

## **Report on**

### **HABITATS REGULATIONS ASSESSMENT ASHTON PARK 27 FEBRUARY 2018 (FINAL VERSION)**

**John Altringham, Emeritus Professor of Animal Ecology & Conservation**

#### **Brief biography**

I hold a BSc in Biology (University of York) and a PhD in Zoology (St. Andrews University). I am Emeritus Professor of Animal Ecology and Conservation at the University of Leeds (Professor 1999-2016). I have conducted and published zoological and ecological research for 38 years and have written over 150 scientific papers and reports on a broad range of zoological topics. I was awarded the Scientific Medal of the Zoological Society of London in 1994 “for distinguished work in zoology”.

I have been actively involved in bat research and conservation for over 30 years. I am author of three major books on bat biology and conservation (see references). I am senior author of a review book on global mitigation for bats (Berthinussen et al. 2013). I have extensive field experience with wild bats in the UK and abroad, applying a wide range of techniques to their study. My research has been funded by government and by national and international conservation charities. I regularly advise Natural England, Natural Resources Wales, Scottish Natural Heritage, the Bat Conservation Trust and Wildlife Trusts on bat ecology and conservation issues. I am author of a number of guidance notes for Natural England and others related to best practice conservation. I run and contribute to training courses in bat conservation, survey and research and I am a past member of CIEEM. I am a member of a number of advisory groups, including the Natural Environment Group of the National Trust, an independent advisory body of expert volunteers, and the Yorkshire Dales Biodiversity Forum, a volunteer body that advises and assists the national park authority in formulating and delivering its conservation objectives. I am a regular advisor and contributor to BBC Natural History Unit programmes on bats and other topics.

Of particular relevance to this case is my interest in the effects of transport infrastructure on bats (and other animals). We recently published a Defra-commissioned and funded report (Berthinussen & Altringham 2015a). The report summarises current knowledge in the field of road ecology related to bats, details our extensive research, and provides best practice guidance on survey, monitoring and mitigation for bats on transport infrastructure. This report was produced with the aid of a steering group whose members included representatives from the statutory nature conservation organisations of the UK and Highways England. I have published a range of papers and reports on bats and roads and evidence-based conservation in general (e.g. Abbott et al. 2015, Altringham & Kerth 2015, Berthinussen & Altringham 2012a, 2012b, Berthinussen et al. 2013, Berthinussen & Altringham 2015b,) and been an invited speaker on the subject at conferences and workshops in the UK, Australia and Denmark.

## Background to this report

This report is an updated and extended version of the 'Interim' report submitted to members of the Wiltshire Council strategic planning committee at their meeting on 25 April 2018, at which the planning application for Ashton Park and the Yarnbrook West Ashton Relief Road was approved.

It is the latest in a series of reports by me, commissioned by the White Horse Alliance and beginning with evidence presented to the public inquiry into the A350 Westbury Bypass (Altringham 2008). In this I questioned the effectiveness of the proposed bat mitigation strategy and methods. In particular, I argued that there was no evidence to support the use of wire gantries as an effective mitigation method to get bats safely across roads. Indeed a knowledge of bat ecology strongly suggested they would be ineffective. My evidence was dismissed in favour of statements from Natural England, unsupported by any evidence, that they had confidence in the proposals. I was so surprised by this unscientific approach that I started a research project on the effects of roads on bats and mitigation methods in road development. Our field research confirmed that most existing bat mitigation and monitoring methods were ineffective and a waste of public money (Berthinussen & Altringham 2012a,b). This led Defra to fund us to develop more scientifically robust monitoring methods and also evaluate existing mitigation strategies (Berthinussen & Altringham 2015a). The guidance documents we produced are now widely used. In a speech in the House of Lords, Lord Krebs (ex-government Chief Scientist) used our findings as an example of the importance of evidence-based policy and practice. Thus, as a direct consequence of the Westbury Inquiry, I have been studying the effects of roads and other infrastructure projects on biodiversity (and bats in particular) for over 10 years. During this time I have been consulted on a broad range of developments across the country.

