

# Preliminary Ecological Appraisal

Uttoxeter Canal Bridge 70 (B3396)  
Crumpwood, nr. Denstone, Staffordshire



Final Report

Report no. P68.T56.12  
3<sup>rd</sup> September 2012

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# Project

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Report No: P67.T56.12

Date: 3<sup>rd</sup> Spetmeber 2012

Description: Preliminary Ecological Appraisal

## Client Details

Caldon and Uttoxeter Canals Trust  
Contact: Steve Wood

## Authors

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(Natural England Bat Licence no. 20121506)

## Checked by



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## Disclosure

*The information which I have prepared and provide is true, and has been prepared and given in accordance with the guidance of my professional institution's Code of Professional Conduct, and I confirm that the opinions expressed are my true and professional opinions*



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# Executive Summary

## *Background*

- On 7<sup>th</sup> August 2012 SES conducted a Preliminary Ecological Appraisal (PEA) of Uttoxeter Canal Bridge 70 and immediately surrounding habitat.
- The PEA was commissioned by the Caldon and Uttoxeter Canals Trust in order to ensure that proposed repair and restoration works to the bridge comply with statutory and non-statutory nature conservation regulation and policy.

## *Habitats*

- The site is located within a Site of Biological Importance (SBI) designated primarily for its semi-natural broad leaved woodland and neutral grassland. The proposed works are judged to pose negligible risk to the SBI, surrounding habitats and statutory designated sites in the wider area.
- The site and its immediate surrounds are infested with Himalayan Balsam. Working practices are recommended to limit potential spreading this invasive species off the site.

## *Protected Species*

- The bridge was judged to have moderate potential for both summer and winter (hibernation) bat roosts.
- As a result, further nocturnal exit / re-entry surveys and hibernation surveys of the bridge are recommended in accordance with current Bat Conservation Trust guidelines for structures with moderate roost potential.
- An ash tree adjacent to the bridge that may require removal was found to have moderate potential for roosting bats.
- As a result, further nocturnal exit / re-entry surveys of the ash tree are recommended in accordance with current Bat Conservation Trust guidelines.
- No evidence to suggest the presence of water vole or otter at the site was found.
- No further survey or specific mitigation regarding otter, water vole or badger is recommended. However, standard precautions to ensure the welfare of mammals that may pass through the site are recommended.
- No further survey or specific mitigation regarding freshwater white-clawed crayfish is recommended. However, working practices including sterilisation regimes are recommended to limit the potential for transference of crayfish plague.

- It is recommended that trees and vegetation should be cleared from the site outside the main bird nesting season of March through August.
- It is suggested that a nest box scheme comprising three bird nest boxes can be incorporated into the surrounding woodland by way of mitigation for the loss of trees from the site.

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# 1 Introduction

## 1.1 Site Description

The site is a historic single span stone masonry arch bridge which carries public right of way routes 40 and 43 over the disused Uttoxeter branch of the Caldon Canal. The span of the bridge is approximately 5m, with the deck varying between 3-5m wide. The site also includes several adjacent trees, the roots of which may pose a risk to the stability of the bridge.

A Structural Appraisal Report of the bridge undertaken by Staffordshire County Council in 2010 found the bridge to be in poor condition and in need of urgent attention to ensure the long term sustainability of the structure.

The immediately surrounding habitat is predominantly broadleaved woodland, set in a wider agricultural landscape. Mainly pastoral, the wider landscape is interspersed with large pockets of woodland to the north and west.

## 1.2 Proposed Works

Works recommended by the Structural Appraisal Report (Staffordshire County Council, 2010) are as follows:

- Remove all vegetation within 2.0 metres of the bridge footprint.
- Repair and re-point the Arch ring, spandrels, substructure and wing-walls.
- Waterproof and resurface the bridge deck.
- Install a timber safety fence parallel to each parapet.
- Remove all trees growing close to or out of the bridge structure.
- Repair and resurface the towpath below the bridge.

### 1.3 Aims of Survey

Staffordshire Ecological Services Ltd. was commissioned by Steve Wood of the Caldon and Uttoxeter Canals Trust in July 2012 to undertake a Preliminary Ecological Appraisal of the site.

The ecological surveys were commissioned to ensure that proposed repair / restoration works to the bridge are carried out in compliance with statutory / non-statutory nature conservation regulation and policy.

Approach:

- Assess the site with regard to the presence, potential presence or likely absence of protected/BAP species
- Identify the presence / likely absence of invasive species at the site
- Evaluate, where appropriate, the ecological features recorded
- Assess which ecological features may be subject to impact and advise on the need for more detailed surveys in order to further establish the level of impacts
- Identify potential for contravention of statutory and non-statutory nature conservation legislation and policy
- Make recommendations regarding precautions, mitigation, enhancements and/or management to ensure compliance with statutory and non-statutory nature conservation legislation and policy

For the purposes of this appraisal, the 'site', is defined as being the bridge itself and immediate adjacent habitats that may be affected by the works. The 'survey area' includes the site, and the disused section of canal 200m to the west and 150m to the east (see Figures 1.1 – 1.3).

