

2021



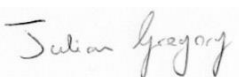
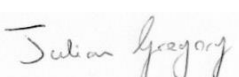
Preliminary Ecological Appraisal

St Julian River Viaduct

HNL1 40 mile 48ch





Document Information			
Project	St Julian River Viaduct – Scour Protection works		
Location	St Julian River Viaduct – HNL1 40 mile 48 chain		
Title	Preliminary Ecological Appraisal		
Document Ref	EV 000657	Issue / Revision	0
File reference	EV 000657.01		
Start Date	21/09/2021		
	Name	Signature	Date
Surveyor	Kate Hunt		21/9/2021
Prepared	Kate Hunt		19/10/2021
Reviewed	Julian Gregory		/2021
Authorised	Julian Gregory		/2021

Document Control		
Rev.	Date	Description
X		Issued
1.0	18/11/2021	Phase 1 Habitat Map - Issued

Disclaimer

No part of this document may be copied or reproduced by any means without prior written permission from EcoVigour. If you have received this report in error, please destroy all copies in your possession or control.

This document has been prepared for the exclusive use of the commissioning party/parties and unless otherwise agreed in writing by EcoVigour, no other party may use, make use of, or rely on the contents of the report.

No liability is accepted by EcoVigour for any use of this document, other than for the purposes for which it was originally prepared and provided.

Opinions and information provided in the document are on the basis of EcoVigour using due skill, care and diligence in the preparation of the same and no explicit warranty is provided as to their accuracy.



1. Contents

1.	Contents	2
1.	Introduction	3
1.1	Project Background	3
1.2	Survey Area Description	3
1.3	Works Required	5
2	Methodology	6
2.1	Desk Study	6
2.2	Walkover Survey	6
2.3	Limitations	6
3	Results	8
3.1	Designated sites	8
3.2	Protected Species	8
3.3	Waterbodies	13
3.4	Watercourses	13
3.5	Phase 1 Habitat Survey	15
4	Assessment and Recommendations for further surveys	21
4.1	Designated Sites	21
4.2	Habitats	21
4.3	Protected Species - Bats	21
4.4	Badgers	22
4.5	Bird Species	22
4.6	Ampibians and Reptiles	23
4.7	Otter and Water Vole	24
4.8	Other protected species	24
4.10	Invasive Species	25
5	References	25

Figures

Figure 1: Site location (Google Earth 2021)	4
Figure 2: Statutory and non-statutory designated sites within 2km (SEWBreC 2021)	9
Figure 3: Data Records – Bats (SEWBreC 2021)	10
Figure 4: Data Records (SEWBreC 2021)	11
Figure 5: Data records: Birds (SEWBreC 2021)	12
Figure 6: Data records: Barn Owl & Lapwing (SEWBreC 2021)	13
Figure 7: River Usk / looking northeast	14
Figure 8: Habitat map	16
Figure 9: Proposed access route / Improved grassland looking west towards the track (Caerleon side)	17
Figure 10: Amenity Grassland – compound location	17
Figure 11: Dense scrub to south east (Newport side)	17
Figure 12: Viaduct	18
Figure 13: South bank arches/piers	18



Figure 14: North bank arch and debris	18
Figure 15: Animal prints/tracks beneath second arch (Newport side)	20

1. Introduction

1.1 Project Background

- 1.1.1 EcoVigour was commissioned by Centregreat Rail (the client) in September 2021 to undertake a Preliminary Ecological Appraisal (PEA) on the HNL1 line at 40 mile 48 chain. The study was required to inform the client of the current ecological constraints, as part of proposed scour protection measures to be installed at the base of St Julian's Viaduct masonry abutments on both side of the River Usk. This report documents the findings of the PEA and online desk study undertaken of the site.
- 1.1.2 St Julian's is an 8-span viaduct carrying two lines of the HNL1 over the River Usk. Four spans (spans 2 to 5) are of metallic construction which are supported by three cast iron piers whilst the remaining spans (spans 1 and 6-8) are of masonry arch construction. The structure is on a slight skew to the watercourse with the overall span being 120m and an average width of 8.5m.
- 1.1.3 The objectives for the survey were:
- To undertake an ecological assessment of the site;
 - To identify ecological features within the site that could pose a constraint to the proposed development;
 - To identify opportunities for incorporating biodiversity enhancements into the development proposals;
 - To assess the site's potential to support protected species and make recommendations for further survey, where required to clarify potential ecological constraints;
 - To make recommendations for any valuable habitats to be considered, through retention or enhancement, or if this is not possible, by habitat mitigation or compensation;
 - To identify the presence of any invasive non-native species on site.
- 1.1.4 The ecological report has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) guidance document 'Guidelines for Preliminary Ecological Appraisal - Second Edition' (CIEEM, 2017). The objective of the report is to provide a preliminary ecological assessment of the site based on the current design. An initial ecological overview of the site is provided and potential ecological constraints and impacts of the current proposals are assessed. Recommendations for further surveys are provided where necessary.

1.2 Survey Area Description

- 1.2.1 The site spans the River Usk and was accessed via several agricultural (grazed) fields from the east (Caerleon side) and via the M4 underpass and recreational ground, which was accessed from Newport Indoor Bowls Centre to the south (Newport side) and via a single track tarmac lane and several agricultural fields alongside the railway to the north (Caerleon side). Parcels of broadleaved woodland are located to the margins of the site (Newport side) and a model railway club to the southwest and by the access gate to the north. The linear railway corridor to the north is vegetated with dense scrub, broadleaved woodland strip and tall ruderal vegetation. A network of hedgerows and ditches are present within the agricultural fields to the north and north-east. An area of dense scrub and tall ruderal vegetation (including frequent stands of Japanese Knotweed) adjoins the woodland parcels to the eastern boundary of the playing field. The site location and survey area are shown in Figure 1 overleaf.



- 1.2.2 The surrounding landscape is predominantly urban with the city of Newport to the south and town of Caerleon to the north with intervening rural habitats to the north of the site.



Figure 1: Site location (Google Earth 2021)



1.3 Works Required

1.3.1 It is proposed to install a double layer of 600mm (d50) rock armour to Piers 1, 5, 6 and 7. The proposed rock armour is to be pitched at varying gradients on both banks to limit excavation whilst ensuring that the foundations of the elements are not undermined and extending 5m both upstream and downstream of the structure. The rock on the high mileage bank will extend a minimum of 1.5 times the width of Pier 5 to the low mileage side of Pier 5, and will extent a minimum of 1.5 times the width of Pier 7 to the high mileage side of Pier 7. The rock armour on the low mileage bank will extend a minimum of 1.5 times the width of Pier 1 to either side of the pier. A rock armour toe is not required for this structure. Following installation of rock armour, the bed level will be reinstated to suit existing levels, using site material.