I submitted a report (Altringham 2013) on the likely effects on bats of the proposed developments at Ashton Park in the Wiltshire Council Core Strategy. I concluded:

*It is inconceivable that the Bechstein's bat colony or colonies in Green Lane, Biss, Picket and Clanger Woods will not be seriously compromised by this development. It is probable that disturbance, recreational pressure and habitat degradation from the housing and commercial development adjacent to Green Lane and Biss Woods will lead to the loss of these woods as a nursery and feeding site, with inevitable population decline and probable extinction.*

There has been no direct acknowledgement of the many issues I raised, but subsequent changes to the development plan, such as the adoption of underpasses in preference to hop-overs, attempt to accommodate some of my concerns. However, subsequent iterations of the plan remained seriously flawed, which is reflected in my concluding remarks in a further report (Altringham 2016):

*In conclusion, in the absence of mitigation I believe there will be major, adverse and permanent effects on the local Bechstein's bat colonies, which are part of the Bath and Bradford on Avon SAC population. The building of 2,500 new homes and other infrastructure (in addition to the 600 homes already being built at Castle Mead) adjacent to the breeding*

*sites of these bats will transform the landscape. Even if proven strategies existed to mitigate against this, the scale of the development and its proximity to the woods would make successful mitigation an unlikely prospect in this case. With untested strategies, which I have many concerns about, I think success is even more unlikely. The idea that the scheme could be beneficial to the bats is wildly optimistic. In legal terms, the proposals fail the requirement set by the Waddenzee Judgement (2004) of the European Court of Justice that the success of mitigation be “beyond reasonable scientific doubt”.*

The 3-page summary in Altringham (2016), and the associated two maps, summarize the relationships between the proposed development, the bats’ habitat and its relationship to the SAC.

### **General comment on the 27 February 2018 HRA**

Two arguments are made in the 27 February 2018 HRA that cause me great concern as a scientist and conservationist:

- that monitoring of mitigation success is no longer necessary under the Habitats Regulations. The possibility of mitigation failure appears not to have even been considered.
- that in the absence of evidence to support the effectiveness of a mitigation strategy, the developer/planner can be so confident of success that they can claim monitoring is not required.

The consequence is that monitoring of mitigation is seen as optional rather than essential, something to be done because it is good practice, or because it may have value for other reasons than the mitigation itself. I have been unable to find any evidence to support the statement that “monitoring of mitigation success is no longer necessary under the Habitats Regulations”. Indeed, how can you know mitigation is a success without monitoring? Mitigation success is rarely guaranteed and there is always room for improvement. To suggest otherwise and not even to consider the possibility of failure runs counter to the principles of objectivity, science and evidence-based policy, and the known uncertainty around mitigation. Even a brief look at the [www.conservationevidence.com](http://www.conservationevidence.com) website will show that we can have little confidence in a great deal of current mitigation practice and that mitigation for bats is particularly poorly developed.

### **Specific comments**

Page numbers refer to locations in the HRA

Page 1

#### **“BACKGROUND**

This document represents Wiltshire Council’s final appropriate assessment (AA) under Section 63 of the Habitats Regulations 2017 for the mixed use urban extension and relief road at land to the south east of Trowbridge, known as “Ashton Park”.

In carrying out this assessment the Council has had regard to the following documents.....”

I and others have provided evidence and comment at the request of the White Horse Alliance (WHA), for example Altringham (2016), and it is clear from the history of this development that the documents submitted by the WHA have influenced the development plans in many ways, yet none of these documents or the evidence they contain have been referred to.

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**“ SHADOW HRA 2016**

.... In October 2016, DTA’s initial assessment advised that on the basis of scientific evidence, the Council could not rule out significant adverse effects on the SAC.

.... DTA advised that for the purpose of the appropriate assessment “it is considered most appropriate.... to refer to the SAC as having an ‘internationally significant population’ of Bechstein’s bats with the woodlands to the south of Trowbridge being ‘functionally linked’ to the maintenance of the population for which the SAC has been designated”

.... DTA also highlighted recent case law which demonstrated that adverse effects occurring indirectly as a result of impacts on functionally linked land should be considered in the same way as direct effects on land within the SAC itself.”