Figure 1.1: Location Plan

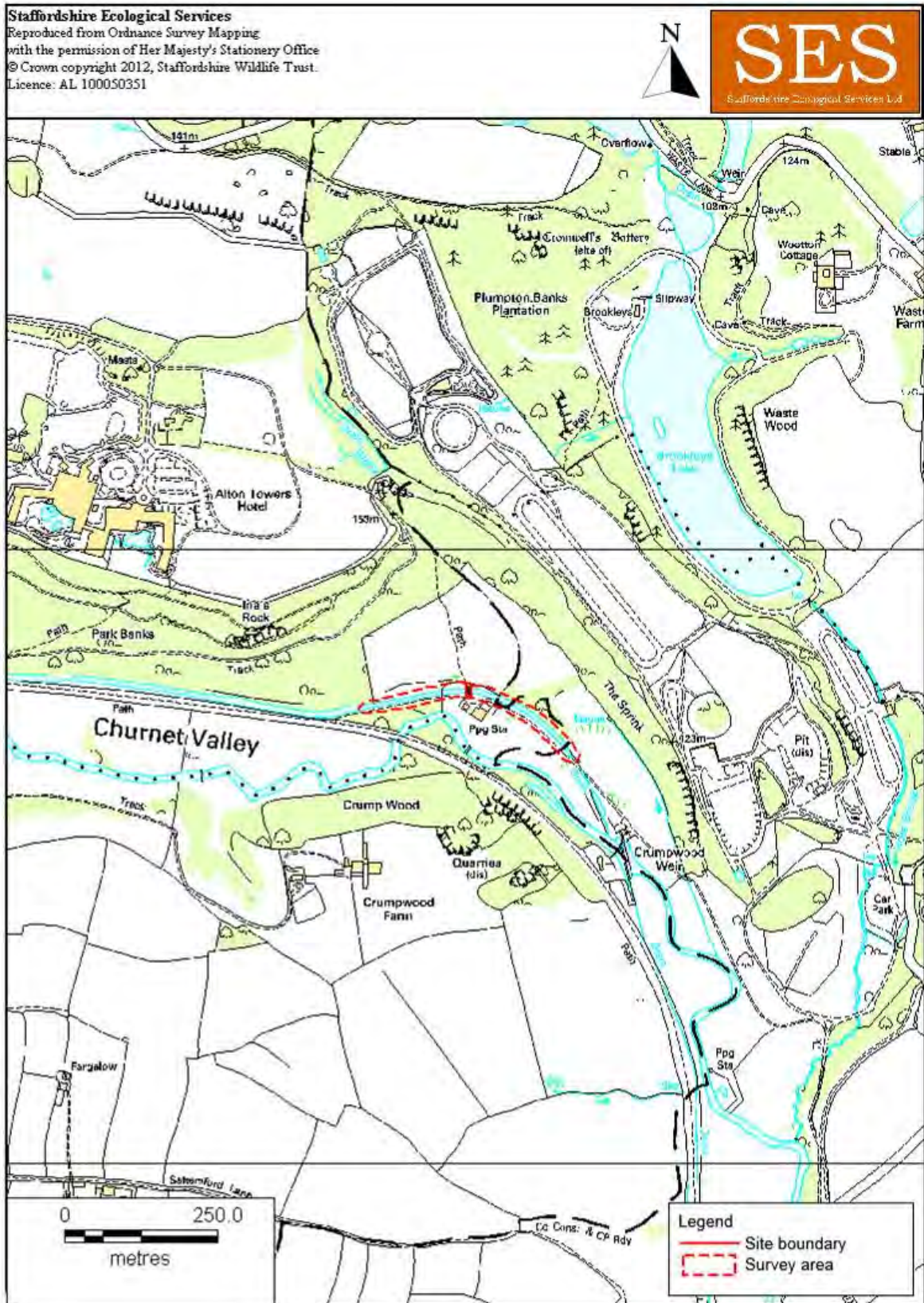
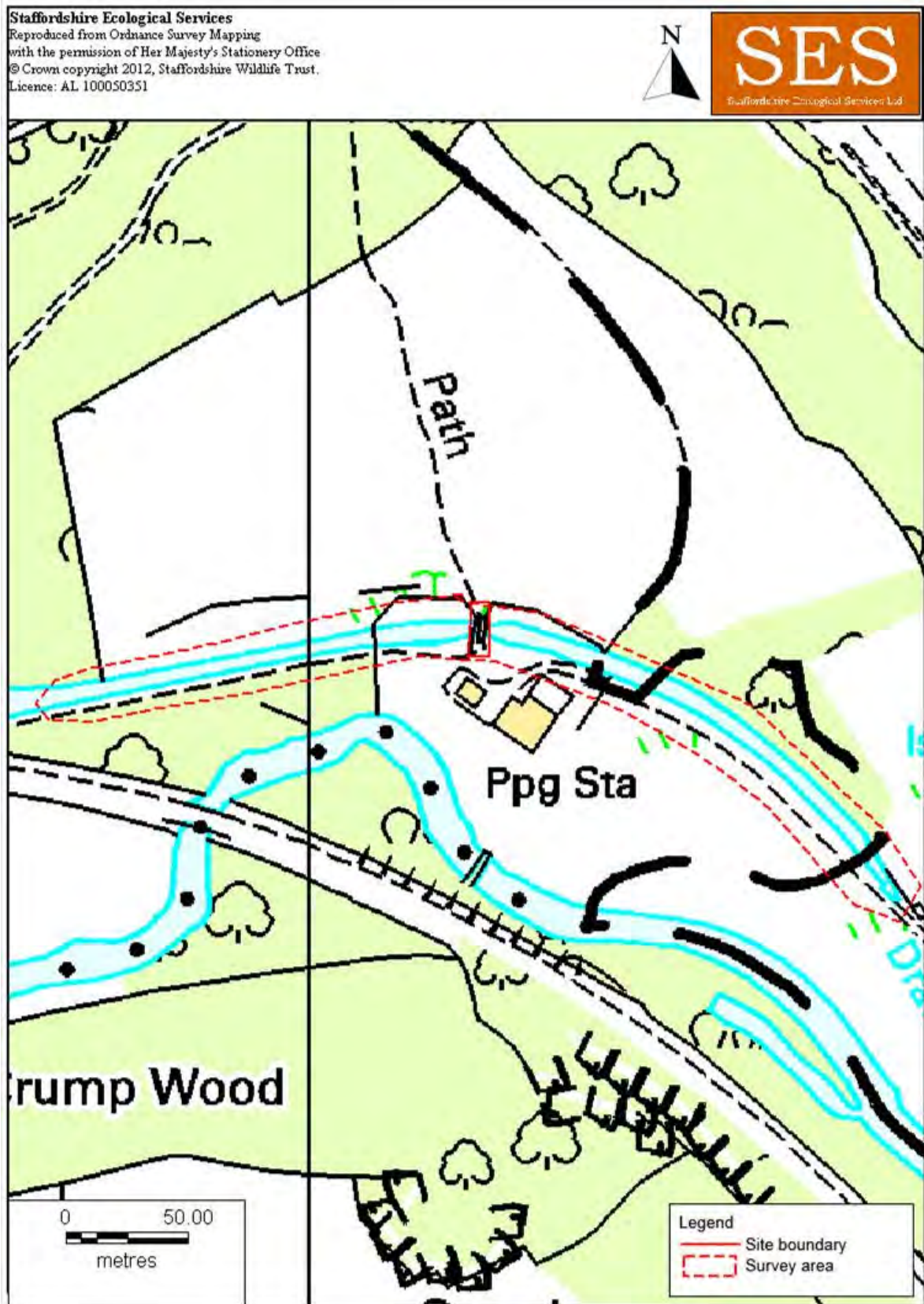




Figure 1.2: Aerial Photograph



Figure 1.3: Site and Survey Area Definition



# 2 Methodology

## 2.1 Summary of Survey Methods

### *Survey Design*

As the proposed works will be limited to the canal bridge itself and the immediately surrounding vegetation, which includes a number of mature and semi-mature trees, the Preliminary Ecological Appraisal focussed on determining the suitability of the site for bats, badger, water vole, otter, white-clawed crayfish and breeding birds.

The following criteria were used to determine the type and extent of the surveys carried out:

- Habitats present both on and immediately around the site.
- Habitat connectivity between the site and the wider area (e.g. hedgerows, water courses, shelter belts etc.).
- The proximity and nature of local protected / notable species records and designated sites compiled in the Pre-survey Data Search (2.2)
- The list of adjacent trees likely to be affected by the works as defined in supplied drawing CDB105/B3396/01 (Staffordshire County Council, November 2010).

Using the above criteria, the surveys as presented in Table 2.1 below were deemed sufficient to allow an effective appraisal of the ecological value of the site and the potential ecological impacts that may occur as a result of the proposed works. In order to best achieve survey aims, all methodologies were in accordance with relevant established nature conservation guidance.

Criteria for the ecological valuation of habitats and species are based on IEM *Guidelines for Ecological Impact Assessment in the United Kingdom*.

Table 2.1: Summary of Survey Methods and Scope

Survey details	Appropriateness of Methods	Geographical extent
<p><b>1<sup>st</sup> August 2012</b>  <b>Pre-survey Data Search (Protected Species &amp; Designated Sites)</b></p>	<p>IEEM Guidelines for Preliminary Ecological Appraisal (IEEM, 2012)            Bat Surveys Good Practice Guidelines (BCT, 2012).</p>	<p>1km of site boundary</p>
<p><b>7<sup>th</sup> August 2012</b>  <b>Preliminary Ecological Appraisal (PEA) site visit</b></p> <p>Preliminary Roost Assessment</p> <p>Scoping Survey for Badgers – field signs</p> <p>Scoping Survey for Nesting birds– field signs</p> <p>Survey for Water Vole, including search for burrows, latrines, lawns, feeding remains, prints, etc.</p> <p>White-clawed Crayfish (Habitat Assessment only)</p>	<p>IEEM Guidelines for Preliminary Ecological Appraisal (IEEM, 2012)</p> <p><b>Timing (Preliminary Roost Assessment – all year) Suitable</b>            In accordance with the methodologies outlined in the Bat Worker’s Manual (Mitchell-Jones &amp; McLeish, 2004), the Bat Mitigation Guidelines (Mitchell-Jones, 2004), the Bat Surveys Good Practice Guidelines (BCT, 2012). Specific methodologies used are provided in section 2.4.2 and 2.4.3 below.</p> <p><b>Timing: (all year although Feb-Apr, Oct-Nov optimal) Suitable</b>            In accordance with Surveying Badgers (Harris, 1989)</p> <p><b>Timing: (March-Aug) Suitable</b></p> <p><b>Timing: (March-Aug) Suitable</b>            Using methodologies from the Water Vole Conservation Handbook (Strachan, 2011)</p> <p><b>Timing: (Scoping/habitat assessment only, which can be done at any time)</b></p>	<p>Bridge structure and trees likely to be affected</p> <p>All areas within 20m of the bridge</p> <p>Bridge structure and trees likely to be affected</p> <p>Lengths of the disused canal 200m to the west and 150m to the east</p> <p>Lengths of the disused canal 200m to the west and 150m to the east</p>

## 2.2 Pre-survey Data Search

Staffordshire Ecological Record provided records of designated sites and protected species within 1km of the site boundary. Google maps and Ordnance Survey maps were also reviewed.

## 2.3 Surveyor Information

Table 2.2: Surveyor information

Surveyors	
<b>Richard Pearce BSc (Hons) AIEEM SES Ecologist</b> NE GCN Licence no. 20112615 NE Bat Licence no. 20121506	<b>Sophie Foster SES Undergraduate Trainee Ecologist</b>

## 2.4 Field Survey Methodology

### 2.4.1 Preliminary Roost Assessment Methodology- Bats

Table 2.3: Preliminary Roost Assessment Weather Conditions

Survey	Date & Time	Average Weather Conditions
Preliminary Roost Assessment of: 1) Bridge arch and elevations 2) Adjacent trees as likely to be affected	7 <sup>th</sup> August 2012 2pm – 5pm	Temp: 20 °C Humidity: 59% Wind speed: Beaufort 1 Wind direction: South -west Cloud cover: 20% Precipitation: None Light level: Unknown

A Preliminary Roost Assessment was carried out of the bridge and trees immediately adjacent. The inspection included a search of the majority of cavities under the bridge arch and the elevations. Several cavities on the northern part of the bridge arch could not be inspected as, although the water was shallow, the muddy canal bed was considered too unstable / soft to stand on to gain access.

