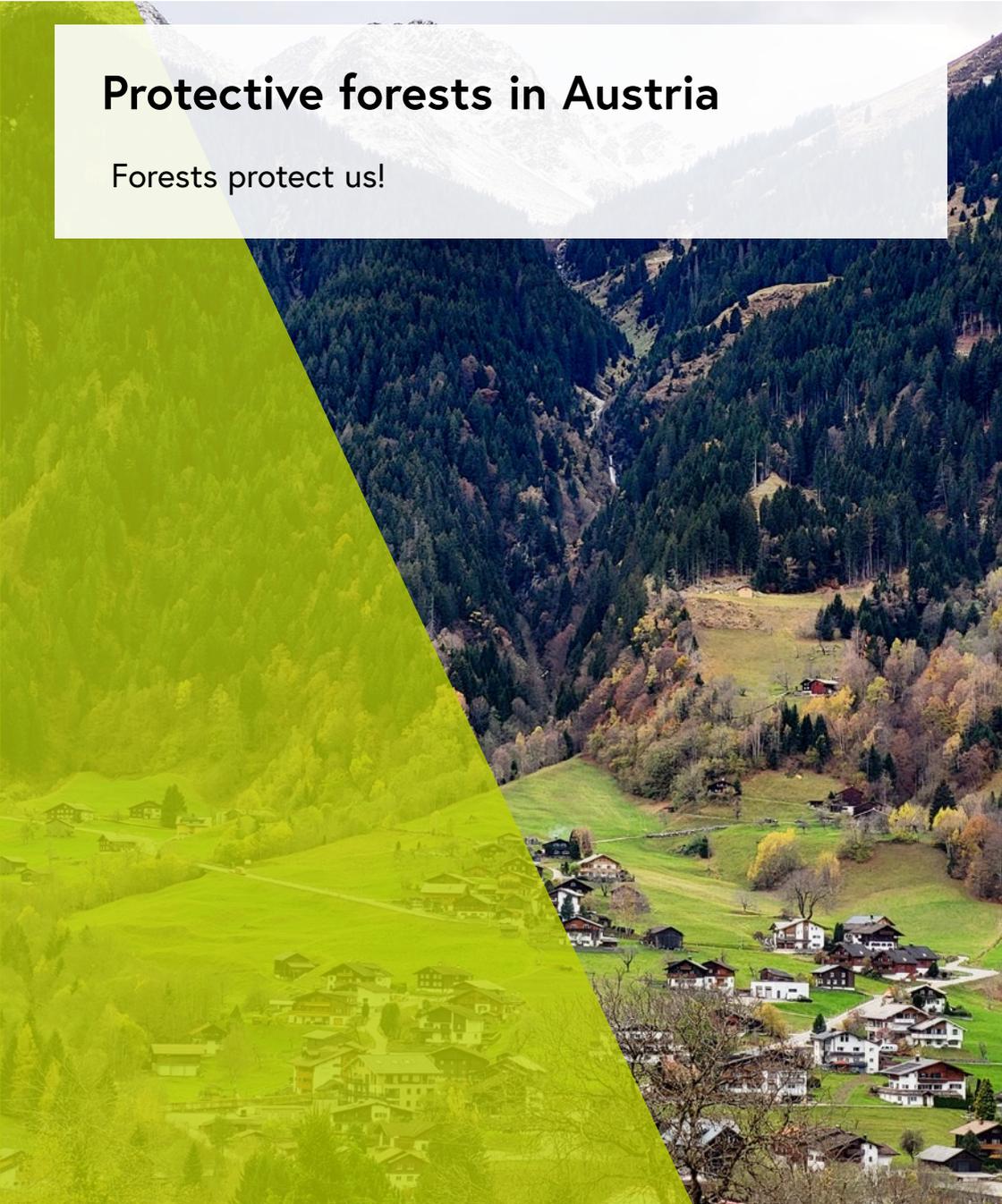


Protective forests in Austria

Forests protect us!



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Feedback: Please send your feedback on the present publication to schutzwald@bml.gv.at.

