted that feral pigeon can nest all year round. A check of both UB240/131 and the adjoining UB240/130A structures for nesting birds prior to the commencement of works should be undertaken all year round, not just within the recognised nesting season.

If any vegetation removal is required within the recognised breeding season (March to August, inclusive) a nesting bird check must be carried out of all areas to be cleared, no more than 48 hours ahead of the clearance, by a suitably qualified ecologist.

If nesting birds are confirmed to be present, then all works in the vicinity of any nest must be delayed until the young have fledged, and that an ecologist has confirmed the nest is no longer in use. An appropriate exclusion area will also be put in place, which will be species dependant and influenced by the topography on the ground. This will be determined by the ecologist at the time of the discovery.

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Otter

Although no evidence of otter was identified during this survey, it is possible that this stretch of the River Kelvin may receive use by otter. As the banks of the watercourse were considered to be unsuitable to support otter resting sites, the following general mitigations should be followed during the works at UB240/131:

- All works in or near the watercourse will follow best practice measures to ensure their protection against pollution, silting and erosion.
- Any temporarily exposed excavations, trenches or holes must be provided with mammal exit ramps e.g. wooden planks or earth ramps when Contractors are off site to allow animals to escape.
- All works should be timed to avoid the periods around dusk and dawn when otters are most active; and
- An emergency procedure should be implemented by site workers if otters or potential otter shelters are unexpectedly encountered. All work within 30m (100m for high noise/vibration activities) or 200m for breeding sites will cease until a suitably qualified ecologist has inspected the site and determined the appropriate course of action.

Reptiles

Some habitats within the Survey Area, including along the vegetated railway corridor, have the potential to support populations of common reptile species. Any vegetation clearance required to accommodate the works should be done with care to avoid potentially injuring or killing any reptiles. Any reptiles found should be allowed to leave the area on their own accord.

Any potential hibernacula (brash piles) which are to be removed to accommodate the works must be done by hand to avoid injuring or killing any reptiles.

If winter working is required, potential hibernacula features should remain in-situ. If this is not possible, all potential hibernacula features must be removed prior to the start of hibernation period (i.e., outwith October to March, inclusive). The removal of hibernacula features during the hibernation period may result in the reckless killing of reptiles, such as common lizard, which will result in a breach of the legislation.

Invasive, Non-native Species (INNS)

Giant Hogweed

In the first instance, it is recommended that this area is resurveyed during the growing season (from May onwards) to determine the extent of the infestation.

In the first instance, areas where giant hogweed has been identified (central location around Target Note 04 and 05 on Figure 1) should be avoided, and alternative work methodologies considered.

If the areas of giant hogweed cannot be avoided to accommodate the works at the structure, a minimum 4m exclusion zone around all plants should be marked and no works, storage or passing through should take place within the exclusion zones.

Where works within these exclusion zones are required, it is recommended that an invasive species specialist contractor is contacted to develop an invasive non-native species management plan. This may include the removal or treatment of the species.

During the works, it is also recommended that a toolbox talk is provided to all site personnel and any sub-contractors. This must cover the location of the plants on site, identification of the species on site, health and safety considerations when working close to this plant and legal implications of its spread.

