EXTENDED PHASE 1 SURVEY REPORT

Swindon Kennels Bridge, Northumberland, NE61 4LP

Northumberland County Council

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EXTENDED PHASE 1 HABITAT SURVEY

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1.0 EXECUTIVE SUMMARY

Total Ecology was commissioned by Northumberland County Council in April 2018 to undertake a desk based study and a Phase 1 habitat survey of Swindon Kennels Bridge, Northumberland. The approximate National Grid Reference for the centre of the site is **NY 97336 99679**. The survey is required prior to works upon the bridge.

The results obtained from the MAGIC search revealed 2 designated sites within 2km of site; River Coquet and Coquet Valley Woodlands Site of Special Scientific Interest (SSSI), approximately 185m north, Simonside Hills SSSI and Simonside Hills Special Area of Conservation (SAC) both 1.4km south of site. The consultation with ERIC NE revealed no local wildlife sites within 2km.

Six main habitat categories were identified within the area under the Phase 1 system of habitat description. These were hardstanding, running water, improved grassland, semi-improved grassland, scattered trees and fence.

Habitats on site that have the potential to support protected species include running water, scattered trees and grassland habitats; birds may use all habitats to drink, nest and forage, with small mammals potentially using semi-improved grassland for shelter, and riparian mammals, crayfish and fish utilising running water.

Any works affecting scattered trees on site, with the exception of minor pruning of overhanging branches, will require a nesting bird check if carried out during the bird nesting season (March – September), although ideally works will take place outside of the nesting season to avoid impacting on nesting birds.

The site provides potential for otter resting places in the form of overhanging trees on the banks of the burn. Banksides are also considered suitable for water vole. It will therefore be necessary to carry out dedicated otter and water vole surveys.

One record was returned for white-clawed crayfish within 2km of site, in the River Coquet. As Grasslees Burn flows into the River Coquet and the watercourse is deemed suitable for white-clawed crayfish, further survey effort is recommended.

No evidence of mammals was found on site, however, it is likely small mammals such as voles and shrews may use the hedgerow, woodland and grassland on site. As such, working methods should be followed to ensure that all mammals are safeguarded. This includes safe storage of materials that may be poisonous to mammals and the covering of any steep-sided excavations at night (or a ramp placed inside the excavation) to allow egress to any mammals that may become trapped.

It is recommended that general pollution prevention guidance is adopted during works where necessary to prevent pollutants entering the watercourse. All contractors should be fully briefed on the pollution control measures to be adopted on site and the importance of not allowing waste materials or pollutants to enter the watercourse.

See section 5 for full details of recommendations.

2.0 INTRODUCTION

2.1 Background

Total Ecology was commissioned by Northumberland County Council in April 2018 to undertake a desk based study and a Phase 1 habitat survey of Swindon Kennels Bridge, Northumberland. The approximate National Grid Reference for the centre of the site is **NY 97336 99679**. The survey is required prior to works upon the bridge.

2.2 Site Description

The site is made up of a minor road running across Grasslees Burn, which flows into the River Coquet approximately 286m north-east of site. The bridge is located approximately 1.3km south-west of the village of Hepple, within Northumberland, with Rothbury being the nearest town, approximately 8.1km north-east of site. Immediately adjacent to site is Harehaugh Farm. Other than these small number of buildings, the site is largely surrounded by grassland and moorland, with some scattered moorland. The area south of site is largely dominated by heath. To the north, land is a mixture of pasture and arable with hedgerows surrounding many fields.

2.3 Survey Objectives

The principal objective of the ecological assessment was to characterise and map the habitats present within the site. In addition, the study area was assessed for features that would indicate the presence of protected species, habitats of nature conservation importance and the presence of non-native invasive species that could represent a constraint to development. Any trees and surrounding habitats were assessed in terms of their potential to support, or actual evidence of, roosting bats. This assessment will form the basis of recommendations for further survey work and/or mitigation and compensation for the species.

3.0 METHODOLOGY

3.1 Desk Based Study

An area search was conducted using the Multi Agency Geographic Information for the Countryside (MAGIC) website to ascertain whether there are any designated sites of interest, on or near the site being surveyed. Environmental Records Information Centre North East (ERIC NE) was contacted for records of protected species and sites within 2km of the site.