Evidence that may suggest the presence of bats such as live bats, their droppings, staining, scratch marks, areas which were clear of cobwebs, etc. were noted where found. The majority of droppings which may have fallen from the arch would have entered the canal and disintegrated. However, the tow path that runs along the southern end of the arch and emergent debris in the channel were thoroughly inspected for droppings, as were the bridge elevations.

Suitable entry and exit points were examined for signs of bats. Equipment used included torches, binoculars and an endoscope (where accessible).

Factors affecting the general suitability of the bridge for bats were also noted. These include:

- Structural characteristics of the bridge
- Features that could provide potential access and roosting areas such as voids, gaps, crevices, cavities, gaps/voids in the masonry, etc.
- Level of disturbance (light, noise, etc.)
- Local landscape and habitat features that could be used by bats and the site's positioning in relation to flight corridors and potential foraging areas

The trees immediately adjacent to the bridge were assessed for their likelihood to support bats based on age, size, presence of cavities/crevices etc. The inspection of the trees was carried out from the ground using binoculars.

#### **2.4.2 Methodology - Other Protected Species**

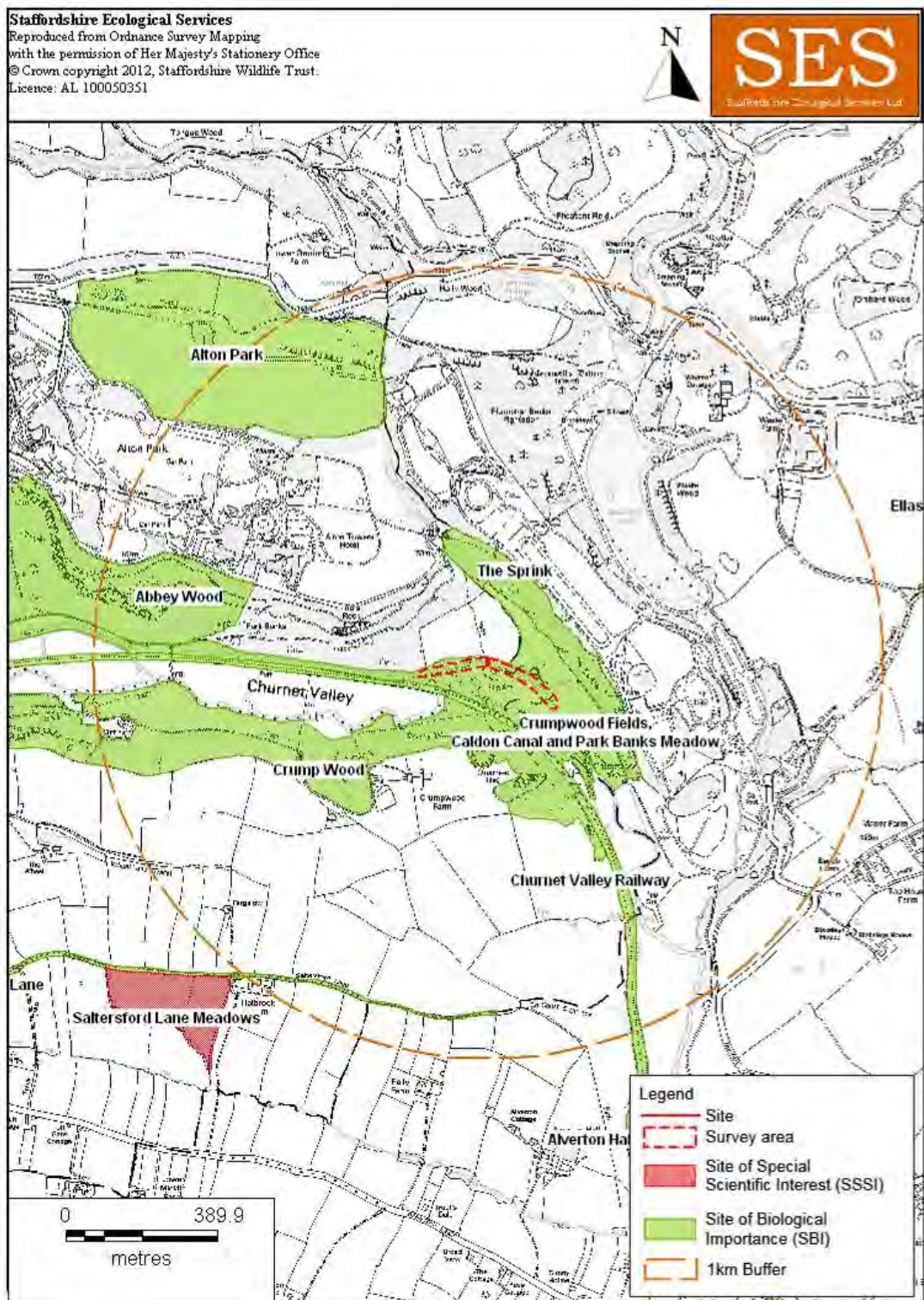
The habitat survey was extended to include targeted searches for field signs of, and habitat suitability for, other protected and / or notable species including water vole, otter and badger. A check for breeding birds was also carried out. Habitat was assessed for its likelihood of supporting white-clawed and / or non-native crayfish species.

# 3 Results

## 3.1 Pre-survey Data Search

### 3.1.1 Designated Sites

Figure 3.1: Designated sites within 1km



### **Statutory designated sites**

There are no statutory designated sites within 1km.

### **Locally designated sites**

The site lies within Crumpwood Fields, Caldon Canal and Park Banks Meadow Site of Biological Importance (SBI). The SBI is primarily designated for its semi-natural broad leaved woodland and neutral grassland. There are a number of other SBIs within 1km as shown on Figure 3.1. For all of the SBIs adjacent to Crumpwood Fields, Caldon Canal and Park Banks Meadow SBI, the primary habitat of interest is semi-natural broadleaved woodland and / or lowland mixed deciduous woodland.

### **Sites designated for Bat interest**

There are no statutory nature conservation sites designated for their bat interest within 10km of the site.

## **3.1.2 Protected and BAP Species**

Table 3.1 below contains a list of protected species records held by Staffordshire Ecological Record within 1km of the site. Distance information for Badger records is omitted due to the ongoing persecution of this species.

*Table 3.1: Relevant Protected Species recorded within a 1km radius of the site*

Informal Group	Common Name	Scientific name	Year	Distance from site (m)
bird	Barn Owl	Tyto alba	1997	510
bird	Barn Owl	Tyto alba	1998	510
bird	Brambling	Fringilla montifringilla	2004	637
bird	Common Goldeneye	Bucephala clangula	2006	835
bird	Common Goldeneye	Bucephala clangula	2006	835
bird	Common Goldeneye	Bucephala clangula	2006	835
bird	Common Goldeneye	Bucephala clangula	2009	835
bird	Common Goldeneye	Bucephala clangula	2009	835
bird	Common Goldeneye	Bucephala clangula	2011	835
bird	Common Goldeneye	Bucephala clangula	2003	835
bird	Common Goldeneye	Bucephala clangula	1998	835
bird	Common Goldeneye	Bucephala clangula	2011	835
bird	Common Goldeneye	Bucephala clangula	2011	835
bird	Common Goldeneye	Bucephala clangula	2010	835
bird	Common Kingfisher	Alcedo atthis	2002	637
bird	Common Kingfisher	Alcedo atthis	2006	835
bird	Common Kingfisher	Alcedo atthis	2003	835
bird	Common Kingfisher	Alcedo atthis	2003	637
bird	Common Kingfisher	Alcedo atthis	2005	835
bird	Common Kingfisher	Alcedo atthis	2005	835
bird	Common Kingfisher	Alcedo atthis	2005	835
bird	Common Kingfisher	Alcedo atthis	2007	510
bird	Common Kingfisher	Alcedo atthis	1997	984
bird	Common Kingfisher	Alcedo atthis	2007	835