Content

The importance of protective forests in Austria	3
Legal framework conditions	5
Challenges in protective forests	7
Management and tending	8
Climate change	8
Natural hazards	8
Regeneration	9
Influence of game and forest pasture	9
Leisure-time activities and claims on utilisation by the society	10
Action Programme Protective Forest – “Forests protect us!”	11
GIS-based reference map of protective forests in Austria	13
Investment and funding management	15
Disaster Relief Fund	15
Forest funding in the Rural Development Programme	15
Forest Fund – Republic of Austria	16
Research in the protective forest	17
Protective Forest Hub	20
The Beaver Berti – The expert for natural hazards	22
Contacts and institutions on protective forests in Austria	23

The importance of protective forests in Austria

The Alps characterise the landscape in Austria, covering over two thirds of the federal territory. As a result, the permanent settlement area in many regions is limited and located in the immediate vicinity of alpine hazards. Avalanches, torrents and rockfall areas cross important transport routes and border on historically developed living and economic areas.

The “multi-talented” forest offers a wide range of ecosystem services, which underline its special role in these mountainous parts of Austria. By providing the climate-friendly raw material wood, it not only secures jobs and serves as an economic basis for many forest owners, but is also an important factor in climate protection through carbon storage, purifies air and water, contributes significantly to the energy transition through energy utilisation, and of course is a hotspot of biodiversity and protects against natural hazards!

The protective forest as a so-called “green infrastructure” protects against erosion on steep slopes, the trees influence natural hazard processes such as rockfall, avalanches and landslides in a positive, i. e. mitigating way. During heavy precipitation, the forest soil acts as a buffer and intermediate storage. In particularly wind-prone locations, such as, first and foremost, in the East of Austria with large agricultural areas (fields with a high proportion of fine soil), the forest provides additional protection against wind erosion.

A targeted and consistent management strategy is required in order to optimally fulfil the protective effect. Steering tending interventions in the forest stand serve to increase stability and vitality and at the same time to promote regeneration. Moreover, the protective forest itself needs protection against biotic and abiotic disturbances, such as storms, bark beetles, snow pressure

and damage caused by game and grazing. By means of effective management strategies – climate-friendly – sustainable – this is the only way the forest protects us against natural hazards!



The forest area in Austria amounts to **47.9%**, that is over 4 million hectares of forest.



42% or 1.6 million hectares of which are **protective forest**.



Around **16%** or 615,000 hectares of which are **forests with an object-protective function**.

In Austria there are more than **600 protective forest communities**, which are municipalities with a share of forests with a **protective function** of more than 50%.

The most common tree species in Austria is **spruce**. However, fir, larch, Swiss pine, copper beech and sycamore maple also characterize the typical forest landscape in the protective forest.



Without the protective effect of forests **almost 50% of Austria's living and working environment** could not be used.



Almost **one in four Austrians** benefits from protective forests as a green, cost-effective and sustainable protective infrastructure against natural hazards.

Legal framework conditions

The Austrian Forest Act defines on the basis of a set of criteria if a forest is considered to be a protective forest or not and comprises provisions on the treatment and the utilisation of protective forests.

The term protective forest is further subdivided:

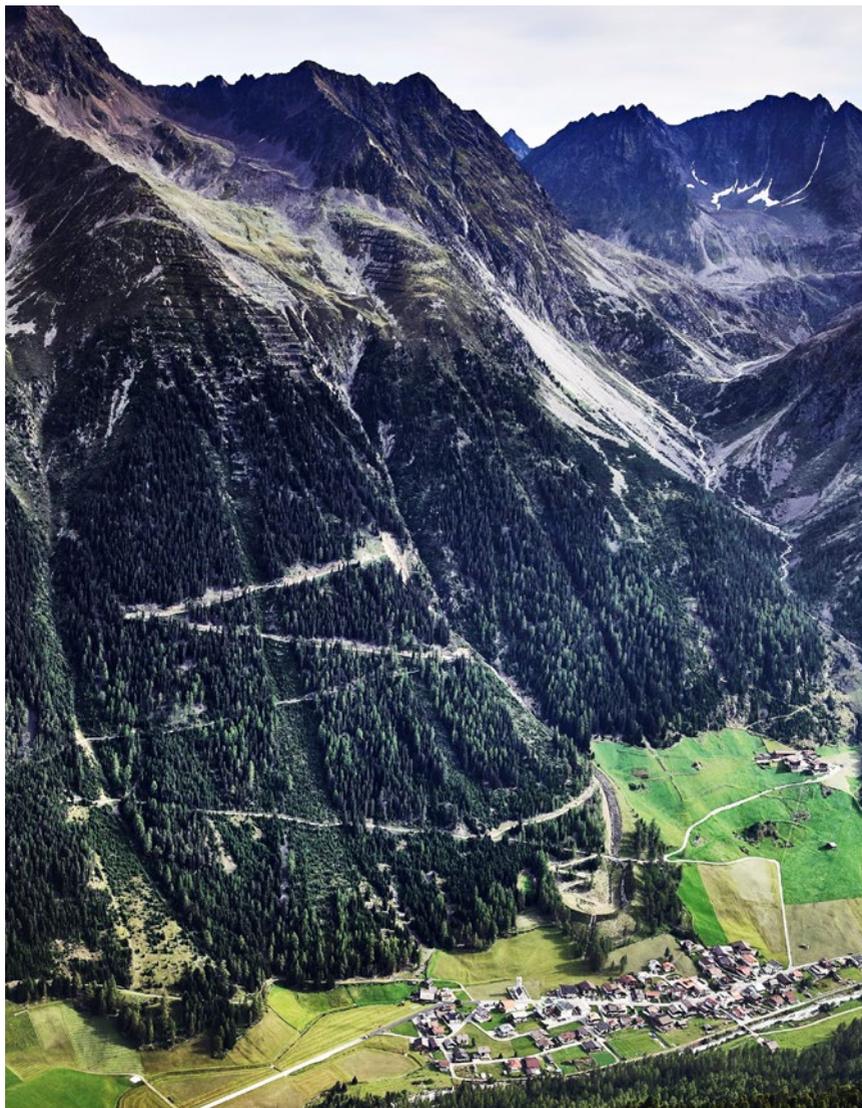
- **Site-protective forests** are forests whose sites are endangered by the eroding forces of wind and water or gravity.
- **Object-protective forests** are forests that protect people, their settlements, facilities or cultivated land against natural hazards, such as avalanches, rockfall, landslides, floods, wind erosion or damaging environmental influences.
- **Protective forests** declared by official notice as a further specification of object-protective forests are officially “under a ban of utilisation” for the direct defence against natural hazards. This means that the economic or public interest takes precedence over any restrictions resulting from the ban. Measures or tasks in protective forests declared by official notice are carried out exclusively in accordance with official regulations.

If the natural criteria for a protective forest are met, the forest owner(s) must treat it according to local conditions in such a way that its “preservation as a vegetation which is as stable as possible, appropriate to the location, with a strong internal structure and timely renewal, is guaranteed”. Among other things, the Forest Act stipulates the reforestation of clear-cut areas, obliges forest protection measures or lays down special authorisations for felling or the minimum age of immaturity for felling.

The link to the legal text is available here:

<https://info.bml.gv.at/en/topics/forests/austrias-forests/forest-law/forest-act-1975.html>

The Austrian Forest Act 1975 regulates when a protective forest exists and how it is to be managed.



Challenges in protective forests

The stability, vitality and resilience of the forest stand are particularly important if protective forests are to fulfil their full potential. The forest ecosystem has always been characterised by dynamic developments, however, climate change now results in rapid changes in processes. The required structure of protective forests differs from natural forest biotopes and therefore requires regular treatment and regeneration to ensure a lasting protective effect.



Management and tending

Carrying out tending measures to safeguard and improve the protective effect on steep protective forest areas is not always easy and often includes high costs. Opening up the forests adequately (e. g. by forest roads) is important in order to reach the forest sites quickly. Targeted management ensures that protective forests have a graduated structure and regeneration is promoted. In exceptional cases, the helicopter even provides aerial support for protective forest management.

Climate change

Phases of extreme drought or intense precipitation, extreme weather conditions – also in combination with storms – put pressure on the protective forest. An increase in forest fires or mass propagation of harmful insects is also to be expected in the future. However, the consequences of climate change will differ locally depending on the location and the forest communities present. Rapid adaptation of the forest structure is already necessary at some locations in order to maintain the stability and vitality of the “green” protective infrastructure in the next generation.