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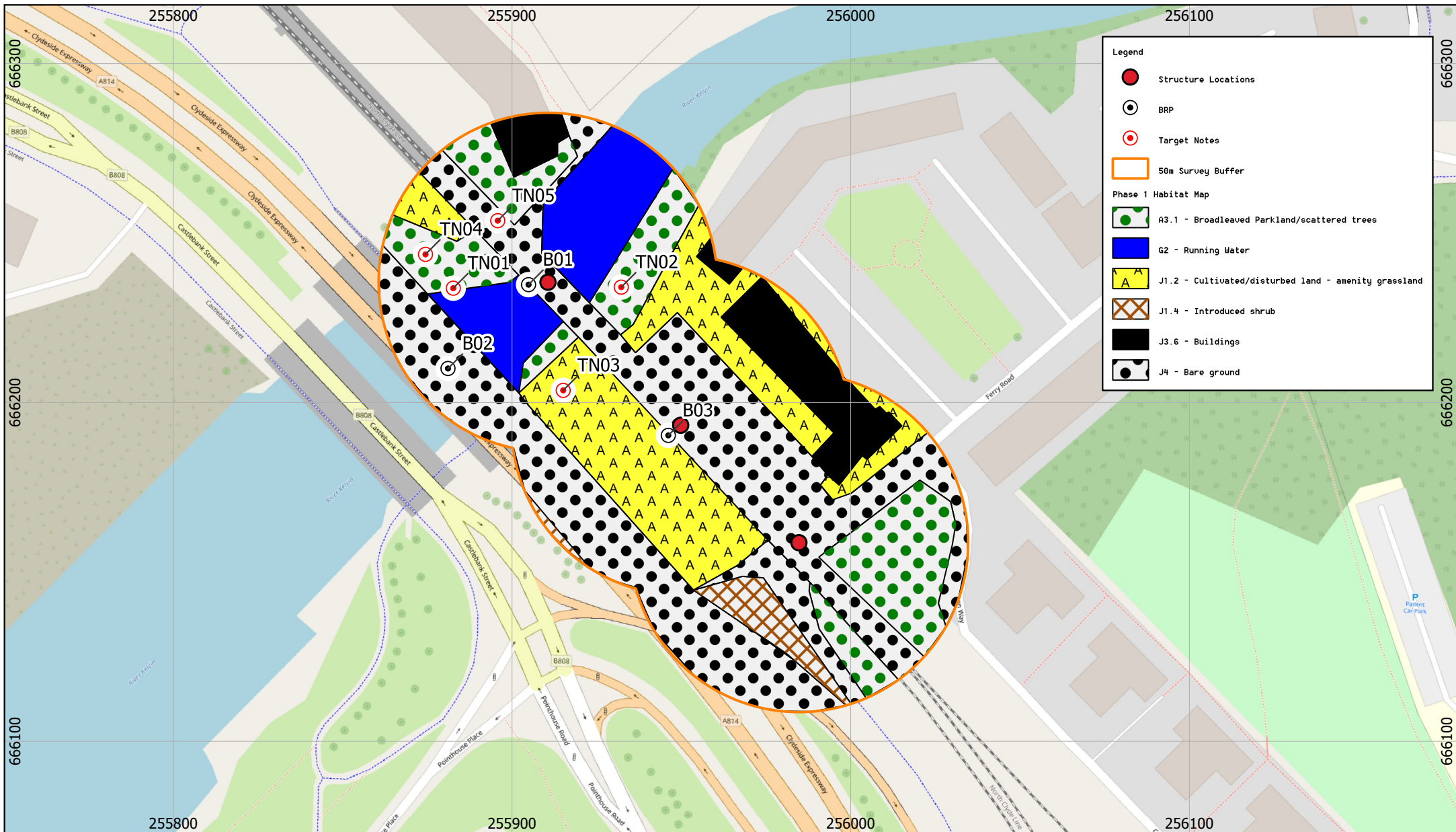
Non-native Species (NNS)

Under the WANE Act, it is illegal to allow the spread of any species out with its natural range into the wild. Any buddleia to be cleared or removed as part of the works, should be cut by hand, cleanly at the bottom of the stems and the cuttings left in-situ or removed from site with due regard to its waste status.

REFERENCES

Collins (2016) *Bat Surveys for Professional Ecologist – Good Practice Guidelines, 3rd Edition*. Bat Conservation Trust
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 IKM (2022b) 19751 221123 UB 240 130A Yorkhill Viaduct Steel and Masonry Repairs PEA
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SURVEYED BY:	Carolyn Drane	DATE:	24/01/23
COMPLETED BY:	Carolyn Drane	DATE:	08/02/23
CHECKED BY:	Simon Inger	DATE:	20/02/23