The works will include but are not limited to:

- Accessing the works area from both sides. To the north this will be via the existing tarmac access road and across the grassland fields (bordering the railway corridor). To the south this is proposed via the underpass and amenity grassland/ recreation ground with access to the viaduct through the scrub/woodland to the eastern boundary of the amenity grassland.
- Installation of a site compound (approximately 70x40 metres) within the confines of the amenity grassland east of the grass rugby pitch.
- Vegetation clearance to the Newport side to the viaduct for access.
- Installation of scour protection (rock armour) on both sides of the structure.
- The works are scheduled to commence in spring 2022 (TBC).



2 Methodology

2.1 Desk Study

- 2.1.1 A desk study was conducted to assist with the overall site assessment. The desk study utilised data provided by Aderyn Local Environmental Records Centre (LERC) (South-East Wales Biodiversity Records Centre (SEWBReC)) for protected and priority species and invasive species, and statutory designated sites and non-statutory designated sites present within 2km of the site boundary.
- 2.1.2 The search buffers are considered sufficient to cover the potential Zone of Influence of the proposed compound. The relevance of the reasons for designation of the protected sites within 2km of the site boundary has been considered during subsequent assessment of whether the proposed development will have any impact upon the biological integrity of such sites.

The desk study also included the following sources:

- Defra's Multi-Agency Geographic Information for the Countryside (MAGIC) website;
- Online aerial imagery resources;
- A review of OS mapping for waterbodies within 250 metres of the site.

2.2 Walkover Survey

- 2.2.1 An extended Phase 1 Habitat survey of the site was conducted by an experienced EcoVigour Ltd ecologist and Technical Director on 21st September 2021. A second further visit to the southern side (Newport side) was made by the ecologist on 22nd October 2021. The Phase 1 survey was conducted in accordance with the methods outlined in the Joint Nature Conservation Committee (JNCC)'s 'Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit' (JNCC, 2010). The survey consisted of a thorough walkover of the site, identifying the broad habitat types present, identifying the suitability of the site to support protected and priority species.
- 2.2.2 Incidental observations of protected and/or priority species and the potential for such species to occur on site (and in the surrounding landscape where relevant) were also noted, however no specific protected/priority species surveys were undertaken as part of this preliminary ecological assessment.
- 2.2.3 A search for plant species as included in Schedule 9 of the Wildlife and Countryside Act (1981) as amended, was made during the survey. Under the Act it is an offence to spread, or cause the spread of, these species.

2.3 Limitations

- 2.3.1 Third party biological records do not represent a full species list for the area. The absence of records does not necessarily indicate absence of a species or habitat but rather that these have not been recorded or are perhaps under-recorded within the search area.
- 2.3.2 The results of the survey and assessment undertaken by EcoVigour Ltd are representative at the time of survey.



- 2.3.3 This document does not contain a comprehensive list of botanical species on site with only plant species characteristic of each habitat and any incidental observations of notable plant species recorded. In addition, many plant species are only evident at certain times of the year; therefore, some plant species may have been undetected.
- 2.3.4 No targeted ecological surveys were undertaken as part of this assessment to determine the presence of specific species, however a visual check for signs of otters was made during the survey visit on 21st October.



3 Results

3.1 Designated sites

3.1.1 There are 2 statutory designated sites within 2km of the site boundary, details are provided in Table 1 below and shown in Figure 2.

Table 1: Statutory designated sites

Site Name		Designation	Distance from Site (km)
River Usk		SAC	On site
River Usk		SSSI	On site
Annex I habitats that are a primary reason for selection of this site			
	Not Applicable		
Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site			
3260	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation		
Annex II species that are a primary reason for selection of this site			
1095	Sea lamprey Petromyzon marinus		
1096	Brook lamprey Lampetra planeri		
1099	River lamprey Lampetra fluviatilis		
1103	Twaite shad Alosa fallax		
1106	Atlantic salmon Salmo salar		
1163	Bullhead Cottus gobio		
1355	Otter Lutra lutra		
Annex II species present as a qualifying feature, but not a primary reason for site selection			
1102	Allis shad Alosa alosa		

3.1.2 There are a number of non-statutory designated sites in 2km: 26 Wildlife Sites (SINCs), 1 Local nature reserve and 21 Ancient woodland sites. These are shown in Figure 2. Glebelands SINC is located to the south of the viaduct (includes the amenity grassland, woodland and scrub).