This clearly acknowledges the importance of the Bechstein’s bat colonies in the woods and the high risk to these colonies of the proposed development.

Page 3 et seq.

“DTA demonstrated limited confidence could be placed on the ability of proposed woodland management mechanisms to control impacts from residents within easy access to the woodlands on foot. This conclusion took into account evidence from the newly built development at Castlemead.....”

There follows a detailed account of the reasons for this lack of confidence, centred around recreational pressure, severance and degradation of commuting routes, loss or degradation of roosts, increased mortality and injury, and increased disturbance. DTA also referred to the great difficulty in monitoring the effectiveness of mitigation and the absence of remedial measures even if failure could be demonstrated. It is claimed that these problems have all been overcome by “fundamental changes” to the masterplan.

“The main changes to the masterplan were:

- Reducing the area of land allocated for housing on the east side of West Ashton Road from 21ha to 7.47ha which would reduce the number of dwellings to about 300 from a previously estimated 700.
- Relocating employment land to the east side of West Ashton Road to form a buffer between housing and Biss Wood thus extending the distance residents must walk before reaching the wood
- Including design measures to prevent residents taking short cuts to the woodland, namely an impenetrable attenuation feature on the north eastern boundary of the residential development and a 15m wide buffer with a 2m bund, impenetrable planting and a 1.8m fence to prevent residents gaining access to Biss Wood through the employment land
- Removing the previously proposed pedestrian and cycle path through the 100m buffer adjacent to Biss Wood

- Strengthening the hedgerow on the east side of West Ashton Road to prevent short cuts developing from residents living to the east of the River Biss.

These measures would significantly reduce the scale and magnitude of recreational pressure and would prevent unintended short cuts from occurring over time.

The changes to the road scheme were:

- Altering the road design to include 7 underpasses which would be designed to meet Defra best practice guidelines. In principle, all underpasses would be in alignment with existing flight lines, at least 3m high and up to 5m wide allowing for a 2m wide hedgerow and 1.5m clearance either side.
- Removing roadside planting to avoid the risk of encouraging bats to foraging along the road and increasing their risk of being hit by traffic. “

In DTA’s Shadow HRA Addendum 2017 the conclusion of no adverse effects was caveated by 15 provisions the Council would need to satisfy itself had been met before adopting the provisional conclusions.

It is the likely effectiveness of these new plans in addressing these caveats that I will consider.

Page 7, paragraph 1. It is stated

“Many of the monitoring items under TN3 and TN6 are not now relevant to the appropriate assessment, because there is sufficient confidence in the effectiveness of the measures that they could not result in the need for remedial measures.”

Where has this confidence come from? I found nothing in the document to justify the belief that the mitigation will be so successful that monitoring is unnecessary. This assertion flies in the face of past mitigation experience, scientific method and the process of evidence-based action.

Page 7, Table ‘details of measures required’ covering the 15 provisions set out by DTA

The table details actions that include “write plan”, “enhance foraging and commuting”, “minimise disturbance and degradation” and many more, but there is insufficient detail anywhere in the document on how these very difficult objectives will be achieved. They are almost exclusively aspirations not solutions, with little or no evidence put forward to support the effectiveness of the methods that are proposed (and few methods are proposed), or acknowledgement of issues such as the accepted difficulties of implementation and enforcement (c.f. Castlemead), the time needed for habitat to mature, or the need for many actions to be maintained in perpetuity.

Page 9, point 8.

The statement is made that “monitoring of mitigation success is no longer necessary under the Habitats Regulations”, citing the Shadow HRA Addendum, Appendix 1, p67. No citation is given for this assertion in the shadow HRA Addendum. This statement should be

supported by a clear ruling from the EU or in some other convincing way. I find it very hard to believe this is true. It would be an enormous step backwards in nature conservation. If we do not monitor mitigation how can we tell success from failure? How can mitigation be evidence-based in the absence of evidence? How can we improve our methods if we don't gather data on what works and what does not? This belief that monitoring is optional is repeated throughout the document, demonstrating, in my view, a cavalier approach that is dismissive of the need to base decisions and actions on evidence.

