

Strasbourg, 7 February 2024



T-PVS/DE(2024)09

Group of Specialists on the European Diploma for Protected Areas

Council of Europe, Palais, Room 16 20-21 February 2024

APPRAISAL REPORT RENEWAL 2024

THE SIEBENGEBIRGE NATURE RESERVE (GERMANY)

Appraisal report for the renewal of the European Diploma 4-7 October 2023

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1. Introduction

The European Diploma for Protected Areas was awarded to the Siebengebirge Nature Reserve in 1971¹ and renewed in 1976, 1981², 1986³, 1991⁴, 1996⁵, 2001⁶, 2006⁷ and 2011⁸. The last on-the-spot appraisal was in 2000⁹. The last renewal should have expired on 21st September 2021, but the validity of the Diploma was extended¹⁰, on an exceptional basis (Covid-19), till 21st September 2024. To assess the opportunity to renew the Diploma an on-the-spot appraisal visit was undertaken in 2023.

The Secretariat of the Bern Convention organised the on-the-spot appraisal with two experts: Peter Skoberne having already experience with the European Diploma and a new expert, Renata Krzyściak-Kosińska. The main purpose of this approach is to transfer the spirit and tradition of the European Diploma to new experts in practise.

30th August 2023: preparatory on-line meeting: Marc Hory (Secretariat of the Bern Convention), Gustav Becker (Verschönerungsverein für das Siebengebirge - VVS), Klaus Breuer (VVS), Renata Krzyściak-Kosińska, Peter Skoberne (experts).

¹ Resolution (71) 21 awarding the European Diploma to the Siebengebirge Nature Reserve (Federal Republic of Germany)

² Resolution CM/ResDip(81)13 on the renewal of the European Diploma of Protected Areas awarded to the the Siebengebirge Nature Reserve (Federal Republic of Germany) - https://rm.coe.int/native/09000016804c0e17 ³ Resolution CM/ResDip(86)12 on the renewal of the European Diploma of Protected Areas awarded to the the Siebengebirge Nature Reserve (Federal Republic of Germany) - https://rm.coe.int/native/090000168050c27c ⁴ Resolution CM/ResDip(91)12 on the renewal of the European Diploma of Protected Areas awarded to the the Siebengebirge Nature Reserve (Federal Republic of Germany) - https://rm.coe.int/native/09000016804e4af5 ⁵ Resolution CM/ResDip(96)25 on the renewal of the European Diploma of Protected Areas awarded to the the Siebengebirge Nature Reserve (Federal Republic of Germany) - https://rm.coe.int/native/09000016804cd864 ⁶ Resolution CM/ResDip(2001)7 on the renewal of the European Diploma of Protected Areas awarded to the the Siebengebirge Nature Reserve (Federal Republic of Germany) - https://rm.coe.int/native/09000016805062dc ⁷ Resolution CM/ResDip(2006)7 on the renewal of the European Diploma of Protected Areas awarded to the the Siebengebirge Nature Reserve (Federal Republic of Germany) - http://rm.coe.int/native/09000016805d7957 ⁸ Resolution CM/ResDip(2011)10 on the renewal of the European Diploma of Protected Areas awarded to the the Siebengebirge Nature Reserve (Federal Republic of Germany) - http://rm.coe.int/native/09000016805b9854 ⁹ Staufer, C., 2001: Siebengebirge Nature Reserve (Germany), Council of Europe, doc. PE-S-DE (2001) 10. Strasbourg - https://rm.coe.int/pe-s-de-2001-10e-renewal-siebengebirge-e-stauffer/1680ad08a0 ¹⁰ Resolution CM/ResDip(2021)3 on the extension of the European Diploma for Protected Areas awarded to the Hautes Fagnes Nature Reserve (Belgium), Ekenäs Archipelago National Park (Tammisaari) (Finland), Seitseminen National Park (Finland), Camargue National Reserve (France), Vanoise National Park (France), Bayerischer Wald National Park (Germany), Siebengebirge Nature Reserve (Germany), Gran Paradiso National Park (Italy), Piatra Craiului National Park (Romania), Kuscenneti National Park (Turkey) and Peak District National Park (United Kingdom) - http://rm.coe.int/native/0900001680a3156d

16th – 18th October 2024: on-the-spot visit to the Siebengebirge Nature Reserve

16th October 2023

0 – Meeting at Drachenfels on 16th October afternoon: VVS – Hans Peter Lindnar (President), Gustav Becker, Klaus Breuer, Gerhard Müller, Willi Fuchs, Werner Stieber; Sebastian Schuster (Landrat of the Rhein-Sieg district); Otto Neuhoff (Mayor of Bad Honnef); Lutz Wagner (Mayor of Königswinter); Stefan Schütte (LBWH Forestry Director); Renata Krzyściak-Kosińska. Due to flight delay Peter Skoberne was absent.

