Report of Bat survey

Bridge at Whitworth Cycleway, Rochdale Road, Britannia, Rossendale, Lancashire

Provided for:

Groundwork Pennine Lancashire
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Summary

This report has been produced on behalf of Groundwork Pennine Lancashire, as part of a planning submission for a proposed development involving a bridge at Whitworth Cycleway, Britannia, Rossendale.

A daytime survey of the bridge was carried out on 30th October 2007.

No bats or signs of bats were observed during the survey of the bridge.

There is no evidence to suggest that bats were present in the bridge during the survey, however, only part of the structure could be searched due to health and safety concerns.

There is no evidence to suggest that bats have used the bridge for roosting prior to the survey, however, only part of the structure could be searched due to health and safety concerns.

The bridge has moderate potential for use by bats.

There is currently no evidence to suggest that the bridge has any importance for bat conservation.

Further surveys for bats in relation to the bridge are not advised at the current time. A careful search of bridge cavities and the chamber beneath the steps is recommended in January 2008 to investigate use by hibernating bats. A careful search is also recommended prior to any refurbishment or demolition works at any time of year.

If removal or disturbance of the bridge structure is to take place, the work should initially be carried out by hand. The work should be sufficiently advanced prior to the maternity and hibernation seasons (i.e. it should take place in April to mid May or mid August to October) to ensure that the structure is no longer suitable for occupation by bats and to avoid disturbance to nursery roosts and hibernating bats.

As a precaution, when the development proceeds, all people involved in this project should follow the guidelines in the advice note (section 9 of this report).

The approach described above will help to demonstrate that reasonable safeguards have been put in place to avoid illegal activities.

Recommendations for management of the area surrounding the bridge include:

- Retention of likely bat flyways
- Adoption of an appropriate mowing regime for grassland and associated vegetation
- Diversification of plantation boundaries
- Restoration of clearings within the plantation.

Report contents

Appendices

1 Introduction

This report has been produced on behalf of Groundwork Pennine Lancashire, as part of a planning submission for a proposed development involving a bridge at Whitworth Cycleway, Britannia, Rossendale.

Ecology Services UK Limited was commissioned to carry out a bat survey in October 2007.

The information contained within this report comprises:

- The methodology employed to survey for bats
- A brief description of the survey site
- The results from the bat survey
- An assessment of the importance of the survey site for bats
- Conclusions drawn from the results of the survey
- Recommendations for further action in relation to bats at this site

Personnel

Patrick Waring is a licensed bat worker, a Chartered Environmentalist and a full member of the Institute of Ecology and Environmental Management, with a Bachelor of Science degree in Biology. He has been working as an ecological consultant for over nine years, most recently as Director of Ecology Services UK Limited. On behalf of statutory bodies, non-governmental organisations, commercial bodies and individuals, he advises on ecological matters relating to habitats and protected species, particularly in relation to development proposals. He has extensive experience of a range of survey, monitoring, condition assessment and impact assessment techniques; these include bat surveys and assessments.

The survey work was carried out under Natural England licence number 20062934.

2 Objectives, methodology and rationale

2.1 General background

The brief for this work was to carry out a bat survey of a bridge at Whitworth Cycleway in Britannia, Rossendale, Lancashire.

The survey was designed to address the following objectives.

i. To identify any potential bat roosting features

ii. To identify whether bats were present in the bridge at the time of survey

iii. To identify whether bats had used the bridge prior to the survey

iv. To provide an assessment of the likely importance of the bridge for bats and bat conservation

v. To provide advice about the management of the area surrounding the bridge for bat conservation

2.2 Methodology for field-based survey

A daytime survey of the bridge was carried out on 30th October 2007.

- The bridge was subjected to examination for likely bat access points and roosting features.

- Accessible parts of the bridge were subjected to examination for signs of bats, including droppings, urine staining, grease marks, feeding remains and areas clear of cobwebs. A search was also made for live and dead bats within confined spaces.