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“Experience at Castlemead, Trowbridge has demonstrated that implementation of works against approved documents can be difficult to achieve whether by planning condition or S106. In view of this, the developers have agreed to provide a Compliance Ecologist on approval of the first reserved matters application for the duration of the construction period<sup>4</sup> and this will be secured by S106.”

There is no guarantee that this and associated measures will be any more effective than measures used in the past and failure could lead to severe adverse effects on the bats.

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“The Shadow HRA Addendum 2017 recognised that the commitment to a full-time warden was an important change to the original submission. Their presence can be expected to have a positive impact on emerging usage patterns and more effective at delivering management options given the reduced scale of pressure now anticipated.”

Appointing a full-time warden is a positive step but is no guarantee against excessive recreational pressure and vandalism. The warden will not be there 7 days a week, 24 hours a day and will have limited powers. Most vandalism occurs at night and even the police are often unable to prevent it. There will not even be a visitor centre for up to 2 years or until 300 houses are built, reducing a warden's effectiveness considerably.

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Can hedges be made truly impenetrable, even with regular maintenance? Can other barriers be relied on? Can people be consistently persuaded to follow the rules? The well-documented difficulty of getting people to keep dogs on leads in sensitive areas alone suggests we should be cautious. This is optimism without supporting evidence.

Page 18, point 10.

What was the basis of the calculation / decision on the number of dwellings that could be accommodated without harm? 300 houses are still a major source of recreational pressure and potential vandalism. We have little idea what an acceptable threshold is. Again, optimism without evidence.

How can we be confident that the employment area will act as an effective buffer zone and reduce recreational pressure? The distance between new housing and woodland is still well within documented travelling distances for walking, dog-walking, cycling (including off-road

cycling in woodland), roaming cats, etc. and is not a proven barrier against vandalism. Indeed, the zone may provide some cover for vandals. I discussed many of these issues in Altringham (2016) and my conclusions still stand.

Lighting in the new employment zone could be a major source of disturbance, as could traffic into and out of the site, but these are not discussed.

Page 18, point 12.

There is no evidence to support the effectiveness of hop-overs. They remain completely untested, so there can be no confidence in their usefulness without monitoring, and plans are needed for remedial action. The underpasses may meet best practice standards, but there is no guarantee that a given underpass will be effective. The Defra best practice guidelines (Berthinussen & Altringham 2015a, not cited here but later in the HRA) make this clear – they suggest what should be built AND provide detailed guidance on how to monitor them for effectiveness. I know, because I wrote them with a colleague, and designed and co-ordinated much of the research behind them.

I am not saying that hop-overs and underpasses will not be effective. I am saying that hop-overs have not been tested at all and that we still have much to learn about effective underpass design. The proposed underpasses may or may not work. Scientific doubt remains over their effectiveness, so they must be monitored and there must be contingency plans in case of failure.

Page 19, point 12 cont.

Similarly, 4 m high fencing also has no proven efficacy. There are anecdotal observations of bats flying over fences or out of trees and hedges only to drop immediately to ground level to cross roads. There is no justification for any confidence in the usefulness of fencing.

Page 19, point 13.

As stated above, the underpasses may meet best practice standards, but there is no guarantee that a given underpass will be effective. The Defra best practice guidelines (Berthinussen & Altringham 2015a) make this clear. It is depressing to see our carefully researched and written Defra report interpreted so simplistically and so incautiously. Again, I am not saying don't build them. I am saying their effectiveness is not guaranteed and they must be monitored. Scientific doubt does remain.

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“The YWARR will incorporate a hop-over rather than an underpass at this location. Each hop-over is specified with a 4m high close mesh fence in line with guidance<sup>12</sup> in Limpens 2005 serving to lift the bats up before they attempt to cross over the carriageway before planting at the hop-over becomes established.”

