

# Forests protect us!

Protective Forest Action Programme:  
New challenges – strong responses



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## Forests protect us!

### Protective Forest Action Programme: New challenges – strong responses

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# We need the protective forest – the protective forest needs us!



## Protective forests? Why should I care?

Austria is a mountainous country and half of its territory could not be settled without protective forests. We benefit from forests: they protect us, supply wood, clean water and air, give a home to animals, and serve as recreational area.

New challenges for protective forests include climate change, low timber prices, high management costs, pressure caused by leisure-time activities, and modern sports equipment. The protective forests of the future require strong responses and new solutions.

## Climate meets protective forest

International research results leave no doubt about the fact: The global climate is changing rapidly and it is getting warmer – in the Alpine area even faster and stronger. The consequences are extreme weather events such as severe rainfalls, heavier storms, and dry periods. They increasingly result in fungal diseases, forest fire risk and tree pests such as the bark beetle. Moreover, non-indigenous pests might spread in Austria because they will find warmer conditions.

This requires a sustainable, active, site-adapted management and measures for the adaptation of plant communities, for example by means of forest genetics. As the warming in higher altitudes favours tree growth, the changing climate can also be considered an opportunity for the protective forest.

In October 2018 the storm "Vaia" destroyed a lot of protective forests in the South of Austria.



## Protective forests cost money ...

... of forest owners as well as of the public sector. However, protective forests also render services – on the one hand the value of the protective function, on the other hand the timber yield.

Timber is subject to global markets, where prices have been stagnating for decades. Since 1988 the price of spruce wood has decreased from then € 88 to currently € 80 per solid cubic metre. During the same time period the consumer price index has more than doubled. Forest owners must sell now 2.8 times the quantity of timber for the equivalent of the shopping basket in the year 1980.

The forestry sector must thus deliver the same services with a lower income. As this cannot pay off from a business perspective in the long run, other, long-term sources of funding are required.

**If the present protection level by protective forests had to be replaced by technical measures, this would be 100 times as expensive!**

## Trend sports in the forest playground

Austrians as well as our guests enjoy relaxing and recovering in forests. Leisure-time activities have, however, changed dramatically in the course of the past few years. Whereas in the 1950ies forests saw hikers with lumberjack shirts, nowadays mountain bikers are dashing on mountains, para-gliders are flying over treetops and geocachers are searching for treasures. In winter, snowshoe hikers and ski tourers are trudging through the snow-covered green, and off-piste skiers leave their tracks on their way through the forest.

### 2017 in Austria

- More than 100,000 mountain bikes sold
- 67,000 electric mountain bikes sold
- 6,000 active paragliders
- 700,000 active ski mountaineers
- 1,200 sign-posted trails for snowshoe hiking
- 55 million skiing days

The use of forests for leisure-time activities affects large parts of the habitat of wild animals and the job site of forest management during the day as well as during the night. This causes stress with animals and with humans. Stag, roe deer, capercaillie & co hardly find any retreat areas anymore and need a lot of energy when fleeing. Therefore, they increasingly eat young trees and are gnawing on barks. Moreover, forest work and timber transport are rendered more difficult.

The wish for freedom off the beaten tourist paths brings unrest up to the highest protective forests.

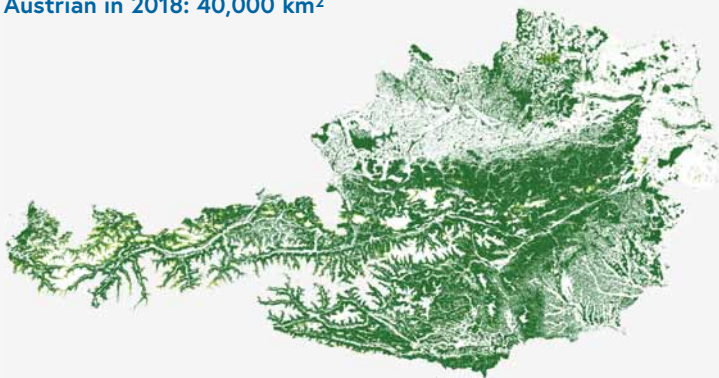
New challenges need strong responses: The starting signal is delivered with the present action programme "Forests protect us!"

## How we benefit from forests

Forests and oceans are the most productive ecosystems for the carbon balance with an important influence on the global climate. 48 percent of the Austrian territory is covered by forests - this corresponds to 4 million hectares (ha). They do not only define our landscape, they also fulfil several functions: As a sink of climate-harming CO<sub>2</sub>, as a producer of the renewable resource wood, as an area for recreation and leisure-time as well as protection against natural hazards. Forests can store water, prevent snow detachment, reduce the wind force, and protect the soil against erosion. A forest is thus more than the sum of its trees.

In Austria, the forested area is continuously increasing. Wood is therefore available for present as well as for future generations in a sustainable way.


Forest and shrub vegetation in Austrian in 2018: 40,000 km<sup>2</sup>




The value chain wood creates jobs, infrastructure, and services. With a production value of about twelve billion euros per year the timber industry is the greatest investor in rural areas. About 300,000 persons in Austria obtain their incomes from forests. The rising use of wood as a building and heating material makes an important contribution to renewable energies and to bio-economy and leads to more "green jobs".


With an average surplus of € 3.5 billion, the value chain wood ranks among the most important Austrian export goods.

Moreover, a responsible forest management provides renewable raw materials and helps climate protection by means of carbon-dioxide storage.

 **4,600 kg**  
of oxygen are produced per year by a 100 year old beech. This is the quantity a human breathes in over the course of 13 years.

 **585 mio t**  
of carbon are stored by the forest soil.

 **2.1 t**  
of CO<sub>2</sub> have been absorbed by a spruce in the course of its life. This way 570 kg of carbon have been stored.

 **13 t**  
of CO<sub>2</sub> are stored by one ha of forest per year by means of metabolic processes and photosynthesis.



## How forests protect us

Being a green, economic, and sustainable infrastructure, protective forests take over an important function in natural hazard prevention in Austria. The effects are versatile: As object protection, as retention area, as site protection, against soil erosion, to keep waters clean, or as water storage and air filter. Protective forests enable in many places the permanent settlement of valleys.

The Austrian Forest Act distinguishes between *site-protective forests* and *object-protective forests*. Site-protective forests are forests, whose sites are endangered by the eroding forces of wind and water or gravity. Object-protective forests protect humans and their settlements, infrastructure and cultivated soil against natural hazards such as avalanches, rock fall, landslides, floods and wind erosion, as well as against harmful environmental impacts.

Protective forests render thus great services in terms of business management and national economy. A site-adapted, sustainably managed, and stable forest offers the most appropriate protective infrastructure and reduces the overall risk for the living environment of humans.

Protective forests are therefore, quite rightly, considered all-round talents.

**Almost every fourth Austrian benefits from the protective function of forests.**

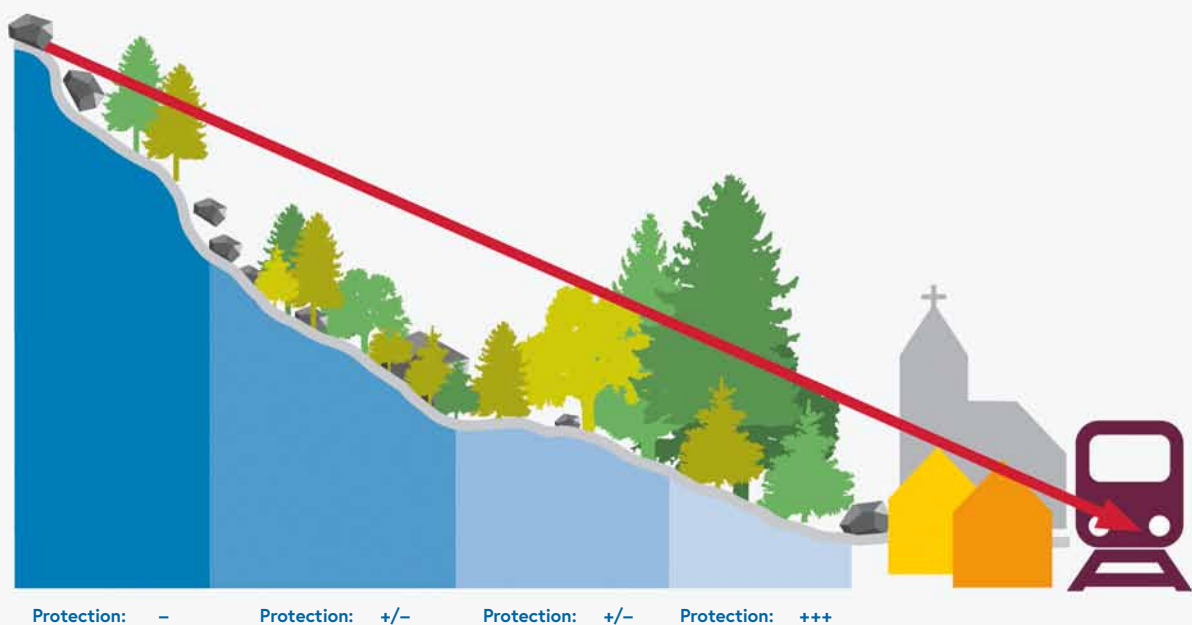
**A healthy protective forest can absorb up to 70 percent of fresh snow with the tree crown. In this way, it contributes to the mitigation of avalanches.**

# 30%



**of the total of 4 million hectares of forests in Austria are considered to be protective forests. This corresponds to the size of the total settlement area in Austria (1.25 million hectares).**

Forests protect for example against rock fall



**1** Action Programme

**10** Flagship measures

**1.000** projects

**1** million euros for research

**100** million euros for implementation

## What guides us

There exist many reasons why there is urgent need to improve the protective forest situation in Austria. New challenges and structural problems in protective forests require actions on our part – for example, the stability and the resilience of protective forest ecosystems urgently need to be increased, old trees require rejuvenation and the protective forests in general need to be regenerated.



