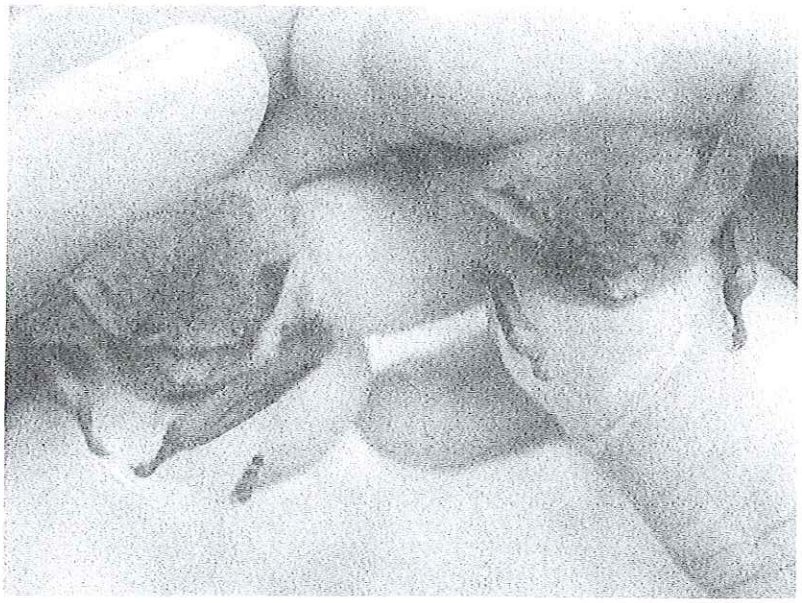

Woodlander Environmental

DALBY BECK MULTI-USER TRAIL BAT POPULATION IMPACT SURVEY

DALBY FOREST, PICKERING, NORTH YORKSHIRE

2011

Bat population impact survey for the proposed

Dalby Beck Multi-User Trail

Survey by:

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M J Douch (Forestry Commission)

Report by:
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Contents

Report completed 27th January 2011

Survey

N.B. The survey should be read in conjunction with the diagram at the end of this report.

iv. **Section A-B.** The proposal is to construct the trail between the west end of Heck Dale (Grid Ref.SE858862, Point A on the diagram) and a point west south west of Dalby Beck Cottage (Grid Ref SE856860, Point B on the diagram) in the agricultural fields.

v. Most of this section was under the canopy of a crop of extremely large Sitka spruce (*Picea sitchensis*) planted around 1922. The tree crop was around 30 metres in height and clean of low branches and needles. Ground vegetation was mainly moss species with ferns, grasses and bramble where sufficient light reaches to the forest floor. There was a thin but evenly spread understorey of native broadleaves up to 10 metres tall and less than 20cm in diameter at breast height. The spruce appeared to be in good health at the present time and whilst open enough for bats to forage amongst it did not appear to present good resting and roosting habitat. No dead or dying trees, loose bark or tree cavities were noted. The understorey was too small to provide any roosting and resting opportunities for bats however it would support an invertebrate population that bats could exploit in a sheltered locality. The location at which the proposed route crosses Dalby Beck is a riparian zone dominated by common alder (*Alnus glutinosa*). Most trees in the vicinity of the suggested crossing point were less than 40cm in diameter at a height of 2 metres. The tree trunks appeared to be between 50 and 100 years old but were growing as coppice stems from stools that were much older. A few trees had shed branches, probably as a result of past heavy snowfalls. No tree cavities or splits were noted and the common rot of Alder, the fungus *Inonutus radiatus* did not appear to present suggesting the trees were in a generally healthy condition. Alder are an extremely important tree in the riparian zone, preventing excessive erosion and more importantly for bats supporting a large invertebrate fauna. Older trees would provide suitable bat roosting and resting habitat.

vi. **Section B-F.** The section crosses partially improved agricultural fields between Grid Ref SE856860 and SE856856. At point F it joins an existing forest road and popular trail. No trees occur on the section. Changes to the agricultural use of the fields brought about by construction of a new trail would have some limited impact on the local bat population.