3.2 Extended Phase 1 Survey

The ecological assessment and bat risk assessment took place on Monday 9th April 2018 in accordance with the standard Phase 1 Habitat Survey methodology (JNCC, 2010). The survey was carried out by Karen Devenney CIEEM Senior Ecologist accompanied by Laura Thompson BSc (Hons) Assistant Ecologist employed by Total Ecology. The information collected during the survey was then approximately mapped and can be found in Figure 3, Appendix A.

3.3 Controlled Invasive Species

The site was surveyed during an Ecological Walkover survey for the presence of invasive non-native species including Japanese knotweed *Fallopia japonica,* Himalayan balsam *Impatiens glandulifera* and giant hogweed *Heracleum mantegazzianum* and cotoneaster *Cotoneaster spp.*, which are listed under Schedule 9 part ii of the Wildlife and Countryside Act 1981 (as amended). Under section 14 of the Act it is an offence to cause the spread or relocation of either species.

3.4 Protected Species and Other Species of Nature Conservation Importance

An appraisal of the habitats present on the site was undertaken during the Ecological Walkover survey, to identify whether there were any signs to suggest the presence of populations of legally protected species or other species of nature conservation importance including mammals, birds, reptiles, amphibians and invertebrates or that the features present could potentially provide these species with suitable habitats. Where possible, a buffer of 30m outside of the site boundary was also assessed for signs of badger.

3.5 Constraints and Assumptions

Due to the time of year some annual flowering species may be under represented. However due to the identification of a variety of common and widespread species,

habitats present and the experience of the surveyors, it is considered that there is sufficient information to produce a reasonable ecological assessment of the areas of site to be affected by the current proposals.

4.0 SURVEY RESULTS

4.1 Desk Based Study

The results obtained from the MAGIC search revealed 2 designated sites within 2km of site; River Coquet and Coquet Valley Woodlands Site of Special Scientific Interest (SSSI), approximately 185m north, Simonside Hills SSSI and Simonside Hills Special Area of Conservation (SAC) both 1.4km south of site. The consultation with ERIC NE revealed no local wildlife sites within 2km.

A summary of designated sites within 2km of the land in question is given in Table 1 below. Summarised data relating to other species of conservation concern is incorporated into the relevant species sections below.

Table 1 Designated sites within 2km.

Site Name	**Designation**	**Approx. Distance from Site**	**Further Information**
River Coquet and Coquet Valley Woodlands	SSSI	185m north	The River Coquet runs about 90km (57 miles) across Northumberland, from its tributaries south of Cheviot summit to reach the sea below Warkworth. As a relatively unmodified fast-flowing upland river supporting characteristic fauna and flora the Coquet is of key significance in the national resource fir nature conservation. The river vegetation shows a natural succession from mineral poor upland streams, through to vegetation which reflects the characteristics of gravel, sandstone, limestone and alluvial sediments of the middle and lower reaches. The river is one of the most important game fisheries in the north of England, with large runs of sea trout and salmon. The fish are dependent on the rich insect life, of which the many species of mayfly are particularly significant. Coquetdale is a key area for otters and

			supports a high diversity of breeding birds which depend on riverine habitats. Many of the woodlands rear the river are seminatural and ancient woodland sites, representative of valley woodlands in Northumberland.
Simonside Hills	SSSI	1.4m south	This site comprises part of the Simonside Hills, a sandstone-ridge in central Northumberland. It is particularly important for the extent of heather-moorland which grades into blanket mire on wetter ground. Important woodlands with grassland, rock outcrops and moorland loughs contribute to the diversity of habitats at this site.
Simonside Hills	SAC	1.4km south	Annex I habitats that are a primary reason for selection of this site: **4030** European dry heaths Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: **7130** Blanket bogs (* if active bog) * Priority feature

4.2 Walkover Survey

Six main habitat categories were identified within the area under the Phase 1 system of habitat description. These were:

- Hardstanding
- Running water
- Improved grassland
- Semi-improved grassland
- Scattered Trees
- Fence

The buildings of Harehaugh Farm are adjacent to site but were not assessed as part of the site. Appendix A shows the habitat map for the site whilst Appendix B gives selected photographs.

Hardstanding (Photographs 1, 3 & 4, Appendix B)

Hardstanding is present in the form of the tarmac road running through site which forms the bridge. The bridge itself is formed of concrete and stone and features some cracks beneath.

Running Water (Photographs 1 – 3, Appendix B)

Grasslees Burn flows east to west through site, into the River Coquet. The river is approximately 7m wide, with a stony floor. At the time of survey the river was calm and clear.