17th October 2023

1 – Introductory meeting at Forsthaus Lohrberg;

2 – South of Vinxel: connectivity - passages for amphibians, system of visual signs to direct visitors (trails concept), shifting more visitors from nature reserve to the landscape park;

3 – Schleifenfelde: conversion of agricultural land to forest and grassland, innovative test for preventing damage of ungulates, role of private owners;

4 – Rabenlay Skywalk: approach of directing and educating visitors on selected trails in the wilderness area;

5 – Niederdollendorf, Jufa Hotel: connectivity - reconstructing dry stone walls, orchards, vineyards and transhumance (sheep and goats) to prevent grassland succession, voluntary measures done by private owners;

6 - Rhöndorf: dry stone wals and reconstructed vineyard;

7 – Breiberg (near Rommersdorf): calamities resulting from climate change;

8 – Korfenberg (near Rommersdorf): wolf proof pastures for goats and sheep; measures for keeping open space for connectivity habitats;

9 - Könningswinter: Siebengebirge-Museum.

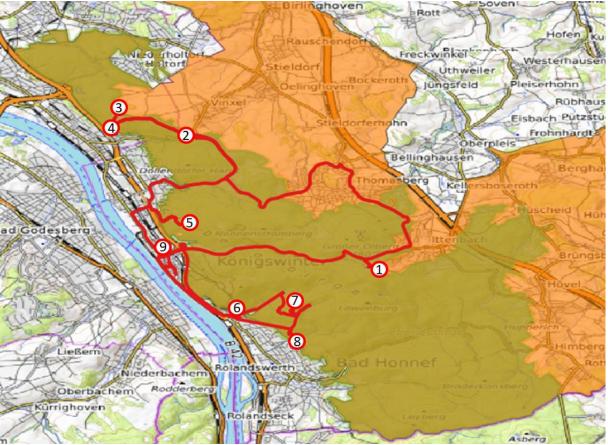


Fig 1 – Field visits of the area on 17th October 2023.

18th October 2023

1 – Introductory meeting at Forsthaus Lohrberg, presentation of the day;

2 - State forest Bad Honnef: calamities in spruce forest, reforestation and regeneration approaches;

3 – Logebachtal: connectivity: corridors for mammals (wild cat monitoring), amphibians (habitats for *Bombina variegata*), invasive species issues;

4 – Kahlmus Heide: VVS forestation approach; forest gene bank: collecting spruce seeds;

5 - Heisterbach Abbey: historical aspects;

6 - Nonnenstromberg: educational wildness trail, development of natural forest;

7 – Weilberg: geological structures, forestation of state forest, memorial to granting EDPA to Siebengebirge NR (1971);

8 – Oelberg: conclusions.

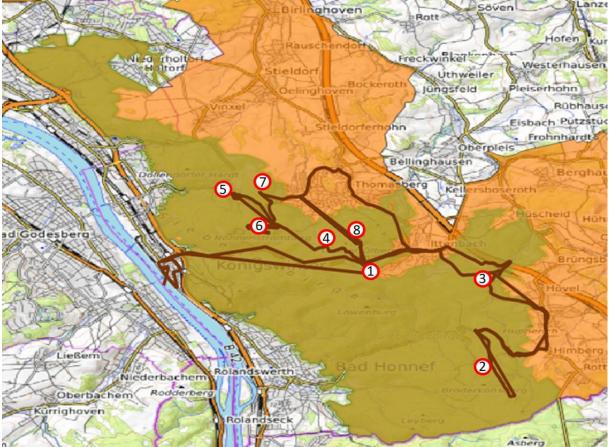


Fig 2 – Field visits of the area on 18th October 2023.

