

Research and advice on forest issues across four federal states

The Northwest German Forest Research Institute (NW-FVA) conducts forest research for the federal states of Hesse, Lower-Saxony, Saxony-Anhalt and Schleswig-Holstein.

There are 2.7 million hectares of forest within our area of responsibility, almost one quarter of Germany's forested area.

Our core competences are:

- Applied forest research
- Long-term monitoring
- Knowledge transfer

The substance of our work is directed towards the requirements of practical forestry. We see ourselves as a competence and service centre for forestry enterprises, forest owners, administrative bodies and politics in the participating states. Our focus is on the following priority research topics:

- Adaption strategies to climate change
- Forest risk management
- Securing timber supply
- Securing biological diversity
- Operational control

These main research themes are mirrored in the focus of the five NW-FVA departments: Forest Growth, Forest Protection, Forest Genetic Resources, Environmental Control and Forest Nature Conservation.



Photo: J. Evers

Northwest German Forest Research Institute

Four federal states – one research and
advisory centre for forestry



Forest Growth Department A

The Forest Growth department studies forest ecological processes, such as regeneration, site dependent growth and mortality, tree species and forest structure. The research goal is the development of guiding concepts for multifunctional forest management. At the moment the focus is on strategies for silvicultural adaption to climate change. The research is based on a large network of experimental stands, with up to 140 years of continuous scientific monitoring.

Our research results find use in:

- Silvicultural concepts for adaption to climate change
- Models for the planning and simulation of alternative silvicultural strategies and treatments
- The provision of software libraries, desktop applications, web applications and web services
- Knowledge transfer through brochures, decision-making aids and guidelines for forestry
- Training and advising forestry stakeholders

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Forest Growth and Risk Modellings

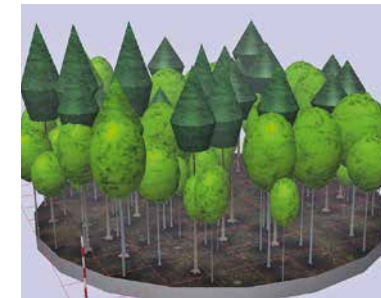
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Photo: I. Kehr



Graphik: J. Hansen

Forest Protection Department B

The Department of Forest Protection supports forest owners in identifying and preventing or reducing forest pest damage. To this end we develop integrated forest protection concepts and provide advice on their implementation, giving particular consideration thereby to the environmental compatibility of forest protection methods used. New challenges brought on by climate change are also considered in the risk assessment for forest pests. Remote sensing and geographical information systems are used to support both research and the practical application. The Department of Forest Protection is also an official testing centre for plant protection products.

Our research results are used in:

- Pest diagnosis and advice for forest owners and foresters
- Information on current forest protection situation
- Practical information to broaden understanding of forest protection themes
- The development of environmentally sustainable pest control methods
- Operation and support of the forest protection reporting portal

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Photo: L. Dobrndt



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Forest Genetic Resources

Department C

Genetic diversity represents an important component in enabling forests to adapt to climate change. Conserving and using this diversity sustainably is one of the core competences of the department. To this end, numerous studies have and are being carried out, both on experimental forest stands and in the laboratory. Additionally, for forestry purposes, tree growth and wood quality are also relevant. Using seed orchards, we provide seed stock suitable for both the conservation of genetic diversity and for forestry use. Experimental plants are grown and studies are conducted in the department's nursery.

Our research results find use in:

- Recording and conserving forest genetic resources
- Recommendations for provenance choice
- Provision of high quality reproductive material
- Development and maintenance of seed orchards
- Training and advice on reproductive material and genetic variation

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Photo: A. Hardtke



Photo: T. Schuppelius

Environmental Control

Department D

The Department of Environmental Control concerns itself with the question of how changing environmental conditions and different silvicultural treatments impact forests and the ecosystem services they provide. Our research involves long-term environmental monitoring plots, forest health and soil inventories, forest experiments and a very capable laboratory for environmental analytics. The insights gained from our research are made available to forest practitioners, politicians and the public.

Our research is used in:

- Annual forest health reports
- Recommendations for climate adapted tree species (soil conditions and climate adaption)
- Contributions to regional, national and international environmental monitoring networks
- Recommendations and advice on liming, soil protection and nutrient management
- Advice on forest hydrological issues and environmental impacts

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Photo: T. Alpermann



Photo: I. Kehr

Forest Nature Conservation

Department E

The Department of Forest Nature Conservation conducts long-term studies in natural forests and nature conservation experiments in particular forest habitats (e.g. forest moors, lichen-rich pine forests, woodland pastures and coppice with standard woods). Our own research and current scientific thinking in the field are used to develop concepts for applied forest nature conservation, which are compatible with the goals of both nature conservation and commercial forestry.

The results of our research are used to:

- Develop concepts for restoration and maintenance of forest biotopes
- Systematic planning of nature reserves
- Biodiversity monitoring and impact analysis in forest nature conservation
- Developing concepts for research in natural forests

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Photo: E. Feldmann



Photo: U. Bedarff

Location
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Photo: J. Weymar

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Location
Hann. Münden



Photo: NW-FVA

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Departments of **Forest Genetic Resources** and **Forest Nature Conservation**



Photo: I. Kehr

„With our research at the NW-FVA, we are committed to the climate adaptation of forests, thus contributing to their sustainability as a fundamental basis of life.“

Director Ralf-Volker Nagel



Date: 06/2024

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