bird	Common Kingfisher	Alcedo atthis	2003	835
bird	Common Kingfisher	Alcedo atthis	2003	835
bird	Common Kingfisher	Alcedo atthis	2005	637
bird	Common Kingfisher	Alcedo atthis	2005	637
bird	Common Kingfisher	Alcedo atthis	2005	637
bird	Common Kingfisher	Alcedo atthis	2005	835
bird	Common Kingfisher	Alcedo atthis	2005	835
bird	Common Kingfisher	Alcedo atthis	2004	835
bird	Common Kingfisher	Alcedo atthis	2006	637
bird	Common Kingfisher	Alcedo atthis	2003	835
bird	Common Kingfisher	Alcedo atthis	2003	637
bird	Common Kingfisher	Alcedo atthis	2006	835
bird	Common Kingfisher	Alcedo atthis	2006	835
bird	Common Kingfisher	Alcedo atthis	2007	835
bird	Common Kingfisher	Alcedo atthis	2007	510
bird	Common Kingfisher	Alcedo atthis	2003	835
bird	Common Kingfisher	Alcedo atthis	2005	637
bird	Common Kingfisher	Alcedo atthis	2000	835
bird	Common Kingfisher	Alcedo atthis	2010	835
bird	Common Kingfisher	Alcedo atthis	2010	835
bird	Common Kingfisher	Alcedo atthis	2010	835
bird	Common Kingfisher	Alcedo atthis	2006	835
bird	Common Kingfisher	Alcedo atthis	2006	835
bird	Common Kingfisher	Alcedo atthis	2006	835
bird	Common Kingfisher	Alcedo atthis	2010	835
bird	Common Kingfisher	Alcedo atthis	2009	835
bird	Common Kingfisher	Alcedo atthis	2009	835
bird	Eurasian Hobby	Falco subbuteo	2004	835
bird	Eurasian Hobby	Falco subbuteo	2007	510
bird	Eurasian Hobby	Falco subbuteo	2007	510
bird	Eurasian Hobby	Falco subbuteo	2003	637
bird	Ferruginous Duck	Aythya nyroca	2009	835
bird	Ferruginous Duck	Aythya nyroca	2010	835
bird	Ferruginous Duck	Aythya nyroca	2009	835
bird	Ferruginous Duck	Aythya nyroca	2005	835
bird	Ferruginous Duck	Aythya nyroca	2005	835
bird	Ferruginous Duck	Aythya nyroca	2010	835
bird	Ferruginous Duck	Aythya nyroca	2010	835
bird	Ferruginous Duck	Aythya nyroca	2005	835
bird	Ferruginous Duck	Aythya nyroca	2010	835
bird	Ferruginous Duck	Aythya nyroca	2010	835
bird	Fieldfare	Turdus pilaris	2007	510
bird	Fieldfare	Turdus pilaris	2006	835
bird	Fieldfare	Turdus pilaris	2007	835
bird	Fieldfare	Turdus pilaris	2007	510
bird	Great Northern Diver	Gavia immer	2002	835
bird	Greater Scaup	Aythya marila	2000	835
bird	Greater Scaup	Aythya marila	2010	835
bird	Greater Scaup	Aythya marila	2010	835
bird	Greater Scaup	Aythya marila	2010	835
bird	Greater Scaup	Aythya marila	2010	835
bird	Greater Scaup	Aythya marila	2010	835
bird	Greater Scaup	Aythya marila	2009	835
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bird	Greater Scaup	Aythya marila	2009	835
bird	Greater Scaup	Aythya marila	2010	835
bird	Greater Scaup	Aythya marila	2000	835
bird	Greater Scaup	Aythya marila	2010	835
bird	Greater Scaup	Aythya marila	2000	835
bird	Greater Scaup	Aythya marila	2001	835
bird	Greater Scaup	Aythya marila	2010	835
bird	Greater Scaup	Aythya marila	2009	835
bird	Greater Scaup	Aythya marila	2001	835
bird	Greater Scaup	Aythya marila	2010	835
bird	Greater Scaup	Aythya marila	2009	835
bird	Greater Scaup	Aythya marila	2010	835
bird	Greater Scaup	Aythya marila	2010	835
bird	Greater Scaup	Aythya marila	2010	835
bird	Greylag Goose	Anser anser	2007	835
bird	Greylag Goose	Anser anser	2006	835
bird	Greylag Goose	Anser anser	2003	835
bird	Greylag Goose	Anser anser	2004	835
bird	Greylag Goose	Anser anser	2010	835
bird	Greylag Goose	Anser anser	2004	835
bird	Greylag Goose	Anser anser	2005	835
bird	Greylag Goose	Anser anser	2007	835
bird	Greylag Goose	Anser anser	2003	835
bird	Greylag Goose	Anser anser	2003	835
bird	Greylag Goose	Anser anser	2003	835
bird	Greylag Goose	Anser anser	2005	835
bird	Greylag Goose	Anser anser	2005	835
bird	Greylag Goose	Anser anser	2004	835
bird	Greylag Goose	Anser anser	2004	835
bird	Greylag Goose	Anser anser	2005	835
bird	Greylag Goose	Anser anser	2004	835
bird	Greylag Goose	Anser anser	2003	835
bird	Greylag Goose	Anser anser	2003	835
bird	Greylag Goose	Anser anser	2003	835
bird	Greylag Goose	Anser anser	2004	835
bird	Greylag Goose	Anser anser	2005	835
bird	Greylag Goose	Anser anser	2007	835
bird	Greylag Goose	Anser anser	2003	835
bird	Greylag Goose	Anser anser	2007	835
bird	Greylag Goose	Anser anser	2010	835
bird	Greylag Goose	Anser anser	2010	835
bird	Greylag Goose	Anser anser	2011	835
bird	Greylag Goose	Anser anser	2011	835
bird	Greylag Goose	Anser anser	2006	835
bird	Greylag Goose	Anser anser	2010	835
bird	Greylag Goose	Anser anser	2010	835
bird	Merlin	Falco columbarius	2003	835
bird	Merlin	Falco columbarius	2003	637
bird	Northern Goshawk	Accipiter gentilis	2004	637
bird	Northern Goshawk	Accipiter gentilis	2000	637
bird	Northern Goshawk	Accipiter gentilis	2000	637
bird	Northern Goshawk	Accipiter gentilis	2005	835
bird	Northern Goshawk	Accipiter gentilis	2005	835
bird	Northern Pintail	Anas acuta	2005	835

bird	Northern Pintail	<i>Anas acuta</i>	2005	835
bird	Northern Pintail	<i>Anas acuta</i>	2007	835
bird	Northern Pintail	<i>Anas acuta</i>	2005	835
bird	Northern Pintail	<i>Anas acuta</i>	2007	835
bird	Northern Pintail	<i>Anas acuta</i>	2005	835
bird	Northern Pintail	<i>Anas acuta</i>	2005	835
bird	Northern Pintail	<i>Anas acuta</i>	2004	835
bird	Northern Pintail	<i>Anas acuta</i>	2004	835
bird	Northern Pintail	<i>Anas acuta</i>	2005	835
bird	Peregrine Falcon	<i>Falco peregrinus</i>	2010	835
bird	Peregrine Falcon	<i>Falco peregrinus</i>	2000	637
bird	Peregrine Falcon	<i>Falco peregrinus</i>	2005	835
bird	Peregrine Falcon	<i>Falco peregrinus</i>	2010	835
bird	Peregrine Falcon	<i>Falco peregrinus</i>	2009	835
bird	Peregrine Falcon	<i>Falco peregrinus</i>	2009	835
bird	Red Kite	<i>Milvus milvus</i>	2010	835
bird	Red Kite	<i>Milvus milvus</i>	2009	835
bird	Redwing	<i>Turdus iliacus</i>	2005	637
bird	Redwing	<i>Turdus iliacus</i>	2000	637
bird	Redwing	<i>Turdus iliacus</i>	2011	637
bird	Redwing	<i>Turdus iliacus</i>	2004	637
bird	Redwing	<i>Turdus iliacus</i>	2007	510
bird	Redwing	<i>Turdus iliacus</i>	2006	835
bird	Redwing	<i>Turdus iliacus</i>	2006	835
bird	Redwing	<i>Turdus iliacus</i>	2004	637
bird	Redwing	<i>Turdus iliacus</i>	2004	637
bird	Redwing	<i>Turdus iliacus</i>	2006	637
bird	Redwing	<i>Turdus iliacus</i>	2007	510
bird	Redwing	<i>Turdus iliacus</i>	2004	510
bird	Redwing	<i>Turdus iliacus</i>	2003	637
bird	Redwing	<i>Turdus iliacus</i>	2000	637
bird	Redwing	<i>Turdus iliacus</i>	2007	510
bird	Ruddy Shelduck	<i>Tadorna ferruginea</i>	2006	835
bird	Whooper Swan	<i>Cygnus cygnus</i>	2010	835
mammal - bat	Brown Long-eared Bat	<i>Plecotus auritus</i>	2008	262
mammal - bat	Daubenton's Bat	<i>Myotis daubentonii</i>	2007	990
mammal - bat	Daubenton's Bat	<i>Myotis daubentonii</i>	2002	510
mammal - bat	Myotis Bat species	<i>Myotis</i>	2008	262
mammal - bat	Natterer's Bat	<i>Myotis nattereri</i>	2008	399
mammal - bat	Pipistrelle	<i>Pipistrellus pipistrellus sens. lat.</i>	1982	510
mammal - bat	Pipistrelle	<i>Pipistrellus pipistrellus sens. lat.</i>	1982	835
mammal - bat	Pipistrelle	<i>Pipistrellus pipistrellus sens. lat.</i>	2002	510
mammal - bat	Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	2008	262
mammal - carnivore	Eurasian Badger	<i>Meles meles</i>	2011	xxx
mammal - carnivore	Eurasian Badger	<i>Meles meles</i>	2000	xxx
mammal - carnivore	Eurasian Badger	<i>Meles meles</i>	2008	xxx
mammal - carnivore	European Otter	<i>Lutra lutra</i>	2002	510
mammal - carnivore	European Otter	<i>Lutra lutra</i>	2008	284
mammal - carnivore	European Otter	<i>Lutra lutra</i>	2008	369
mammal - rodent	European Water Vole	<i>Arvicola amphibius</i>	1982	510
mammal - rodent	European Water Vole	<i>Arvicola amphibius</i>	1982	510
mammal - rodent	European Water Vole	<i>Arvicola amphibius</i>	1982	835

Staffordshire Ecological Record (SER) holds no records of white-clawed crayfish within a 1 km radius of the site.