List of people we met during both days in the field:

Hans Peter Lindlar, Gustav Becker, Klaus Breuer, Christof Lorenz, Gerhard Müller, Thomas-Hans Deckert (VVS), Brigitte Kohlhaas (Naturpark), Barbara Bouillon (Biologische Station Rhein-Sieg Kreis), Christoph Rothenwörther (project Chance 7), Christoph Rüter (UNB Rhein-Sieg Kreis), Stephan Schütte (Forestry Director), Marc Redemann, Bernd Sommerhäuser, Jens Merzbach and Georg Pieper (foresty); Sigrid Lange (Siebengebirge Museum); Fiona Achenbach (representative of big land owners).

The 2022^{11} and 2023^{12} annual reports, the last appraisal report¹³ and publications as well as documents supported by the VVS were used as basic source of information.

document PE-S-DE (2001) 10; https://rm.coe.int/pe-s-de-2001-10e-renewal-siebengebirge-e-stauffer/1680ad08a0

¹¹ https://rm.coe.int/12-germany-siebengebirge-nature-reserve/1680a9c5f7

¹² https://rm.coe.int/12-germany-siebengebirge-nature-reserve-2749-8932-2249-1/1680ae2056

¹³ Stauffer, Ch., 2001: *Slebengebirge Nature Reserve (Germany), Appraisal Report,* Council of Europe, 2001,

We would like to thank the organisers of the visit, in particular to Gustav Becker and Klaus Breuer (both VVS), and their team for the splendid organisation, as well as the helpful, competent, enthusiastic and very open assistance during our assessment mission. Special thanks to all experts and stakeholder representatives for their valuable contributions.

2. General description

As descriptions of the natural assets of the area are written in the past expert reports, we will just repeat the summary description from the Diploma dashboard¹⁴: The scenery of nearly 40 wooded hilltops along the river Rhine, close to Bonn, Königswinter and Bad Honnef, is the result of volcanic activity and subsequent erosion of 25 million years ago. These hills (max. 460 m) which overlook pleasant villages in the Rhine valley, are crowned with medieval castles, covered with majestic shady beech forests (up to 150 years old) and include the North Rhine Westphalia's only wine growing region at the entrance to the romantic Middle Rhine with Germany's oldest rack railway (1883) at the top of the Drachenfels, are impressive features of the Siebengebirge area.

Covering a relatively small area, the Siebengebirge offers a unique variety in geology, fauna and flora. A pleasantly mild climate at the border between Atlantic, Continental and Submediterranean climates ensures a large diversity of species, and numerous geological outcrops give fascinating insight into the volcanic development of the Siebengebirge. Since 2010 – following the 2009 resolution of the EU Parliament on Wilderness Areas in Europe - the reserve is the first official wilderness area in North-Rhine-Westphalia outside national parks.

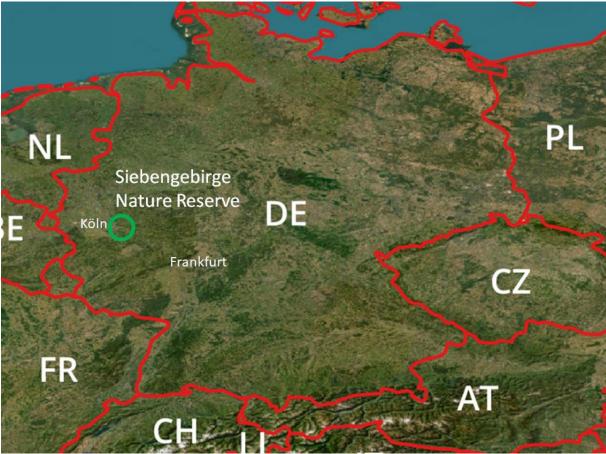


Fig. 3: General situation of the Siebengebirge Nature Reserve.

¹⁴ https://www.coe.int/en/web/bern-convention/-/siebengebirge-nature-reserve

3. European interest

In 1970 in the application form the European interest of the Siebengebirge Nature Reserve was described as following: "There is no area in Europe where rift's and old and young volcanoes are so closely linked and complementary as that of the Siebengebirge with its varied and harmonious landscape."¹⁵

These arguments didn't change since then. However, after fifty years we can mention some more arguments stressing the European interest: it is a relatively large and well preserved near to nature area in a fragmented and highly populated region (almost six million people are living in the hinterland). It is an important resource for climate resilience, supporting well-being of the surrounding population, functioning as a stepping stone for many species ensuring a corridor between NE and SW of Rhein, as well as supporting the river valley Rhein ecological corridor.

