

# Structural re-design of the Animex Wildlife Bridge for the Hazel Dormouse (*Muscardinus avellanarius*): Lessons Learnt from Two Connectivity Mitigation Case Studies in England

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## Abstract

The Hazel Dormouse is an arboreal mammal present in Europe and Asia Minor. The population is declining in the United Kingdom (UK), partially due to habitat fragmentation caused by the development of roads and other linear infrastructure. In 2016, we designed and tested an arboreal bridge in Britain that proved to be effective for Hazel Dormice. Subsequently, the bridge materials were upgraded to meet the technical standards of UK road agencies, so that it could be approved and implemented as mitigation on projects throughout the country. In the UK, each bridge must be technically certified by the relevant road authority and, as the bridge is a unique structure, this can pose challenges on projects. Two installation designs were created: the 'standalone' bridge and the 'retrofit' bridge. Several bridges have now been installed above roads in the UK. We discuss the development and implementation process from two case studies: a 40-metre retrofit bridge to an underpass at St Athan in Wales and two 76+ metre bridges retrofitted to an overbridge and underpass on the M1 motorway at Gayhurst, Buckinghamshire. This poster discusses what we have learned from these projects, how they have influenced the future designs of the Animex wildlife bridge, and the production of best practice guidance to provide a summary of the entire process of implementing a bridge project.

## Keywords

connectivity, wildlife bridge, Hazel Dormouse, road ecology, mitigation

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## **Conflicts of interest**