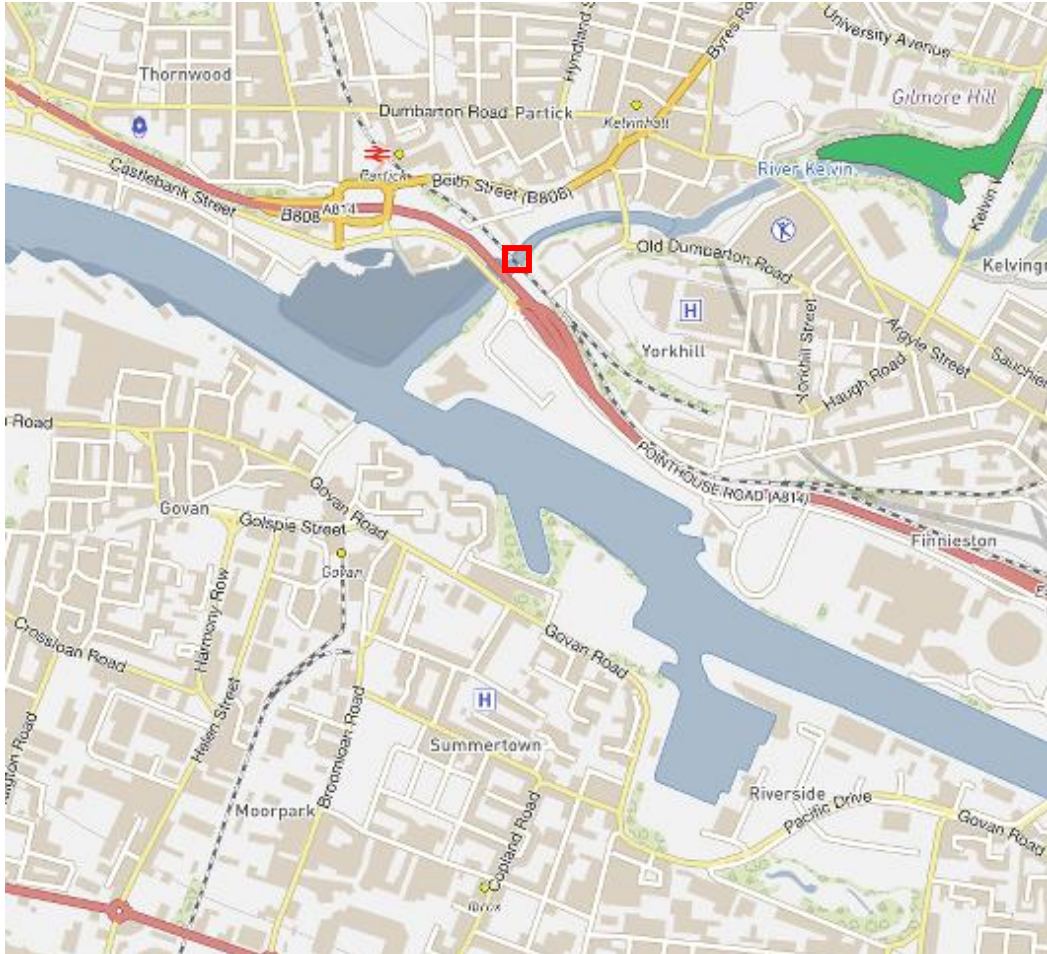


Project 19735	Drawing Title Survey Results	Scale 1:1500	Status ISSUE	Rev	Date	By	App	Details Contains OS data © Crown copyright and database right 2023
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Project Title UB 240-131 - Viaduct	Client Story Contracting Ltd.	Drawing Figure 1	This document is the property of IKM Consulting Ltd and is covered by © IKM Consulting Ltd. This document may not be copied or reproduced except with their written expression, nor may the design, or any information shown thereon, be disclosed to any third party.	-	-	-	-	ikm
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Figure 2

