A303 Popham Airfield Woodland Improvement
Popham Airfield, A303, Hampshire
Kier Group – Kier Highways

BIG Biodiversity Challenge Award Category: Maintenance & Management Award

Project overview
The A303 at Popham Airfield is located in a rural area and is part of the strategic road network for Area 3. The A303 provides key access to the M3 North, Basingstoke and Micheldever station to the West.

The scheme was a infrastructure project with an estimated cost of £85,776 focusing on woodland improvement which aimed to change the management of Beech *Fagus sylvatica* trees suffering fungal decay (Figure 1). The area and scheme size was approximately 2.4 hectares.

A management change was adopted; from complete felling of all infected trees to a reduction in height so they pose no threat to highway users or assets, the resultant standing stem had boring cuts made using chainsaws for bat roosting, enhancing biodiversity value.

What were the biodiversity conditions on site, prior to the enhancement?
The infected Beech trees on site were the dominant high canopy species within the woodland. Complete removal would have left large open spaces and removed/reduced the woodlands habitat value.

Were there any specific conditions that led to you carrying out this work?
The A303 Popham Airfield Woodland Improvement scheme was identified to reduce the risk posed by trees in the surrounding area. Specifically mature Beech trees which were found to be infected with a fungal infection which affected tree stability and eventual failure.

Figure 1: Centre of woodland with previously pollarded beech trees amongst other mature/diseased beech trees

What were the biodiversity measures taken?

The maintenance management for this scheme is specific and focused, addressing infected mature Beech trees and is hard to replicate. However utilising the existing flora of standing deadwood up to 12m high for habitats for species such as bats and invertebrates can be replicated.

The scheme is considered innovative because the standing stems will deteriorate and decay becoming standing deadwood habitat for invertebrates. Boring cuts made into the stem with chainsaws to create upward bores could provide valuable bat habitat in an area where other habitat has been lost.

To further improve biodiversity, under-planting with suitable native shrubs and trees was undertaken. Long term management is in place at the scheme site to enhance habitat for dormice by managing mature Hazel Corylus avellana coppice stools (Figure 2).

Scheme and management aims were achieved whilst the loss of biodiversity value due to removal of the tree canopy was minimised with the enhancement work completed, at no extra cost.

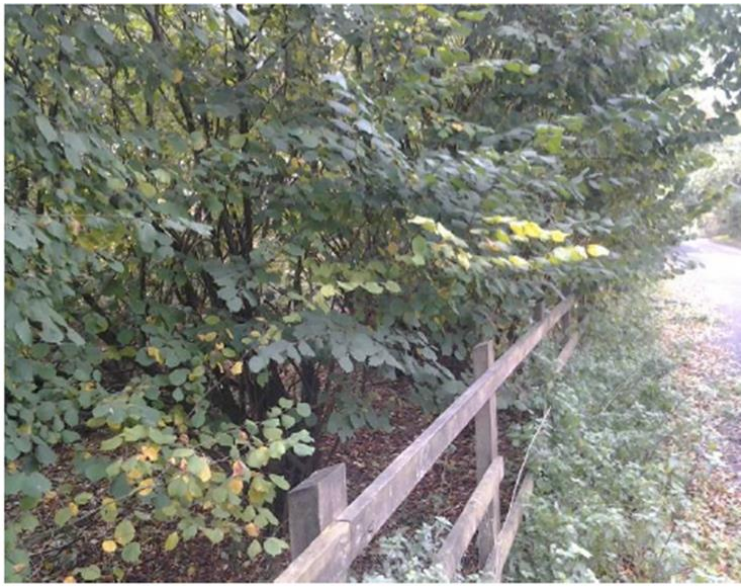

Figure 2: Edge of beech woodland adjacent to Popham Airfield access road with hazel coppice stools

How would you best describe the project?
Mitigation

Further information
This scheme supports Kier Highways' One Planet Action Plan and Highways England's Biodiversity Objectives of enhancing wildlife habitats.

The trees at Popham Airfield were identified as requiring removal due to fungal decay. Instead of completely removing the trees, they were left as standing deadwood to create additional habitat. The scheme was implemented by the Senior Landscape Manager who was enthusiastic about preserving a sustainable habitat for bats and invertebrates, as well as keep pleasant aesthetics. The habitat was created using chainsaws to make boring cuts in the standing deadwood (Figure 3).

Lessons:
• Increased boring cuts from 1-2 per standing deadwood to 5-6 as this would have increased the amount of available habitat for roosting bats.

What was your personal motivation for carrying out the enhancement?

Kier Highways' Area 3 Senior Landscape Manager, realised that removing the diseased trees would damage the surrounding flora and fauna, so requested they were made useful. The Area 3 Environment Team is always looking for ways to add enhancements and improvements to biodiversity and the now standing deadwood at Popham Airfield has created a model example for increased habitat for bats and invertebrates.

Figure 3: Standing Deadwood with boring cuts providing habitat for bats and invertebrates.

Additional Photos:

Figure 4: Photo collage of standing deadwood at A303 Popham Airfield