Improved Grassland (Photographs 3 & 4, Appendix B)

Past the cottages to the south-east and to the south-west and north-east of the bridge, the fields are composed of improved grassland. Grass fields have clearly been grazed and currently have a very short sward, dominated by perennial rye-grass *Lolium perenne*.

Semi-improved Grassland (Photograph 4 & 5, Appendix B)

The field to the north-west of the bridge is made up of semi-improved grassland although this field is clearly also grazed, with sheep being noted in the field at the time of survey. Part of the field is waterlogged and dominated by soft rush *Juncus effusus* (Target note 1, Figure 3, Appendix A & Photograph 5, Appendix B). Species throughout the rest of the field include common nettle *Urtica dioica*, soft rush (although less frequent), lesser celandine *Ficaria verna*, dandelion *Taraxacum officinale*, some perennial rye-grass, spear thistle *Cirsium vulgare* and creeping buttercup *Ranunculus repens.*

There is a road verge south of the bridge, between the road and the south-eastern field which is also semi-improved grassland habitat, although species here differ slightly to those of the semi-improved grassland field. Species consist of perennial rye-grass, white clover *Trifolium repens*, daffodil *Narcissus pseudonarcissus*, red fescue *Festuca rubra*, rosebay willowherb *Chamaenerion angustifolium*, yarrow *Alchillea millefolium* and a species of parsley.

The understorey of the scattered trees to the north-east of the bridge is also composed of semi-improved grassland with only cock's-foot *Dactylis glomerata* and a species of moss noted as extra to other areas of semi-improved grassland across site.

Scattered Trees (Photographs 1 – 6, Appendix B)

Scattered trees are present along the northern and southern edges of the river both east and west of the bridge itself. Alder *Alnus glutinosa*, ash *Fraxinus excelsior*, sycamore *Acer pseudoplatanus* and hazel *Corylus avellana*. Two alders, one on either side of the river, were noted to have low bat risk potential (Target note 2, Figure 3, Appendix A & Photograph 6, Appendix B). Both trees had cracked limbs and the tree to the west also had rot holes.

Fence (Photographs 1, 3 & 4, Appendix B)

A fence runs between the road and fields on both the east and west elevations across the length of the site. Fences are wooden post and rail apart across the bridge itself where the fence is metal post and rail. Some parts of the fence also have a mesh covering, discouraging wildlife from crossing through. All fences hold negligible ecological value.

4.3 Controlled Invasive Species

No controlled species, as listed under Schedule 9 part ii of the Wildlife and Countryside Act 1981 (as amended), was recorded within the site boundary.

4.4 Protected Species and Species of Nature Conservation Importance

Breeding and wintering birds

All wild birds in the UK are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or to take, damage or destroy the nest (whilst being built or in use) or its eggs.

Bird species listed in Schedule 1 of the 1981 Act, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

During the site walkover, species including carrion crow *Corvus corone*, pheasant *Phasianus colchicus* and robin *Erithacus rubecula* were noted. These species are common and widespread and are unlikely to be affected by works.

The ERIC consultation data revealed 459 bird records within 2km of the site. Fifteen Schedule 1 species have been recorded including fieldfare *Turdus pilaris*, redwing *Turdus iliacus*, common crossbill *Loxia curvirostra*, brambling *Fringilla montifringilla*, kingfisher *Alcedo atthis*, barn owl *Tyto alba*, red kite *Milvus milvus,* peregrine *Falco peregrinus*, merlin *Falco columbarius*, hen harrier *Circus cyaneus*, goshawk *Accipiter gentilis*, green sandpiper *Tringa ochropus*, goldeneye *Bucephala clangula*, greylag goose *Anser anser* and whooper swan *Cygnus cygnus.* Schedule 1 species are afforded a higher degree of legal protection than common species. These species may use the site for foraging, with some of the songbirds also using trees on site to nest.

Mammals

Bats

All bat species and their roosts in Britain are protected under the Wildlife and Countryside Act 1981 (as amended) (WCA) through their inclusion on Schedule 5. The implementation of the Countryside and Rights of Way Act 2000 (CRoW 2000) has amended the WCA 1981 to include 'reckless' damage to, or destruction of a roost, disturbance of bats whilst in a roost.

Bats are also included on Annex IV of Council Directive 92/43/EEC of 21st May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (known as the Habitats Directive). As a result of the United Kingdom ratifying this directive, all British bats are protected under The Conservation of Habitats and Species Regulations 2010. Combined, these make it an offence to kill, injure, capture or disturb bats or obstruct access to, damage or destroy roosts.

