

Report

An activity took place between the 28th of July and August 1, 2022, within the scope of the Train the Trainer Program and the Twinning Program of the European Rangers Federation, in the Bavarian Forest National Park, in Germany. The main actions were: 1) Knowledge of the area and the exchange of knowledge between rangers; 2) Wildlife management - Wild Boar and Red Deer; and 3) ERF Board Meeting.

The Protected Area

The Bavarian Forest National Park stretches along the Bavarian-Czech border between Bayerisch Eisenstein in the district of Regen and Mauth in the district of Freyung-Grafenau. This protected area was created on 7 October 1970, as Germany's first National Park. Together with the neighboring Šumava National Park, in the Czech Republic, it forms the largest contiguous forest protection area in Central Europe. The motto used by National Park "Let nature be nature" applies to more than 24,000 hectares inside the Park. According to this philosophy yesterday's commercial forest becomes tomorrow's primeval forest. The result is a unique diversity of species, such as the European Lynx *Lynx lynx*, the European Otter *Lutra lutra*, the Great Capercaillie *Tetrao urogallus* or the Ural Owl *Strix uralensis*, which find their habitat in this Protected Area. In addition, there are still 16 species of beetles, which are considered relics. That occurs only in extremely natural forests. This high biodiversity is based, among other things, on the high proportion of dead wood, which is a source of food and habitat for hundreds of insects, fungi and birds. The natural processes of growth and decomposition in the forest ecosystem are part of the forest management of the National Park.



In the National Park, the areas where there is no human intervention are called Natural Zones, occupying just over 72% and the remaining area is called the Buffer Zone. It is the objective of the National Park that the Natural Zone increases to 75% by 2027.

The habitats of the Bavarian Forest National Park include three natural forest communities whose development is conditioned by differences in altitude and climate (with high precipitation, which in winters falls in the form of snow): a) Mountain spruce forests, at altitudes above 1200 metres; b) Mixed mountain forests with spruce, beech and plane trees on the warmer slopes; and c) Spruce forests in the valleys (see diagram below obtained from an

exhibition). In addition, there are areas of heathland and high mountain pastures in previously cultivated áreas.



The two main National Park Information Centres are respectively in the neighborhood of the mountain Lusen, near Neuschönau, and another in Falkenstein, near Ludwigsthal. Both sites have infrastructure that invites the visitor to explore, including an open-air wildlife area, which offers a view of the animal world in the original forest. The facilities can be experienced with all the senses, at any age and at any time of year. The quality of accessibility allows people with disabilities and families with babies to visit the nearby natural beauties. The Forest History Museum of St. Oswald also offers an interesting insight into the National Park's history.

The National Park provides its visitors with around 350 kilometres of marked trails, more than 200 kilometres of bike paths and around 80 kilometres of cross-country ski tracks. In addition, it has a program of guided tours throughout the year, under the guidance of Rangers and experts, which allows the visitor exciting experiences. Special programs for children, specialized lectures and cultural events at the National Park facilities complete the offer.



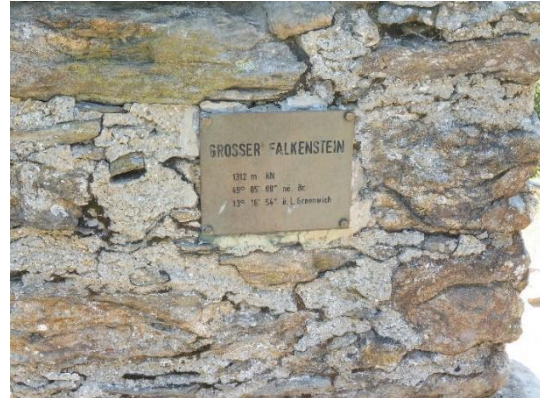
Summary:

Opening: October 7, 1970 (Rachel-Lusen area, in Freyung-Grafenau district), southern area of the current National Park.

Increase in the area of the Park: 1 August 1997 (Falkenstein-Rachel area, in the district of Regen), North area of the current National Park.

Total area: 24,250 hectares.

Prominent peaks: Großer Rachel (1,453 metres), Lusen (1,373 metres), Großer Falkenstein (1,315 metres).



Natural mountain lake: *Rachelsee*.

