

# Ecological Restoration of Priority *Tilio-Acerion* Woodland Habitats in the UK's Peak District Dales SAC



## Project Overview and Conservation Significance

The LIFE in the Ravines project represents a <€5 million conservation intervention, targeting the restoration of 876 hectares of 9180\* *Tilio-Acerion* woodland habitat, within the Peak District Dales Special Area of Conservation (SAC). This habitat, classified as a European Priority Habitat under Annex I of the EU Habitats Directive, constitutes....

**16% of the United Kingdom's total *Tilio-Acerion* woodland resource.**

## Pathogenic Challenge: *Hymenoscyphus fraxineus* Impact Assessment

These woodland ecosystems are currently experiencing severe ecological stress due to widespread infection by *Hymenoscyphus fraxineus*, the cause of ash dieback disease. Given that *Fraxinus excelsior* (European ash) comprises over 80% of the canopy composition within these sites, the impact of ash dieback threatens structural and functional degradation of the entire woodland ecosystem. Without strategic intervention, collapse of woodland integrity is anticipated in multiple locations.

## Methodology and Approach to Restoration

The project employs evidence-based silvicultural techniques focusing on:

1. Species reintroduction: Implementing targeted planting of historically present but severely diminished tree species, including *Tilia cordata*, *Tilia platyphyllos*, and *Ulmus glabra*
2. Diversification: Supplementing with additional native species such as *Populus tremula* and *Salix* spp. to enhance structural and functional resilience
3. Genetic conservation: Propagation of key species including *Tilia cordata*, *Tilia platyphyllos* and *Ulmus glabra*

## Quantitative Assessment of Progress

Metrics from 2021 to present demonstrate:

1. Over 84,000 native trees planted
2. Survival rate of planted trees: One year after planting: 86.7%
3. Positive stakeholder perception from community engagement assessments

## Practical Work Constraints and Challenges

Several variables have affected implementation efficiency:

1. Geographical constraints limiting mechanical access, necessitating manual transport of materials
2. Economic and logistical limitations of tree protective measures (tree tubes, deer exclusion)
3. Variable stakeholder engagement affecting site access permissions
4. Resource allocation requirements for post-planting site maintenance
5. Limited public understanding of tree pests and diseases
6. Accelerated disease progression exceeding expectations
7. Secondary infection complications, particularly *Armillaria* spp.
8. Attempt to propagate *Tilia cordata* and *Tilia platyphyllos* unproductive



<84,000  
TREES PLANTED



<€5 Million EU LIFE PROJECT

## Ecological Significance and Research Implications

This initiative provides valuable empirical data regarding large-scale ecological restoration of priority woodland habitats under pathogenic stress, with potential applications for similar conservation challenges across European and UK woodland sites.

## Other Partnerships Initiatives

1. Identifying and preserving *Fraxinus excelsior* specimens exhibiting observable resistance to ash dieback with the Living Ash Project.
2. Supported by Forestry Commission to complete deer impact assessments across woodland sites.
3. Support from Nottingham University to propagate *Tilia cordata* and *Tilia platyphyllos*, using specialist techniques to cultivate cuttings.
4. Long term vegetation survey and analysis by Harper Adams University.

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Led by Natural England...partners within the project include Derbyshire Wildlife Trust, Staffordshire Wildlife Trust, National Trust and Chatsworth Estate.



Staffordshire  
Wildlife Trust



Derbyshire  
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