As stated above, there is no evidence to support the effectiveness of either fence or hop-over. Limpens suggested this measure only with the expectation that it might be of benefit –

neither he nor anyone else has tested the concept. The document does finally acknowledge this on this page, with reference to our own Defra report, and concludes with weak reasoning that the consequences are unlikely to be a problem:

“As discussed in the Shadow HRA 2016, the effectiveness of hop-overs is untested<sup>13</sup> and it is possible that lesser horseshoe bats will drop down to the carriageway regardless of fencing and tree planting either side. However as this section of the road is unlit, bats are unlikely to be deterred from continuing to cross it except at busy periods when headlights may act as a deterrent.”

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#### “Mortality and Injury

The risk of mortality and injury can be expected to reduce in the section of the YWARR between roundabouts 1 and 2 where the speed limit will be reduced to 40 mph (from 50mph on the existing A350) and along the section of West Ashton Road between the existing cross roads and roundabout 3 where the limit will be reduced to 30 mph (from 40mph). In addition, roundabouts 2 and 3 will serve to reduce speeds as cars approach and leave these junctions. **Underpasses will bring bats out of the path of traffic completely.** Overall therefore bat mortality can be expected to be reduced compared to the existing situation.”

For reasons stated above it is negligent to say that underpasses will bring bats out of the path of traffic completely. Their effectiveness is by no means guaranteed. The lowering of the speed limit may indeed help, but we have no idea how much. The bats speed is likely to be only 10-15 mph, well below old or proposed speed limits. Even assuming mortality will be reduced, will it be reduced to levels that do not threaten survival of the population? We have no idea.

#### **Additional comments**

I also read the following documents, to enable me to comment on any pertinent information not included in the 27 February 2018 HRA:

#### **Officer’s Report to Strategic Planning Committee 25 4 18**

This is a restatement of the issues covered in the February HRA. It does not address any of my concerns so requires no further discussion.

#### **HRA Addendum May 2018 to Wiltshire Housing Site Allocations Plan Pre-Submission Draft (June 2017) Assessment under the Habitats Regulations**

The HRA addendum May 2018 adds no detail that addresses the issues I have raised but raises several points for discussion. One of its primary functions is:

1.3 Work on the mitigation strategy for the Bath and Bradford on Avon Bats SAC has been contracted to an ecological consultancy with appropriate expertise, and good progress is being made. This Addendum expands on what the strategy aims to deliver and considers the implications for this SAC of the increased housing numbers proposed at four allocations at Trowbridge.

It raises the possibility of using small, dispersed recreational sites to relieve this additional recreational pressure but is vague and aspirational only. No evidence in support of the

effectiveness of this strategy is presented. Small recreational spaces may have little or no effect on estates where people are used to getting into their cars to make short journeys for recreation.

The document also discusses the development of a TMBS (Trowbridge Bat Mitigation Strategy). We are told that:

“The strategy will be sufficiently advanced during the examination to allow the Council to demonstrate that the plan is sound and will have no adverse effects on the SAC. “

The TMBS is currently no more than broad principles, and too little detail is given to assess its value. Success, and the demonstration of success, depend on detail. However, the strategy will presumably be based around the methods I have expressed so much concern about in the preceding pages of this document, including the negligent approach to monitoring. The strategy makes the implicit assumption that the mitigation methods guarantee success, which is simply not the case.

There are also some significant contradictions and uncertainties:

3.3.10 In view of the fact that the bats response to development is likely to be delayed and difficult to ascertain with confidence, this could suggest a need for phasing further development over and above the current draft and adopted allocation that might arise from the Local Plan Review. Otherwise there would be a risk that the capacity of the area to support the internationally important population of Bechstein’s bats may be exceeded and as a result have significant adverse effects on the integrity of the SAC. However, this would be a matter for the Review to resolve and is not necessary to progress in this Plan.

3.3.11 In conclusion, the amendments to the Plan can be accommodated by the TBMS and it is therefore possible to conclude there will be no loss of integrity to the SAC.

3.4.2 A detailed discussion was provided in the pre-submission HRA of developments which could have in combination effects with the Plan. The main in-combination project will be Ashton Park, which was resolved to approve at committee in April 2018. This will deliver 2500 new homes over the next 15 years and is required to implement a complex and wide reaching mitigation strategy which focuses on intensive wardening at the woodlands and extensive provision of new habitats to provide an alternative to visiting the woodlands and to offset loss of bat habitat. The application went through a lengthy HRA process which concluded there would be no adverse effects. Nevertheless, the potential for residual effects could not be discounted.