Paragraph 41(1) (b) of the Regulations states: A person who deliberately disturbs wild animals of any such (European Protected) species, is guilty of an offence. For the purposes of this paragraph, the disturbance of animals includes in particular any disturbance which is likely: -

a. to impair their ability-

i. To survive, to breed or reproduce, or to rear or nurture their young, or
ii. In the case of animals of a hibernating or migratory species, to hibernate or migrate; or

b. to affect significantly the local distribution or abundance of the species to which they belong.

Under the law, a bat roost is any structure or place used for shelter or protection e.g. a building, bridge or tree. Bats use many roost sites and feeding areas throughout the year and they tend to re-use the same roosts for generations.

There are 65 records of bats within 2km of site with 8 species including common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctula*, Daubenton's bat *Myotis daubentonii*, Natterer's bat *Myotis nattereri*, whiskered bat, *Myotis mystacinus*, whiskered/ Brandt's bat *Myotis mystacinus/ brandtii* and brown long-eared bat *Plecotus auritus*.

Sixteen counts of roosts are within these 65 records with common pipistrelle, soprano pipistrelle, Daubenton's bat, whiskered bat, whiskered/ Brandt's bat and brown long-eared bat roosts recorded. There have been seven roosts recorded at Swindon, approximately 104m south of site, during 2015 encompassing common pipistrelle, soprano pipistrelle, whiskered/ Brandt's bat and brown long-eared bat. These are the closest records of bats to site.

The scattered trees and running water on site provide good connectivity and foraging opportunities for bats, however there were no features on the bridge itself deemed suitable for roosting bats. Two alder trees, one east of the bridge, and one to the west, were deemed to have low potential for roosting bats in the presence of cracked limbs and some rot holes.

Badger (*Meles meles)*

Badgers receive strict protection under the Protection of Badgers Act 1992, which makes it an offence to wilfully kill, injure or take a badger or interfere with a badger sett by damaging a sett or any part thereof. It is also an offence to wilfully destroy a sett, obstruct access to a sett or disturb a badger while occupying a sett. The 1992 Act defines a badger sett as 'any structure or place, which displays signs

indicating current use by a badger'. Work that disturbs badgers whilst occupying a sett is illegal without a licence.

Badgers are largely nocturnal, omnivorous mammals and live predominately in social groups within setts. They are territorial, marking the borders of the territory with dung which is deposited in latrines or boundary dung pits. Territories occupied by a badger group or 'clan' can be between 14 and 300 ha in size dependant on the quality of the habitats present, with a cited average of 50 ha (Neale and Cheeseman, 1996). Badger territories will usually include a wide range of habitats and favour areas with a mosaic of habitats that include woodland, pasture and arable land and will locate their setts in a variety of habitats including woodland (deciduous, coniferous and mixed), scrub, hedgerows, orchards, quarries, sea cliffs, moorland, open fields and downland, although they show a marked preference for wooded areas.

No records of badgers were provided within 2km of site and no evidence of badgers was noted across the site. No further survey effort is recommended for badgers.

Riparian mammals

Otter *Lutra lutra* is fully protected through its inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and in Schedule 2 of The Conservation (Natural Habitats, &c.) Regulations 1994 as a European protected species. It is an offence under the Wildlife and Countryside Act 1981 (sections 9(1) and 9(4), Schedule 5) to intentionally kill, injure or take any wild animal included on Schedule 5. Under Section 9(4) it is an offence to damage or destroy or obstruct access to, any structure or place which any wild animal include in Schedule 5 uses for shelter or protection, or disturb any such animal while it is occupying a structure or place which it uses for that purpose. The term given to places of shelter or protection for otters includes 'holt', 'couch' and 'den'. These terms all have slightly different origins and meaning, but all are related to places of shelter. Otter is also included as a priority species in the UK BAP.

Water vole *Arvicola terrestris* received habitat protection in 1998 through inclusion on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of Section 9(4) only. Under Section 9(4) it is an offence to damage or destroy or obstruct access to, any structure or place which any wild animal include in Schedule 5 uses for shelter or protection, or disturb any such animal while it is

occupying a structure or place which it uses for that purpose. Water vole is included in the UK BAP.