3.1.3 Priority habitats saltmarsh and mudflats are present on site.

3.2 Protected Species

3.2.1 Targeted protected species records are provided in Figures 3-5 and summarised in Section 4.

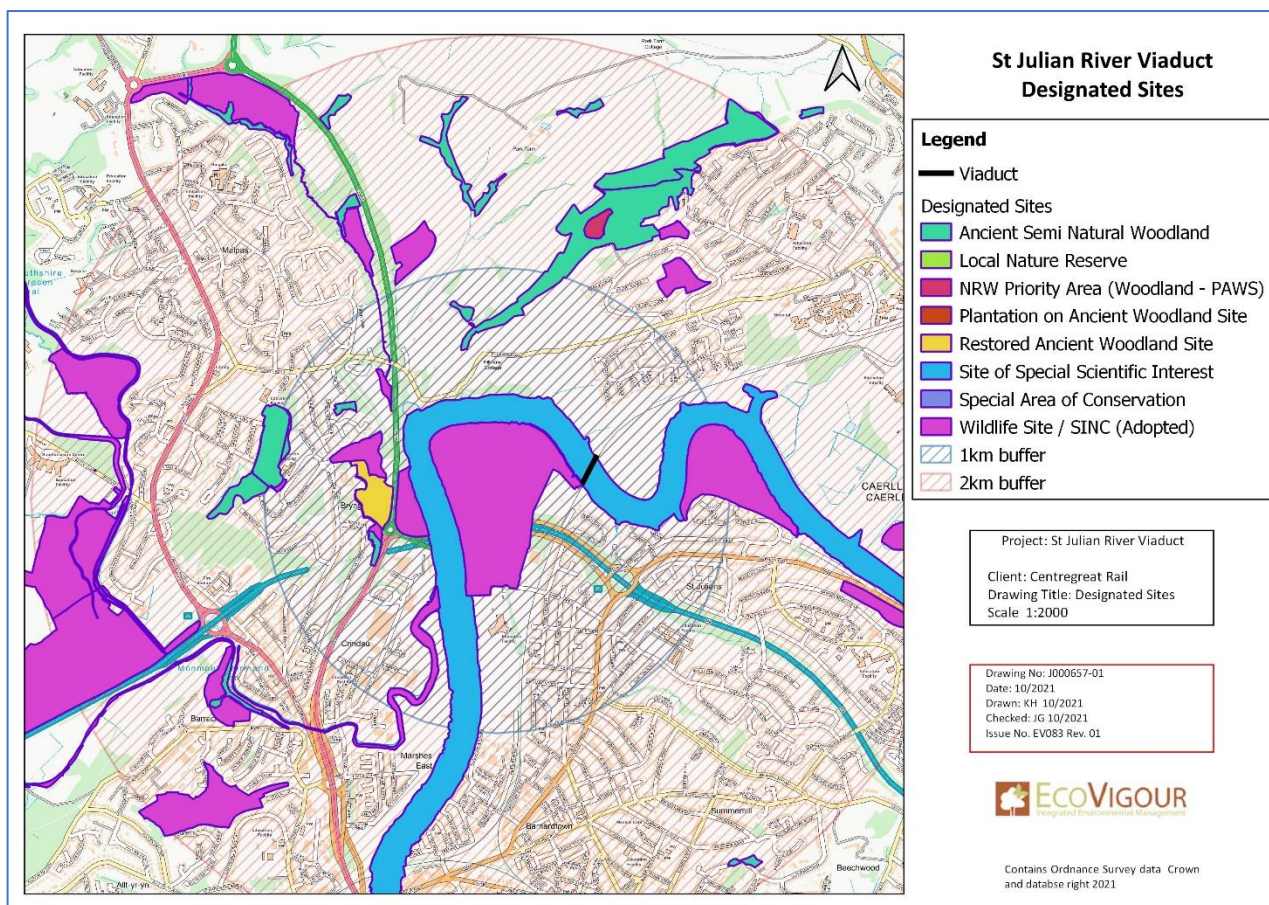


Figure 2: Statutory and non-statutory designated sites within 2km (SEWBRc 2021)

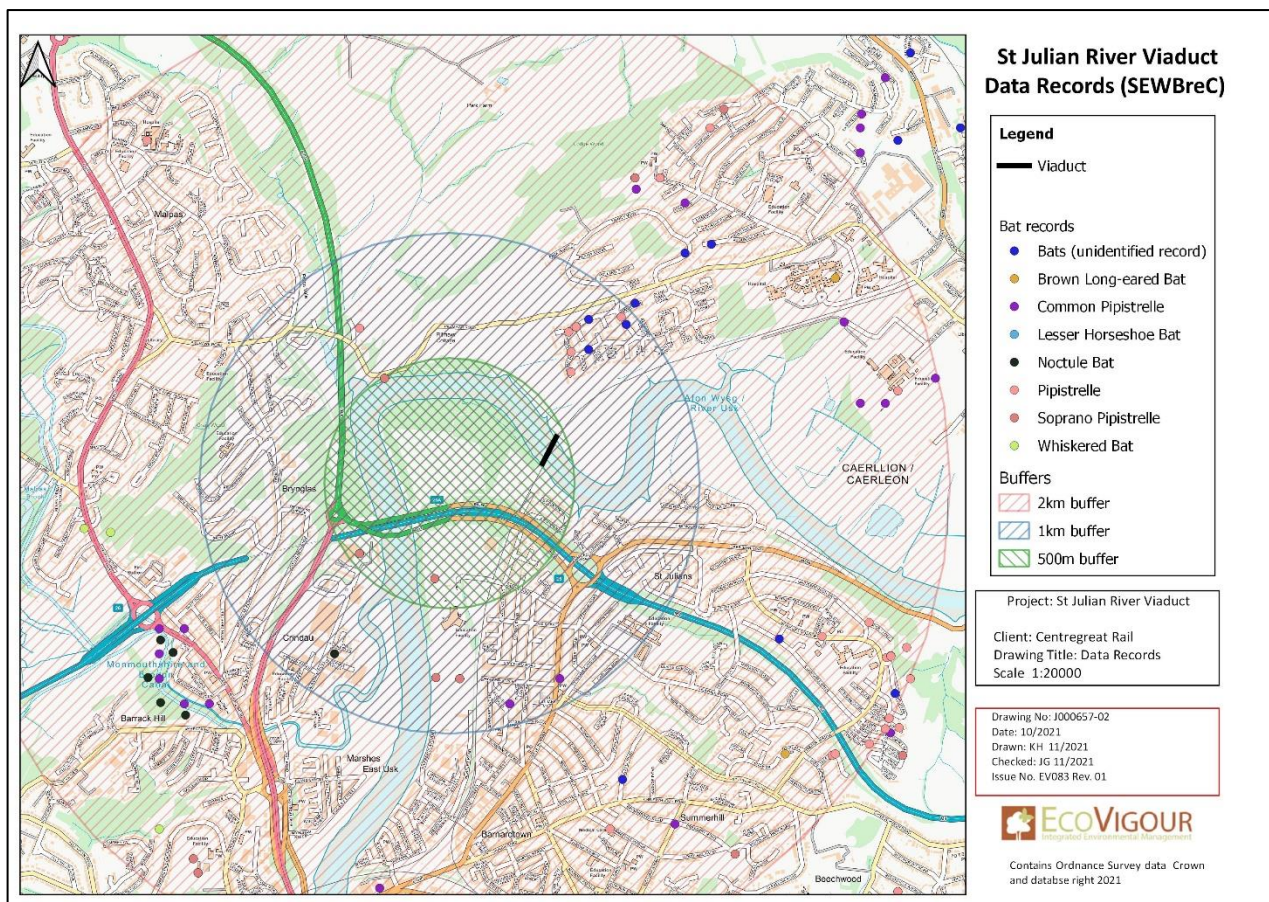


Figure 3: Data Records – Bats (SEWBreC 2021)