With the action programme “Forests protect us” we are facing these challenges. Flagship measures pave the way for strong protective forests in Austria, with all stakeholders involved acting in a coordinated way.

### **The following guidelines constitute the foundations for this action programme**

- In protective forests the purpose of protection is superordinate to other functions.
- The public awareness for protective forests must be strengthened.
- Beneficiaries participate in an appropriate way in measures to safeguard the protective forest.
- The management of protective forests shall in the future be attractive for forest owners.
- Protective forests constitute valuable habitats for plants and animals.
- Research, monitoring, and training extend the basis of knowledge for the necessary adaptations in protective forests.
- Sustainable protective forest management needs a common approach of all actors involved and an inter-sectoral political coordination.
- Protective forest management takes place in an efficient and impact-oriented way.
- Forest ownership and management rights are fully respected.
- A European protective forest policy is necessary beyond national borders.

## Our vision 2050

**“Together for a strong protective forest in Austria: climate-fit – sustainable – economical”**

Austrians know that a strong, healthy, and renewable forest protects large parts of our country. Owners, users, infrastructure providers, communities, legislators and the population are committed to sustainably safeguarding protective forests. They all recognize the crucial importance of protective forests for safeguarding natural resources and for climate protection. The protection against floods, avalanches, rock fall, mudflow, and erosion is appreciated.

Austrian protective forests make a considerable contribution to safeguarding the living environment of humans in ecological, economic and social terms. Moreover, it is an important economic factor and creates jobs. Well-trained specialists secure, by means of professional and highly qualified work, the protective functions of the forest.

In the course of the planning process, modern technologies are applied and information is easily accessible for forest owners as well as for those interested.

Protective forest management is always planned and implemented taking into consideration the interests of all stakeholders. Forest owners are supported in an uncomplicated way. By means of this cooperation, it is possible to succeed in regenerating the forest, making it sufficiently stable, and securing its continued existence.

Only a strong protective forest can protect:  
What is required



# Action programme with 4 target corridors and 10 flagship measures





# 1. TARGET CORRIDOR

## Making protective forests fit for the future

- Observing and exploring protective forests
- Planning and developing protective forests
- Preserving and restoring protective forests

## FLAGSHIP MEASURE

### “Observing and exploring protective forests”

For sustainable protective forest management comprehensive knowledge about the structural and site-specific requirements is necessary. This requires an applied, and sufficiently endowed protective forest research, and respective specialisations. For this purpose, research priorities in the fields of forest ecosystems, forest technology, forest genetics, forest bioclimatology and forest hydrology, as well as risk management are required. For these research requirements the respective scientific structure and the capacity in Austria have to be strengthened.

#### FIELDS OF ACTION

- Development of a programme on applied protective forest research in Austria. The priorities of the programme include:
  - Analysis of geo-information on biotic and abiotic hazards
  - Dynamic development of forest sites (types of sites) under the influence of climate change and wildlife ecology
  - Experimental and demonstration areas for future-fit protective forest plants
  - Social effects and risks
- Creation of a protective forest centre on the premises of the Forest Training Centre (FBZ Forstliches Bildungszentrum) Traunkirchen
- Earmarking of one million euros annually of available federal funds exclusively for the purpose of research on the topic of “protective forest” as well as systematic opening up of international research funds
- Incorporating the protective forest in Austrian and European research promotion programmes such as LIFE and Horizon

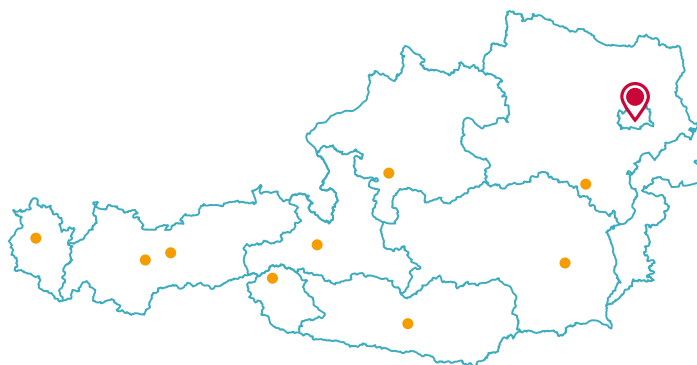
#### MILESTONES for the implementation





What could be a model for others

## Forest fire database Austria



**LOCATION** University of Natural Resources and Life Sciences, Vienna; all Austria

**SHORT DESCRIPTION** Current and future changes of the climate increase the number of dry and hot days in Austria. In 2018 a fire over Hallstatt showed that the fire risk in protective forests is increasing. Research and information about the risk of forest fires are relatively new in Austria. In this respect the forest fire database Austria is a pioneer project. The WebGIS-based system has documented more than 5,000 fire events in a detailed way so far. Moreover, the portal bundles information on the current fire risk and maintains a blog. The public digital access constitutes an important awareness raising instrument on forest fire events in Austria.

#prepared  
#research  
#forest fire

**TIMEFRAME** 2008: Beginning of the survey  
2012: Reshaping  
2019: Contribution to the European Forest Fire Information System (EFFIS)

**STAKEHOLDERS** University of Natural Resources and Life Sciences  
Institute of Silviculture  
Federal Ministry for Sustainability and Tourism  
Municipalities  
Local fire brigades

**WEBLINK** [fire.boku.ac.at](http://fire.boku.ac.at)

## FLAGSHIP MEASURE

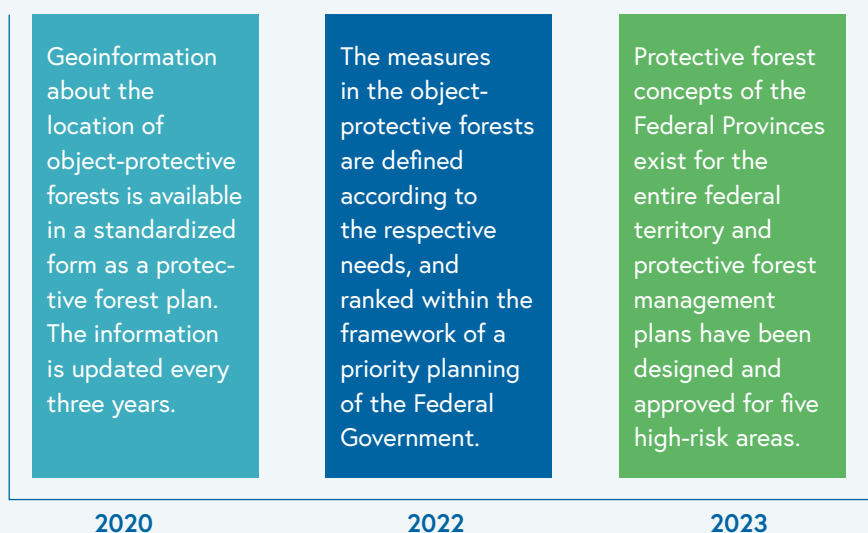
### “Planning and developing protective forests”

The basis for planning measures in protective forests is area-based geo-information. Publicly accessible parcel-specific information increases the legal security and the planning for forest owners, authorities and beneficiaries of protective measures. A risk-related assessment of the protective function enables setting of planning priorities, investments, promotion and management of protective forests. It is important to permanently adapt planning to changes due to natural and social development and to further develop measures.

#### FIELDS OF ACTION

- Establishment of a federal parcel-specific plan-display, that represents object-protective forests, and eventually potential site-protective forests in a geographical information system.
- Analysis and assessment of the object-protective function according to subjects of protection (risks). Development of a risk-based priority planning for adapted measures.
- Integration of sectoral planning (hunting and ecology, tourism, and leisure-time activities, settlement and traffic development and other sectors) involving land-owners in an integral presentation and assessment.
- Establishment of protective forest management plans for areas with high or very high risk due to natural hazards.
- Ensuring a basic maintenance infrastructure for protective forest areas covering the whole territory.