Natural hazards

The forest protects us against natural hazards, but of course, these also have an impact on the trees themselves. In the case of very intensive events, such as rockfalls or avalanches, storms or forest fires the forest stand itself is affected, partially destroyed or weakened. Until the protective forest recovers, the protective effect is thus reduced in the short to medium term.

Regeneration

A forest with the best possible and, above all, sustainable protection against natural hazards is rich in structure. This means that young, new trees grow alongside old ones, preferably consisting of different tree species. In many protective forests in Austria, however, there is a lack of regeneration, especially of the important mixed tree species fir and sycamore maple. Long-term stability is therefore at risk. Tending interventions to promote regeneration in combination with targeted game management are therefore absolutely necessary.

Influence of game and forest pasture

Wild animals have an influence on the forest stand. They particularly like the young shoots of the trees. As a result, some tree species lag behind in their growth and are missing from the old stand. In winter, and sometimes in summer, in particular red deer, peels off the bark. In terms of nutrient content, it is comparable to average hay. Wood-destroying fungi can enter due to bark damage and thus weaken the trees. The establishment of a balanced game population through hunting measures has therefore top priority in the protective forest.

In many protective forests – especially in the vicinity of mountain pastures – forest grazing is still practised to some extent even today. Cattle treading damages the roots of the trees, allowing harmful fungi to enter the tree. It also leads to the compaction of sensitive soils in the mountain forest. Consistent forest-pasture separation and fencing of protective forest areas is therefore important.

Leisure-time activities and claims on utilisation by the society

Recreation and exercise in the fresh air, on the mountains, and in the forest are good for all of us. Nevertheless, it is important to be careful! That means: Stay on the paths when hiking, on ski tour routes in winter and on designated trails when mountain biking! In this way, you would give the wild animals enough peace and quietness in their “living rooms” and do not push them into sensitive protective forest areas. Because there damage to the forest means reduced protection against natural hazards – with consequences for our society and environment!



Action Programme Protective Forest – “Forests protect us!”

In order to be able to meet the challenges in protective forests and to consolidate their importance the Austrian Federal Government launched the **Action Programme Protective Forest – “Forests protect us!”** in 2019. Being worked out jointly with experts and regional stakeholders from practice, it includes numerous strategic measures and concrete projects in order to strengthen protective forests in Austria also permanently.

The Action Programme emphasises the central importance of protective forests for the sustainable development of Austria’s mountain regions and provides a guiding framework for continuing to safeguard the “green” protective infrastructure also in the face of climate change.

Objectives and principles

- Achieving rapid restoration or expansion of the protective effect of forests in Austria: In protective forests, the protective function is superordinate!
- Developing a greater awareness of the services that forests provide to protect property and habitats – and thus make beneficiaries into stakeholders.
- Protective forests become climate-proof and more resilient against biotic and abiotic hazards and their consequences.
- Land use demands on protective forests are sustainable and balanced.
- Actors, who are the beneficiaries, participate adequately in measures to safeguard the protective forest.
- The management of protective forests shall be attractive for forest owners.
- Protective forests constitute valuable habitats for plants and animals.
- Research and training extend the basis of knowledge for adaptations in protective forests.

- Protective forest management takes place in an efficient and impact-oriented way.
- A European-wide protective forest policy is also necessary beyond national borders.



All information on the Action Programme can be found here:

www.protective-forest.at

GIS-based reference map of protective forests in Austria

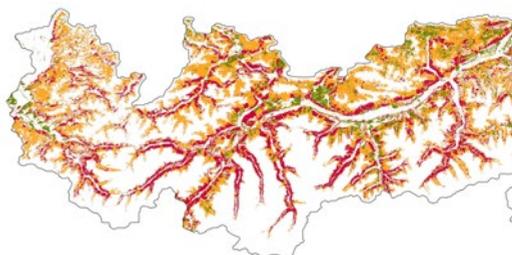
With the completion of the innovative geo-mapping tool, this important planning instrument for the management of protective forests has been established as part of the federal government's digitalisation offensive.