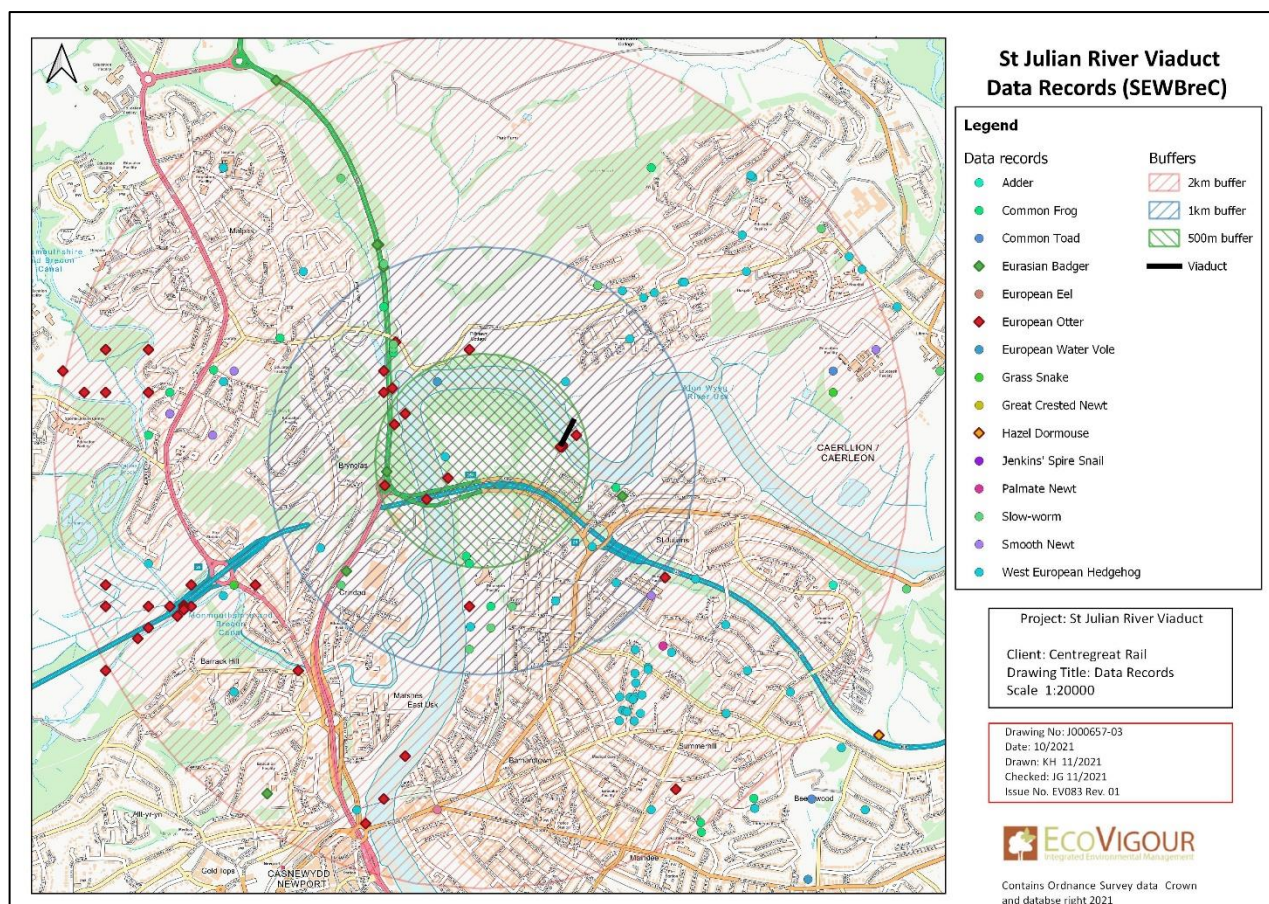


Figure 4: Data Records (SEWBreC 2021)

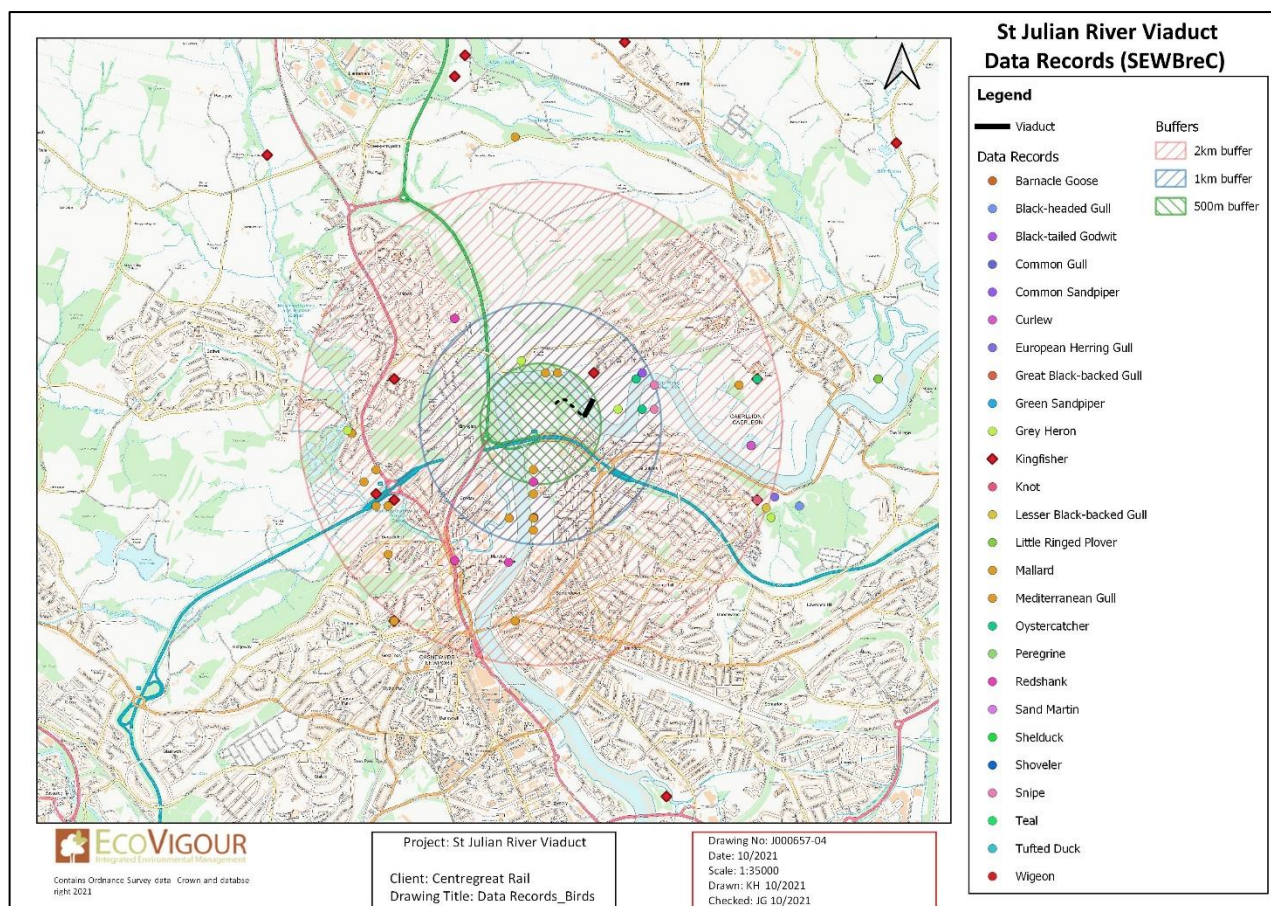


Figure 5: Data records: Birds (SEWBReC 2021)