## **3.2 Field Surveys**

### **3.2.1 General Habitat Description**

The site lies within an area of semi-natural broadleaved woodland. The canopy is dominated by alder (*Alnus glutinosa*), although a number of other broadleaved natives are present, along with occasional conifers.

The bridge spans the disused Uttoxeter branch of the Caldon Canal, which has become heavily silted up. Tree growth, mainly alder, has encroached into the canal and caused the banks to collapse resulting in an often narrow and very shallow channel. There are deeper pools, although no where along the length surveyed was the canal deeper than approx 1m.

#### ***Surrounding habitat***

As illustrated in Figure 1.2, the wider area is a predominantly pastoral agricultural landscape interspersed with large tracts of woodland.

#### ***Invasive species***

The site and its immediate surrounds are infested with Himalayan balsam (*Impatiens glandulifera*).

### 3.2.2 Roost Survey - Bats

#### ***Recorded status within 1km***

Of note are the record of Daubenton's bat species which commonly use bridges over water courses as roost sites and Pipistrelle species bats which may also use bridges as roosting locations. Pipistrelle species may also make use of trees as roosting locations.

Common and soprano pipistrelle bats and Daubenton's bats are considered to be relatively common throughout the majority of Britain (Schofield et al., 2004). The Status of these species within Staffordshire is similar to those at a national scale.

#### ***Surrounding Habitat***

Surrounding habitats include the pasture, woodland, river corridors and open water - all of which provide excellent foraging opportunities for a range of bat species. In addition to the large number of trees, the wider area also contains a number of residential and agricultural buildings which provide potential roosting locations for bats.

#### ***Evidence of presence on site***

No evidence of bat presence such as droppings, staining from fur oil, scratch marks at the entrance to crevices etc. was found on the bridge or surrounding trees during the survey.

However, it should be noted that droppings from under the arch would likely fall into the canal channel, and the trees were only inspected from the ground using binoculars.

#### ***Roost potential – Bridge***

The bridge is located just on the woodland edge. Tree growth up to the elevations has resulted in the arch, and to a certain extent the elevations themselves, being well sheltered and shaded, making the location attractive to bats.

The bridge arch and elevations contain a multitude of crevices, mainly due to missing mortar joints. The waterproofing of the bridge deck has failed, and this has led to large areas of the arch becoming very damp. Damp crevices are generally unattractive as summer roosts for bats. However, a small number of crevices under the bridge and on the elevations appear dry and therefore suitable for roosting.

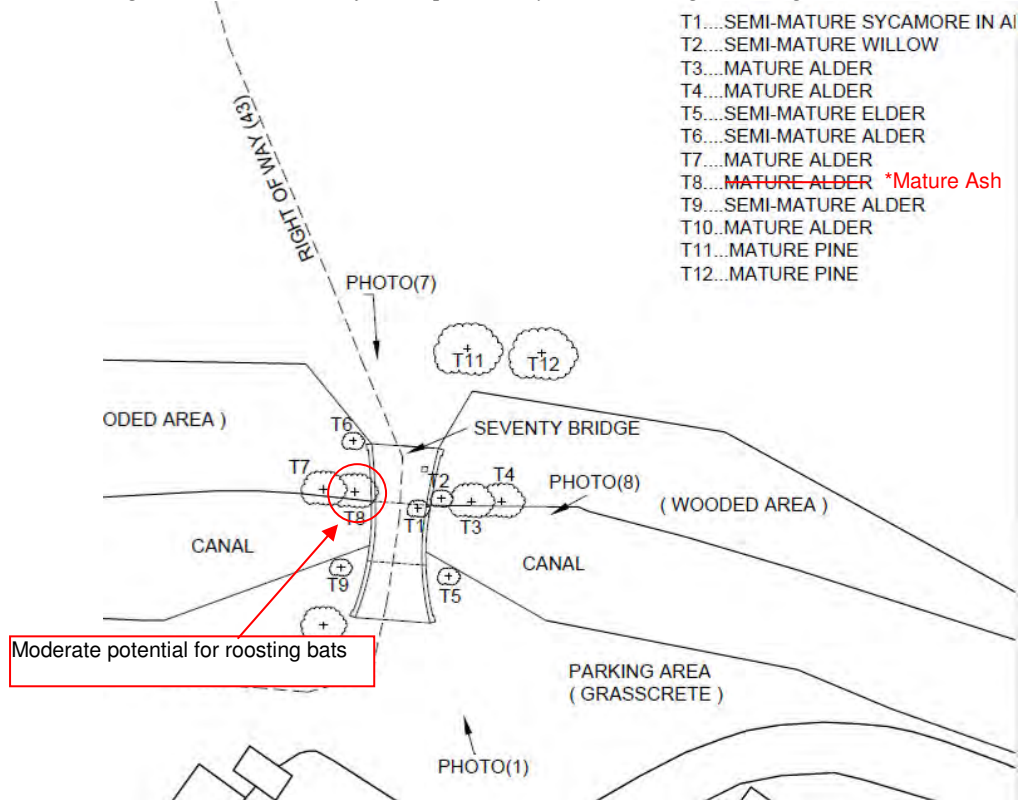
Sheltered, humid locations are known to be used by a number of bat species for hibernation. The well sheltered, shaded nature of the bridge arch and the humid conditions (spans water) suggest that the bridge therefore has some potential to be used by hibernating bats.

<b>Summary: Bridge has moderate potential for summer and winter (hibernation) bat roosts</b>
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## Roost potential - trees

Several trees, identified in Figure 3.2 below, have been identified as potentially destabilising the bridge and may require removal.

Figure 3.2: Trees identified as potentially de-stabilising the bridge



\*T8 was originally identified as a mature alder in the Staffordshire County Council Structural Appraisal report (2010). The 2010 report was carried out in winter when identification of some tree species is extremely difficult. The current survey, carried out when the tree was in leaf, found it to be a mature ash.

T8, a mature ash (*Fraxinus excelsior*) circled in red, is heavily ivy clad and shows some signs of deterioration toward the canopy. There is potential that the ivy may be hiding features that have potential to be used by roosting bats, and the ivy itself may provide a transitory roosting location. Plate 3.1 shows T8.

None of the remaining trees identified in Figure 3.2 were found to have features strongly associated with roosting bats as they were too immature/ thin stemmed to include rot holes, cavities etc. and no woodpecker holes were found.

**Summary: T8 – Moderate potential for roosting bats.**  
**All other trees identified in Figure 3.2 have low potential for roosting bats.**

*Plate 3.1: Heavily ivy clad ash tree T8*



### 3.2.4 Nesting Birds

#### ***Recorded status***

Numerous bird species were recorded within 1km of the site, although all were at least 510m distant. Protected bird species recorded are listed in Table 3.1.

#### ***Habitat***

The trees surrounding the bridge offer a multitude of nesting opportunities for tree nesting birds. The woodland, field margins, hedgerows etc. in the wider area offer a multitude of potential nesting / foraging habitats for a wide range of bird species.

The bridge itself offers little in the way of potential nesting habitat as the missing mortar joint crevices are generally too small to be exploited by hole dwelling species such as tits. The canal banks adjacent to the site and under the bridge are too shallow and muddy to provide nesting opportunities for kingfisher (*Alcedo atthis*).

#### ***Evidence of presence on site***

No evidence of nesting birds was found in either in the bridge itself or the trees identified in Figure 3.2. Visibility into the canopy was generally very good, as none of the trees is particularly large / mature. However, the ivy cladding on T8 (Figure 3.2, Plate 3.1) may harbour nests of species such as robin (*Erithacus rubecula*), wren (*Troglodytes troglodytes*) etc. and/or may be covering holes / cavities used by species such as members of the tit family. The trunk and limbs of T8 do not have sufficient girth to possess cavities large enough to be used by owls.