Otters have been recorded as exploiting virtually all types of waterway in the UK including fresh water and estuarine sites and ranging in size from ditches and ponds to rivers and reservoirs (Chanin, 2003). Riparian habitat for otters however requires adequate food resources (*e.g.* fish, amphibians, crayfish) and suitable shelter (typically trees, shrubs along watercourses and potential den sites). Water voles are typically associated with slow-flowing water ways and water bodies without extreme water level fluctuations. Water voles prefer sites with a bank profile (soft soil to permit excavation) that shows a stepped or steep incline into which the vole can burrow and create nest chambers above the water table. The amount of bank side and emergent vegetation cover is very important, with the best sites offering a continuous swathe of tall and luxuriant riparian plants (waterside vegetation of grasses, sedges and rushes, rhizomes, bulbs and roots of herbaceous plants). Sites excessively shaded by shrubs or trees are less favourable (Strachan and Moorhouse, 2006).

No records of water vole were provided but ERIC NE provided 7 records of otter evidence within 2km of site. However, six records are over 10 years old, being from 1996, with only one recent recording of spraint from 2010, noted 1km south-west from site. The riverbank was walked 30 metres either side of the bridge and, although no field signs for otter or water vole were noted, there were hanging trees along the banks, providing potential resting places for otter. The river banks along this section of the Grasslees Burn are also considered suitable for water voles. It will therefore be necessary to carry out further otter and water vole surveys.

Fish

A number of fish species, including the European eel *Anguilla anguilla*, river lamprey *Lampetra fluviatilis,* sea lamprey *Petromyzon marinus,* brook lamprey *Lampetra planeri,* Atlantic salmon *Salmo salar* and sea/brown trout *Salmo trutta*, are species of principle importance for the purpose of conservation of biodiversity under the Natural Environment and Rural Communities Act (2006), and should be taken into consideration by local authorities when determining planning applications.

Northumberland's rivers and streams are important locations for migratory salmonids in the UK. The gravels of the upland streams provide ideal breeding habitats and the good water quality supports both the diversity and richness of aquatic invertebrates needed as a food source.

Atlantic salmon and sea trout spend the early part of their lives in freshwater, defending the territories provided by the broken water of the gravels and boulders of the upland streams. Both species migrate to the sea once they are about two years old, only returning to rivers to breed. Spawning occurs in excavations in the gravel of the river bed. Brown trout differ to sea trout as they do not migrate, despite having exactly the same requirements and being genetically the same (Northumberland BAP, 2008).

Common or European eels are catadromous meaning they migrate from freshwater out to the ocean to reproduce. The European eel is found throughout the UK in streams and rivers, but has undergone a significant decline since 1980, due to overfishing, introduced parasites and the construction of dams and weirs which block migratory routes from rivers to the sea and cause fatalities in hydro-electric turbines (Freyhof J and Kottelat M, 2010). They are most often found on the floor of the river or estuary they are living in.

All three species of lamprey are found in UK rivers and are widely distributed throughout the British Isles. Both sea and river lampreys are anadromous, with adults typically inhabiting coastal and offshore waters (Maitland *et al*. 1994).The brook lamprey is a non-parasitic species that spends its whole life-cycle in fresh water. All three species spawn in fresh waters, and juveniles of all three species, known as ammocoetes, are found within the same catchments, using similar microhabitats, but with varying geographical distribution. Sea lampreys are typically found in the lower reaches of rivers, while river and brook lamprey are more closely associated with the middle and upper catchment, where their ranges often overlap. Lamprey show a preference for gravel-dominated substratum for spawning, and mainly silt and sand dominated substratum for nursery habitat. Other important environmental characteristics for optimal ammocoete habitat are shallow waters with low water velocity, and the presence of organic detritus and/or plant material. Spate rivers, with high flow velocities, tend to support fewer ammocoetes because they contain smaller areas of stable sediment (Harvey J and Cowx I, 2003).

Thirty records of fish were returned by ERIC NE within 2km of site. Species recorded include European eel *Anguilla anguilla*, Atlantic salmon *Salmo salar*, brown trout *Salmo trutta subsp. fario* and brook lamprey *Lampetra planeri*. Records span from 1988 – 2004 and are from Grasslees Burn itself, the closest record being only 88m south-west of site. Therefore, general pollution prevention is recommended to avoid any negative effects on fish with the river.

White-clawed crayfish (*Austropotamobius pallipes*)

White-clawed crayfish are classified as Endangered in the IUCN Red List of Endangered Species and their populations are declining throughout much of their range with predictions that the species will face extinction in much of their former range within the next few decades. White-clawed crayfish populations are under threat in Britain and Ireland from a fungal disease, crayfish plague *Aphanomyces astac*i, carried by a number of introduced North American species of crayfish, and competition from alien crayfish populations.