#### MILESTONES for the implementation



What could be a model for others

## Integrated protective forest project “Höllengebirge” of the Austrian Federal Forests



**LOCATION** Höllengebirge, Upper Austria

**SHORT DESCRIPTION**

The project area “Höllengebirge” comprises 4,900 hectare of protective forest area and exemplifies how nature can be successfully rejuvenated. In the middle of the 1990ies forty percent of all young trees were still suffering considerably from game browsing and the soil had lost water storage capacity due to erosion. Because of targeted silvicultural measures and a holistic, integrated concept taking into consideration, soil conditions, climatic changes, new technological possibilities and wildlife ecology, in all areas a considerable improvement could be achieved. The integrated implementation by the forest territories is permanently adapted in order to ensure the stability of protective forests in a sustainable way. On the slopes of the Höllengebirge numerous joint projects of the Service for Torrent and Avalanche Control and the Austrian Federal Forests (ÖBF AG) are being carried out.

#silviculture  
#planning  
#management  
#forest4.0

**TIMEFRAME** in 1990: First development  
2000s: Permanent monitoring and implementation  
2017/18: Reshaping wildlife ecology

**STAKEHOLDERS** Austrian Federal Forests  
Upper Austrian hunters association  
Forest Engineering Service for Torrent and Avalanche Control  
Communities and districts

**WEBLINK** [www.bundesforste.at](http://www.bundesforste.at)

## FLAGSHIP MEASURE

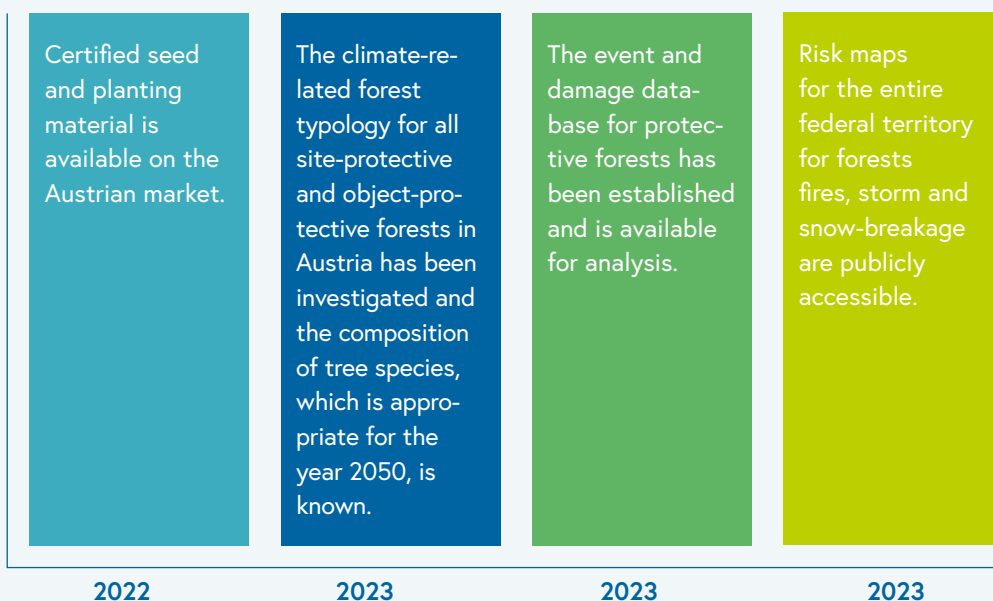
### “Preserving and restoring protective forests”

Protective forests need – even more than purely productive forests – intensive, site-adapted tending in order to be resilient against the impacts of natural hazards and climate change. The regeneration with appropriate tree species is the prerequisite for this resilience. Lack of tending and extreme events (avalanches, mass movements, storm, forest fires, snow breakage, breaking-off of ice, erosion, bark beetle) can eventually destroy protective forests and render them ineffective for decades or even permanently. In these cases, a rapid restoration of the protective function is necessary, including by means of technical mitigation structures or risk-reducing measures.

#### FIELDS OF ACTION

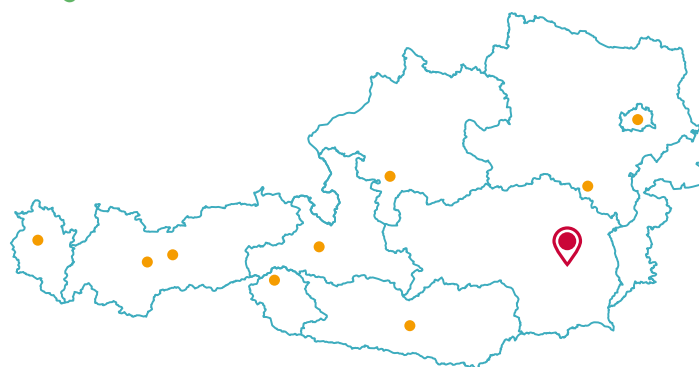
- Consideration of abiotic and biotic hazards and site-specific factors within the framework of protective forest measures
- Integration of climate scenarios in the implementation of adapted management concepts
- Introduction of a publicly accessible federal database about events with a harmful effect on protective forests (avalanches, mass movements, storm, forest fires, snow breakage, breaking-off of ice, bark beetle, erosion) as a basis for planning and management
- Federal survey and evaluation of the damage caused by these events
- Ensuring a sufficient quantity of seed and planting material

#### MILESTONES for the implementation



What could be a model for others

## Dynamic forest typology Styria



**LOCATION** Federal Province of Styria

**SHORT DESCRIPTION**

With the forest share of its area at 62 percent, Styria is the most forest-rich federal province of Austria. However, climate change and the related rise in temperature create new challenges for forestry and nature itself. The project “Dynamic forest typology Styria” establishes an integrated site- and forest type classification for all Styrian forests. On the basis of GIS-aided geo-ecological models, digital altitude models, and climate data, forest site parameters are investigated. The goal is to supplement the static description of forest types with an observation of climate and environmental scenarios and to establish a dynamic forest type map on a scale of 1: 25 000.

#climateadaptation  
#future forest  
#forest typology  
#knowyourforest

**TIMEFRAME**

October 2018 – July 2021

**STAKEHOLDERS**

Federal Province of Styria  
Federal Forest Research Centre  
University of Natural Resources and Life Sciences  
Joanneum Research  
Technical offices and environmental offices  
Central Institute for Meteorology and Geodynamics

**WEBLINK**

[www.agrar.steiermark.at](http://www.agrar.steiermark.at)



# 2. TARGET CORRIDOR

## Achieving more together for protective forests

- Experiencing, using, and saving protective forests
- Designing protective forests regionally, and establishing supra-regional networks

## FLAGSHIP MEASURE

### “Experiencing, using, and saving protective forests”

Protective forests are simultaneously sensitive ecosystems, timber resource, conservation areas for natural resources (water, air), and zones for tourism, leisure-time activities and hunting. These functions and utilisation claims can conflict with the protective function. An excessive burden by all these uses challenges the existence and the functions of protective forests. Therefore, planning and steering of uses on a larger scale is required. In some cases, the protective function of forests needs to be safeguarded by means of segregation of uses.

#### FIELDS OF ACTION

- Development and implementation of utilisation and steering concepts for leisure-time activities and tourism in areas with great importance of protective forests. The concepts take into consideration natural resources, wildlife and hunting and are jointly developed by communities and regions.
- Coordination of protective forest management, Alpine pasturage and hunting in the same spatial unit
- Protective forest and agriculture:
  - Separation of forest and pasture
  - Unbundling of Alpine pasturage and protective forests
  - Consideration of the operation structure (forest farmers) within the planning of utilisations in protective forests.

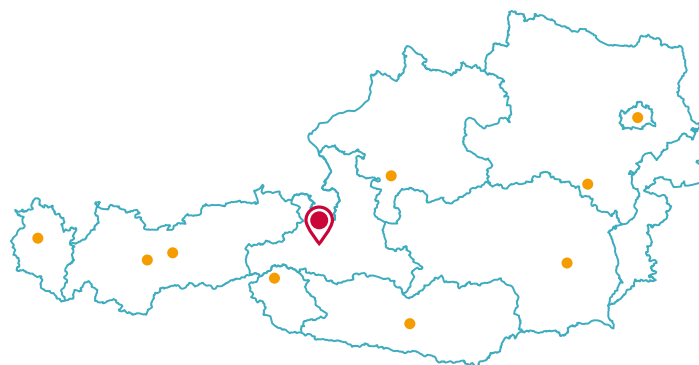
#### MILESTONES for the implementation





What could be a model for others

## Model enterprise for sustainable protective forest management



**LOCATION** Bruck an der Großglocknerstraße, Salzburg

**SHORT DESCRIPTION**

Protective forest owners own valuable ecosystems, sources of raw materials, hunting areas, natural resource zones and attractive tourism areas. Half of the Fischhorn estate, which comprises in total 815 ha of protective forests, is located in the national park Hohe Tauern. In 2002 and 2007 wind throw and beetle infestation caused damage in large areas. Priority is given to natural and sustainable land use. Professional coordination between forestry, hunting, pasturage and leisure-time activities constitutes the basis for stable protective forest areas. The integrated coordination of the branches agriculture, forestry, hunting, property management and tourism guarantees the economical tending of protective forests. The enterprise is a member of the Schutzwaldpflegeverein (protective forest maintenance association) Kapruner Tal.