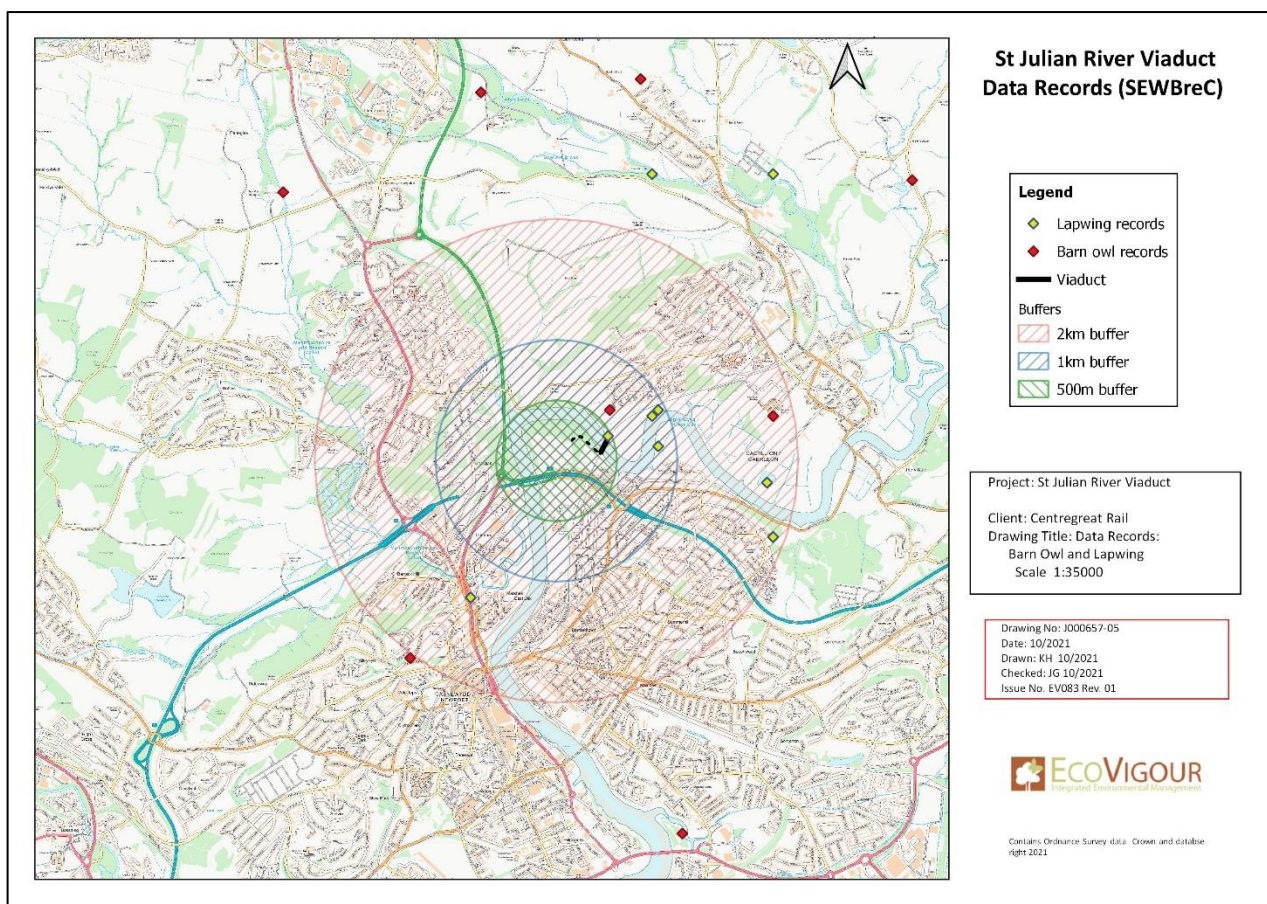


Figure 6: Data records: Barn Owl & Lapwing (SEWBreC 2021)

Full data search records are available on request.

3.3 Waterbodies

3.3.1 No waterbodies were present on site.

3.4 Watercourses

3.4.1 The viaduct crosses the River Usk. The river is tidal at this point with mudflats exposed during the falling and rising tide. Several small dry (at the time of the initial survey visit in September 2021) ditches are present within the improved grassland to the Caerleon side.



Figure 7: River Usk / looking northeast



3.5 Phase 1 Habitat Survey

The initial site visit was undertaken on 21st September 2021. The weather conditions were hot and sunny, with an approximate temperature of 25°C. A further site visit was undertaken of the Newport side on 22nd October 2021. The weather conditions were dry and breezy, with an approximate temperature of 15°C. The Phase 1 habitats within the survey area are provided in Table 2 below and Figure 8.

3.5.1 Phase 1 Habitats

Table 2: Phase 1 Habitats (JNCC, 2010)

Habitat	JNCC Code	Habitat description
Broadleaved woodland	A1.1.1	Various parcels of broadleaved semi-natural woodland are present within the site. These include either side of the M4 underpass, the southeast corner of the amenity grassland and along the southern bank of the river (northern boundary of the recreational ground), to the west of the structure. Species include Ash, Willow, Hawthorn and dogwood with an understory of bramble and common nettle.
Dense / Scattered scrub	A2.1/ A2.2	Scattered/continuous/dense scrub forms a mosaic with the woodland parcel to the north of the recreational ground. A strip of dense / continuous scrub adjoins the woodland bounding the eastern boundary of the playing field. Dense and scattered scrub is present along the railway corridor. A small area of broadleaved woodland and scrub is present to the northeast corner of the improved grassland, adjacent to the track and gated access. Vegetation primarily consists of bramble with common thistle, hogweed, silver birch and willow.
Tall herb/ruderal	C1/C3.1	Scattered stands of Japanese knotweed were present within the scrub and woodland. Tall ruderal habitat and tussocky grasses were associated with the banks of the watercourse above the high-water mark.
Hedgerow	-	Gappy and managed hedgerows cross the improved grassland to the north.
Marginal vegetation	F2.1	Small, scattered stands of common reed are present within the scrub to the eastern boundary of the playing field and along the southern river bank.
Improved grassland	B4	Improved grassland is present to the north of the structure (cattle grazing) and dominated by perennial rye grass. A strip of tussocky improved grassland is present above the saltmarsh on both sides of the river channel.
Hardstanding	J3.6	Hardstanding is present in the form of the access roads/ underpass and car park of the indoor bowls centre.
Running water	G2	The River Usk flows beneath the structure. The river is tidal at this point. Various ditches and drainage channels cross the improved grassland to the north.
Amenity Grassland	J1.2	Amenity grassland in the form of the recreational ground is present to the Newport side and compound location.
Intertidal: Mud/sand	H1.1	Exposed mudflats are present on both sides of the structure/ within the river channel.
Saltmarsh – Scattered plants	H2.4	A strip of scattered saltmarsh plants (dominated by sea purslane) are present along the upper extent of the intertidal zone/ HWM.