White-clawed crayfish are protected under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). Under this Act, it is an offence to:

- Intentionally take white-clawed crayfish from the wild;
- Sell, or attempt to sell, any part of a white-clawed crayfish, alive or dead, or advertise that one buys or sells, or intends to buy or sell any part of a white-clawed crayfish.

White-clawed crayfish in England are also listed under Section 41 of the Natural Environment and Rural Communities Act (2006) and as such is a priority species for conservation. Government policy dictates that local planning authorities consider such species when determining planning applications.

The white-clawed crayfish occurs in areas with relatively hard, mineral-rich waters on calcareous and rapidly weathering rocks. They are found in a wide variety of environments, including canals, streams, rivers, lakes, reservoirs and water-filled quarries. The white-clawed crayfish is typically found in watercourses of 0.75m to 1.25m deep, but the species may occur in very shallow streams (about 5cm of water) and in deeper, slow-flowing rivers (2.5m). The white-clawed crayfish typically occupies cryptic habitats under rocks and submerged logs, among tree roots, algae and macrophytes, and holes in undercut banks. It emerges to forage for food, mainly at night. Juveniles in particular may also be found among cobbles

and detritus such as leaf litter. Adults may burrow into suitable substrates, particularly in the winter months.

Grasslees Burn at the point of survey was approximately 7m wide, stony and clear. The burn is considered suitable for white-clawed crayfish. One record was returned for white-clawed crayfish within 2km of site; this record is from 1997, from the River Coquet, approximately 1km north-east of site. As the burn is considered to provide suitable habitat, further surveys are recommended.

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Habitats

Six main habitat land categories were identified on site under the Phase 1 system of habitat description. The site is made up of a minor hardstanding road running across Grasslees Burn. The river is bordered by scattered trees along the length of the survey site and beyond. To the south-east of the bridge are the buildings making up Harehaugh Farm with grazed, improved grassland beyond. Improved grassland is also present to the north-east and south-west of the bridge, with the field to the north-west featuring greater species richness as a semi-improved field. Fences are present along the road verge.

Habitats on site that have the potential to support protected species include running water, scattered trees and grassland habitats; birds may use all habitats to drink, nest and forage, with small mammals potentially using semi-improved grassland for shelter, and riparian mammals, crayfish and fish utilising running water.

The recommended survey effort for protected species is based upon currently known proposed works. Any changes to these will require additional survey effort.

5.2 Protected Species Recommendations

Birds – Any works affecting scattered trees on site, with the exception of minor pruning of overhanging branches, will require a nesting bird check if carried out during the bird nesting season (March – September), although ideally works will take place outside of the nesting season to avoid impacting on nesting birds.

Bats – As the bridge does not provide any roosting features and the 2 alder trees near to the bridge only provide low potential for roosting bats, no further survey work is considered necessary for bats.

Badger – No records for badgers were provided and no signs of badger were noted during the walkover survey, therefore no further survey work is required.

Riparian Mammals – The site provides potential for otter resting places in the form of overhanging trees on the banks of the burn. Banksides are also

considered suitable for water vole. It will therefore be necessary to carry out dedicated otter and water vole surveys.

White-clawed Crayfish – One record was returned for white-clawed crayfish within 2km of site, in the River Coquet. As Grasslees Burn flows into the River Coquet and the watercourse is deemed suitable for white-clawed crayfish, further survey effort is recommended.

Other Mammals – No evidence of mammals was found on site, however, it is likely small mammals such as voles and shrews may use the hedgerow, woodland and grassland on site. As such, working methods should be followed to ensure that all mammals are safeguarded. This includes safe storage of materials that may be poisonous to mammals and the covering of any steep-sided excavations at night (or a ramp placed inside the excavation) to allow egress to any mammals that may become trapped.

Pollution Prevention – It is recommended that general pollution prevention guidance is adopted during works where necessary to prevent pollutants entering the watercourse. All contractors should be fully briefed on the pollution control measures to be adopted on site and the importance of not allowing waste materials or pollutants to enter the watercourse.

The following pollution control measures should be implemented:

- To prevent siltation of the watercourse, minimise the amount of exposed ground on banks from which surface water drains (e.g. caused by trampling and vehicle movements) and the period of time the ground is exposed

- Consider the use of geotextile silt fences at the toe of the slope where ground is exposed to reduce silt transport

- To minimise silt-laden water escaping downstream of the site, sediment control measures, such as, sedi-mats or straw bales should be utilised.