#together  
#natural  
#integrated

**TIMEFRAME**

1865: Foundation of the agricultural and forestry estate  
2004: Area management project Kaprun valley  
2013: CIC Wildlife Prize for integrated protective forest – wildlife management  
2016–2018: Integrated red deer management: Establishing of networks of strategies between forestry, agriculture, hunting and tourism

**STAKEHOLDERS**

Farm estate  
Municipality of Bruck an der Glocknerstraße  
District forest inspectorate  
Federal Province of Salzburg  
University of Natural Resources and Life Sciences  
University of Veterinary Medicine  
Hunting community  
Tourism industry

[www.fischhorn.com](http://www.fischhorn.com)

**WEBLINK**

## FLAGSHIP MEASURE

### “Designing protective forests regionally and establishing supra-regional networks”

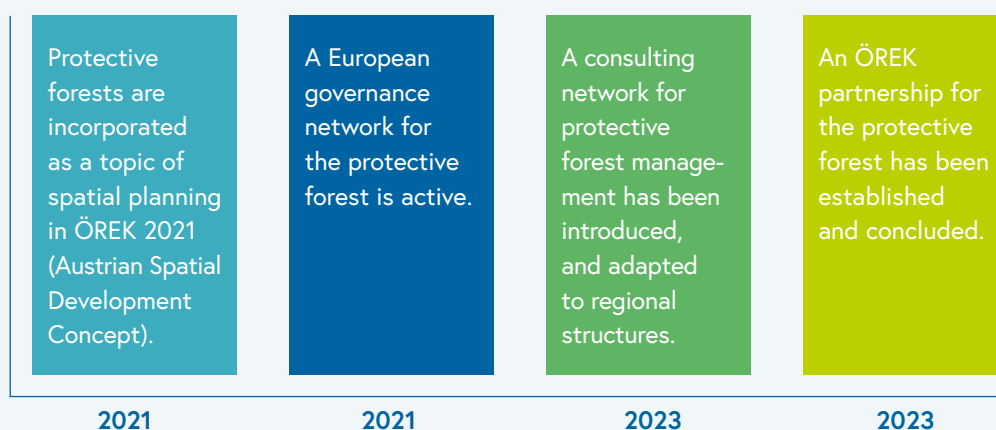
The sustainable tending of protective forests and the solution of conflicts of interest require the cooperation of all actors, in particular of forest owners, beneficiaries of the protective function, as well as of the municipalities. The tending of the Austrian protective forests is a joint task, which many forest owners cannot fulfil by themselves. Regulated coordination requires voluntary or contractual forms of cooperation with defined rights and obligations of the partners. An important part is the intensive forest-technical support of these processes by forest services, Chambers of Agriculture and marketing organisations.

The protective function of forests is defined and managed differently in many countries of Europe and globally. At international and European levels, as of today, protective forests play a marginal role.

#### FIELDS OF ACTION

- Positioning of protective forests as a regional topic with larger planning units (valley communities)
- Establishment of a partnership within the framework of the Austrian Spatial Development Concept (ÖREK) with the purpose of coupling protective forest and spatial planning.
- Establishing and creating networks of regional governance for protective forests.
  - Revitalisation of protective forest dialogue platforms.
  - Promotion of the exchange between forest owners and beneficiaries of the protection (protective forest partnerships).
  - Establishment of protective forest on the agenda of local politics
- Strengthening the role of protective forests in European and international forest policies; promotion of a governance network for protective forests; among other things within the framework of the European Macro-Regional Strategy for the Alpine Region (EUSALP) and the European Forestry Commission of the Food and Agriculture Organisation (FAO/EFC).

#### MILESTONES for the implementation



## What could be a model for others

### Forest maintenance association Carinthia



**LOCATION** Federal Province of Carinthia

**SHORT DESCRIPTION** The purpose of the forest maintenance association is up-to-date forest management and the assistance of forest workers. It supports first and foremost small forest owners who often do not have a lot of resources available. Every year the association with its 21 forest maintenance trainers and two foresters supports about 650 forest owners and implements tending measures in more than 550 ha of woodland. According to the Austrian Forest Inventory, about 97,000 ha of forests in Carinthia are in need of active forest maintenance. This lack of tending has negative effects on the protective function, particularly in mountain forests. The awareness raising and the energetic assistance provided by the forest maintenance association are well received and appreciated, in particular in protective forests. The protective forest areas are strengthened with collective efforts!

#regional  
#consulting  
#maintenance  
#strongertogether

**TIMEFRAME** 2001: Foundation  
2014: State Prize for Exemplary Forest Management

**STAKEHOLDERS** Members of the association  
Trainers  
Forest owners  
District forest inspectorates

**WEBLINK** [www.waldpflegeverein.at](http://www.waldpflegeverein.at)



# 3. TARGET CORRIDOR

## Strengthening the awareness for protective forests

- Recognizing and communicating protective forests
- Learning and understanding protective forests

## FLAGSHIP MEASURE

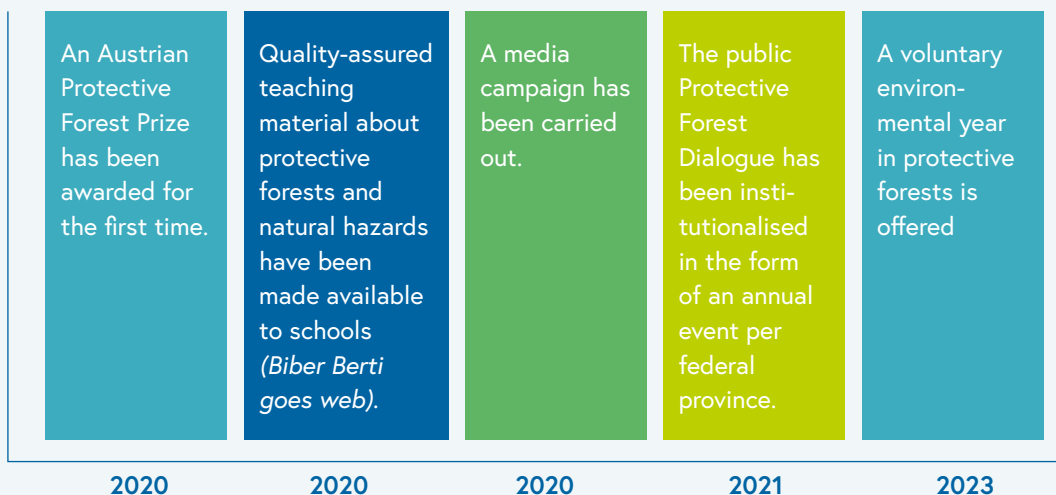
### “Recognizing and communicating protective forests”

Many Austrians are not aware of the protective function of forests. The social and economic value of the protective function of forests is mostly appreciated only at the local level; the political importance of the protective forest at supra-regional level is rather low. Intensive information campaigns and awareness-raising are required in order to make people aware of the importance of protective forests for the safety of settlement and economic areas, tourism, and agriculture.

#### FIELDS OF ACTION

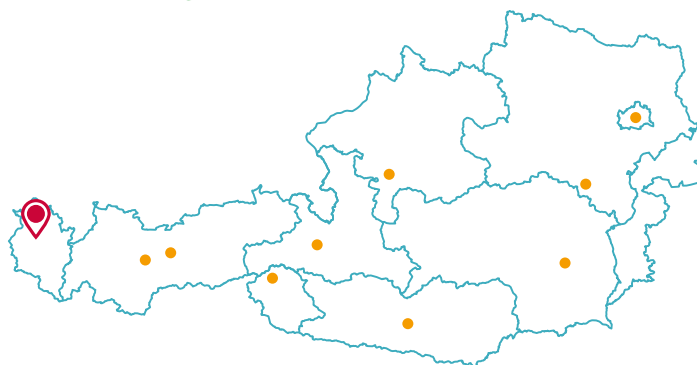
- Federal and regional implementation of a media campaign about the protective function of forests and the effects of climate change.
- Continuation of the social discourse about the protective forest within the framework of public federal and provincial protective forest platforms as well as the Austrian Forest Dialogue (Walddialog).
- Further development of formats with effective publicity: Protective forest adoption programmes and protective forest sponsorship models, establishment of an Austrian protective forest prize in coordination with already existing initiatives.
- Addressing actively and involving small forest owners that hold limited farming background.
- Promotion of intact protective forests as a quality label and a safety factor.
- Strengthening the awareness for the high standard – also in technical terms – and degree of innovation for the treatment of protective forests in Alpine areas at national and international levels (export initiative).
- Integrating the topic of “protective forests” in touristic offers.
- Awareness-raising for protective forests and natural hazards within the framework of the general school system.
- Communicating the importance of protective forests for climate protection