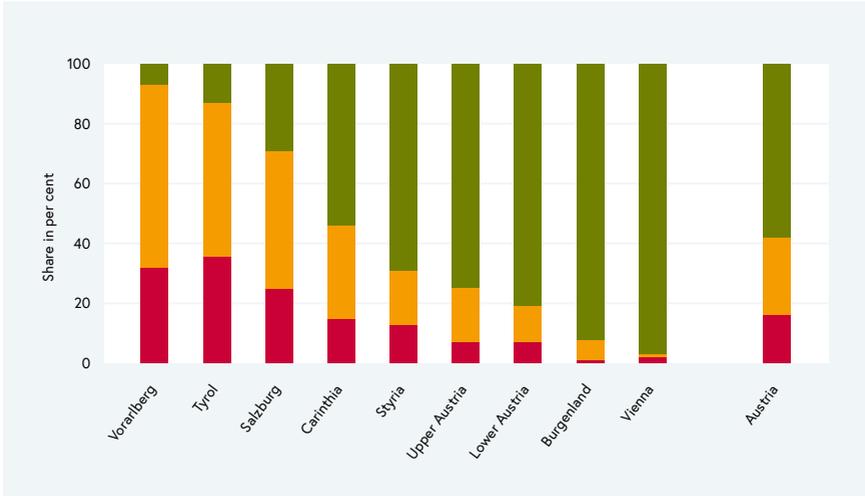
The reference map shows potential object- and site-protective forests and was worked out on behalf of the Federal Ministry of Agriculture, Forestry, Regions and Water Management (BML) by the Austrian Research Centre for Forests. In addition, the local expert knowledge of the responsible public institutions (provincial forestry services, district forestry inspectorates, torrent and avalanche control services) was incorporated within the framework of an evaluation. The map visualises the protective function, i.e. a task assigned to the forest by the society in order to minimise or completely prevent the effects of natural hazards. The term protective effect describes the extent of the task, i.e. how well a particular forest protects against rockfall, avalanches or other natural hazards.

The reference map serves as a planning tool for investment management or to inform the public in general.

More information can be found here:

<https://www.protective-forest.at/maps.html>

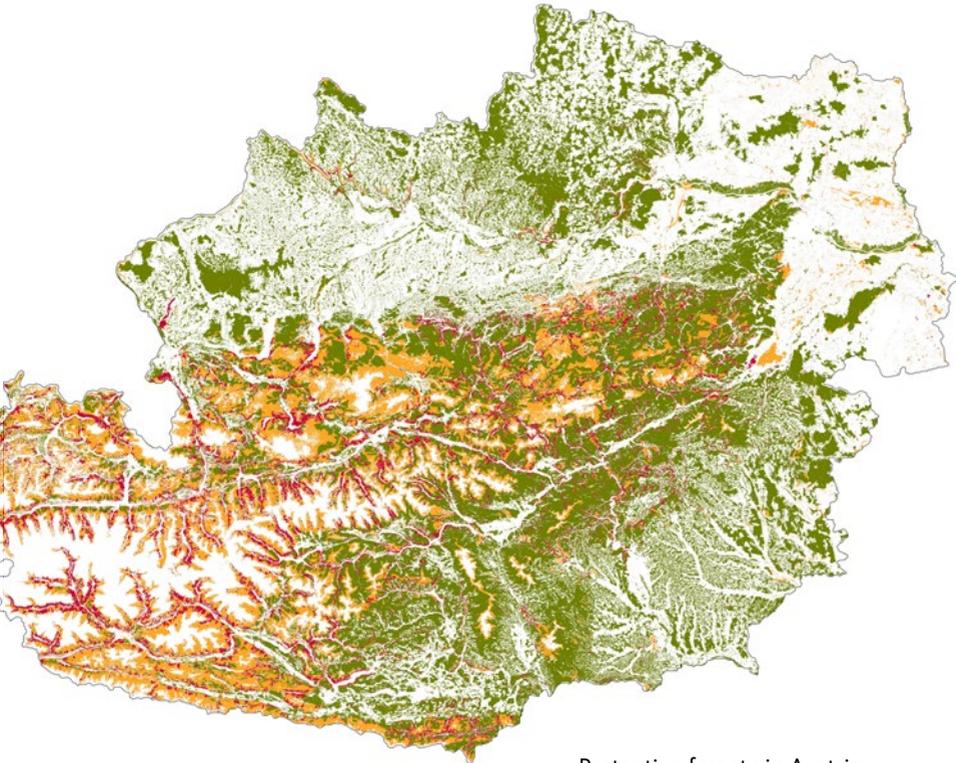




Forest with object-protective function

Forest with object and/or site-protective function

Forest without priority protective function



Investment and funding management

There are several public investment and funding opportunities for the preservation, improvement and tending of protective forests in Austria.