- Ensure any plant and wheel washing is carried out in a designated area of hard standing at least 10 metres from the watercourse or any surface

water drain leading to it. Ensure that run-off is collected in a sump and settled solids are removed regularly.

- Any concrete and cement mixing and plant and tool washing areas should be sited a minimum of 10 metres from any watercourse or surface water drain and on an impermeable surface to minimise the risk of run off entering the watercourse (Fresh concrete and cement are very alkaline and corrosive and can cause serious pollution). Collect wash waters and, where necessary, discharge to the foul sewer or contain for disposal off site. Wash waters from concrete and cement mixing, or plant or tool washing, should never be discharged in to the water environment.

- Fuel, oil and chemical storage on site must be secure. It should be sited on an impervious base within a secondary containment system such as a bund, not within 10m of any watercourse, and above flood water level.

- Spill kits approved for the stored materials should be kept close to the fuel, oil and chemical storage area and contactors should be trained in their correct use.

- The risk of spilling fuel is at its greatest during refuelling of plant. To minimise the risk, mobile plant should be refuelled in a designated area more than 10m from any water course or surface drain. Drip trays should be placed under portable generators.

- Biodegradable hydraulic oil should be used in plant working in or near watercourses. Biodegradable chainsaw bar lubricant should be used in chainsaws used above or near watercourses.

- If cleaning of stonework is to be undertaken use physical cleaning instead of liquid chemicals such as caustic and acid solutions. Wherever possible contain wastewaters from surface washing and agree the disposal method with the Environment Agency as part of an environmental management plan.

- Use vacuum attachments on power tools wherever possible to reduce dust generation. If using high-pressure water or steam cleaners to clean stone work avoid using grit blasting with slag-derived grit as this can

contain significant levels of heavy metals such as copper and can be toxic to the water environment. The use of garnet, low silica abrasive or recycled glass media with vacuum attachments will reduce the potential for contamination.

- All contractors should be fully briefed on the pollution control measures to be adopted on site and the importance of not allowing waste materials or pollutants to enter the watercourse.

- Any pollution incidents such as fuel spillage, discharge of contaminated or silt-laden run-off to a watercourse, or disturbance to the river bed should be immediately reported to the EA Incident Hotline on 0800 80 70 60.

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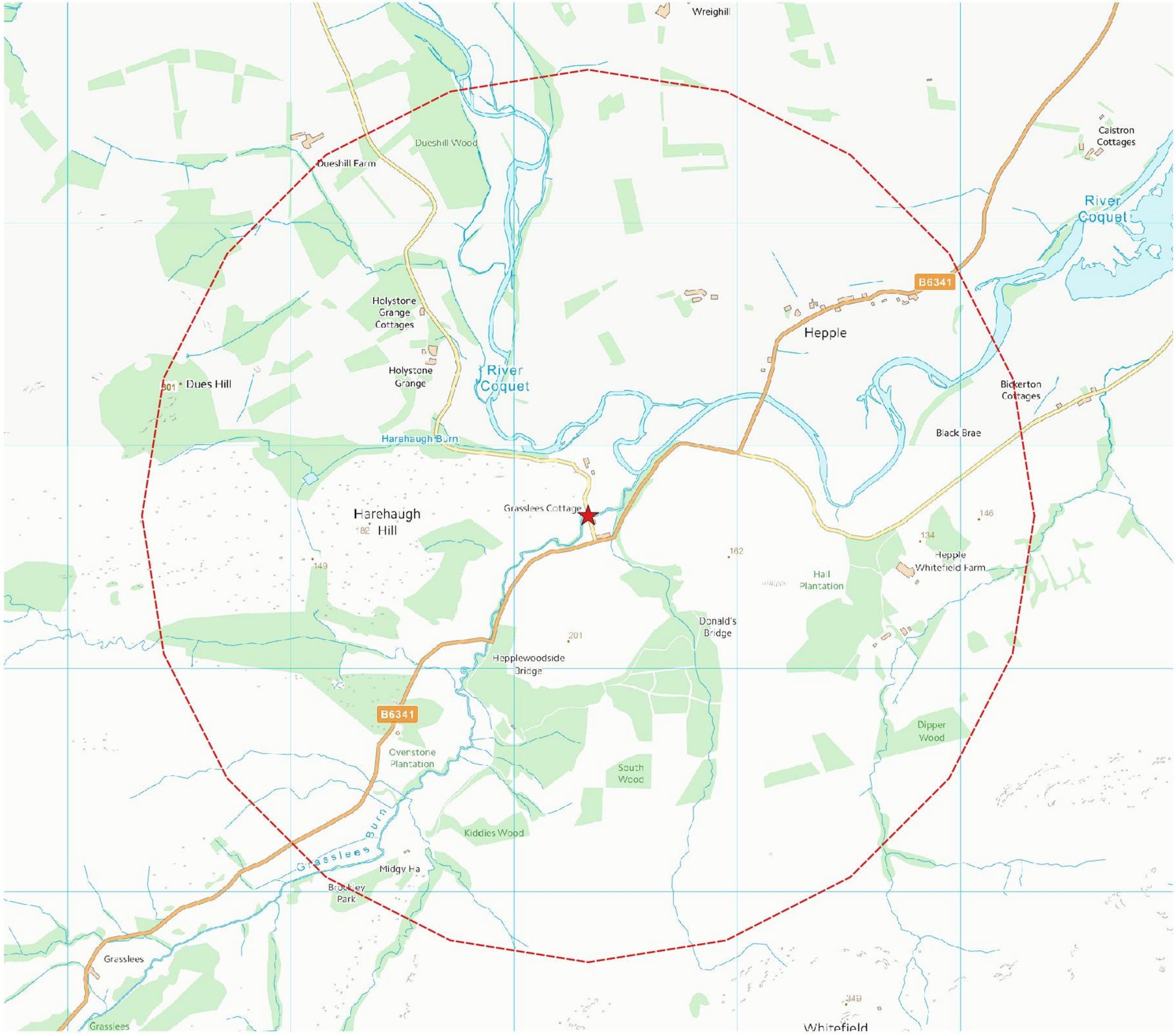
APPENDIX A