### 3.2.5 Badger

#### ***Recorded status within 1km***

There are 3 recent records for badger (*Meles meles*) within 1km of the site. Due to the persecution of this species, exact details of records relating to badger are not included.

#### ***Surrounding Habitat***

The matrix of habitats within the wider area offers excellent potential for badgers.

#### ***Evidence of presence on site***

No evidence to suggest the presence of badgers at the site was found, and no setts were found within 20m of the proposed works.



### 3.2.6 Water Vole

#### ***Recorded status within 1km***

There are three historic records of water vole (*Arvicola amphibius*) within 1km of the site, the nearest being 500m away in the Churnet Valley. The River Churnet runs adjacent to the site.

#### ***Surrounding Habitat***

Searches around the site and along the disused canal east and west found the habitat largely unsuitable for water vole. Generally heavily shaded by the woodland canopy, the canal banks are very shallow, offering little opportunity in which to burrow. The ground flora is rather sparse along the disused canal channel, and there is very little in the way of submerged or emergent vegetation to provide a food source.

#### ***Evidence of presence on site***

No evidence to suggest the presence of water vole, such as burrows, latrines, cut vegetations, lawns etc. was found.

### 3.2.7 Otter

#### ***Recorded status within 1km***

There are three recent confirmed records of Otter (*Lutra lutra*) within 500m of the site. Otters have territories that can range into 10's of kilometres. SER hold a number of recent records for Otter along the River Churnet, which passes approximately 35m from the site.

#### ***Surrounding Habitat***

No evidence to suggest the presence of fish in the disused canal channel was seen during the survey. The water was very clear, and the lack of in-channel vegetation allowed good observation. The apparent lack of fish makes foraging unlikely by otter, although it may be used as a commuting route.

#### ***Evidence of presence on site***

No evidence of otter (*Lutra lutra*) such as holts, spraint, feeding remains etc was found under the bridge or along the length of the canal surveyed.

### 3.2.8 White-clawed Crayfish

#### ***Recorded status within 1km***

There are no records of native freshwater white-clawed crayfish (*Austropotamobius pallipes*) within 1km of the site. There are records of native crayfish further upstream on the River Churnet, although these populations are recently believed to have been affected by crayfish plague (D. Haslam pers.comm, 2012).

***Habitat***

Although native crayfish show a preference for stony streams with calcareous waters, they can be found in ditches, canals and muddy habitats. The disused canal channel appears sub-optimal, although it does contain some potential refugia in the form of masonry blocks that have fallen into the channel and the muddy banks which are suitable for burrows.

***Evidence of presence on site***

No specific crayfish surveys were carried out beyond and inspection for habitat suitability.

## 4 Evaluation and Impacts

The following section provides an indication of the ecological value of features present. The valuation is based on the Guidelines for Ecological Impact Assessment (IEEM, 2006).

### 4.1 Constraints on Survey Information

It was difficult to inspect a lot of the crevices and missing mortar joints under the arch of the bridge on the northern side of the span due to there being no towpath on that side and the mud in the canal channel being too soft to stand on.

The trees were inspected for their bat roost potential from the floor. Whilst the surveyors were reasonably confident in their assessment, trees roosts are notoriously difficult to identify during daytime inspections.

### 4.2 Designated sites and surrounding habitats

#### ***Evaluation***

The site lies within Crumpwood Fields, Caldon Canal and Park Banks Meadow Site of SBI which is designated primarily for its semi-natural broad leaved woodland and neutral grassland. Whilst the trees which may require removal obviously form part of the woodland canopy, the scale of the loss, when compared to the extent of the surrounding woodland, is considered negligible.

The bridge potentially offers a roosting location for bats. The number of similar structures within the SBI offering roosting locations appears limited (potentially nil) and therefore the bridge may provide important habitat diversity within the SBI with regard to roosting bats.

#### ***Impacts***

With precautionary measures in place to avoid pollution incidents, the proposal should result in negligible impact on the habitats found at the Crumpwood Fields, Caldon Canal and Park Banks Meadow Site of SBI. However, in the absence of mitigation there is potential for the repairs to result in a loss of bat roosting habitat within the SBI. This may impact overall species diversity within the SBI and surrounding area.

### 4.3 On-site Habitats

#### ***Evaluation***

The bridge offers potential roosting habitat for bats, refer to section 4.4 for further details. The small number of trees that potentially affected are of little apparent significance when taken in context of the surrounding woodland.

#### ***Impacts***

Potential loss of bat roosting habitat, see section 4.4 for further details.

There is potential for spreading Himalayan balsam off the site if removing soil/vegetable matter or on machinery/equipment.

### 4.4 Bats

#### ***Evaluation***

The bridge has potential to provide summer and winter (hibernation) roosts for various bat species. The presence / likely absence and significance of bat roosts in the bridge can only be determined by further survey.

The adjacent ivy clad ash tree (T8, Figure 3.2) has moderate potential to support roosting bats. Again, the presence / likely absence and significance of bat roosts in T8 can only be determined by further survey.

#### ***Impacts***

The proposed works have potential to completely eliminate bat roosting habitat and potentially kill bats present in the bridge structure and T8. The potential likelihood of this occurring, and therefore committing an offence with respect to bats, can only be determined by further survey.

### 4.5 Nesting Birds

#### ***Evaluation***

The trees which may be removed do possess some potential as bird nesting locations, although no evidence of nesting was found during the survey. None possess hollows etc. suitable for owls, and taken in the context of the large area of surrounding woodland appear of little significance with regard to nesting birds.

#### ***Impacts***

There is some potential for impact to occur to nesting birds from removal of the trees at the site. This may also result in committing an offence with respect to nesting birds. Carrying out any tree / vegetation

removal outside of the nesting season should help to avoid such impacts.

The amount of potential nesting habitat that may be affected is low, and thus the impacts to breeding birds would potentially also be low. However, best practice is to replace lost habitat like-for-like and, preferably, to result in a net increase and/or enhancement in bird breeding habitat.

#### **4.6 Badgers**

##### ***Evaluation***

Although badgers are likely to pass through / forage near to the site, the site in itself appears to be of negligible significance to badgers.

##### ***Impacts***

There is some low potential for any trenches or pits left open over night to entrap badgers or equipment / materials left on site to cause injury to them.

#### **4.7 Water voles**

##### ***Evaluation***

The site appears to be of negligible value to water vole.

##### ***Impacts***

The proposed works pose negligible risk of negative impact to water vole.

#### **4.8 Otter**

##### ***Evaluation***

The site appears to be of low value to otter, although there is potential for otter to pass through the site.

##### ***Impacts***

There is some low potential for any trenches or pits left open over night to entrap otters or equipment / materials left on site to cause injury to them.

#### **4.9 White-clawed Crayfish**

##### ***Evaluation***

Although the canal channel appears sub-optimal for freshwater white-clawed crayfish, there is a low potential for the species to be present as there have been populations present locally on the River Churnet until

recently. Conversely, the canal may also contain non-native species. The proposed works themselves present a very limited risk of killing individual native crayfish via crushing whilst placing scaffolding etc. into the canal channel or clearing debris from the channel. However, there are bio-security issues regarding the potential for transference of crayfish plague to / from the canal, especially considering the close proximity of the River Churnet, which has been subject to a recent plague outbreak.

### **Impacts**

The proposed works present a minimal risk of negative impact to freshwater white-clawed crayfish. However, there is a potential bio-security risk. Transference of crayfish plague either to or from the site has potential to completely wipe out populations of native crayfish. This risk can be mitigated easily by using correct sterilisation procedures.

## **4.10 Impact summary**

*Table 4.1: Impact summary*

<b>Ecological Feature</b>	<b>Low Impact</b>	<b>Moderate Impact</b>	<b>High Impact</b>	<b>Determining impact requires further survey</b>
Designated sites & Off Site Habitat	X X			
On site Habitat	X X			
Bats				Yes
Badger	X X			
Nesting Birds	X		X	
Water Voles	X X			
White-clawed Crayfish	X		X	

### **Key**

X – With suitable mitigation implemented

X – Potential impact without suitable mitigation implemented – applies to individuals or populations

X X – Impact expected to be low with or without mitigation, but implementing mitigation is needed to ensure as little impact as possible.