Disaster Relief Fund

The National Disaster Relief Fund Act of 1966 was set up to finance measures to prevent future disaster damage and to repair damage that has already occurred. For example, forest owners whose object-protective forest has been damaged by natural disasters can apply directly to their municipality for support from the Disaster Relief Fund.

Precautionary measures are taken in object-protective forests within the framework of so-called “land-use planning projects” (FWP) of the torrent and avalanche control service and the provincial forestry services. The legality of the implementation of these measures is based on the provisions of the National Hydraulic Engineering Subsidies Act 1985.

Forest funding in the Rural Development Programme

Forestry is an integral part of rural development. The funding of sustainable and climate-friendly land use also comprises the development of forest areas and/or the sustainable management of forests.

By means of the Austrian Rural Development Programme, EU Regulations are transposed into national law and sustainable development is promoted. For this purpose, the European Union, together with the Federal Government and the Federal Provinces, is providing funds.

Forest Fund

The Forest Fund was set up by the Austrian Federal Government in 2020 and has a volume of several million euros. The measures of the Forest Fund aim at the development of climate-fit forests, the promotion of biodiversity in forests, and the increased use of the resource of wood as an active contribution to climate change mitigation. The Forest Fund also takes into account the reduction of bark beetle infestation, forest fire prevention measures and various research measures.

You can obtain more detailed information on the various investment and funding options by contacting your regional office of the respective provincial forestry service or the torrent and avalanche control service.

Please note that additional information is only available in German. More information can be found here:

www.schutzwald.at/karten/flaechenwirtschaftlicheprojektewlvlandkarte.html

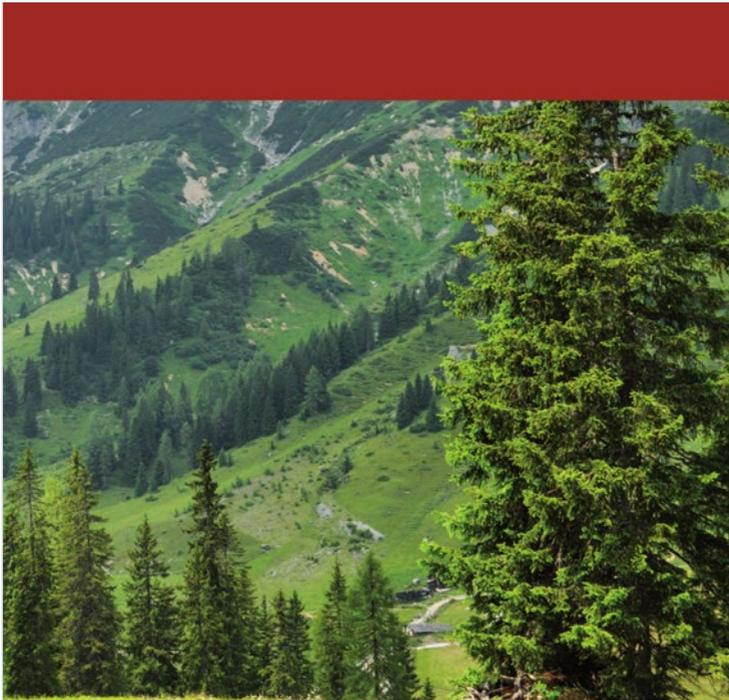
Research in the protective forest

Knowledge constitutes the basis for the implementation of sustainable protective forest management. We already know a lot, but specific subject areas still require intensive research. The Austrian Research Centre for Forests focuses amongst others on practical research in protective forests. Basic research is also carried out at the Institute of Silviculture at the University of Natural Resources and Life Sciences in Vienna.

Within the framework of the Protective Forest Hub at the Forest Campus Austria, the Rindbach model catchment area has been permanently established for the first time as a Europe-wide unique nature laboratory for networked research into the interrelationships between climate, forest, soil, water balance and natural hazards.

The publication **“Protective forests in Austria – level of knowledge and research needs”** is the first comprehensive and future-oriented analysis and compilation of the current state of research and development on the topic of protective forests in Austria. It also includes research questions as a basis for the programming of integral protective forest research and the provision of the necessary research funding.