#### MILESTONES for the implementation



## What could be a model for others

### Protective forest-aware community



**LOCATION** Blons, Vorarlberg

**SHORT DESCRIPTION**

The community of Blons in the biosphere park Großes Walsertal sadly gained fame due to the avalanche disaster in January 1954. Since then, investments have been made in technical mitigation structures and, most importantly, in protective forests. Blons is to a high degree dependent on the state of object-protective forests. The community manages the protective forest in an exemplary and near-natural way, implements well-managed game hunting. People know about the local and regional importance of protective forests. The establishment of the avalanche documentation centre, pedagogic trails, forest days, and excursions led to a deeply rooted awareness for the value of protective forests in the minds of people. A protective forest trail, which is 4 kilometres long, informs in a playful and practical way about the protection against natural hazards provided by forests. In 2018, the “protective forest-aware community” was awarded for the second time with the Arge-Alp Protective Forest Prize

#natural hazards  
#awareness  
#safety  
#learning

**TIMEFRAME**

2004: Establishment of avalanche teaching trails  
2018: Award of the Arge-Alp Protective Forest Prize

**STAKEHOLDERS**

Municipality of Blons, Skilled forest workers  
Tourism association  
Forest owners  
ARGE Alpenländische Forstvereine  
Service for Torrent and Avalanche Control

**WEBLINK**

[www.grosseswalsertal.at](http://www.grosseswalsertal.at)

## FLAGSHIP MEASURE

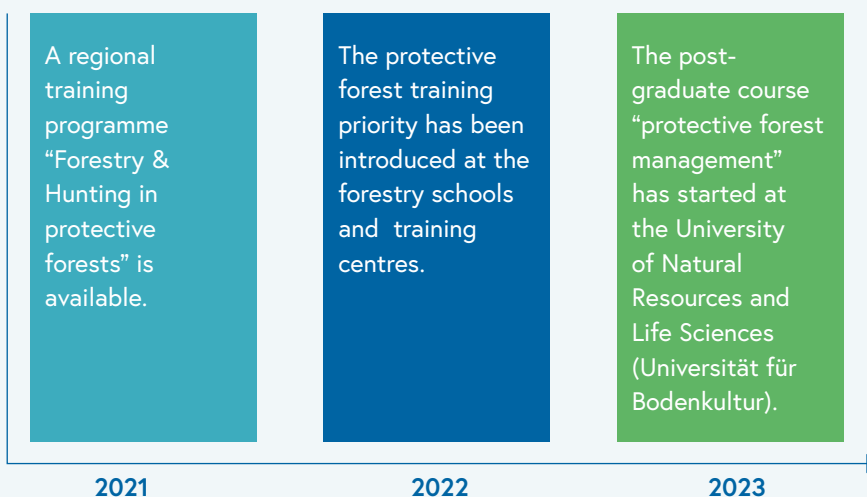
### “Learning and understanding protective forests”

The integrated treatment and tending of protective forests requires interdisciplinary knowledge as well as a high degree of specialisation. Sufficient specialised staff should be available in all regions. Targeted training safeguards local jobs, in particular agricultural and forestry services, and creates local value.

#### FIELDS OF ACTION

- Strengthening of university education: Specialisation “protective forest and climate” including a post-graduate course “protective forest management”
- Development of a training and further education priority on the topic of protective forests for forestry and hunting staff at the forestry training and education centres (FAST)
- Science and technology export in protective forest management: Establishment of the Forestry Education Centre (FBZ Forstliches Bildungszentrum) Traunkirchen as an international “protective forest training centre”

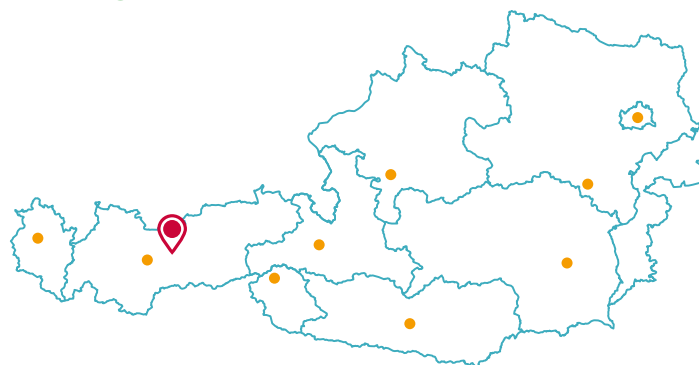
#### MILESTONES for the implementation





What could be a model for others

## Training of Tyrolean forest rangers



**LOCATION** Federal Province of the Tyrol

**SHORT DESCRIPTION**

The two-year training course to become a Tyrolean forest ranger is unique in Austria. It aims at imparting the necessary technical knowledge and social competences for the service as community forest ranger. The priority of the work is the support and the advising of forest owners in all forest-technical issues. The course is carried out every two years and comprises at least 1,800 hours, of which 384 are purely practical lessons at the Tyrolean District Forest Inspectorate and/or at one's own municipality. The 2005 forest regulations of the Federal Province of the Tyrol lay down that every municipality of the federal province must employ a forest ranger. More than 70 percent of the forests of the Federal Province of the Tyrol are protective forests and, accordingly, the protective forest constitutes a training priority.

#training  
#consulting  
#innovate  
#bettertogether

**TIMEFRAME** 2005: The forest regulations of the Federal Province of Tyrol regulate the forest ranger programme  
2019: Training course  
2020-2024: Further training course

**STAKEHOLDERS** Forestry Directorate of the Federal Province of Tyrol  
Agricultural College of the Federal Province of Tyrol  
District Forestry Inspectorates  
Municipalities  
Forest owners

**WEBLINK** [www.tirol.gv.at/umwelt/wald/waldaufseherportal/auswahl-und-ausbildung-von-waldaufsehern-und-waldaufseherinnen/](http://www.tirol.gv.at/umwelt/wald/waldaufseherportal/auswahl-und-ausbildung-von-waldaufsehern-und-waldaufseherinnen/)



# 4. TARGET CORRIDOR

## Making protective forests attractive

- Administrating and designing protective forests in a simple way
- Investing in protective forests and managing them
- Exploiting the inherent value of protective forests

## FLAGSHIP MEASURE

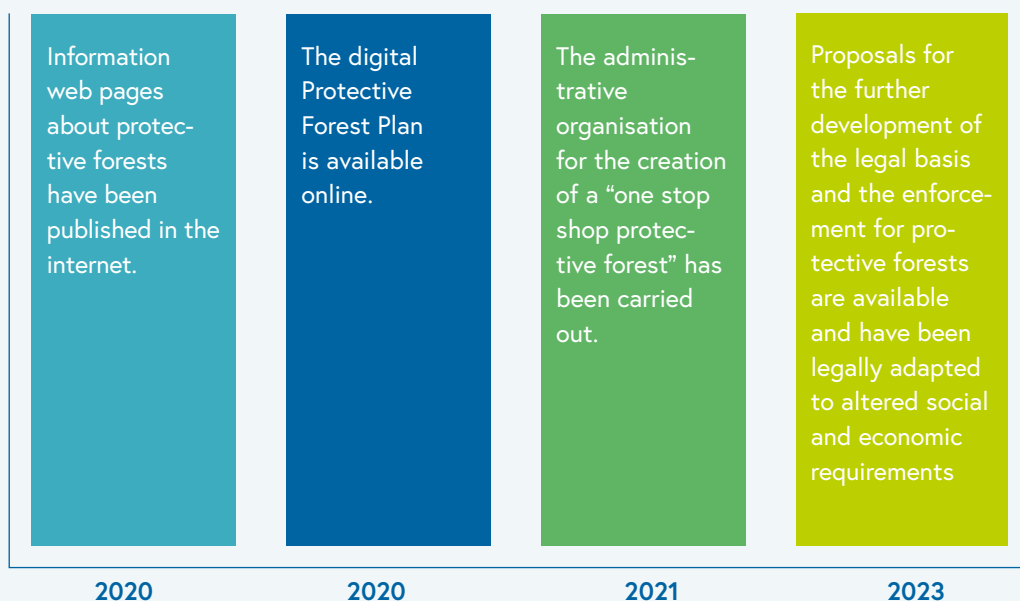
### “Administrating and designing protective forests in a simple way”

In connection with the protective forest, there are complex legal standards and administrative procedures. Requirements and restrictions for harvest and various uses of the forest area ensure an effective protective function of forests. The long-term preservation of the protective function of Austrian forests enjoys top priority. The goal is to offer all protective forest actors a regional consulting service with channeled administrative and funding procedures.