Figures



Legend

- Site Location
- 2km Buffer

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Project	Swindon Kennels Bridge
Title	Site Location
Client	Northumberland County Council
Date	24th May 2018
Ref	Figure 1

Legend

★ Site Location

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Project	Swindon Kennels Bridge
Title	Aerial Map
Client	Northumberland County Council
Date	22nd May 2018
Ref	Figure 2

Legend

- Hardstanding
- Semi-improved Grassland
- Improved Grassland
- Fence
- Scattered Trees
- Running Water
- Target Note

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Project	Swindon Kennels Bridge
Title	Habitat Map
Client	Northumberland County Council
Date	24th May 2018
Ref	Figure 3

APPENDIX B

Selected Photographs

Photograph 1 Swindon Kennels Bridge.

Photograph 2 Grasslees Burn with surrounding scattered trees.

Photograph 3 View of the bridge and habitats to the south, including Harehaugh Farm buildings.

Photograph 4 Bridge and habitats to the north.

Photograph 5 Semi-improved field to the north-west of the bridge.

Photograph 6 Alder tree with low bat roosting potential.

APPENDIX C
Report Conditions

Total Ecology Ltd

REPORT CONDITIONS

Swindon Kennels, Northumberland

This report is produced solely for the benefit of Northumberland County Council and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise.

This report is prepared for the proposed uses stated in the report and should not be used in a different context without reference to Total Ecology. In time improved practices, fresh information or amended legislation may necessitate a re-assessment. Opinions and information provided in this report are on the basis of Total Ecology using due skill and care in the preparation of the report.

This report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times.

This report is limited to those aspects reported on, within the scope and limits agreed with the client under our appointment. It is necessarily restricted and no liability is accepted for any other aspect. It is based on the information sources indicated in the report. Some of the opinions are based on unconfirmed data and information and are presented as the best obtained within the scope for this report.

Reliance has been placed on the documents and information supplied to Total Ecology by others but no independent verification of these has been made and no warranty is given on them. No liability is accepted or warranty given in relation to the performance, reliability, standing etc of any products, services, organisations or companies referred to in this report.

Whilst skill and care have been used, no investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather related conditions.

Although care is taken to select monitoring and survey periods that are typical of the environmental conditions being measured, within the overall reporting programme constraints, measured conditions may not be fully representative of the actual conditions. Any predictive or modelling work, undertaken as part of the commission will be subject to limitations including the representativeness of data used by the model and the assumptions inherent within the approach used. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions.

The potential influence of our assessment and report on other aspects of any development or future planning requires evaluation by other involved parties.

The performance of environmental protection measures and of buildings and other

structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Total Ecology accept no liability for issues with performance arising from such factors

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