More than 70 authors from science, research and practice provide their expert and specialist knowledge to point out research gaps and future challenges and problems. This integral approach constitutes the basis for bringing about targeted improvements in Austria’s protective forests.



Schutzwald in Österreich – Wissensstand und Forschungsbedarf



 Bundesministerium
Landwirtschaft, Regionen
und Tourismus

Please note that the status report is only available in German and can be found here:
www.bfw.gv.at/wp-content/uploads/sachstandsbericht_schutzwald_k.pdf

SCHUTZWALD ZENTRUM

Wildbach- und
Lawinenvorbereitung
Forsttechnischer Dienst



Protective Forest Hub

In order to meet the numerous challenges in protective forests, the Protective Forest Hub based at Forest Campus Austria was founded within the framework of a strategic cooperation between the Federal Ministry of Agriculture, Forestry, Regions and Water Management (Torrent and Avalanche Control), the University of Natural Resources and Life Sciences Vienna, the Austrian Federal Forests, and the Austrian Research Centre for Forests.

Objectives and Projects

- Hub for information, consulting and awareness-raising for target and stakeholder groups connected with protective forests; in particular for forest owners, forest services and all related specialised groups.
- Education and training offers on the topics of protective forests, natural hazard management, sustainable mountain forest management, hunting in protective forests and the management of torrent catchment areas.
- Establishment and supervision of a model protective forest for teaching, research and practice on the premises of the Austrian Federal Forests.
- Management of the model catchment area Rindbach in Ebensee/Upper Austria as a cooperation project between research and practice focusing on the interactions between forest management, natural hazards, hydrology, soil ecology, site science, geotechnics and geohydraulics.
- Promotion of the cultural heritage of protective forests in Austria.



Contact

Protective Forest Hub

Forest Campus Austria

A - 4801 Traunkirchen, Forstpark 1

schutzwaldzentrum@bml.gv.at

www.protective-forest.at/protectiveforesthub.html

The Beaver Berti – The expert for natural hazards



Beaver Berti and his friends explain everything about natural hazards and protective forests to children and young people. At <https://biberberti.com> information, videos and teaching materials are available for the age groups Minis (3–7 years), Kids (8–12 years) and Teens (from 13 years).



Please note that the website and magazines of Beaver Berti and his friends are only available in German and can be found here:

<https://biberberti.com>

Contacts and institutions on protective forests in Austria

- **Federal Ministry of Agriculture, Forestry, Regions and Water Management** – Directorate III/4 Torrent and Avalanche Control and Protective Forest Policy
<https://info.bml.gv.at/en/> – E-mail: schutzwald@bml.gv.at
- **Austrian Service for Torrent and Avalanche Control** – a subordinate unit of the Federal Ministry of Agriculture, Forestry, Regions and Water Management
<http://die-wildbach.at>
- **Offices of the provincial governments (forest services)**
 - Vorarlberg: www.vorarlberg.at
 - Tyrol: www.tirol.gv.at
 - Salzburg: www.salzburg.gv.at
 - Upper Austria: www.land-oberoesterreich.gv.at
 - Carinthia: www.ktn.gv.at
 - Styria: www.agrar.steiermark.at
 - Lower Austria: www.noe.gv.at
 - Vienna: www.wien.gv.at
 - Burgenland: www.burgenland.at
- **University of Natural Resources and Life Sciences Vienna**
<https://boku.ac.at/en/>
- **Austrian Research Centre for Forests (BFW)**
www.bfw.gv.at/en/
- **Forest Training Centre Traunkirchen at Forest Campus Austria**
www.fasttraunkirchen.at
- **Forest Training Centre Ossiach**
www.fastossiach.at

- **Austrian Chamber of Agriculture (Landwirtschaftskammer Österreich)**
www.lko.at/forst
- **Forest Training Centre Pichl**
www.fastpichl.at
- **Federal Technical High School for Forestry in Bruck/Mur**
www.forstschule.at/en
- **Forestry School Traunkirchen**
www.forstfachschole.at
- **Land&Forst Betriebe Österreich**
www.landforstbetriebe.at
- **Austrian Federal Forests**
www.bundesforste.at



www.protective-forest.at