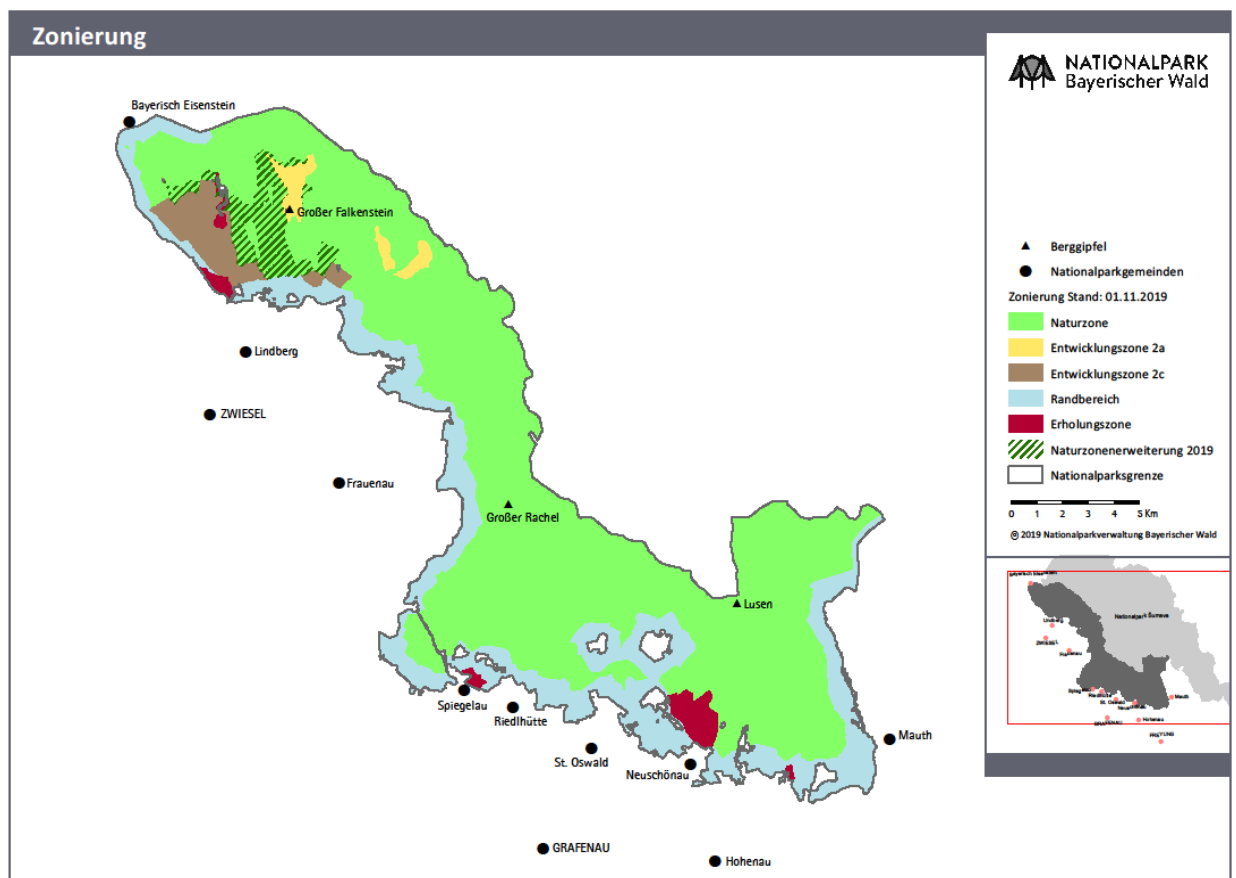
Natural features: 98% of the area is forest. There are also high-altitude peat bogs and former grazing areas (clearings).

Percentage of natural areas in the total area: 72.3% of the total area of the National Park (17,516 hectares).

Visitation facilities and environmental education:

- Lusen and Hans-Eisenmann-Haus National Park Centre (outdoor areas with wild animals and Treetop Walk).
- Falkenstein National Park Centre and Wilderness House (outdoor animal area and Stone Age cave).
- Forest History Museum of St. Oswald.
- Playground in the Kneipp forest and natural facilities in Spiegelau.
- Scheuereck deer enclosure.
- Information points in Bayerisch Eisenstein, Zwiesel, Frauenau, Spiegelau, Mauth and Freyung.
- Youth Forest House near Schönbrunn am Lusen.
- Wilderness camp at Falkenstein, near Zwieslerwaldhaus.

Number of visitors: 1.3 million per year.



Current zone map (11/01/2019)

Subtitle:

Triangles – Highest points.

Circles – Locations.

Light Green – Natural Zone.

Light Blue – Buffer Zone.

Red – Recovery Zone.

Green Dashed - Extension of the Natural Zone in 2019.

Black Line – Border of the National Park.

Small map below right:

Dark gray - Bavarian Forest National Park (Germany).

Light gray - Šumava National Park (Czech Republic).

(Information based on the website: www.nationalpark-bayerischer-wald.bayern.de)

The Activities Program

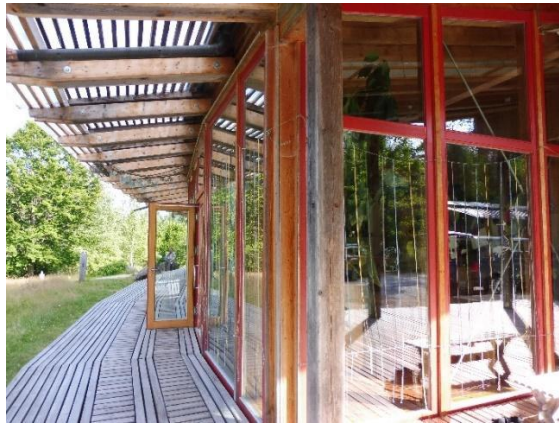
7/27/2022 – Wednesday

Description:

Arrival at the Falkenstein Wilderness Camp, in Bavarian Forest National Park, in the northern part of the National Park, where we would stay for the next few days. This Environmental Education Centre is essentially intended for the reception of schools. The activities take place during the school period, with groups of up to 40 children, who remain in place for about a week. The age of students is essentially between 14 and 16 years old. The Centre consists of a central building, with a cafeteria, space for lectures, showers, and accommodation for teachers. For the students, 15 types of huts have been distributed throughout the space, to accommodate between 6 and 7 children. The typologies are the Chum Hut from Siberia, the Ger (Yurt) Hut from Mongolia, the Long Hut from Vietnam, the Water Hut, the Tree House, among others. Some of the huts were built with the support of people from the countries or regions from which they come.



Curiosity: Inside the Centre it is not possible to walk with shoes on, so at the entrance to the building there is a set of flip-flops for users to put on after taking off their shoes.



07/28/2022 - Thursday

Arrival

15:30 – Introduction Wilderness Camp.

19:00 - Dinner.

Description:

Morning - A walk was carried out with local Rangers Lars Scharfe and Judith Dahlke, to follow their work, which included collecting notes on the condition of the trails and small interventions, clarifications and advice from visitors, and collection of small debris, like paper or plastic.





Afternoon - Arrival of the 6 participants of the Israeli Rangers delegation, within the Twinning Program between the German Rangers Association and the Israeli Rangers Association. Then there was the presentation of the Falkenstein Wilderness Camp, by Mr. Karl-Heinz Englmaier, Head responsible for the place, he showed us how it works, furthermore he presented the cabins one by one, which would be used for accommodation.



7/29/2022 – Friday

08:00 – Breakfast & Packed Lunch.

09:00-12:00 – Program Rangers Israel & Board ERF.

- Bavarian Forest National Park – Introduction
- Hiking Trip to “Haus zur Wildnis” (Information-Centre)
- Introduction Information Centre.

Achim Klein, Information Centre Manager.

- Short Presentation Bavarian Forest National Park.

Kristin Biebl, Ranger.

13:00-17:00 – Program Rangers Israel & Board ERF.

- Wildlife Management – Wild Boar.

Part I: Training facility for hunting dogs (on wild boar)

Outside of the National Park – private company.

Michael Großmann, Head Ranger.

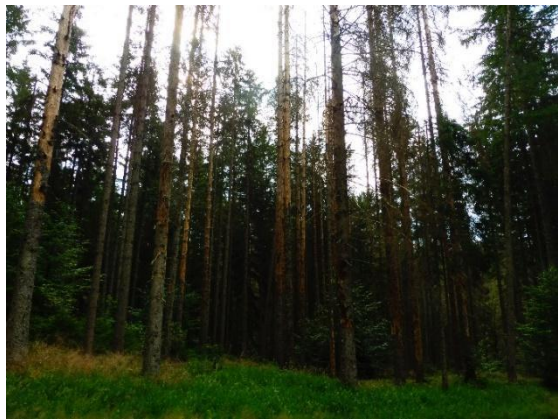
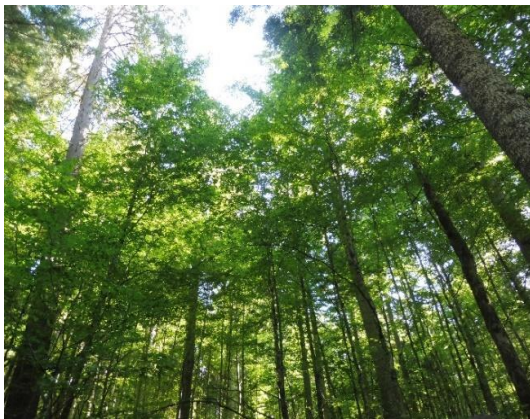
18:30 – Dinner.

Description:

Morning - Walk to the Interpretive Centre “Haus zur Wildnis” (Falkenstein National Park Centre).



During the walk, local Rangers Mario Schmid and Kristin Biebl introduced us to the problem of managing the insect *Ips typographus* (European spruce bark beetle), an indigenous species that attacks the northern spruce *Picea abies*. It was explained that in the past when looking at the forest everything was green, but nowadays there are large brown spots, due to the trees killed by the bark beetle insect. This change was due to a modification in forest management, before the affected trees were cut down and removed from the forest, but currently, in line with the National Park's motto "Let nature be nature", it is allowed to have patches of dead trees, which in turn will create a specific habitat for a set of species of fungi, insects and birds. However, this situation is considered “mismanagement” by local populations.



Passage through a habitat of the beaver *Castor fiber*.