## 5 Recommendations & Mitigation

**It should be noted that all recommendations are provided as information only and specialist legal advice may be required. The conclusions of this report are based on current information. If works are delayed for more than one year, reassessment may be required.**

### *Further Survey*

- 5.1 Summer bat roost emergence / re-entry surveys and winter hibernation surveys are recommended prior to the commencement of any repair works to the bridge. The surveys must be carried out in accordance with Bat Surveys, Good Practice Guidelines following guidelines for structures with moderate roost potential.
- 5.2 Summer bat roost emergence / re-entry surveys are recommended prior to the removal of the mature ash tree T8 as defined in figure 3.2 (if required). The surveys must be carried out in accordance with Bat Surveys, Good Practice Guidelines following guidelines for trees with moderate roost potential.

### *Standard Precautions*

- 5.3 All staff and workers on site, including sub-contractors, should be made aware of species and habitat protection issues at site induction talks. Work must stop immediately and Natural England contacted if any protected species are found onsite. (Tel: 0300 060 0676 – West Midlands Office). Staffordshire Ecological Services (SES) can also be contacted at 01889 880125.
- 5.4 It is recommended that the advice provided in Appendix C regarding the transmission of crayfish plague should be followed for all works that involve entering the canal channel.
- 5.5 It is recommended that any trenches or other excavations left open for more than 12 hours should be provided with an escape ramp (simply a plank of wood with no step at the base, reaching up to ground level or slightly above) for any wildlife to be able to escape.
- 5.6 No materials or equipment should be left on site that may entrap, poison or prove injurious to wildlife.
- 5.7 All proposed work must strictly be in accordance with all relevant Pollution Prevention Guidelines (PPG) published by the Environment Agency including but not limited to PPG1 (general) and PPG5 (works

or maintenance in or near water). Contingency plans should be drawn up to address chemical spillage, collision, etc.

**5.8** The following procedures should be put in place to prevent the spread of Himalayan balsam off the site as a result of the works:

- Where possible, all excavated soil, mud, cleared brash and vegetation should remain on the site.
- Where excavated material, vegetation, debris etc. must be transported off site, it should be treated as controlled waste and disposed of accordingly.
- If flowering, the Himalayan Balsam flower heads and / or seed pods should be bagged and tied off to prevent the spread of seed.
- All equipment, shoes, tracks, tyres etc. should be cleaned of mud and soil before leaving the site.

### ***Protected Species Precautions***

**5.9** Any notable increase in badger activity (fresh excavation of setts, dung pits etc.) close to working areas should be immediately reported to consultants or the local badger group and their advice implemented.

**5.10** In order to avoid contravention of the Wildlife and Countryside Act 1981 (as amended), any site clearance of areas that could be potentially used as nesting sites should be timed to avoid impact on nesting birds. The nesting season generally runs from March to August, but is species-dependent. Autumn through to very early spring clearance is a well-established means of preventing this impact. If this is not possible, further advice from an ecologist should be sought. Please note that timing of works may be constrained by the presence of a bat roost in the ash tree T8 (Figure 3.2), a factor which requires further survey before advice relating specifically to this tree can be given.

**5.11** Site staff should be made aware that all snakes, slow worms and other reptiles are protected from deliberate killing. If any are found, they should be safely removed outside of the working area.



## ***Habitat Replacement/Enhancement***

- 5.12** A bird nest box scheme could be incorporated into surrounding trees to help mitigate for any loss of bird nesting habitat. Standard boxes in conventional locations are generally suited to small perching birds. Advice on design and position should be sought from individuals or organisations with sound experience of this type of habitat creation. Generally, nest boxes should be sited to take advantage of natural shelter to avoid direct summer sunlight and rain. They should also be positioned high enough to discourage predation by cats. For a project of this size, three nest boxes should be sufficient. A good place to start is the British Trust for Ornithology website ([www.bto.org](http://www.bto.org)).
- 5.13** The requirement or otherwise for replacement bat roosting habitat can only be determined by further survey as recommended in paragraphs 5.1 & 5.2.

## 6 Legislative and planning context

### *Legalities*

***NB: Refer to Appendix A for details on the legislation/offences for each species.***

- 6.1 If a protected species is discovered onsite and the precautions relating to protected species are not followed, offences may be committed. Information on the legislation relating to different protected species is provided in Appendix A.
- 6.2 Penalties on conviction of a bat-related crime - the maximum fine is £5,000 per incident or per bat, up to six months in prison, and forfeiture of items used to commit the offence, e.g. vehicles, plant, machinery.
- 6.3 Badger offences include up to six months imprisonment or a fine at level 5 or both. The fine may be multiplied by the number of badgers. Other penalties may apply depending on the type of offence – see <http://www.wcbg.org.uk/pdf/Badgers%20and%20the%20Law.pdf>
- 6.4 The maximum fine that can be imposed in respect of a single bird, nest or egg receiving ordinary protection is £1,000. For offences involving a Schedule species or an illegal method of killing (e.g. poisoning) the maximum is £5,000.
- 6.5 Water voles and their habitats are now fully protected under the Wildlife & Countryside Act 1981. Offences under Section 9 carry a maximum penalty of a fine not exceeding Level 5 on the standard scale (currently £5,000), imprisonment for up to six months and forfeiture of items used to commit the offence, e.g. vehicles, plant, machinery.
- 6.6 If you are prosecuted for offences with respect to white-clawed crayfish you could receive a penalty of up to £2,500. Any illegally-held crayfish will be seized and destroyed.
- 6.7 It is an offence to plant or otherwise cause to grow in the wild invasive non-native plants listed on Schedule 9 of the Wildlife and Countryside Act, such as Himalayan Balsam and Rhododendron. Offences carry a maximum penalty of a £5,000 fine and/or 6 months imprisonment on summary conviction (i.e. at Magistrates' Court) and an unlimited fine (i.e. whatever the court feels to be commensurate with the offence) and/or 2 years imprisonment on indictment (i.e. at Crown Court). An offence under the Wildlife and Countryside Act Schedule 9 can result in

a criminal prosecution. An infringement under the Environmental Protection Act can result in enforcement action being taken by the Environment Agency which can result in an unlimited fine. You can also be held liable for costs incurred from the spread of Knotweed into adjacent properties and for the disposal of infested soil off site during development which later leads to the spread of Knotweed onto another site.

***Planning (for information only – not applicable for proposed bridge repair / restoration works covered by this report but may apply to future works at the site)***

- 6.8** Under the Habitats Regulations, all public bodies have a duty in exercising their functions to have regard to European Protected Species and Sites. This means that planning authorities must determine whether the proposed development meets the requirements of Article 16 of the EC Habitats Directive before planning permission is granted (where there is a reasonable likelihood of European Protected Species being present). Therefore in the course of its consideration of a planning application, where the presence of a European protected species is a material consideration, the planning authority must satisfy itself that the proposed development meets three tests as set out in the Directive – ‘over-riding public interest’, ‘no satisfactory alternative’ and ‘favourable conservation status’.
- 6.9** The National Planning Policy Framework (NPPF, March 2012) has replaced the previous Planning Policy Guidance in relation to protected species, sites and habitats. Circular 06/05 remains an active document, but is now in relation to the NPPF.
- 6.10** Government Circular 06/2005 (from DCLG) accessible for this link -- [Circular 06/2005](#) -- provides guidance on statutory obligations and their impact within the planning system. Paragraphs 98 & 99 make it clear that the presence of a protected species is a material consideration.
- 6.11** Paragraph 84 of the Circular states that the potential effects of a development, on habitats or species listed as priorities in the UK Biodiversity Action Plan (BAP) are capable of being a material consideration in the making of planning decisions.
- 6.12** Section 40 of the Natural Environment and Rural Communities Act 2006 (NERC) requires decision-makers to have regard to the conservation of biodiversity when carrying out their normal functions. The lists of habitats and species covered by NERC which are of principal importance for the conservation of biodiversity in England and Wales comprise the priority habitats and species identified under UKBAP, the potential effects on which can be an important material consideration.

- 6.13** Local planning authorities (and other public bodies) have a duty to have regard for the purpose of conserving biodiversity under the Natural Environment and Rural Communities Act 2006. Government guidance is that they should make reference to the Section 41 list when implementing the duty, which reinforces the policy that planning authorities should consider and protect Biodiversity Action Plan priority species and habitats when making planning decisions.
- 6.14** In taking these factors into account, the local authority should expect you to demonstrate that you have taken into consideration the impact your development will have on local wildlife and taken appropriate measures to avoid or minimise damage to those species and habitats that appear on the UKBAP and LBAPs as well as those that are specifically protected by law.
- 6.15** IEEM Guidance (March 2012) states that:

‘Material considerations in planning and similar types of decisions can be influenced by factors such as local designations, UK or County BAP Priority habitats or species, and species listed in the UK Red Data Book or RSPB Birds of Conservation Concern. Collectively these may also constitute ‘notable’ species. There is likely to be some degree of overlap between these and legally protected species, although a large number of rare habitats or species do not receive direct legal protection.’