#### FIELDS OF ACTION

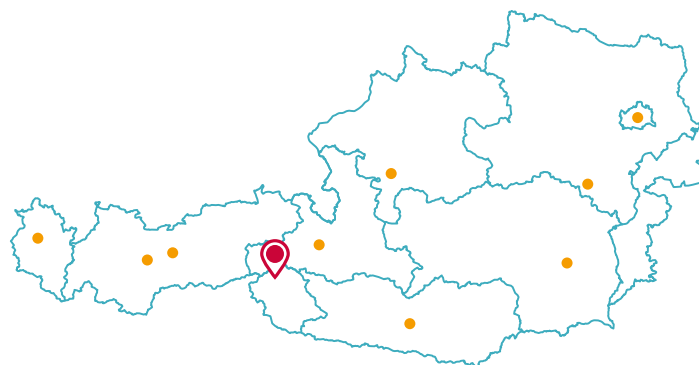
- Online publication of diversified information on protective forests – (knowledge, legal competences, financing), for example via:
  - [www.schutzwald.at](http://www.schutzwald.at)
  - [www.naturgefahren.at](http://www.naturgefahren.at)
  - The internet web pages of the Federal Provinces
- Creation of a parcel-specific digital map (Protective Forest Plan) of all protective forests according to paragraph 21 Forest Act in order to increase legal security, establish a service instrument, as a basis for communication and planning
- Installation of a “one-stop-shop” at the level of the forest authorities for bundled competences and concentration of procedures (forest, nature conservation, hunting and water law)
- Further development of the legal bases and their enforcement for i. e. protective forests, protective forest cooperatives and wildlife rest areas for the protection of forests; adapted to changed social and economic requirements.

#### MILESTONES for the implementation



What could be a model for others

## Forest management project “Kalsertal”



**LOCATION** Kals am Großglockner, East Tyrol

**SHORT DESCRIPTION**

On 29 and 30 October 2018 the storm front “Vaia” caused enormous damage in the Eastern Tyrol. Considerable wind throw areas on 425 ha in the Kalsertal valley gave reason for starting the area management project (FWP) of the Service for Torrent and Avalanche Control. In this respect, a project for protective measures in the field of wind-breakage areas was initiated, in order to be able to ensure the protection of the permanent settlement area lying below as well as of the Kalser street L26 against gravitational natural hazards. The area management project was negotiated and agreed between the municipality, the Federal Province, the Service for Torrent and Avalanche Control and beneficiaries in February 2019. This agreement was immediately followed by first emergency measures. The planning and the implementation of protective forest and technical measures takes place in a cooperative way, speedily, and with as little bureaucracy as possible. The financing is provided by the Federal Government (disaster relief fund), the Federal Province, and the municipality.

#natural hazards  
#support  
#safety

**TIMEFRAME**

2018: Storm “Vaia”  
2019–2038: Implementation of the area management project

**STAKEHOLDERS**

Service for Torrent and Avalanche Control of Federal Province of the Tyrol  
District Forest Administration of the Federal Province of Tyrol  
District Road Administration of the Federal Province of Tyrol  
District Road Administration of the municipality of Kals am Großglockner  
Federal Ministry for Sustainability and Tourism  
Forest owners

**WEBLINK**

[www.bmnt.gv.at/forst/wildbach-lawinenverbauung.html](http://www.bmnt.gv.at/forst/wildbach-lawinenverbauung.html)  
[www.naturgefahren.at](http://www.naturgefahren.at)

## FLAGSHIP MEASURE

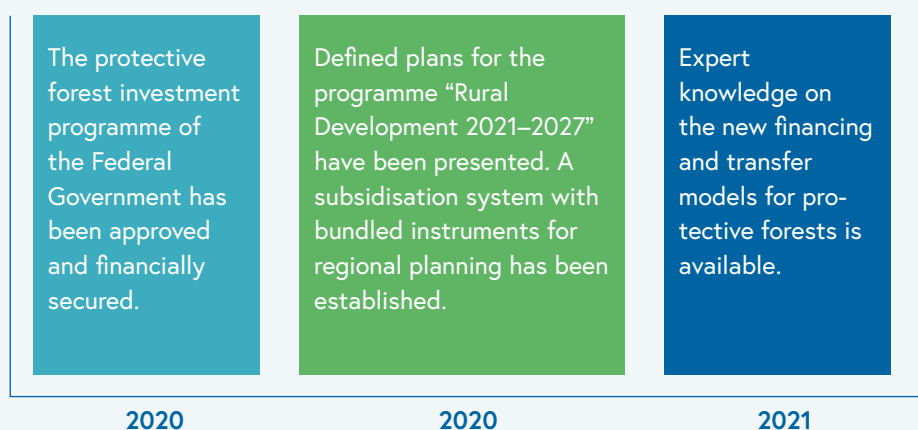
### “Investing in protective forests and managing them”

The preservation of the protective function requires intensive, time-consuming and expensive tending and regeneration, which oftentimes cannot be covered by the income from timber sales. In order to make measures in protective forests more attractive, new financing models have to be developed, and the management framework has to be improved. In addition, the challenges of climate change require a strengthening of investments aiming at the preservation of the protective function of forests.

#### FIELDS OF ACTION

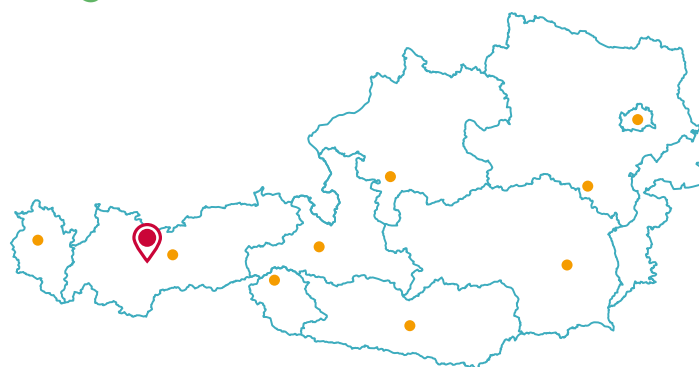
- The Federal Government will invest in the course of the next 10 years € 100 million from the funds of the disaster relief fund in the strengthening of forests with object-protective function - the coverage is ensured by the present funds from the disaster relief fund. Further funds are available from rural development programmes.
- Preparation of expert opinions on new sources of funding and transfer models for the protective forest:
  - National protective forest subsidy
  - Sponsoring and protective forest adoption programmes
  - Insurance against natural hazards
  - Investment contributions of land owners who are beneficiaries, of communities, and of infrastructure providers
  - Working out models for the compensation of concrete ecosystem services (e.g. contractual protective forest)
  - Subsidised acquisition of protective forest areas e.g. by municipalities as well as creation of political framework conditions for effective financing models
- Creation of a subsidisation system with bundled instruments for the regional planning of measures from the fields of protective forest, nature conservation, wildlife ecology, wildlife management, water balance, infrastructure, and recreation.

#### MILESTONES for the implementation



What could be a model for others

## Joint protective forest management in the Ötztal



**LOCATION** Längenfeld im Ötztal, Tyrol

**SHORT DESCRIPTION** The “municipal agricultural communities” of the municipality Längenfeld in the Ötztal valley manage about 3,250 ha of forests at an altitude between 1,150 and 2,200 metres above sea level. The share of protective forests amounts to 92 percent. The 327 eligible members have joined forces for economic and social reasons. A wood chips cooperative was founded; moreover, haulages by helicopter in non-accessible protective forests have been organised and thinning and thinning work carried out. The community records 750,000 overnight stays per year and supports the agricultural communities in financial terms, in order to ensure that the settlement areas are sustainably safeguarded by a well-tended protective forest. In 2018, the community was awarded the State Prize for exemplary forest management.

#together  
#economical  
#sharingeconomy

**TIMEFRAME** 1993: first formalised cooperation  
2018: State Prize for Exemplary Forest Management

**STAKEHOLDERS** Municipality of Längenfeld im Ötztal  
Agricultural and forestry enterprises of the region  
Members of the agricultural communities of municipal properties  
Visitors

**WEBLINK** [www.bmnt.gv.at/forst/wald-gesellschaft/Auszeichnungen-Preise/staatspreis2018.html](http://www.bmnt.gv.at/forst/wald-gesellschaft/Auszeichnungen-Preise/staatspreis2018.html)

## FLAGSHIP MEASURE

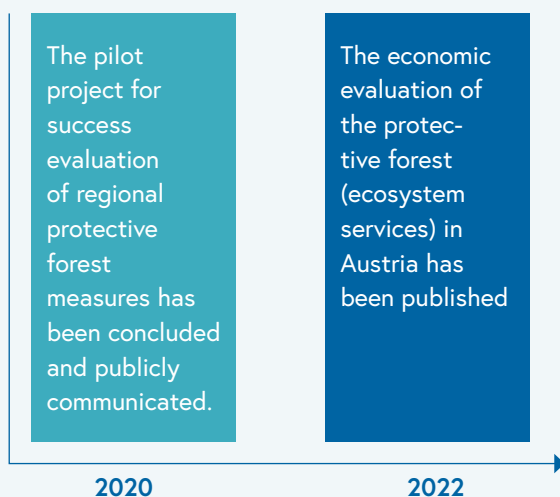
### “Exploiting the inherent value of protective forests”

The value of measures in protective forests also stems from the societal appreciation of forestry services. The management of protective forests should be seen as a responsibility of forest owners and as an obligation of all stakeholders, so that beneficiaries appreciate the forest services for their property and living environment. The goal is to enshrine a healthy protective forest as a symbol for high regional safety in the minds of the people.