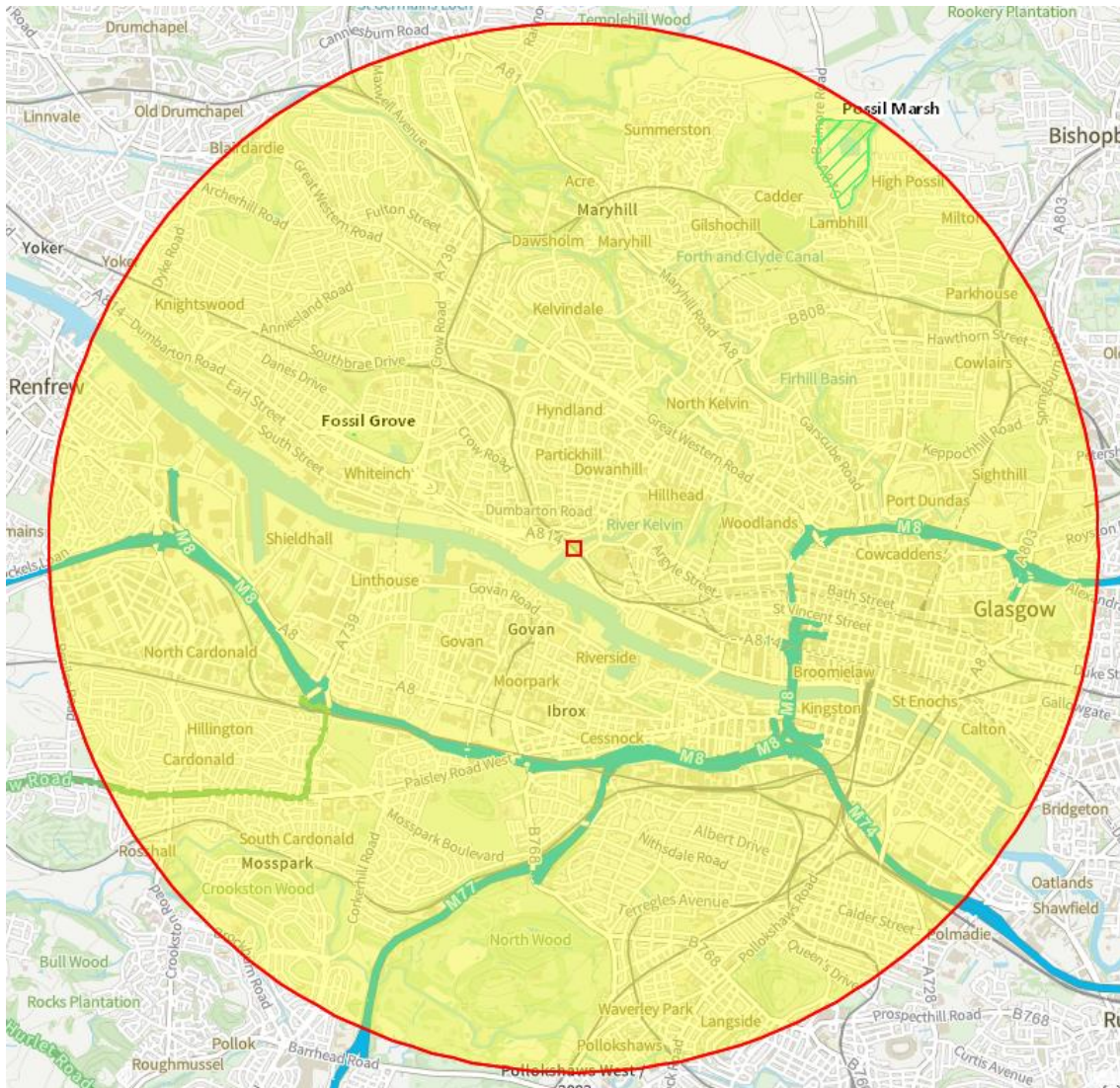
Location of Ancient Woodland (green shape) within 1km of the Structure (red square)



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Figure 3

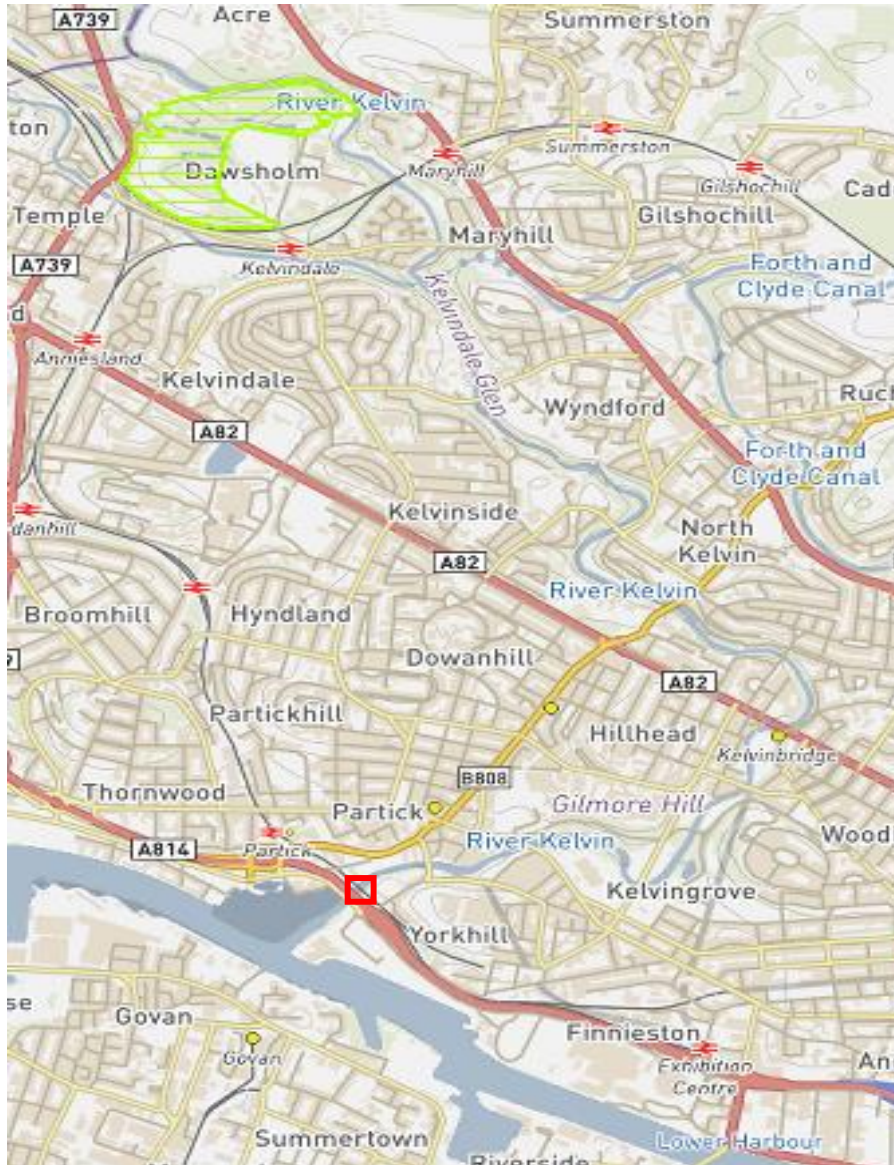
Location of SSSI sites (green shaded areas) within 5km of the Structure (red square)