vii. **Section B-D.** The section runs parallel to Dalby Beck through partially improved agricultural land from Grid ref SE856860 to SE857873. The proposed route does not enter the wooded riparian zone alongside the beck except at points B and D. The riparian zone is of particular importance to bats and a number of trees with holes, splits and other cavities were noted. There were a number of fallen or wind damaged trees. The section passes close to several field trees one of which showed evidence of holes and cavities. The section passes close to the west of an ox-bow meander isolated from the main course of the stream. The ox-bow is bounded by alder (*Alnus glutinosa*). A small number of the alder exhibit splits and cracks that provide potential bat roosting habitat.

viii. **Section D-E.**
This short section was undefined on the maps provided to the surveyors but must run somewhere between Grid ref SE857873 and SE858874. It passes through the riparian zone and a mixed stand of trees. In the mixed stand most trees appeared too small to provide for significant roosting and resting habitat. A small number of trees particularly in the riparian zone have the potential to provide suitable habitat.

Purpose and scope of the survey

i. The purpose of this survey was to assess the potential for significant bat populations along the route of the proposed Dalby Beck multi-user trail and identify the threats to any such population from the construction, maintenance and use of the trail. Bats are fully protected under United Kingdom (Wildlife & Countryside Act) and European (European Habitats Directive) legislation. The report recommends best practice for the protection and enhancement of the bat population and where appropriate highlights any areas where in the opinion of the surveyors the development of the trail is likely to constitute a breach of the legislation and the actions needed to remove any threat. Much of the proposed trail follows an extant route with frequent usage by a wide range of user groups from motor rallies to pedestrians. This section has not been surveyed because there is no potential change in the likely impact on the bat population.

Existing knowledge about bats in the Dalby Beck area

ii. The Forestry Commission wildlife ranger team (*Critchley, Palmer etal*) have carried out bat surveys in the vicinity of Dalby Beck since the 1980's. The site has been extensively researched by Professor John Altringham and colleagues from Leeds University. Most notably to confirm the existence of the soprano pipistrelle bat (*Pipistrellus pygmaeus)* in the 1990s. There are two bat box sites in the valley that have provided detailed information on the species present. Until around 2001 bats were individually ringed at these sites and the continued use of the bat box scheme by ringed bats demonstrates an acceptance of the high level of public access. A bat hibernaculum was constructed near Dalby Beck in the early 1990's under guidance from Dr R Stebbings. As far as can be ascertained this is currently still unused by bats. The reasons for this are not certain but recent research (*Altringham etal, Leeds University* unpublished) suggests the most likely factor is the arrangement of the security grill at the entrance and not disturbance. Several species of bats including brown long-eared (*Plecotus auritus*) and common pipistrelle (*Pipstrellus pipistrellus*) are known to inhabit house roofs in Low Dalby

iii. Species known to inhabit the area around Dalby Beck (Survey information maintained by the Forestry Commission, Outgang Road, Pickering)are:

Noctule bat	*Nyctalus notula*
Common pipistrelle	*Pipstrellus pipistrellus*
Soprano pipistrelle	*Pipistrellus pygmaeus*
Brown long-eared bat	*Plecotus auritus*
Daubenton's bat	*Myotis daubentoni*
Natterer's bat	*Myotis nattereri*
Whiskered bat	*Myotis mystacinus*
Brandt's bat	*Myotis brandti*

Conclusions and Recommendations

ix. **Section A-B.** The construction of the trail in this section is not likely to pose any threat to the current bat population. Eventually some of the large Sitka spruce will die and these will be perceived as a health and safety risk. The preferred option when this occurs is to reduce the stems of dead or dying trees to a safe height by removing the crowns. The remaining trunks could then be allowed to decay and provide roosting and resting habitat as a natural process. If this is not possible then any dead or dying tree must be completely felled before decay set in or bark becomes loose and detached. This should be regarded as the least favoured option. Clearing the understorey along the route of the path will have little or no impact on bats. The understorey under the rest of the spruce should not be cleared. At the crossing point (B) the trees in the riparian zone are of particular importance, both to feeding bats and potential for roosting and resting habitat. The preferred crossing point should avoid the necessity to fell any trees. If felling is necessary then the individual tree(s) must be assessed for bat presence before any action is taken. It is recognised that there is a potential risk to trail users from falling trees and branches in this area. Felling of trees in the interest of health and safety must be kept to a minimum. Alternative actions such as crown removal and branch reduction must be considered along with other possible mitigating actions.