#### FIELDS OF ACTION

- Recognition and economic evaluation of the protective function of the forest as an ecosystem service for the population, as well as for the safety of infrastructural facilities.
- Evaluation and presentation of the success of regional protective forest measures in order to increase public appreciation.
- Implementation of measures in community projects with comprehensive forestry service – consulting, marking of trees, timber harvest, organisation, timber sale

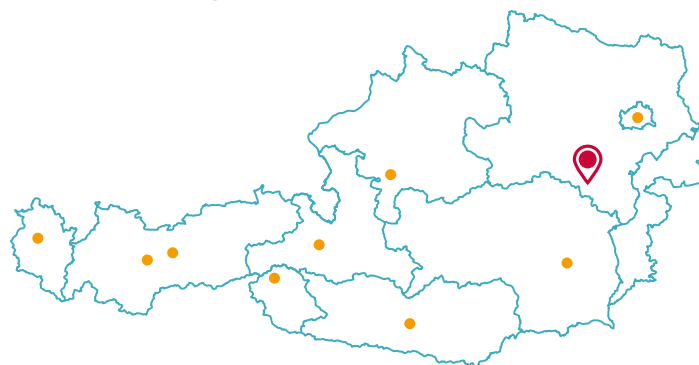
#### MILESTONES for the implementation





What could be a model for others

## Spring protective forests of the City of Vienna



**LOCATION** Rax and Schneeberg, Lower Austria, and Wildalpen, Styria

**SHORT DESCRIPTION**

In normal operation, the City of Vienna is supplied entirely with spring water. Since 1873 the First Vienna Aqueduct has been feeding drinking water from the spring region Schneeberg, Rax, and Schneealpe into the pipelines of the capital of Austria. Later on, it was supplemented by the Second Vienna Aqueduct from the massif of the Hochschwab. The water protection areas, which comprise first and foremost spring protective forests, cover an area of 67,500 ha. The Vienna Municipal Department for agricultural and forestry enterprises (MA49) manages a total area of 33,000 ha of forests, but also Alpine pastures, meadows and waters in the Rax and Schneeberg area, and also in the Hochschwab massif. It manages areas up to an altitude of 2,075 metres large parts of Rax and Schneeberg. The main tree species are spruce, fir, beech, and partly larch.

#precious  
#springwater  
#services

**TIMEFRAME**

1873: Opening of the I Vienna Aqueduct  
1910: Opening of the II Vienna Aqueduct  
1965: Marking of more than 600 square kilometres of water protection area