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Figure 4

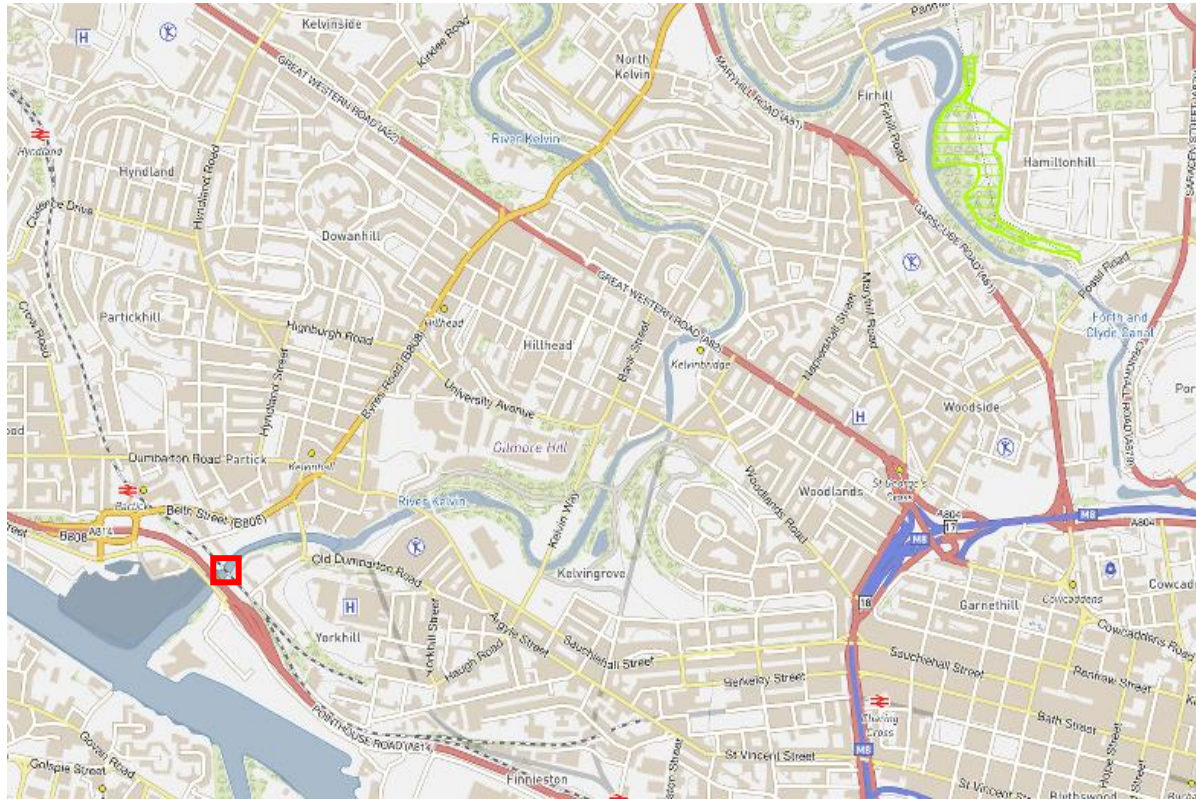
Location of Dawsholm Park LNR (light green shape) within 5km of the Structure (red square)