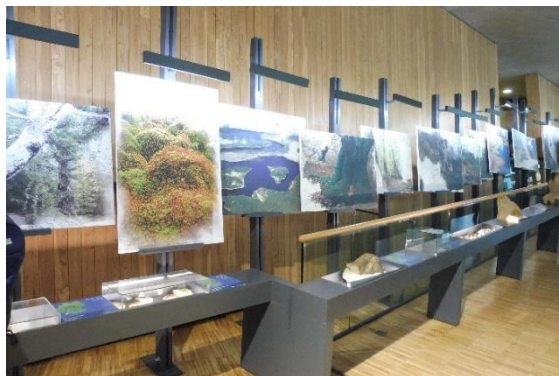


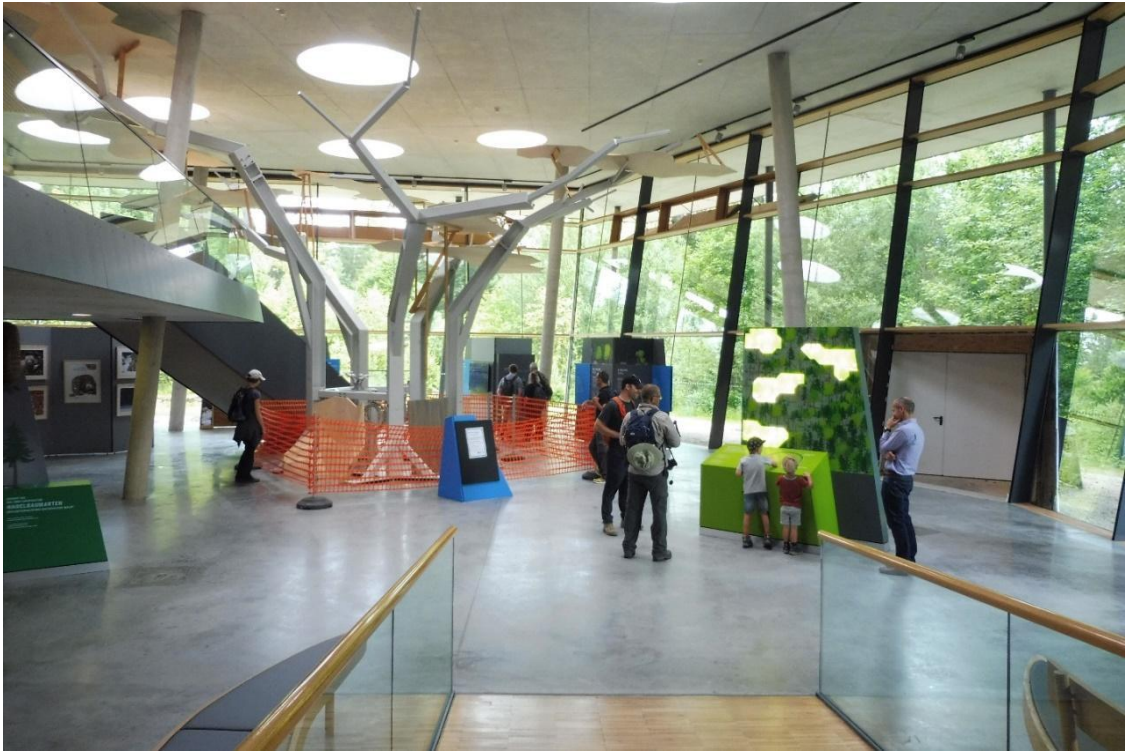
During the walk, we visited a wild boar *Sus scrofa* hunting site, with a barnyard, a platform and a structure for a net trap (explained below). It was explained to us that in the Buffer Zone it's possible to hunt wild boar and deer *Cervus elaphus*, as a form of population control. In the Natural Zone, the control of densities of any kind is not allowed.



Arrival at the Interpretive Centre “Haus zur Wildnis”, created in 2006, whose main architectural feature is not to have right angles. There we were welcomed by Mr. Achim Klein, Head responsible for the Centre, who guided us on the visit. Inside, it is possible to have access to a large set of interactive information, including the Gallery of the 16 German Protected Areas, several interactive panels on the forest ecosystem, thematic exhibitions on the Gray Wolf and the European Lynx, a Dark Room, which creates the atmosphere of the forest at night, invites the visitor to stay in the dark and listen to the sounds and see the images of nocturnal animals, a structure that simulates a cave, etc.

Curiosity: In the forest development stages, “Regeneration Stage”, “Establishment Stage”, “Optimal Stage”, “Terminal Stage” and “Decay Stage”, the last 2 do not exist in a production forest.