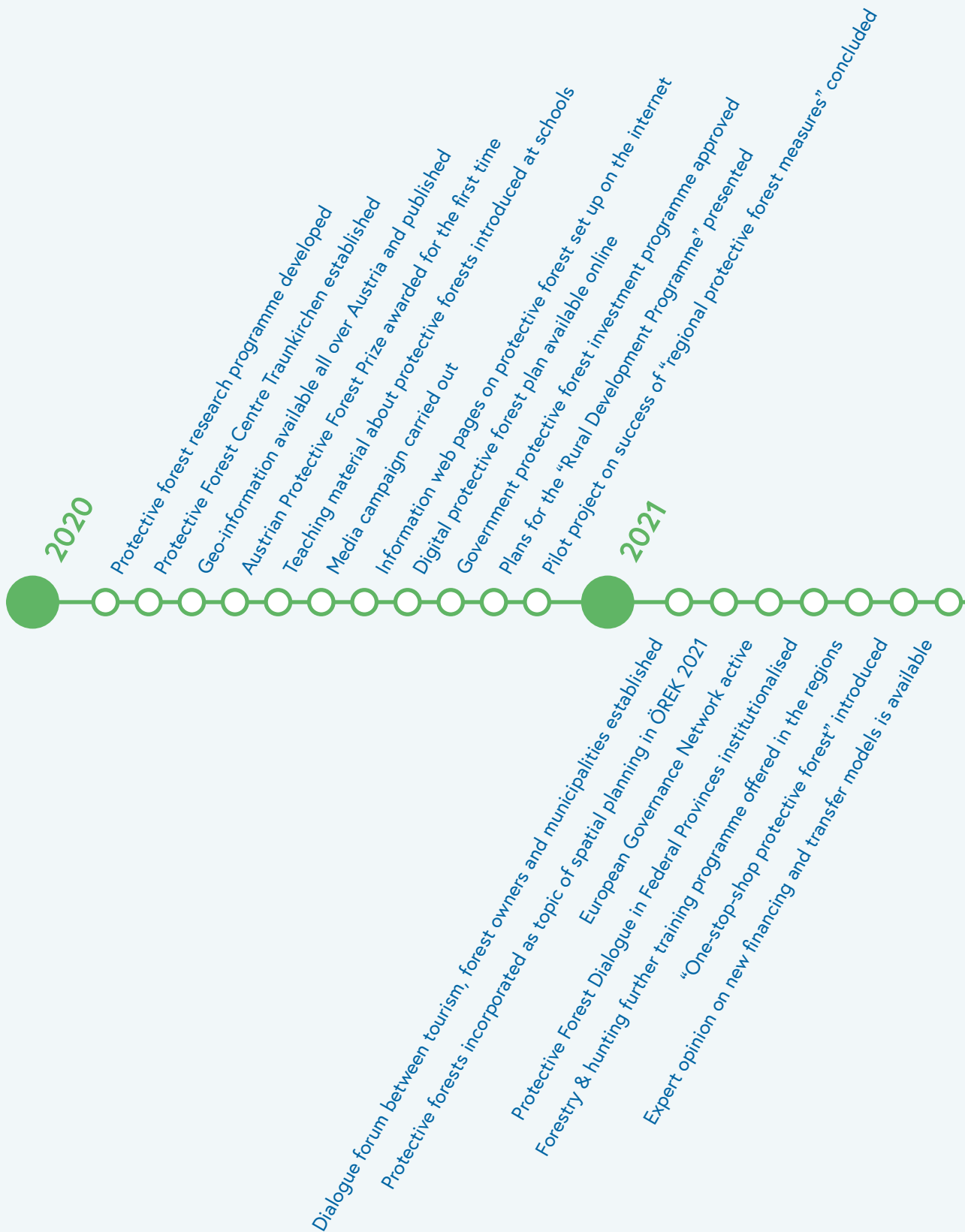
**STAKEHOLDERS**

City of Vienna  
Forest owners  
Landscape users  
Inhabitants of Vienna

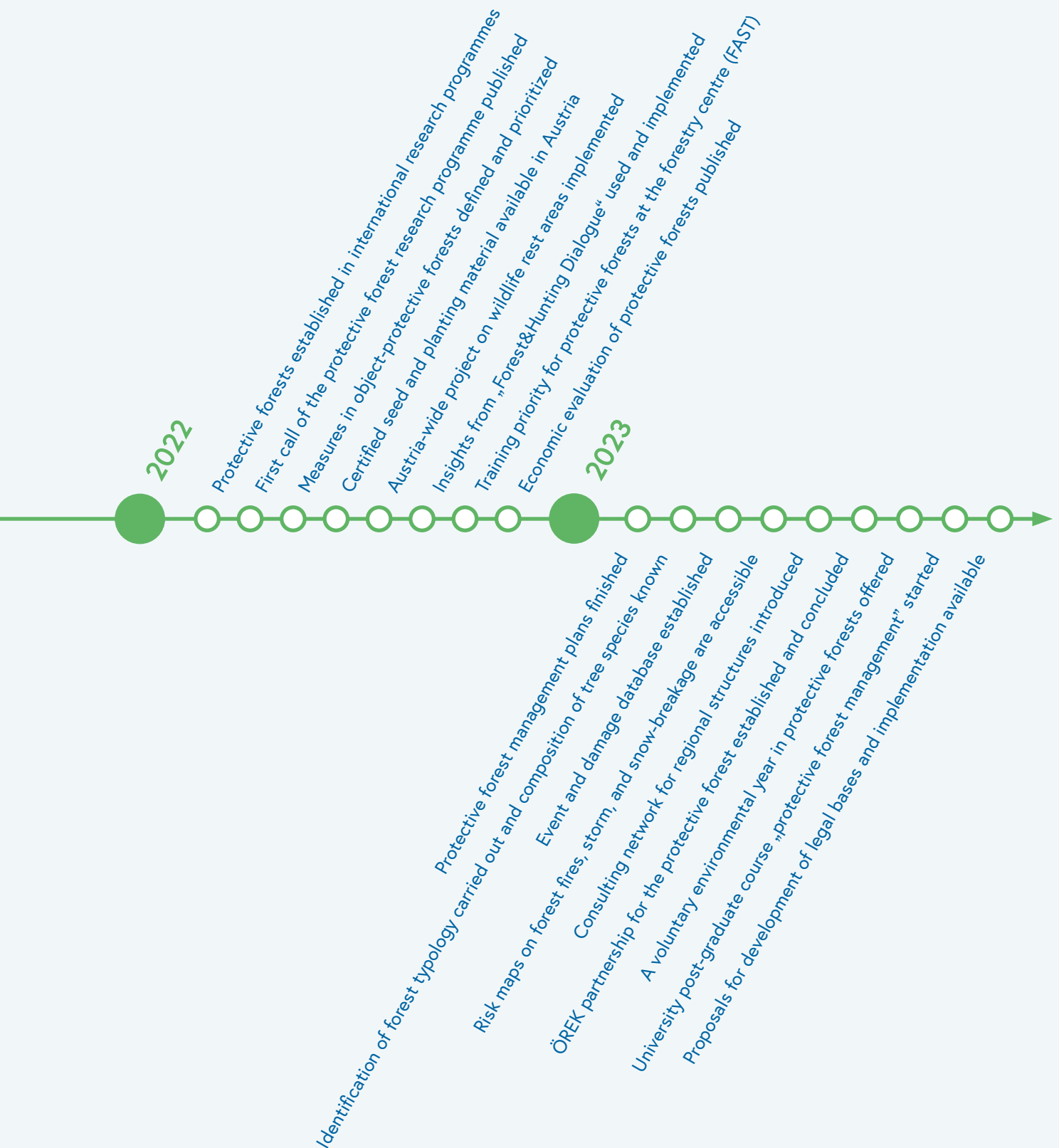
**WEBLINK**

[www.wien.gv.at/umwelt/wald/quellenschutzwaelder/](http://www.wien.gv.at/umwelt/wald/quellenschutzwaelder/)

## The path to realize the vision ...



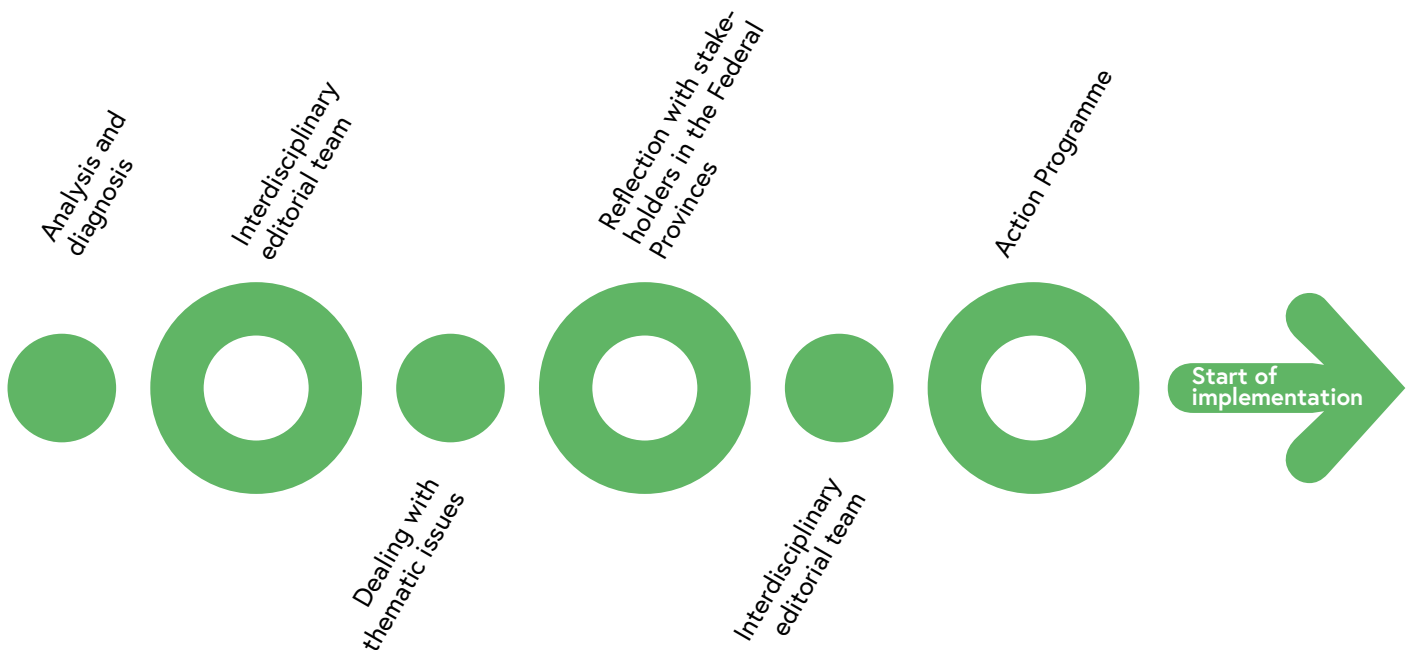
## ... survey of the milestones for the implementation



## How the Action Programme has been developed

Protective forests need many actors taking care of them. For this purpose, many experts from various fields have contributed their experience and their technical knowledge to the development of the action programme.

An interdisciplinary editorial team developed the core contents, which were subsequently reflected and supplemented within three workshops by regional stakeholders from all Federal Provinces.



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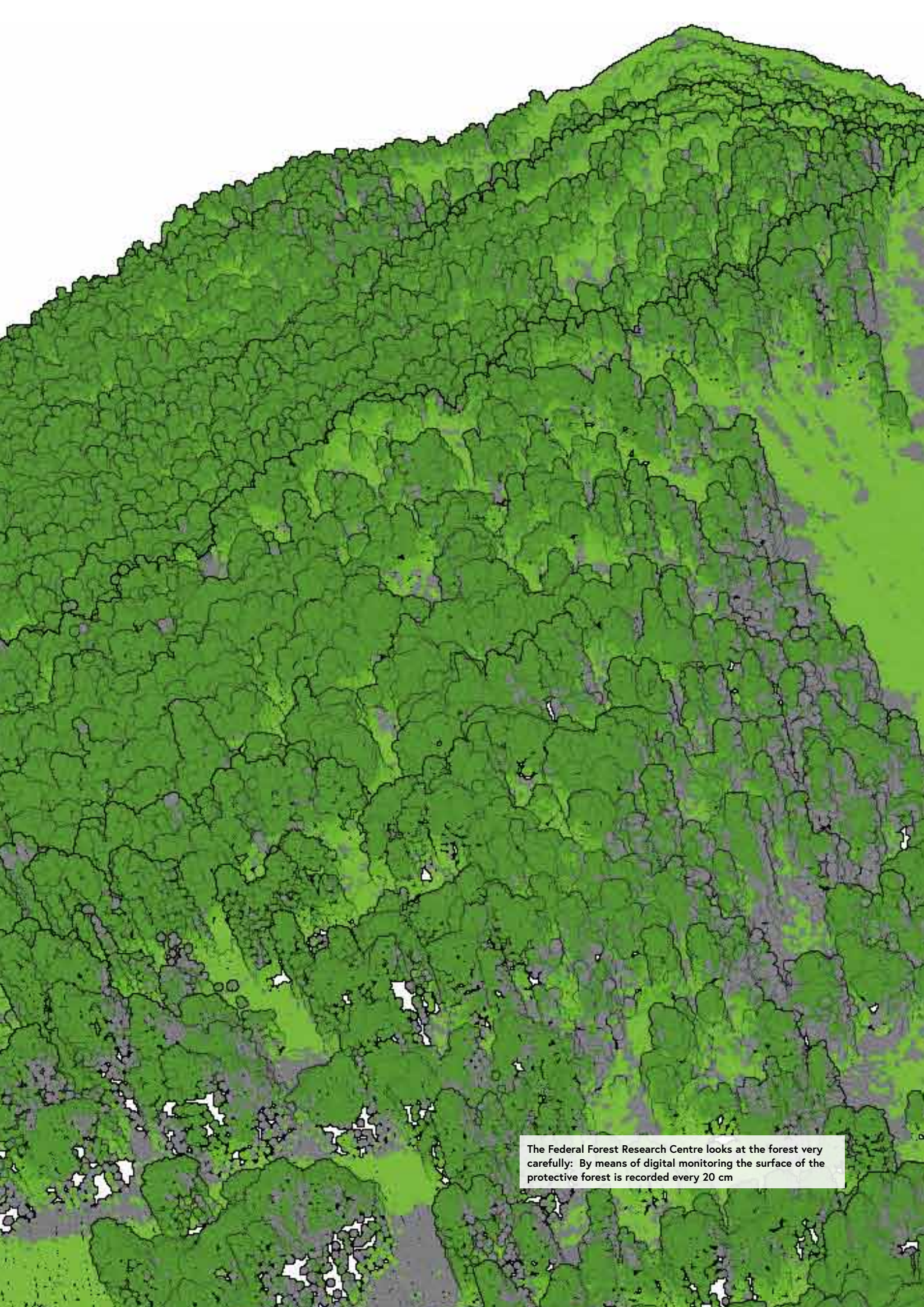
Alexander Starsich, Federal Ministry for Sustainability and Tourism

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The Federal Forest Research Centre looks at the forest very carefully: By means of digital monitoring the surface of the protective forest is recorded every 20 cm