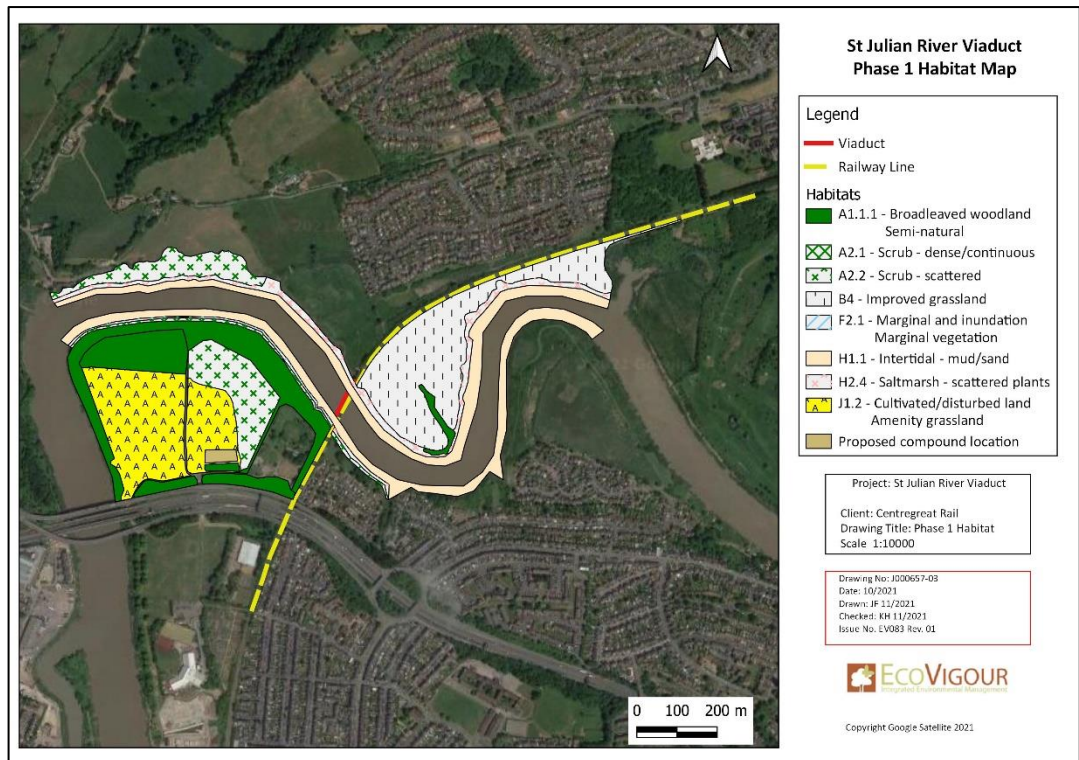


Figure 8: Phase 1 Habitat Map



Figure 9: Proposed access route / Improved grassland looking west towards the track (Caerleon side)



Figure 10: Amenity Grassland – compound location



Figure 11: Dense scrub/ JK to south east (Newport side)

The viaduct is comprised of stone piers with stone and brick arches and a 4-span steel deck over the River Usk.



Figure 12: Viaduct

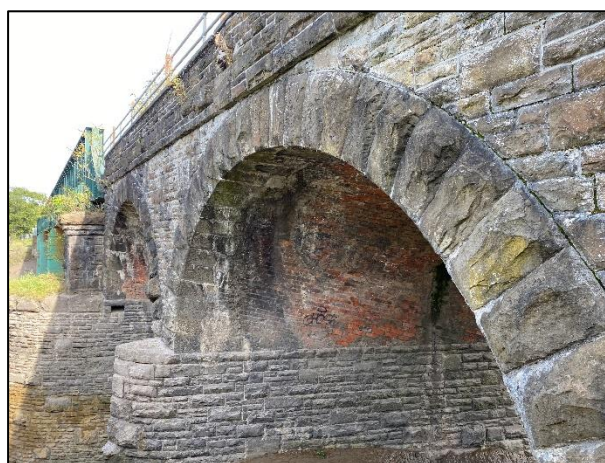


Figure 13: South bank arches/piers



Figure 14: North bank arch and debris

3.5.2 Bird Species - The survey was undertaken outside of the traditional bird breeding season (March – August inclusive). The woodland and scrub habitat on site to the southern (Newport) side offer opportunities for nesting birds. The estuary provides feeding opportunities for a variety of birds including waders, wildfowl and



migratory species. Several species of gull and waders were noted during both survey visits including oystercatcher, black headed gull, common gull and black tailed godwit. The birds were present on the mudflats on either side of the river close to the viaduct. Approximately 80 birds were noted in this area on 22nd October. A pigeon was seen flying into the first arch of the viaduct (southern side) on 22st October.

3.5.3 Bat Species – The woodland parcels and connecting scrub habitats offer potential for commuting and foraging bats. The River Usk and wider rail corridor provide further similar opportunities for bats. The viaduct was assessed as having ‘negligible’ potential to support roosting bats during the PEA. The brick and stone arches and piers appeared to be in good condition with no obvious potential roosting features for bats. Bats are considered likely to commute through the arches. It was not possible to inspect the northern most pier for the presence of potential roost features such as missing mortar or voids, due to the palisade fencing preventing access.

3.5.4 Mammal Species – Recent evidence of rabbit, as fresh diggings within the woodland to the south of the viaduct, between the viaduct and amenity grassland and numerous fallen apples were observed to have been recently partially eaten within the woodland (potentially by a badger or fox). No badger setts were observed during the two walkover surveys. A full badger survey was not undertaken as part of the PEA. Badger, fox and rabbit are likely to be present within the wider area and rail corridor. The rail corridor to the north was fenced throughout with Palisade fencing.

The River Usk and its tributaries are known to support Otter. Otter is a qualifying feature of the River Usk SAC designated site. The habitats bordering the river channel (rough grassland and saltmarsh) are likely to be utilised by commuting otter for commuting and shelter. No holts were noted within the vicinity of the site, although a full otter survey was not undertaken as part of the PEA. An area of scrub (hawthorn/blackthorn) adjacent to the northern end of the viaduct has potential to support resting otter.