These contradictions and uncertainties are no surprise given the lack of evidence to support the likely success of wardening, the creation of alternative recreational facilities and the creation of new habitat for offsetting. The additional housing allocations add further pressure and uncertainty. The Shadow HRA and the conditions it set out for successful mitigation predate these new allocations, so can it still be assumed that the integrity of the SAC will be maintained? Natural England express concerns, as reported in the addendum:

3.3.1 In its consultation response, Natural England has questioned whether the housing numbers in the Plan are deliverable, as in the absence of bat surveys and mitigation standards the capacity of

the allocations is uncertain. Alternatively, in order to achieve housing numbers, key habitats might be lost thus leading to impacts alone.

Much rests on the TBMS - without it there are many unanswered questions.

### **Conclusions**

The changes to the masterplan may go some way towards reducing the effects of the housing development and the road on the colonies of Bechstein's bats in the area. However, whether they will be sufficient to prevent population decline and the possibility of the eventual loss of the population, remains uncertain. I have concerns about the enforceability and effectiveness of plans to reduce recreational pressure and vandalism – these are very difficult things to control, as the HRA admits. I am also concerned about the unscientific approach to mitigation and monitoring and the dangerous precedents this could set.

For the above reasons, I disagree strongly with the conclusion that significant adverse effects on the integrity of the Bath & Bradford-on-Avon Special Area of Conservation can be ruled out under the proposed plan. The HRA therefore cannot demonstrate the level of scientific certainty required to comply with the Habitats Directive.

### **References**

Abbott I, Berthinussen A, Stone E, Boonman M, Melber M and Altringham J. (2015) Bats and roads. Chapter 34 in Handbook of Road Ecology. van der Ree, R., Smith, D.J. and Grilo, C (eds.). John Wiley & Sons, Oxford. 552 pp. ISBN: 978-1-118-56818-7.

Altringham JD (1996) **Bats: Biology and Behaviour**. Oxford University Press.

Altringham JD (2003) **British Bats**: New Naturalist Series. Harper Collins.

Altringham JD (2008) Bat ecology and mitigation. Proof of Evidence on behalf of the White Horse Alliance to the Public Inquiry into the A350 Westbury Bypass.

Altringham JD (2011) **Bats: from evolution to conservation**. Oxford University Press.

Altringham JD (2013) Likely effects of the proposed development on bats. On behalf of the White Horse Alliance for the Inquiry into the Wiltshire Council Core Strategy.

Altringham JD (2016) Likely impact of the proposed Ashton Park development and associated mitigation. Prepared for the White Horse Alliance.

Altringham JD, and Kerth G (2015) Bats and roads. In: Bats in the Anthropocene: conservation of bats in a changing world. Edited by CC Voigt and T Kingston. Springer, Berlin.  
<http://www.springer.com/us/book/9783319252186>

Berthinussen A and Altringham JD. (2012a) The effects of a major road on bat activity and diversity. **Journal of Applied Ecology**. 49, 82-89.

Berthinussen A and Altringham JD. (2012b) Do bat gantries and underpasses help bats cross roads safely. **PLoS ONE** 7(6): e38775.

Berthinussen A and Altringham JD (2015a) Development of a cost-effective method for monitoring the effectiveness of mitigation for bats crossing linear transport infrastructure. Defra research report WC1060.

Berthinussen A and Altringham JD (2015b) Bats. In: What Works in Conservation. Compiled by WJ Sutherland, LV Dicks, N Ockendon and RK Smith. Pelagic Publishing and Conservation Evidence. <http://www.conservationalevidence.com>

Berthinussen A, Richardson OC and Altringham JD (2013) **Bat conservation: global evidence for the effects of interventions**. Synopses of conservation evidence series. Pelagic Publishing. 110 pages. <http://www.conservationalevidence.com/synopsis/index>

Waddenzee Judgement (2004) European Court of Justice Case C-127/02. Available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:62002CJ0127:EN:PDF>