x. **Section B-F.** There is no threat to the current bat population in this area through the construction of the trail. The construction of the trail will bring about changes in agricultural practices. Any enforced changes must reflect good environmental practices such as carefully managed mowing and grazing regimes and the exclusion of inorganic fertilisers. Such methods will increase the invertebrate population an essential part of good bat habitat.

xi. **Section B-D.** The construction of the trail along the proposed route has the greatest potential for adverse environmental impact including an adverse effect on bats and their habitat. The route as presented to the surveyors was sufficiently far from the riparian zone to alleviate the necessity of felling trees considered hazardous for health and safety reasons. If the trail is moved nearer the riparian zone then the perceived risk to the public and the bat population becomes greater. The trail should be no nearer than 15 metres from the edge of the riparian zone for at least 80% of this section. This should minimise the need to carry out harmful amounts of tree management. Felling of hazardous trees must be regarded as the least favoured option with crown removal and branch reduction being considered. In extreme cases, for instance where trees are likely to support roosting or resting bats, moving the trail should be considered. Trees must be allowed to mature and decay naturally in the riparian zone to ensure future bat habitat. It is essential that the riparian zone is not sanitised of dead and decaying trees.

xii. **Section D-E.** The line of the exact route was not defined to the surveyors however the following recommendations can be made. The preferred route must avoid the felling of any trees likely to provide potential bat roosting and resting habitat. Tree felling must be kept to a minimum and trees in the riparian zone, unlikely to pose an immediate or foreseeable threat to public safety, should be allowed to mature and decay naturally. When the exact line of the proposed route is decided an assessment must be made of the individual trees along the line. Further action will be decided by the results.

xiii. **General recommendations.**

- All trees exhibiting, woodpecker holes, splits and cracks, rot fissures and loose bark must be treated as potential bat roosts and the Joint Forestry Commission/Natural England Guidelines followed to ensure protection of bats and compliance with the European Habitats Directive.
- The current bat box scheme should be maintained, using external bat workers if necessary. The scheme is useful not only in providing bat roosting and resting habitat it is also a valuable indicator in long term changes in the local bat population.
- Rather than carrying out excessive pruning and management of trees considered to be a danger to public health consideration should be given to closing the trail during adverse weather conditions.

xiii. **General recommendations (continued).**

- Any literature and other interpretative material produced in association with the development and use of the trail should contain reference to bats, their needs and the requirement to maintain dead or dying trees.
- The construction of the trail is likely to bring about changes in the agricultural management of the fields. Changes must not adversely affect the invertebrate population of the fields and the Forestry Commission and its tenants need to agree a management strategy to protect and enhance their environmental qualities.

The authors

xiv. **Mick Douch.** Mick is the Forestry Commission's Wildlife Ranger Manger. He is a licensed bat handler and leads the Forestry Commission's wildlife ranger team in North York Moors Forest District. He is responsible for monitoring the local bat box scheme and ensuring that forest operations do not conflict with bat population.