## 7 Bibliography

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# Appendix A – Legal information

## a) Badger

As a result of continued persecution, badgers are protected by primary legislation (the Protection of Badgers Act 1992) and as such planning authorities are required to take them into account when assessing planning applications. The legislation makes it illegal (without licence) to:

- Wilfully kill, injure or take, or attempt to kill, injure or take, a badger.
- Cruelly ill-treat a badger, dig for badger, use badger tongs, use a firearm other than the type specified under the exceptions within the Act.
- Interfere with a badger sett by damaging, destroying, obstructing, causing a dog to enter a sett, disturbing an occupied sett - either by intent or by negligence.
- Sell or offer for sale a live badger, having possession or control of a live badger.
- Mark a badger or attach any ring, tag, or other marking device to a badger.

## b) Bats

All British bat species are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). The most recent amendments introduced by the Conservation (Natural Habitats & c.) (Amendment) Regulations 2007 and 2009, removed some of the protection bats enjoyed under this Act where it was duplicated under the Habitats Regulations. Therefore they are subject to the provisions of Section 9:4 (b) and (c), and 5, which, in summary, makes it an offence to:

- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection
- Intentionally or recklessly obstruct access to any structure or place which it uses for shelter or protection
- Sell, offer for sale or possess for the purpose of sale any bat or part of a bat or advertise sales or purchases of bats

The Countryside and Rights of Way [CRoW] Act 2000 makes most WCA offences into arrestable criminal offences, and includes offences committed 'recklessly' as well as deliberately.

All bat species are also included in Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (the Habitats Regulations 2010), which consolidates the Conservation (Natural Habitats & c.) Regulations 1995 and amendments in 2007, 2008 and 2009.

Regulation 41 makes it an offence to:

(a) deliberately capture or kill a bat [Regulation 41(1)(a)]

(b) deliberately disturb a bat [Regulation 41(1)(b)]

(c) damage or destroy a breeding site or resting place of a bat [R. 41(1)(d)]

(d) Keep, transport, sell or exchange, or offer for sale or exchange a live or dead bat or any part of a bat [R. 41(3)]

For the purposes of paragraph (1) (b), 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.

### **c) Nesting Birds**

(Taken from the RSPB website, 2012)

Under the Wildlife and Countryside Act, a wild bird is defined as any bird of a species that is resident in or is a visitor to the European Territory of any member state in a wild state. Game birds however are not included in this definition (except for limited parts of the Act). They are covered by the Game Acts, which fully protect them during the close season.

All birds, their nests and eggs are protected by law and it is thus an offence, with certain exceptions (see *Exceptions*), to:

- intentionally kill, injure or take any wild bird
- intentionally take, damage or destroy the nest of any wild bird whilst it is in use or being built
- intentionally take or destroy the egg of any wild bird
- have in one's possession or control any wild bird, dead or alive, or any part of a wild bird, which has been taken in contravention of the Act or the Protection of Birds Act 1954
- have in one's possession or control any egg or part of an egg which has been taken in contravention of the Act or the Protection of Birds Act 1954

- use traps or similar items to kill, injure or take wild birds
- have in one's possession or control any bird of a species occurring on Schedule 4 of the Act unless registered, and in most cases ringed, in accordance with the Secretary of State's regulations (see *Schedules*)
- 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.

#### Exceptions

There are some exceptions to the offences created by the Wildlife and Countryside Act, the most notable of which are:

- an authorised person (eg a landowner or occupier) may kill or take, in certain situations and by certain methods, so called 'pest species' and destroy or take the nest or eggs of such a bird. This is permissible under the terms of General Licences issues by government departments (see *Licences*).
- it is not illegal to destroy a nest, egg or bird if it can be shown that the act was the incidental result of a lawful operation which could not reasonably have been avoided.
- a person may kill or injure a wild bird, other than one included on Schedule 1, if they can show, subject to a number of specific conditions, that their action was necessary to preserve public health or air safety, prevent spread of disease, or prevent serious damage to livestock, crops, vegetables, fruit, growing timber, or fisheries (contact Defra for more information).
- a person may take or kill (or injure in attempting to kill) a bird listed on Schedule 2, Part 1, outside the close season (see *Schedules*).
- a person may take a wild bird if the bird has been injured other than by their own hand and their sole purpose is to tend it and then release it when no longer disabled. These provisions enable people to care for sick, injured or orphaned birds. Additionally, a wild bird may be killed if it is so seriously disabled as to be beyond recovery. Sick and injured birds listed on Schedule 4 should be registered with Defra.

#### d) Water Voles

Water voles received limited legal protection under the WCA in 1998, but the protection has recently been extended since 2008, so the water vole is now fully protected under Section 9. It is an offence to intentionally kill, injure or take (capture) a water vole; possess or control a live or dead water vole, or any part of a water vole; intentionally or recklessly damage, destroy or obstruct access to any structure or place which water voles use for shelter or protection or disturb water voles while they are using such a place; sell, offer for sale or advertise for live or dead water voles.

There is no provision under the WCA for licensing what would otherwise be offences for the purpose of development, maintenance or land management. Such activities must be covered by the defence in the Act that permits otherwise illegal actions if they are an incidental



result of a lawful operation and could not reasonably be avoided. The defence requires that reasonable steps are taken to avoid unnecessary damage, and for developers, this can best be achieved by undertaking a water vole survey at the appropriate time prior to planning any work and ensuring that appropriate avoidance or mitigation measures are included in the proposals.

#### e) Otter

The Otter has been given full protection under the Wildlife and Countryside Act 1981 (as amended) (Sections 9.1 and 9.4, Schedule 5). Accordingly, it is an offence to:

- kill, injure or take an Otter from the wild without a licence
- possess or control a live or dead Otter, or any part of a Otter
- to damage or obstruct a holt; or disturb an Otter in its resting place.

The Otter is listed in the Bern Convention and the Convention on International Trade of Endangered Species (CITES). It requires special protection measures under the European Habitats Directive (92/43/EEC). Its listing in Annex 2 requires the designation of Special Areas of Conservation (SAC) for sites supporting important Otter populations. *Lutra lutra* is listed as globally threatened on the IUCN/SCMC Red Data List and still remains absent from many parts of lowland England. The Otter is one of eighteen priority mammal species listed in the UK BAP.

#### f) White-clawed Crayfish

The endangered native Crayfish is partially protected from taking and sale (Schedule 5 of the Wildlife & Countryside Act 1981). This means that any 'capture' of a Crayfish can result in an offence. White-clawed Crayfish are included in the IUCN Red Data List, Appendix III of the Bern Convention and are protected internationally under Annexes II and V of the European Habitats Directive.

Non-native species carry a disease that is fatal to the native species, so must not be introduced or returned to any water bodies, and if taken must be killed. Schedule 9 of the Wildlife and Countryside Act (1981) makes it an offence to release or allow to escape into the wild all three non-native species of crayfish found in the UK. Licences are needed for most forms of survey, which is effectively limited to the July to October period.

## Appendix B – Site Photographs

*Plate B.1: Bridge arch and elevations sheltered by trees*



*Plate B.2: Bridge arch has damp patches due to failed deck waterproofing*



*Plate B.3: Drier areas of bridge arch showing missing mortar joints*



*Plate B.4: Example of crevices in elevations*



*Plate B.5: Typical section of adjacent disused canal channel*



# Appendix C: Avoiding Crayfish Plague

## Additional Information: Crayfish Plague

Crayfish plague, carried by signal crayfish, is a serious threat to White-clawed Crayfish. It can eliminate whole populations of White-clawed Crayfish within weeks. Plague can be carried on wet nets, boots and other gear.

- If working on several sites, work on those with White-clawed Crayfish first.
- After working on any site which has alien crayfish, ensure all equipment and vehicles which have been in water are cleaned of mud.
- After working on any watercourse with alien crayfish disinfect with Virkon (trade name), hypochlorite bleach or an iodophor (at least 100ppm available iodine). If this cannot be done, ensure all machinery and other equipment is thoroughly cleaned and allowed to dry completely.
- If carrying out any re-stocking with fish in any watercourse which may have White-clawed Crayfish ensure the fish come from a source which is free of alien crayfish; or seek advice from EA on disinfection to avoid risk of crayfish plague.
- If stocking with aquatic plants during habitat restoration, do not use material from stockists or watercourses which have alien crayfish.
- If you find any alien crayfish at a site where the species is not already known to the Environment Agency, report it immediately.
- If working on any watercourse with alien crayfish, make sure everyone knows it is illegal to move them to any new site. Introductions can cause severe, long-term damage to the other life in watercourses.
- Signal crayfish can also badly affect angling interests when they reach high densities.

(Guidance on Works Affecting White Clawed Crayfish - Peay, 2000)