- An inspection mirror and endoscope were used during the survey.

- Potential access points and roosting features for bats were noted and examined in detail where accessible.

- A one million candlepower torch and close-focussing binoculars were used as aids to visibility.

- Notes were made of potential disturbance factors for bats.

- The context of the site, including its immediate surroundings and the quality of foraging habitat, was noted.

2.3 Judgement of potential for bat roosts

The following table was used to both assess potential and to aid decisions about recommendations e.g. for further surveys.

Level of Potential	Justification
High potential	• Abundant features suitable for use as bat roosts e.g. deep (>20cm) cavities, cavities at least 15mm in width and 25mm in length (i.e. those which would offer the optimum gap size for bats to gain entry), dark sheltered spaces • Bat roosts known from similar structures in vicinity • Evidence of bats found on site e.g. droppings, feeding signs * Surrounding landscape supports abundant features for foraging, commuting and possibly roosting bats e.g. hedgerows, mature trees, vegetated waterbodies, pastureland, high connectivity * Bat activity recorded in vicinity of survey site
Moderate potential	• Occasional features suitable for use as bat roosts • Bat roosts known from similar structures in same county/region of British Isles * Surrounding landscape supports occasional features for foraging, commuting and possibly roosting bats * Bat activity recorded from wider area around survey site
Low potential	• Few features suitable for use as bat roosts • Bat roosts known from similar structures in British Isles * Surrounding landscape supports few features for foraging, commuting and possibly roosting bats * Bat activity recorded from same part of county as survey site

* Additional factor used in combination with those listed above

The methodology outlined above follows guidelines recommended by:

Bat Conservation Trust (2007) *Bat Surveys – Good Practice Guidelines.* BCT, London.

3 Site description

3.1 The site subject to survey

The survey site is located at grid reference SD89062099. The bridge lies on the line of a dismantled railway between Whitworth and Britannia in Rossendale.

The location and context of the survey site are shown on a map in the appendices.

The bridge structure comprises block stone abutments and a metal span. The stone abutments have numerous cavities where mortar has disintegrated between blocks and between steps on the eastern side of the bridge. There is a single large space beneath the steps on the eastern side where an amount of infill material has been removed to leave a stone chamber.

There are a number of plants growing out of the bridge structure including sycamore and willow saplings, male fern *Dryopteris filix-mas,* maidenhair spleenwort *Adiantum capillus-veneris* and hartstongue fern *Phyllitis scolopendrium*. The growth of the plants has contributed to the loss of mortar between stone blocks and the maintenance of cavities.

Potential bat access points and potential sheltering places at the survey site are associated with deeper cavities and hollows, as well as the large chamber beneath the eastern steps.

Areas where bat signs were likely to accumulate were mostly undisturbed, although litter items within the chamber suggested occasional use of this part of the site. This suggests that if signs of bats had been left within many of the potential sheltering features, they would have remained undisturbed up to and during the survey.

3.2 The site surroundings

The immediate surroundings include established, mature plantation woodland and a hedge to the west and north, with broadleaved trees, neutral grassland and the A671 Rochdale Road to the east. The line of the dismantled railway beneath the bridge has been colonised by neutral grassland and tall herb and is demarcated around the bridge by stone retaining walls. The trees, plantation and stone retaining walls in particular provide both shelter and potential bat foraging habitats.

The wider surroundings are dominated by open, undeveloped land managed predominantly as pasture to the west, with a small amount of housing and industrial use with extensive farm fields to the east. The undeveloped land supports little potential sheltering vegetation and is regarded as being of low potential value to bats. Bat roosts in this general area are more likely to be found in built structures than in other features such as trees.

4 Results of survey

The weather during the survey was as follows.

Temperature = 10^0C
Cloud cover = 50%
Rain = None
Wind = Light (Beaufort 2)

4.1 Field-based survey

No bats were observed during the survey of the bridge at Whitworth Cycleway.

No signs of bats were found.

4.2 Other observations

Two bird nests were found inside cavities associated with stone abutments.