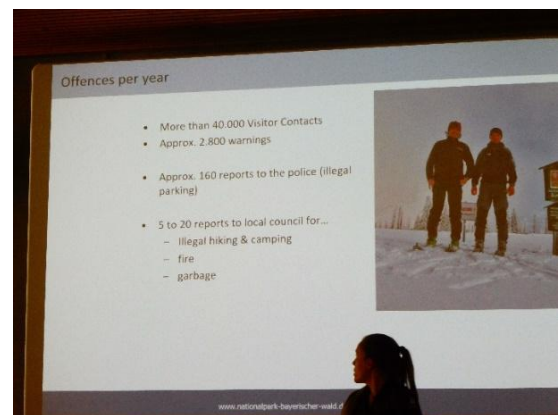
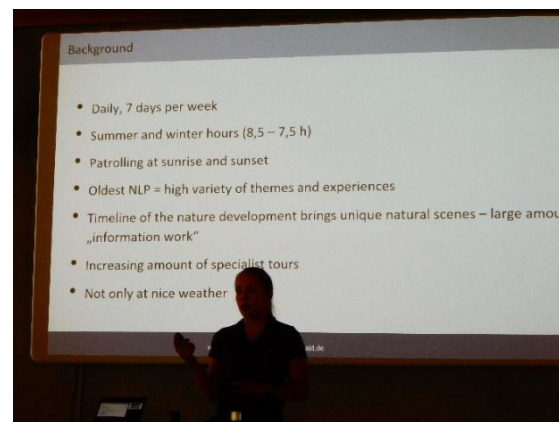
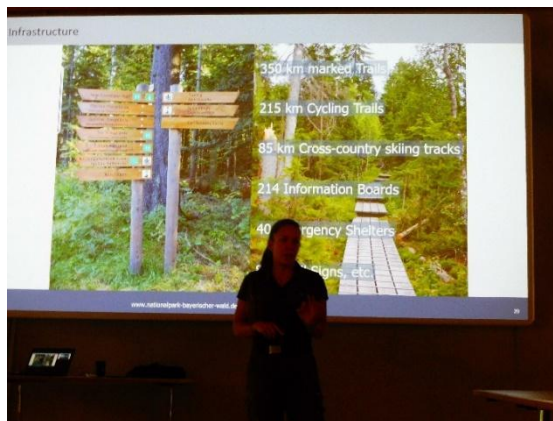
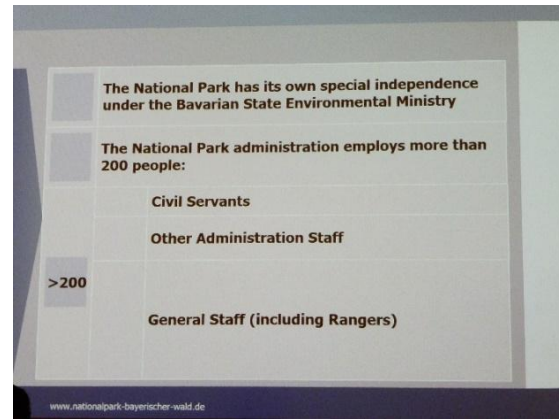
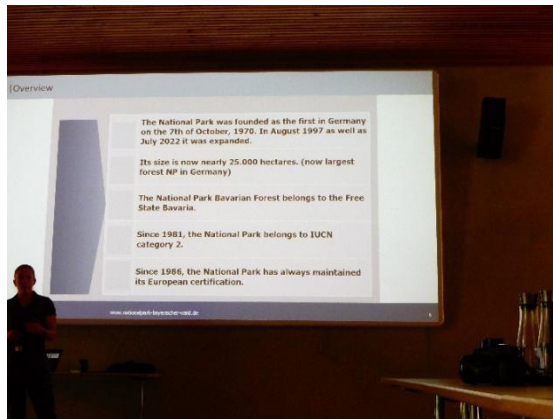


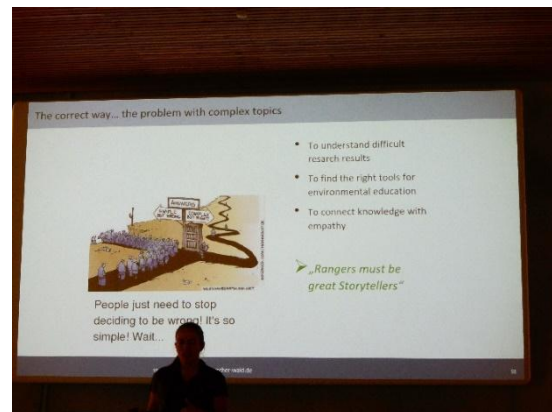
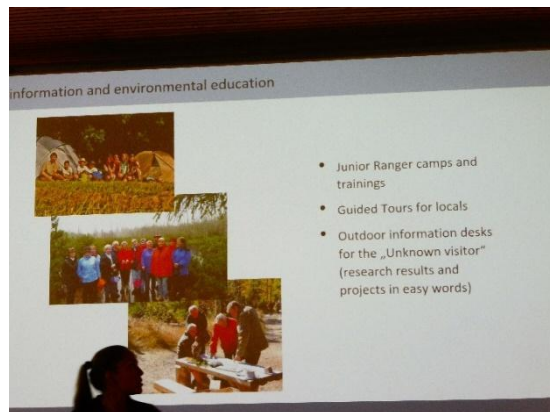




Finally, in the auditorium there was a presentation of the Bavarian Forest National Park and the Rangers Service, by Ranger Kristin Biebl.