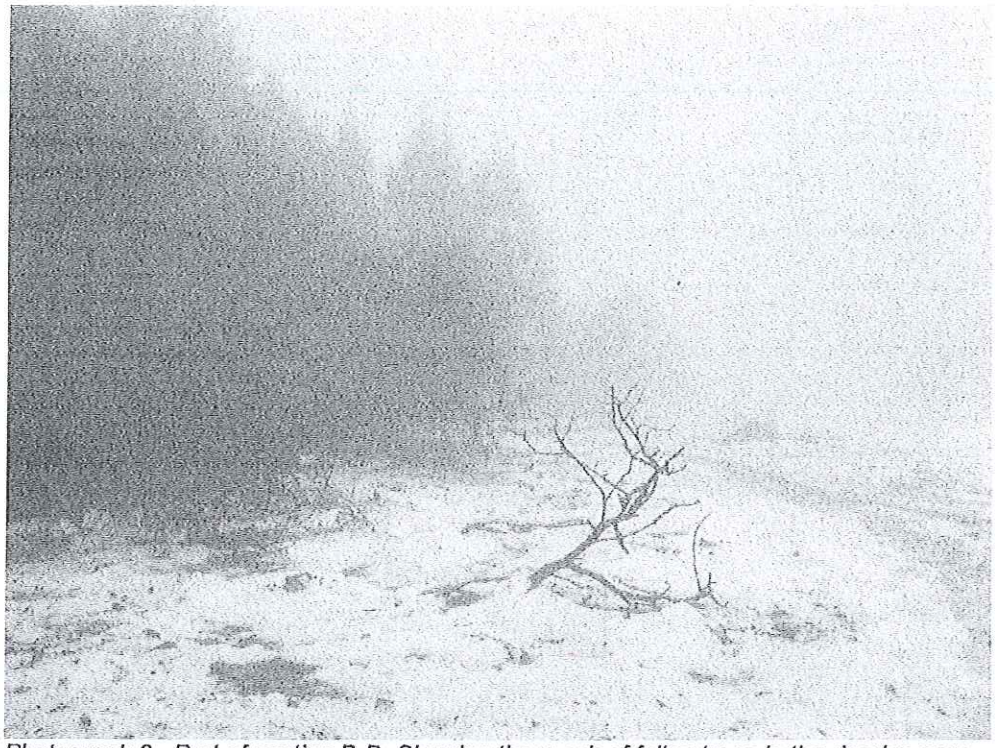
xv. **Brian Walker.** Brian is a former Forestry Commission recreation & wildlife manager. He began bat conservation work in the early 1980's in Hamsterley Forest in County Durham and has been closely involved with the bat monitoring scheme and implementation of bat protection in Dalby Forest since 2001. He retired from the Forestry Commission in 2010 and currently provides independent advice to a range of clients under the trading name of Woodlander Environmental.

Photographs

All photographs by B. Walker, January 2011

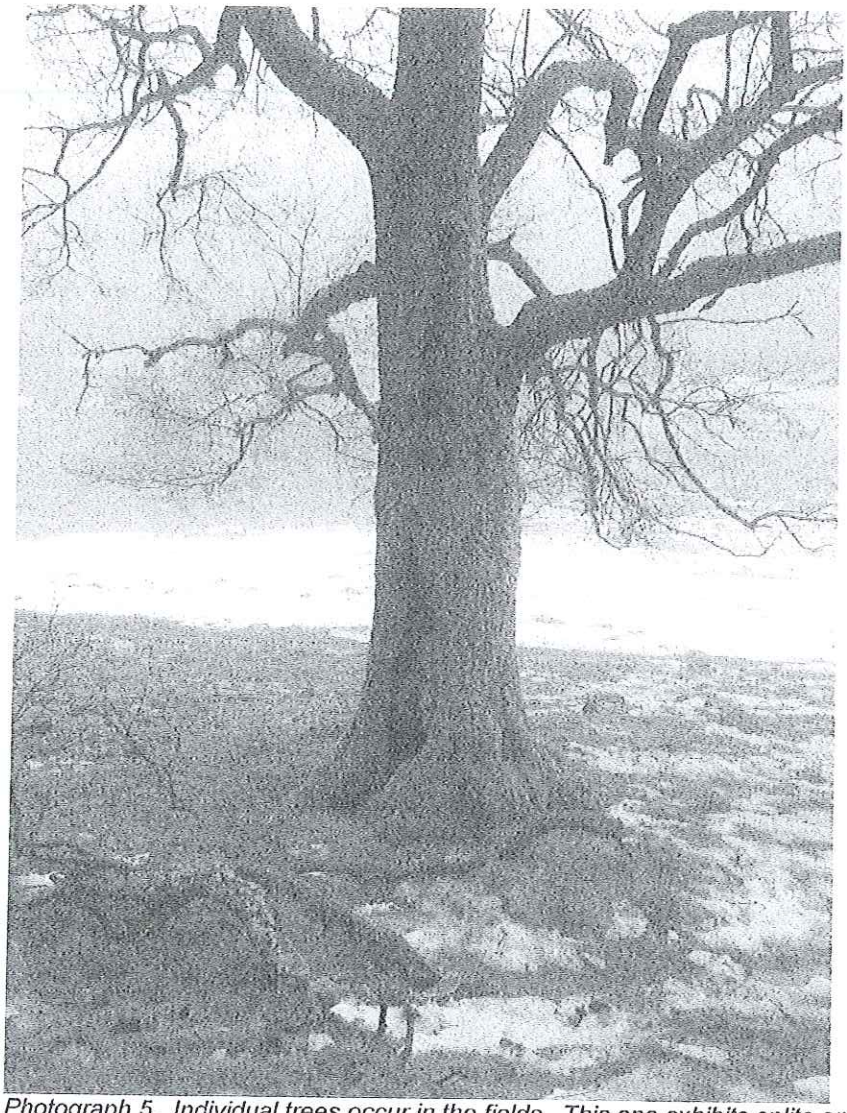
Photograph 1. Section A-B showing mature trees and scattered broadleaf understorey.