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Figure 5

Location of Hamiltonhill Claypits LNR (light green shape) within 5km of the Structure (red square)



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Appendix A

Relevant Legislation

Bats

All UK bat species are European Protected Species. They are legally protected by the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). Under this legislation it is an offence to deliberately or recklessly:

- Kill, injure or (capture) a bat;
- Harass a bat or group of bats;
- Disturb a bat in its roost (any structure or place it uses for shelter or protection) or whilst it is rearing or otherwise caring for its young;
- Disturb a bat in a manner that is, or in circumstances which are, likely to significantly affect the local distribution or abundance of the species, or impair its ability to survive, breed or reproduce, or rear or otherwise care for its young;
- Disturb a bat while it is migrating or hibernating;
- Obstruct access to a roost or otherwise deny bats the use of a roost.

It is also an offence to damage or destroy a bat roost (note, it does not need to be deliberate or reckless to constitute an offence).

Birds

All wild birds in the UK are protected by the Wildlife and Countryside Act 1981 (as amended) whereby it is illegal to intentionally or recklessly:

- Kill, injure or take a bird;
- Take, damage, destroy or interfere with a nest of any bird while it is in use or being built;
- Obstruct or prevent any bird from using its nest;
- Take or destroy an egg of any bird.

Any wild bird species listed on Schedule 1 are also afforded further protection, which makes it an offence to disturb:

- Any bird while it is building a nest;
- Any bird while is in, on, or near a nest containing eggs or young;
- Any bird while lekking;
- The dependent young of any bird.

For any wild bird species listed on Schedule 1A, it's an offence to intentionally or recklessly harass any bird.

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For any wild bird species listed on Schedule A1, it's an offence to intentionally or recklessly take, damage, destroy or interfere at any time with a nest habitually used by any bird

Otter

Otter are a European Protected Species. They are legally protected by the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). Under this legislation it is an offence to deliberately or recklessly:

- Capture, injure or kill an otter;
- Harass an otter or group of otters;
- Disturb an otter in a holt or any other structure or place it uses for shelter or protection;
- Disturb an otter while it is rearing or otherwise caring for its young;
- Obstruct access to a holt or other structure or place otters use for shelter or protection, or otherwise deny an otter use of that place;
- Disturb an otter in a manner or in circumstances likely to significantly affect the local distribution or abundance of the species, and;
- Disturb an otter in a manner or in circumstances likely to impair its ability to survive, breed or reproduce, or rear or otherwise care for its young.

It is also an offence to:

- Damage or destroy a breeding site or resting place of such an animal (whether or not deliberately or recklessly).

Otter shelters are legally protected whether or not an otter is present.

Reptiles

Adder, slow worm and common lizard are all protected by the Wildlife and Countryside Act 1981 (as amended). Under this legislation these species are protected against:

- Intentional or reckless killing or injury.

Invasive Non-native Species

The law on non-native species is covered by the Wildlife and Countryside Act 1981 (as amended by the Wildlife and Natural Environment (Scotland) Act 2012.)

In Scotland, it's an offence to:

- Release an animal to a location outside its native range;
- Plant, or otherwise cause to grow, a plant in the wild at a location outside its native range.

'Native range' is defined in the 1981 Act as:

"The locality to which the animal or plant of that type is indigenous, and does not refer to any locality to which that type of animal or plant has been imported (whether intentionally or otherwise) by any person."

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Site Photographs



Photograph 1: Southern face of UB240/131



Photograph 2: View of UB240/131

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Photograph 3: Example of potential roost features on piers (red arrows)



Photograph 4: Example of potential roost feature on pier (red arrow)

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Photograph 5: View of the River Kelvin looking upstream



**Photograph 6: Giant hogweed stems noted along banks of River Kelvin
(Target Note 04 Figure 1)**

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**Photograph 7: Giant hogweed stems at edge of structure
(Target Note 05, Figure 1)**

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