Afternoon - As part of the wildlife management of wild boar populations, we visited a Centre for training and qualifying wild boar hunting dogs. The Centre belongs to a private company and is located outside the National Park. The Centre's manager said that they were now creating a dog training project to detect wild boar carcasses, as part of the fight against African Swine Fever, financed by the German State. The corpses are sent to the laboratory and the dogs participating in the project receive a certification that they are qualified to detect carcasses.



At the end of the session, Mr. Ilan Yeger, Chief and responsible for the Israeli delegation, explained the Israeli Program “K-9 Manager” that trains dogs to support the service of the Rangers. Dogs are trained to defend physical integrity of the Ranger's, to detect weapons and ammunition, dead bodies of wild species and to detect poisons.



07/30/2022 – Saturday

08:00 – Breakfast.

09:00-17:00 – Program Rangers from Israel.

- Field Trip Bavarian Forest National Park
 - Natural Development in the large-scale protected area – Ranger Tasks.
 - Mountain Rachel
 - (Packed Lunch)

Kristin Biebl, Ranger.

Mario Schmid, Ranger.

09:00-17:00 – Program Ranger ERF Board.

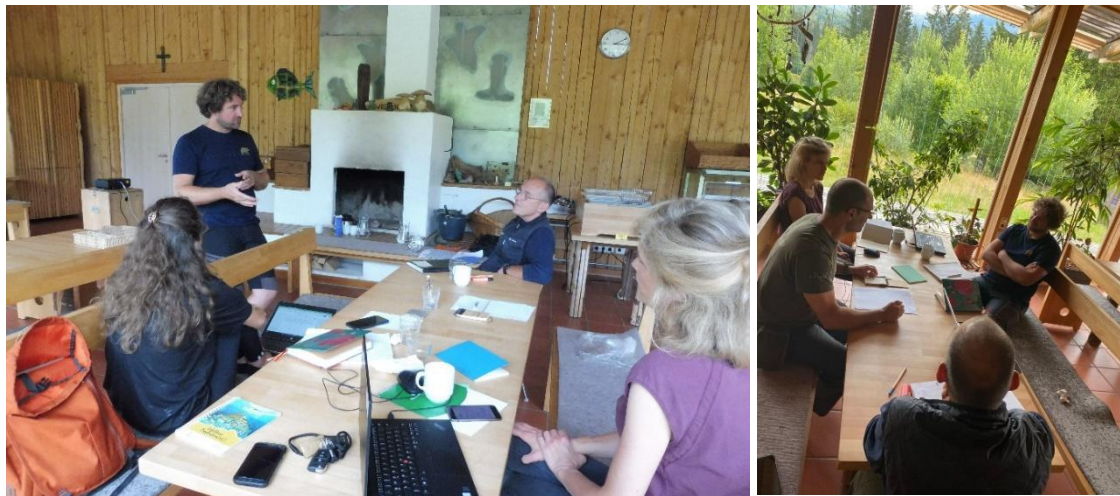
- Board Meeting.
Board European Ranger Federation.
Wilderness House (Seminar room).
- Short field trip to Virgin Forests nearby.

Michael Goßmann, Head Ranger.

18:30 – Dinner (all together).

Description:

Meeting of the ERF Executive Committee, President Urs Reif, Secretary Artenisa Peculaj, Treasurer João Correia and the Training Officer Michael Großmann, also present the new communication consultant, Wiebke Bomas. The Vice-President Ian Brooker and the Project Officer Maia Tsignadze could not be present. The subjects discussed were: the financial management of the ERF, the next European Rangers Congress, in Albania, and the election of the new Executive Committee, at the next General Assembly of ERF.



07/31/2022 – Sunday

7:30-8:30 – Breakfast.

8:30-11:30 – Program Rangers Israel Board ERF.

- Wildlife Management Bavarian Forest National Park.
Part II: Management Wild Boar and Red Deer.

Martin Pauli, Hunter (National Park. Wildlife Manager).

Nico Daume, Ranger.

11:30-16:00 – Hans-Eisenmann-Haus (Information Centre).

- Visitor Information World Ranger Day.

- ✓ Information stands and Presentation in Front of Hans-Eisenmann-Haus.
- ✓ Launch of a new initiative by Rangers of Israel in cooperation with the ERF – Anti-Poaching Web Seminar.

16:00-18:30 – Field Trip to Treetop Walk Bavarian Forest.

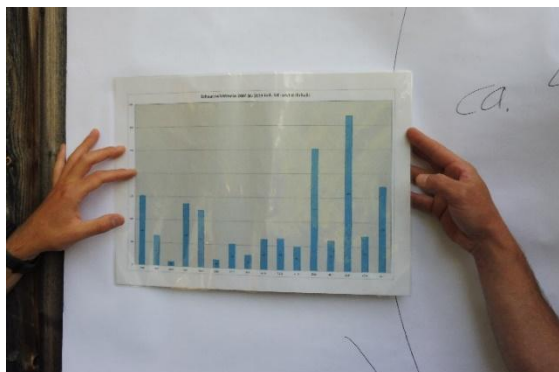
Mario Schmid, Ranger.

19:30 – Dinner.

