



# Centre for Human and Ecological Sciences

**Forest Research's Centre for Human and Ecological Sciences leads work across wide ranging areas: investigation of the relationship between humans and woodlands; conservation and management of a range of woodland species and habitats; knowledge management; and landscape ecology and genetics. This Centre comprises experts in a diverse range of disciplines, including ecologists, geneticists, economists, spatial modellers, statisticians and social scientists. Our specialists work alongside colleagues in Forest Research's two other Centres to tackle contemporary issues concerning biodiversity, society and woodland habitats.**

## Scope of our work

In addition to traditional timber production objectives, the management of trees and woodlands must consider the wider needs of society in terms of human well-being, ecosystem services, and the conservation, enhancement and protection of valued characteristics. A sound understanding of the relationships people have with trees and woods is essential to underpin appropriate management and policy.

Our researchers have established strong collaborative links with a range of universities and research institutes across the UK, Ireland, Europe and further afield. We are committed to inter disciplinary

working, and have considerable experience in collaborative work funded by, amongst others, the European Union, Rural Economy and Land Use (RELU), the Department of Environment Food and Rural Affairs (Defra) and the Scottish Government.

Our scientists recently contributed to the UK Forestry Climate Change Assessment, and are also involved in the National Ecosystem Assessment. Our research incorporates a range of techniques, including quantitative and qualitative social sciences, molecular diagnostics, spatial analysis using sophisticated modelling within Geographic Information Systems, and field assessment approaches.

## Key research areas

### Social sciences

Our research in this area covers a broad agenda around the relationship people have with woods and trees. Work includes studying the organisation and governance of our natural resources; monitoring and evaluating initiatives targeted at enhancing the public good; and developing ways to encourage the use of wooded spaces for both physical and mental well-being.

### Economics and statistics

We investigate the valuation of goods and services associated with trees and woodlands, including payment for ecosystem services, the valuation of carbon sequestered by forests or stored in wood products, and both market and non-market valuation methods. Our expertise in statistics underpins all aspects of our work, ensuring that data are appropriately analysed and that findings have quality assurance.

### Species and habitat management

The conservation and enhancement of biodiversity is an important objective for forest and woodland management. We use our extensive knowledge of woodland-dwelling species and their ecology to understand how habitats can be managed to sustain valued populations, while controlling populations of damaging species (such as non-native and invasive vertebrates) and their impacts.



Deer populations are sustainably managed.



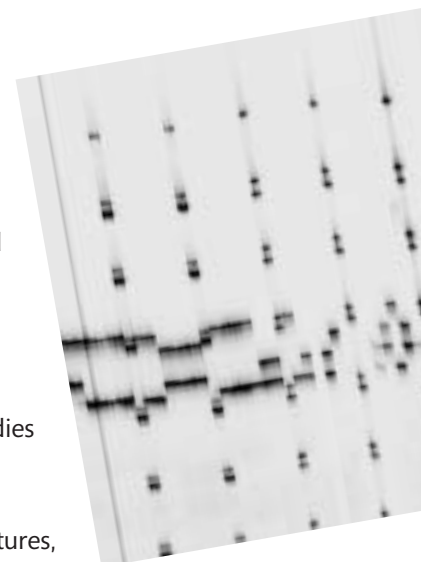
Woodlands offer health and social benefits.

### Knowledge management

Delivering knowledge to users and decision makers requires considerable expertise and we work hard to find the best approaches. We have pioneered the development of several decision-support systems, such as our Ecological Site Classification system, which now incorporates the latest climate change projections, and the Habitats and Rare, Priority and Protected Species (HARPPS) system, which integrates a wide range of ecological knowledge.

### Landscape ecology and landscape genetics

Strategic decisions about landscape management benefit from a thorough understanding of different land uses and their associated impacts. We have developed a suite of models to examine landscape ecology, and have applied these to a range of studies across Britain. We also study landscape genetics to better understand how landscape features, past woodland management and habitat fragmentation affect key species.



DNA analysis helps us with our research.