No protected species or signs of protected species were found during the survey.

5 Assessment of the importance of the survey site

5.1 Use of the site by roosting bats

There is no evidence to suggest that bridge is used as a bat roost.

5.2 Potential for use by roosting/hibernating bats

The bridge has moderate potential for use by roosting bats. There are frequent cavities, a number of which are at least 20cm – 30cm deep; these are regarded as providing sufficient shelter for bats to be used as roost sites. In addition, the large chamber beneath the eastern steps provides a sheltered dark space which is likely to provide humid, draught-free conditions which are favoured by bats, particularly during hibernation and cooler periods throughout the rest of the year. The lack of artificial light spillage onto the bridge and the surrounding vegetation will tend to increase the likelihood of use by bats.

5.3 Assessment of the importance of the survey site for bat conservation

There is no demonstrable value in relation to bats. There is no evidence to suggest that the bridge has any importance for bat conservation. However, the bridge and its surroundings are expected to provide shelter throughout the year and a suitable foraging resource throughout the active season; in this respect they are of potentially high local value to bats.

5.4 Assessment of the landscape around the survey site

The wider area around the bridge supports a range of resources likely to be of value to bats; these include extensive plantation woodland and an enclosed, sheltered line of vegetated ground along the route of the dismantled railway. Along the cycleway, there are areas of high local value where insect abundance is expected to be high; these include nettle-dominated vegetation and marshy grassland, as well as plantation edges and the plantation interior. These features will provide both shelter and a foraging resource.

5.5 Other species

The bridge structure has high potential for use by nesting birds.

6 Limitations of survey

6.1 Observations were limited to a single visit in October. Limiting the survey period to October does not take account of bat activity on the site through the active season (March/April to October).

6.2 At the time of the survey, bats will be roosting individually or in small numbers. However, signs of bat occupation tend to remain long after bats have dispersed, particularly in more sheltered features such as deep cavities.

6.3 On many sites, external field signs of bat presence, such as droppings and urine stains, are likely to be lost over time due to weathering and damp conditions; this is a common issue when surveying bridges.

6.4 Bridges such as the one at Whitworth Cycleway are most likely to be utilised by crevice dwelling bats. Droppings and other field signs of the presence of such species are often not visible, as they accumulate in hidden areas which may not be found during routine, non-invasive surveys. This is a frequent limitation when surveying bridges.

6.5 As with most bridges, areas above 4.5 metres from ground level (i.e. the limit of safe working height from ladders and where the structure was not visible from the span or abutment top) could not be examined in detail due to limits on access and concerns about the safety of the surveyor.

6.6 The survey was limited to a daytime assessment of the bridge. No assessment was made of bat activity through hours of darkness, or during emergence from roosts or return to roosts. These types of surveys are essential for a full and detailed appreciation of the extent of bat activity on a site, as well as the importance of a site for bats. Although bat activity was limited at the time of year of the survey, observations during the early hours of the evening would assist with an assessment of the potential for use by bats.

6.7 The type of survey employed in this case helps to determine presence of bats, but does not prove absence.

7 Conclusions

7.1 Bats

7.1.1 There is no evidence to suggest that bats were roosting in the bridge at the time of the survey.

7.1.2 There is no demonstrable evidence that the bridge is used by bats as a daytime or night time roost.

7.1.3 There is currently no evidence to suggest that the bridge has any importance for bat conservation.

7.1.4 The bridge offers a number of features suitable for use by bats.

7.1.5 The landscape along the Whitworth Cycleway has high potential for use by foraging and commuting bats.

7.2 Other species

7.2.1 A small number of bird nests were found during the survey.

7.2.2 The bridge has high potential for use by nesting birds.

8 Recommendations

8.1 Bats

8.1.1 Further surveys for bats in relation to the bridge are not advised at the current time. However, careful searches of bridge cavities and the chamber beneath the steps are recommended in January 2008 to investigate use by hibernating bats, and also prior to disturbance works at any time of the year. Further surveys during the active season (April/May to September) are also recommended to develop a more detailed assessment of bat activity along the cycleway. A more detailed picture is necessary for an assessment of the impacts of any proposed development.