Description:

Morning – Presentation of the Deer Management Plan and the results of the wild boar population control, by Mr. Martin Pauli, wildlife manager/hunter and Ranger Nico Daume. The presentation consisted of an explanation of the deer population control process (see explanation below) and graphs of wild boar population control actions, one of graphs showed the total number of wild boars hunted per year and the other the killing according to the hunting methods. On the second graph the colour blue is individual kill, the Red is trap systems and the Green is use of night vision devices. Due to the danger of African Swine Fever spreading, the number of wild boars to be hunted has been increasing. After the lecture, we got to know the trap systems they use to hunt the wild boar.

Curiosity: They use shredded corn for the wild boars as an attraction because it takes longer to eat.





Afternoon – Commemoration of World Ranger Day, with an information action for visitors, at the Hans-Eisenmann-Haus Centre, accompanied by a small exhibition.





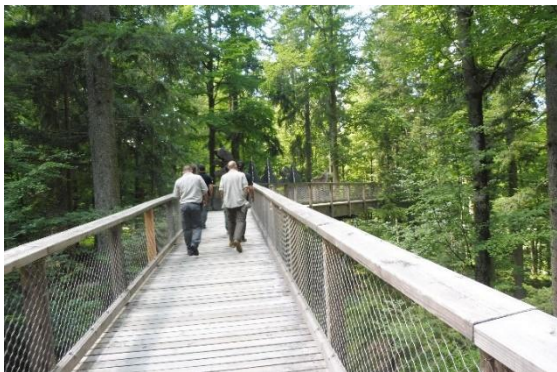
Friendship and fellowship are an important part of commemorating this day.



This action was followed by the presentation of the first serie of the Anti-Poaching Web Seminar Program, in the conference room of the Hans-Eisenmann-Haus.



Afterwards, there was a visit to the Treetop Walk, which is a wooden megastructure, about 45 metres high, with a path of about 1300 metres, with an average height of 20 metres between the treetops. Along the route there are several interactive structures that allow the visitor to carry out various challenges and obtain information about the surrounding forest ecosystem.







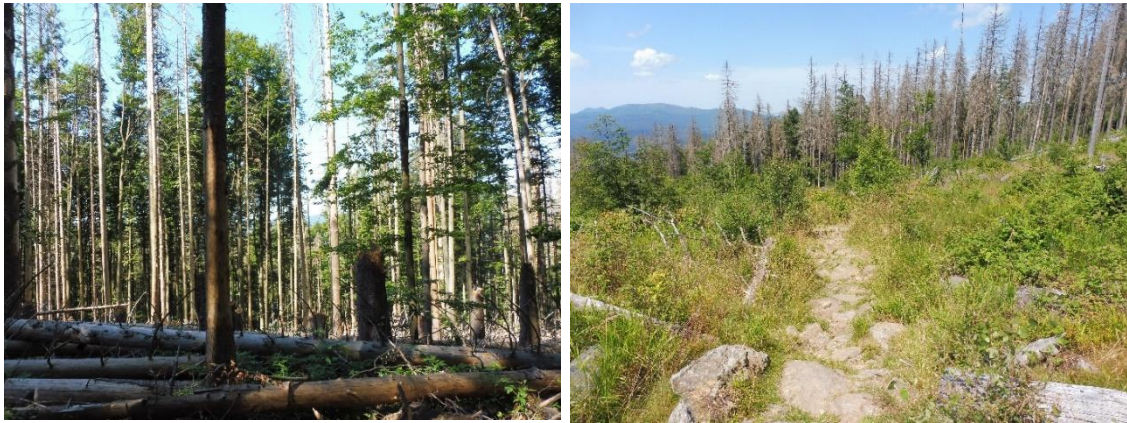
Then Ranger Mario Schmid took us to the Hans-Eisenmann-Haus exhibition centre.



Summary of aspects of National Park management

In the area classified as a Natural Zone, it is not possible to carry out any intervention, in line with the National Park's motto "Let nature be nature".

The monoculture of spruce, which was carried out in the past, associated with the non-intervention in the Natural Zone, created an expansion of the insect *Ips typographus*, of the Scolytidae family, also leading to a higher mortality of the trees. This species lays its eggs under the bark of trees and the larvae when they hatch feed on the living tissue under the bark, leading to the death of the tree when the number of larvae is high. The species is native to the area, but due to the increase in temperature, caused by climate change, caused greater reproduction of this insect. High tree mortality creates the natural basis for the development of an ecosystem based on decaying trees.



Curiosity: Tree seeds germinate well in dead tree stumps, which gives rise to situations in the future where the roots appear suspended, because the dead tree stumps decomposed.



In the Buffer Area, they cut and remove the affected trees from the area, to avoid the expansion of the bark beetle outside the Park, namely into private areas.

Another way of managing the bark beetle is to intervene in the trees that fall, using a special saw, which scrapes the surface of the trunk, killing the beetles and larvae, leaving the rest on the ground to continue the decomposition process.