Photograph 2. Section A-B at B showing the structure of the riparian zone.

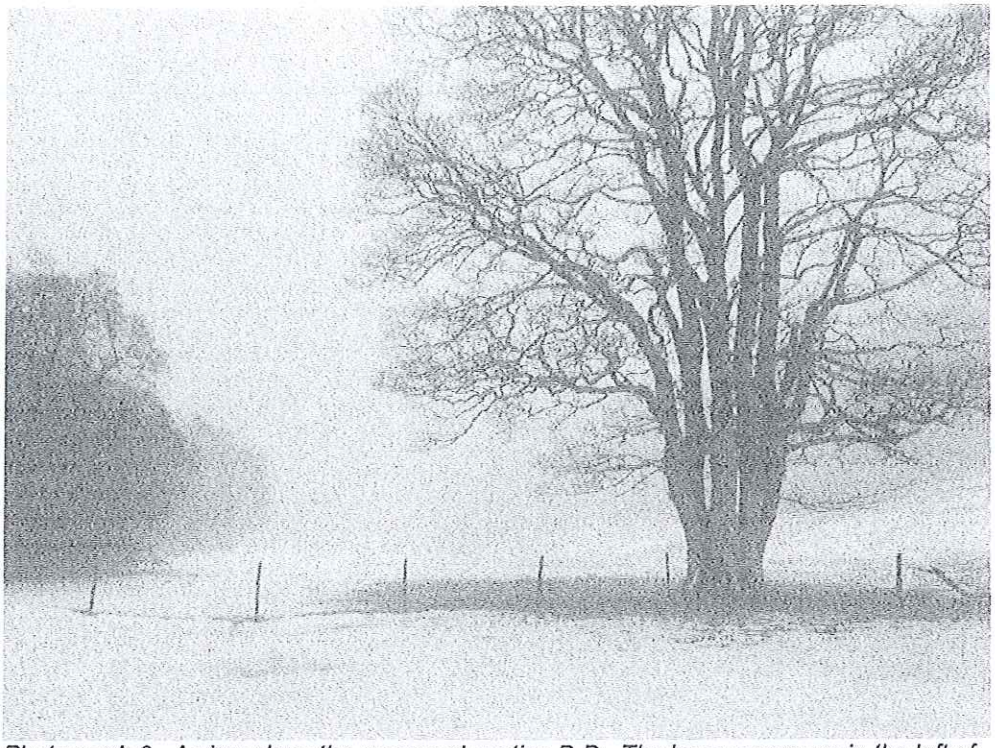


Photograph 3. Part of section B-D. Showing the reach of fallen trees in the riparian zone.

Photograph 4. Public health & safety needs to be considered butt actions must not adversely affect the habitat for bats.



Photograph 5. Individual trees occur in the fields. This one exhibits splits and cracks likely to be exploited by bats. Felling the tree should be seen as a last resort as it is an asset to bat conservation.



Photograph 6. A view along the proposed section B-D. The large sycamore in the left of the picture is currently healthy and appears wind firm but if deemed a safety hazard at a future date methods such as crown reduction must be considered and the decaying trunks retained as long as possible.