8.1.2 If removal or disturbance of the bridge structure is to take place, the work should initially be carried out by hand. The work should be sufficiently advanced prior to the maternity and hibernation seasons (i.e. it should take place in April to mid May or mid August to October) to ensure that the structure is no longer suitable for occupation by bats and to avoid disturbance to nursery roosts or hibernating bats.

8.1.3 As a precaution, when the development proceeds, all people involved in this project should follow the guidelines in the advice note (section 9 of this report).

8.1.4 If bats are found to be present before or during development, work must cease and professional ecological advice should be sought. The information in the advice note (Section 9) should then be used to formulate an approach to development that accommodates bats.

8.1.5 Regarding the route of the cycleway, it is recommended that bat flyways and foraging areas are maintained and conserved through appropriate management.

8.2 Management recommendations

8.2.1 Developing an approach to management for bats involves a consideration of all areas that are likely to be used by bats or which may influence bats.

In order to accommodate bat species and to improve the carrying capacity of the site for bats, it is recommended that site managers:

- Manage linkages between habitats along the cycleway to at least maintain and, where possible, to improve connectivity within the site
- Manage linkages between habitats along the cycleway and those outwith the site, to at least maintain and, where possible, to improve connectivity within the wider landscape
- Maintain a mosaic of habitats along the cycleway
- Minimise the use of pesticides

- Restrict management to small areas at any one time, to maintain as much habitat diversity as possible.

- Maintain the extent of all key habitats, including individual trees, plantation woodland and grassland. Although removal of some individual trees is unlikely to have a detrimental impact on bats, removal of tree groups may well have a cumulative effect on shelter and air flow.

- Strictly control potentially negative factors such as artificial lighting within and along the cycleway.

In particular, the following specific approaches should be adopted:

8.2.2 Management of grassland

- Vary the grass height through selective cutting, minimising the areas of low cut grass as much as possible.

- Retain trees where possible within and adjacent to grassland areas

- Vary the management regime between grassland areas to provide diversity

8.2.3 Management of plantation woodland

- Retain dead wood where it is safe to do so; this will help to provide habitat diversity at a small scale and to provide opportunities for development of woodpecker holes and rot holes for use by bats

- Diversify the plantation boundary by creating scalloped edges along the route of the cycleway; this will help to increase shelter for insects and bats and increase the amount of edge habitat for species such as pipistrelles.

- Restore clearings within the plantation. Clearings can often be identified by remnant vegetation of open spaces such as heather. This will help to provide sheltered foraging areas for bats. The extent of restoration of clearings should be informed by bat surveys during the active season, to ensure that some bat species are not being disadvantaged through this management.

- Although sycamore is generally regarded as a non-native species, it plays a key role in habitat structure and connectivity beside the route of the cycleway; it is therefore regarded as a positive feature in relation to bat foraging and commuting at the present time. If mature sycamores are to be removed and replaced with other species, this should be done in a way that maintains both canopy cover and habitat connectivity.

- Although larch is a non-native species, it plays a key role in habitat structure and connectivity beside the route of the cycleway; it is therefore regarded as a positive feature in relation to bat foraging and commuting at the present time. If mature larch trees are to be removed and replaced with other species, this should be done in a way that maintains both canopy cover and habitat connectivity.

- Provide bat boxes along the cycleway. A range of box types are available and may be utilised throughout the plantation to increase the opportunities for bats to roost in and at the edge of the habitat.

8.2.4 Management of bridge

- Retain cavities and the chamber where it is safe to do so; this will help to maintain opportunities for roosting.

- Install new artificial bat roosting features if the bridge is to be refurbished. A variety of designs is available and may be utilised to increase the opportunities for bat to roost in the bridge without compromising integrity of the structure.