Numerous mammal footprints (both fresh and older) were present within the exposed mud beneath the second arch to the southern (Newport) side on 21st September 2021. It is possible that otter prints may be present as it was not possible to closely inspect the area due to the soft inaccessible mud (Figure 10) and some prints were less conspicuous due to recent tidal cover.

Further fresh mammal footprints were again noted within the same section during the site visit on 22nd October. No evidence of prints leading to / from the arch from the footpath were readily evident suggesting that the prints may have originated from an animal accessing the arch from the channel or along the bank/saltmarsh.

A potential otter resting place was noted approximately 15 metres east of the viaduct on the top of the bank, within an area beneath an old wooden landing stage. The stage was in a state of disrepair with missing wooden planks but could potentially be used by resting otter during the day. Several dilapidated wooden boats which were partly silted up were also present at this location. No signs of recent otter activity were seen, such as fresh prints or spraint (droppings) on a prominent fallen log adjacent to the landing stage which was identified as a suitable sprainting site.



Figure 15: Animal prints/tracks beneath second arch (Newport side)

- 3.5.5 **Common Reptile Species** – No common reptiles were encountered during the survey. The woodland, grassy margins along the river bank and scrub habitats on site and within the wider rail corridor have the potential to support common reptiles.
- 3.5.6 **Amphibian Species** – The woodland, grassy margins and scrub habitats on site have the potential to support common and protected (Great Crested Newt (GCN)) amphibians. The watercourse is unsuitable for GCN. No ponds are present on site.
- 3.5.7 **Fish** – the River Usk is designated for several species of fish.
- 3.5.8 **Invasive non-native plant species** – Frequent Japanese Knotweed stands were present within the woodland and also in the dense scrub to the Newport side.



4 Assessment and Recommendations for further surveys

4.1 Designated Sites

- 4.1.1 The River Usk SAC lies within the site boundary. A HRA will be required to determine any impacts of the works on the designated site. A SINC is present on site.

4.2 Habitats

- 4.2.1 The habitats on site include broadleaved semi-natural woodland, amenity grassland, hardstanding (access roads), a mosaic of dense and scattered scrub with marginal vegetation and tall ruderal (Newport side). Marginal vegetation and a strip of saltmarsh are present above the high-water mark of the estuary. Improved grassland with hedgerows and ditches/ drainage channels are present to the Caerleon side.
- 4.2.2 Saltmarsh and mudflats are present on site. The small area of saltmarsh habitat (scattered plants) within the site will be lost / disturbed as a result of the works. The mudflats will be subject to disturbance and dredging to undertaken the works before reinstatement, which has the potential to remobilise any past contaminants within the sediment. An intertidal / coring survey and assessment maybe required following consultation with NRW to determine potential impacts on the designated site and intertidal habitat.

4.3 Protected Species - Bats

- 4.3.1 The viaduct was assessed as having negligible potential for roosting bats. The stone and brick work of the structure and associated piers appeared to be in good condition with no obvious crevices or voids that could be used by roosting or hibernating bats. The arches maybe used by passing bats along the river / rail corridor. The stonework of the arch to the northern side was inaccessible due to being fenced off and therefore could not be fully assessed during the PEA for its potential to support roosting bats.
- 4.3.2 It is recommended that the northern arch/pier is checked by a licensed bat ecologist for potential roost features. This would require the use of ladders.
- 4.3.3 The woodland to the Newport side is likely to be used by foraging and commuting bats. An assessment of any trees to be felled within the works footprint in the woodland will be required for roosting bats.
- 4.3.4 Further ecological input and a preliminary tree roost assessment survey is therefore required. Should tree removal be required of any trees subsequently identified as having bat roost potential, bat activity surveys be required, these would need to be undertaken in advance of works commencing, between May and September.
- 4.3.5 Furthermore, if there is a requirement for tree felling/removal of overhanging limbs within the broadleaved woodland strip as part of the wider scheme of works on site, a preliminary assessment for roosting bats will be required.
- 4.3.6 All British bats and any place used for shelter or protection or breeding site or resting place (their roosts) are fully protected by law under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended).
- 4.3.7 Together these protect bats from:



- Selling, offering for sale, possessing or transporting for the purpose of the sale or publishing advertisements to buy or sell a protected species.
- Deliberate, intentional or reckless killing, injury or taking of bats.
- Damage to or destruction of or, obstruction of access to any place of shelter, breeding (roost) or rest.
- Disturbance of an animal occupying a structure or place.
- The deliberate disturbance of any bat species in such a way as to be significantly likely to affect;
 - their ability to survive, hibernate, migrate, breed, or rear or nurture their young; or
 - the local distribution or abundance of that species.

4.4 Badgers

- 4.4.1 Nine badger records were received from the data search within a 2km radius of the site.
- 4.4.2 No evidence of badger setts or recent badger activity was noted during the PRA. However, mammal foraging signs were noted within the woodland (partly eaten fallen apples).
- 4.4.3 It is therefore recommended that a badger survey is undertaken on the site.
- 4.4.2 The Protection of Badgers Act 1992 (as amended) is the main legislation protecting badgers and their habitat in the United Kingdom. Under the Act it is illegal to:-
- Wilfully kill, injure or take a badger or attempt to do so.
 - Cruelly ill-treat a badger.
 - Interfere with a sett by doing any of the following:
 - (i) damage a badger sett or any part of it
 - (ii) destroy a badger sett
 - (iii) obstruct access to a badger sett
 - (iv) cause a dog to enter a sett
 - (v) disturb a badger while it is occupying a sett.

4.5 Bird Species

- 4.5.1 Potential nesting bird habitat was identified on site within the woodland and scrub and along the riverbanks. A pigeon was seen to fly into the viaduct on 22nd October. The steel deck may support nesting birds.
- If vegetation clearance is scheduled within the main bird breeding season i.e. March – August, a check by an ecologist for the presence of active nests will be required for any vegetation scheduled to be removed, no more than 48 hours prior to the start of works.
- 4.5.2 If nests are present, then a minimum 5m exclusion zone should be established around the nest(s) and no de-vegetation or other heavy machinery work should be carried out within the exclusion zone(s) until it is confirmed that the nest(s) is completed and that the young have fledged.
- 4.5.3 The Wildlife and Countryside Act 1981 (as amended) is the principal legislation affording protection to UK wild birds. All birds, their nest and eggs are protected by law under this legislation, it is an offence (with certain exceptions), to recklessly or intentionally:



- Intentionally kill, injure or take any wild bird.
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built.
- Intentionally take or destroy the egg of any wild bird.
- Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

4.5.4 **Note:** Nesting birds found outside of nesting season are protected by the same level of protection as that within the standard nesting period.