On top of the mountains, in order to maintain some areas of existing pastures, the National Park maintains a herd of cows, with about a dozen individuals, in mobile fences, as a way of managing these open spaces.



Given the rarity of the Yew *Taxus baccata* in the area, the trees are identified and protected, namely from deer, either in the form of bunch or individual trees.



The trails are well signed and differentiated between linear and circular trails (begin and end at the same point) and bike-only trails.



The National Park does a lot of environmental education work, essentially aimed at schools. For that sake there is a lot of structure and support, such as the Wilderness Camp at Falkenstein with its huts of different types creating a mythical environment. Environmental education programs begin with their presentation by the Park services to schools.

One day a week an Open Day is offered to the public, where people can pursue the Rangers' work. This activity is part of the Guided Tours Program and consists of accompanying a Ranger for 1 to 2 hours through the forest, in which the Ranger shares a wide range of information and the experience of his work.

Wildlife management action – the wild boar and the deer

The action on wildlife management had the control of wild boar and deer populations as themes and was divided into two parts. The first part consisted of the presentation of a Centre for the training and qualification of dogs for hunting wild boar and took place on Friday, July 29, 2022.

In the Centre it was explained to us that the dogs that make up the pack (between 5 and 10 dogs) for hunting wild boar have a GPS incorporated in the collar and a special cover to protect them from the wild boar's attacks. The use of a protective cover on dogs is an option, applying to dogs that will deal directly with the wild boar and not to the search dogs. The Centre has trained wild boars in a free space, with an area for shelter, which take refuge when they don't want to participate in training session. These are persuaded to stay in the training zone by the availability of food. The objective of the training is to evaluate the search behavior and reaction of young dogs towards the wild boar and choose the most apt. Dog training and evaluation lasts one week. The Centre issues certificates and has so far received around 4,000 hunters, mainly Germans and Austrians. Since 2015, the Centre has been training wild boars for its activities, which have been bred since childhood.



The second part took place on Sunday, July 31, 2022 and consisted of the presentation of the methods of controlling the populations of Deer and Boar used by the National Park. In the presentation it was mentioned that it is not possible to control densities (hunting) in about 75% of the area (Natural Area). Population control only occurs with Deer and Wild Boar, the population of roe deer *Capreolus capreolus* is not controlled, because this one is the main prey of the European Lynx. Controlling the densities of these species aims to avoid damage outside the National Park area, and in the particular case of deer, also to avoid excessive selection of certain plant species to the detriment of others.

The Deer is a migratory species, which descends to the valleys in autumn/winter and climbs to the mountains in spring/summer. In winter, the National Park employees feed the deer in specific places that are distributed by 4 areas. The situation of supplementary deer feeding and its concentration lasts on average about 5 months. The population control takes place in the feeding areas, which are fenced with about 40 ha, with a smaller support area, with about 3 ha, for stragglers and for hunting of juvenile deer. The fences have different entrances, which are closed in October, depending on the amount of snow. The feeding areas are only efficient when there is a lot of snow, but with climate change the situation is becoming problematic. With less snow, the animals naturally find more food available, dispersing it and therefore causing more damage. Slaughter essentially affects younger individuals, in addition to not slaughtering adult individuals, which allows them to instill the habit of moving to the fences for the following generations, supporting actions of control densities in the future. On the contrary, outside the National Park, deer are hunted for trophies, which will harm population genetics, due to the killing of the best specimens. Within the National Park animals are killed by using weapons with a silencer to avoid panic inside the fence. The number of animals to be hunted depends on the damage caused and the number of animals counted in the previous spring. On average, around 200 individuals are killed annually, out of a population of around 500 deer. This control system has existed since the beginning of the National Park. Predators such as the European Lynx sometimes also enter the fence but in the case of the Gray Wolf *Canis lupus* so far there is no record of its entry into the fences. Lately, there has been an increase in deer population due to climate change and the greater amount of dead trees, which increase the open areas, providing more food areas.





For the control of wild boar populations, a set of trap systems was presented. The stationary trap we visited has been in use for about 15 years and is about 6 metres in diameter and 3 metres high. This trap is effective when there are many wild boars. The objective of the trap is to catch the entire group, but sometimes it fails and only catches the juveniles.



Another trap we went to visit is an American trap. This consists of a circular shaped net, which is supported on gutters that are previously stuck in the ground. The system takes about 1 hour to assemble. The system's functionality consists of placing food in the centre of the structure to attract wild boars and every day they lower the net a little more, until the animals have to crawl to get to the food. At that point they can no longer get out, because they are stepping on the net that they would need to lift to get out. Then it's just a matter of getting the hunter who shoots them down through the net. From the results of the cameras it is observed that the animals are calm until the moment of the arrival of the hunter. One of the possible reasons is that the net allows wild boars to continue controlling the surrounding area. This system has been in operation in the National Park since October 2021 and, according to Mr. Martin Pauli, is the most efficient and practical type of trap he has in service.

Curiosity: The net trap costs around 3,000 euros.



All traps have video cameras to monitor the movement of animals.