  Management for bats as outlined above will be compatible with the management requirements of a range of other species.

Rationale for the recommendations

- No bat roosts were found during the surveys.

- The bridge supports features that are suitable for use by roosting bats. These features may be used by roosting bats in the future.

- If bats or bat roosts are present on a site to be affected by management, it is the site occupier's/site owner's responsibility to show how bats and their roosts will be accommodated within the proposed change of land use. Work will have to be programmed around the bats' lifecycle to minimise disturbance.

- The adoption of the approach described above will help to demonstrate that reasonable safeguards have been put in place to avoid illegal activities.

- The habitats along the cycleway have high potential to support foraging and commuting bats.

8.2 Nesting birds

Avoid actions which could kill or injure any wild bird or damage or destroy its nest, whilst the nest is in use or being built, or destroy its eggs. In particular, care should be taken if disturbing the bridge in the nesting season (March to September).

If work is to take place during the nesting season, it is advised that the bridge is made inaccessible to nesting birds prior to any birds starting nest construction. The bridge should remain inaccessible to nesting birds throughout the development.

Rationale for the recommendations

- It is generally an offence intentionally to kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built or take or destroy its eggs. Some species, e.g. those classed as pests, are exempt in certain circumstances.

- If nesting birds are present, plans will need to show how offences will be avoided during the proposed development. Work will have to be programmed around the nesting season to minimise disturbance.

9 Advice note for developers - bats

9.1 Bats and the law

All bat species are protected under the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way Act 2000 and the Conservation (Natural Habitats &C) Regulations 1994. As a result it is illegal to damage or disturb any bat roost, whether occupied or not, or harm a bat. Prosecution could result in imprisonment, fines of £5,000 per animal affected and confiscation of vehicles and equipment used. In order to minimise the risk of breaking the law it is essential to work with care to avoid harming bats, to be aware of the procedures to be followed if bats are found during works, and to commission survey and expert advice as required to minimise the risk of reckless harm to bats.

9.2 Finding roosts

Bats and their roosts can be very difficult to detect. A pipistrelle bat is small enough to fit into a match box and roosts in cracks just 14-20mm wide. Common locations for roosts within bridge include areas beneath the slates or tiles, in crevices between stonework, particularly where these extend to the rubble fill or wall cavity, in mortice joints, around window frames and behind barge boards.

9.3 Working approach

When development work is being carried out on bridges, the following general approach should be adopted (NB: always seek specific guidance for each project).

- Always check potential roosting features for bats prior to commencement of works.
- Remove structural features by hand, ideally during April-mid May or mid August-October.
- Avoid starting works in the winter when hibernating bats may be present.
- Avoid repointing during the winter period to prevent bats being entombed within walls. Only repoint crevices where the full depth of the crevice can be seen so that bats are known to be absent.
- Only use bat-friendly timber treatments and avoid treatment when bats may be present.
- Efforts should be made to provide access for bats where possible. For example, cavities should be retained and new roosting features should be created. A roll of newspaper can be used to allow retention of a narrow downward pointing access gap whilst allowing the majority to be pointed up.
- Incorporate any design details agreed as part of planning permission to allow continued bat access.

9.4 Finding bats during construction and demolition

If bats are found during development work contact Natural England immediately (local team at Wigan 01942 820342) and an experienced, licensed bat worker.

If it is absolutely necessary to remove a bat to avoid it being harmed, gloves **must** be worn. It should be carefully caught, placed in a cardboard box and kept in the dark in a quiet place until it can be released at dusk near to where it was found, or moved to an undisturbed part of the site, with outside access, and placed in a location safe from predators.

Information based on a supplementary guidance note produced by English Nature's Northumbria Team in April 2004.