4.5.5 The data search returned records for Snipe (10), Red Kite (3), Kingfisher (5), Lapwing (9) and Barn Owl (9). Full records are available on request.

4.5.6 Several species of gulls and waders were noted feeding on the mudflats close to the viaduct. It is recommended that a wintering bird survey is undertaken during the 2021/22 survey period. The improved grassland to the north which borders the River Usk may also support migratory and feeding birds such as Lapwing and Snipe, and it is recommended that this habitat is included within these surveys and agreed with NRW.

4.6 Amphibians and Reptiles

4.6.1 The data search returned records for Great Crested Newt (4), Palmate newt (1), Slow worm (14), Adder (1), Grass snake (3), Common Frog (25) and common toad (5).

4.6.2 The habitats on site including the woodland, grassland and scrub and the drainage ditches/channels to the north may support common reptiles and amphibians. Furthermore, the railway corridor may provide opportunities for common reptiles for shelter, basking and foraging.

4.6.3 The presence of reptiles and amphibians was not visually confirmed during the ecological assessment (presence or absence surveys have not been undertaken).

4.6.4 Vegetation clearance works should be undertaken under ecological supervision. If, during the works, a GCN is found, **works will stop (this is a legal requirement)**. Natural Resources Wales (NRW) will be consulted and a development license secured if required.

4.6.5 As a European Protected Species (EPS), GCN receive full protection under the Wildlife and Countryside Act 1981 (as amended), the 2017 Conservation and Species Regulations (as amended) and the Countryside and Rights of Way Act (CROW) 2000, which make it illegal to:

- Sell, offer for sale, possess, advertise or transport for the purpose of sale;
- Intentionally or deliberately capture, injure or kill GCN;
- Deliberately disturb GCN;
- Damage or destroy a breeding site or resting place;
- Intentionally or recklessly disturb GCN from, or damage, destroy or obstruct access to, a place used for shelter or protection.



4.6.6 All commonly occurring reptile species (common lizard, slow worm, grass snake and adder) are protected by UK law, making it an offence to injure or kill them. Care must be taken to avoid killing or injuring reptiles & amphibians. All commonly occurring reptile species (common lizard, slow worm, grass snake and adder) are protected by UK law, making it an offence to injure or kill them. Care must be taken to avoid killing or injuring reptiles & amphibians. All reptile species are partially protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This legislation protects reptiles from:

- Reckless or intentional killing and injury.
- Selling, offering for sale, possessing or transporting for the purpose of the sale or publishing advertisements to buy or sell a protected species.

Where these animals are confirmed as present on land that is to be affected by development, guidance recommends that:

- The animals should be protected from injury or killing during construction operations;
- Mitigation should be provided to maintain the conservation status of the species locally.

4.6.7 Precautionary methods to avoid injury or death of reptiles potentially present on site will include:

- Vegetation removal to be undertaken in a **slow, systematic manner** to allow any animals present to disperse safely away from the site and adjacent suitable habitat;
- If, during the works, a reptile is found, **works will stop (this is a legal requirement)**. The animal (if unharmed) should be allowed to disperse of its own accord;
- If any injured reptiles are found during the works on site, these will be carefully placed into a clean bucket containing some vegetation and covered over in a quiet place away from the works and an ecologist or local wildlife hospital must be contacted immediately.

4.7 Otter and Water Vole

- 4.7.1 The data search returned records of Otter (49) and Water Vole (4) within the 2km search radius. The closest otter records were located directly underneath the viaduct to the southern arches.
- 4.7.2 Possible otter footprints were noted on both survey visits beneath the southern arch. A search was made (where accessible and safe to access) of the southern riverbank in the vicinity of the viaduct during the PEA. It is recommended an otter survey is undertaken of the northern bank (Caerleon) to search for potential holts/ resting places and signs of recent otter activity (spraint and prints/tracks).
- 4.7.3 The various ditches and drainage channels within the improved grassland to the north may support Water Vole. The proposed access route crosses adjacent to a drainage channel within the grassland. It is therefore recommended that surveys for otter and water vole are undertaken and camera traps deployed at the structure.

4.8 Other protected species

- 4.8.1 Hedgehogs are protected in under Schedule 6 of the Wildlife and Countryside Act (1981) and are also listed under the Environment (Wales) Act 2016.



- 4.8.2 The Wild Mammals Protection Act (1996) makes it an offence to crush or asphyxiate any wild mammal. This may apply during site clearance works, particularly where burrowing mammals such as rabbit and fox are present, as such animals could be crushed or asphyxiated in their burrows by heavy machinery.

4.10 Invasive Species

- 4.10.1 Japanese Knotweed was present in places within the woodland and dense scrub. Clearance works should avoid the spread of this species.

5 References

CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal – Second Edition*.

Collins (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London.

Conservation of Habitats and Species Regulations 2017. [online] :
<http://www.legislation.gov.uk/ukxi/2017/1012/contents/made> [Accessed 10/2021].

Environment (Wales) Act 2016. [online] Available at: <http://www.legislation.gov.uk/anaw/2016/3/contents/enacted> [Accessed 10/2021].

English Nature (2004). *Reptiles: Guidelines for Developers*. Published by English Nature.

Environment Agency (2006). *The knotweed code of practice – Managing Japanese knotweed on development sites*.

Environmental Permitting (England and Wales) Regulations 2007. Environmental Protection (Duty of Care) Regulations 1991.

Google Maps (<https://www.google.co.uk/maps>) – accessed 10/2021

Joint Nature Conservation Committee (2010). *Handbook for Phase 1 Habitat Survey; A Technique for Environmental Audit*.

<http://jncc.defra.gov.uk>

<http://magic.defra.gov.uk/MagicMap.aspx>

Natural Resources Wales (2021). [online] Available at: <https://naturalresources.wales> [Accessed 10/2021].

Ordnance Survey Maps (2021). [online] Available at: <https://osmaps.ordnancesurvey.co.uk/> [Accessed 10/5/2021].

Protection of Badgers Act 1992. [online] Available at: <http://www.legislation.gov.uk/ukpga/1992/51/contents> [Accessed 24/5/2021].

Welsh Government (2018) *Planning Policy Wales* - Edition 10.



Wildlife and Countryside Act 1981. [online] <http://www.legislation.gov.uk/ukpga/1981/69/contents> [Accessed 24/5/2021].

Institute for Ecology and Environmental Management (2012). Guidelines for Preliminary Ecological Appraisal.

<https://jncc.gov.uk>

Joint Nature Conservation Committee (2010) Handbook for Phase 1 Habitat Survey - A Technique for Environmental Audit, Revised print, Joint Nature Conservation Committee, Peterborough.