Bat Survey
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Bridge at Whitworth Cycleway Britannia, Lancashire
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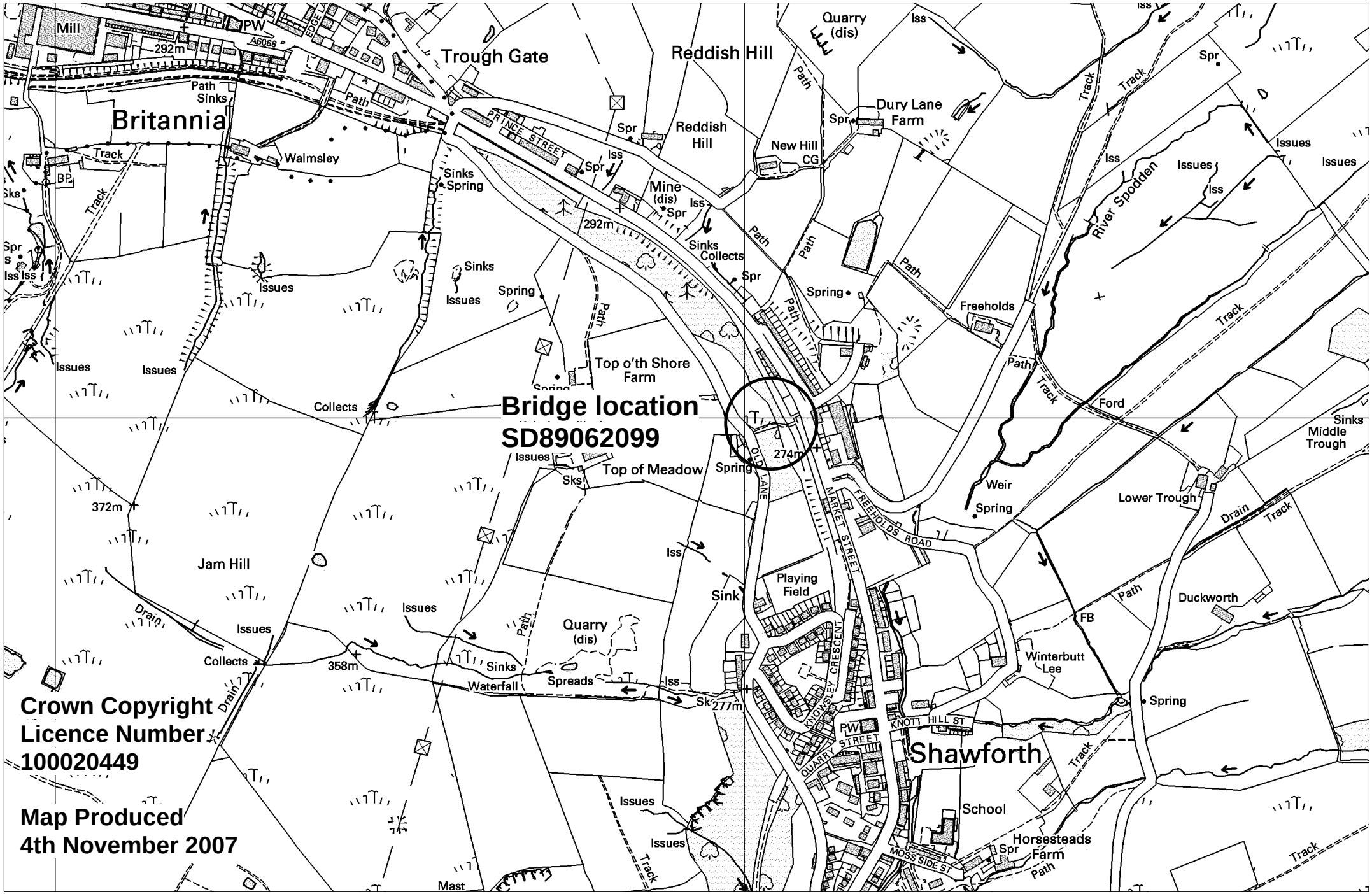
Appendices

Map 1 – Location of Bridge at Whitworth Cycleway

BCT Guidelines – Bats and bridges



Map 1 - Location of Bridge at Whitworth Cycleway, Britannia, Rossendale