The historical importance has to be emphasised, as well. The Siebengebirge scenery was well recognised already at beginning of the Romantic period in the very beginning of the 19th century, when Lord Byron visited the area in May 1816 and raised additional interest of British tourists and artists. Thus, tensions between the use of the natural resources (mineral extraction) and the preservation of the value of the landscape occurred in the first half of the 19th century. This initiated a nature conservation movement, one of the earliest in Europe.

This very solid tradition in nature conservation seems to be the best guarantee for the future of the Siebengebirge Nature Reserve. One of the highlights of this tradition is the Archive of the Verschönerungsverein für das Siebengebirge (VVS): more than 150 years (since 1870) of VVS activities are thoroughly documented, well preserved and maintained (50 m of archive shelves!).

The European interest is additionally proved by the designation of the Siebengebirge Natura 2000 site (DE5309301) in 1999 for 19 habitat types and 8 species¹⁶.

Conclusion:

The Siebengebirge Nature Reserve is of exceptional European significance and importance for the conservation of geological and landscape diversity, as well as historical values, island of nature within densely populated area with big educational potential.

4. Legal protection status and history

The first initiatives to protect the Siebengegbirge area started in the first half of 18th century. For long time stone (mostly trachyte) was extracted, for buildings (e.g. the Köln cathedral, changing the already appreciated scenery and threatening the stability of the Drachenfels castle. Use of the quarries at Drachenfels was stopped by state intervention in 1836, but continued at other areas of the Siebengebirge. In 1866 Verein zur Rettung des Siebengebirges was established and later joined to the Verschönerungsverein für das Siebengebirge (VVS) established in 1870. Gradually Siebengebirge area was protected as Nature Reserve (Naturschutzgebiet) in 1923 (4,200 ha). VVS is managing the area in compliance with authorities. The Reserve area was enlarged to 4,800 ha and declared additionally as Nature Park. In 1978 the Nature Park was enlarged to 11,200 ha and in 1989 a renewed designation Act was adopted. The Nature Park has different, not just pure nature conservation scope as the Reserve area, is more populated, with many stakeholders and different interests. So, management of the Nature Park was beyond the capacities of the voluntary VVS. They decided that management of the Nature Park should be handed to the Rhein-Sieg District. That happened ion 1st February 2018 through a contract between local communities, VVS and Natur Park Rheinland. An enterprise was established to manage the Nature Park. VVS has a seat and vote in the nature park assembly (main decision body) and still on the spot implementing measures and surveillance of the Nature Reserve.

 $^{^{15}\} https://rm.coe.int/working-party-on-flora-fauna-and-landscapes-the-siebengebirge-nature-r/168066ebe6$

¹⁶ https://natura2000.eea.europa.eu/?page=Page-1&sitecode=DE5309301&views=Sites_View_Species

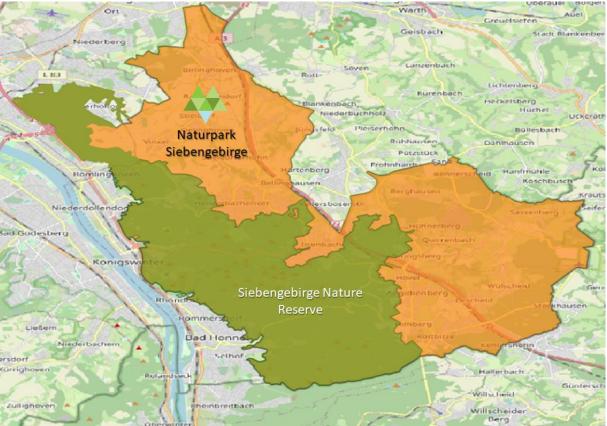


Fig. 4: Nature Reserve is completely included to the Naturpark Siebengebirge (Source: Open Street Map and https://open.nrw/)

Conclusion: Existing legal regulations are considered as a solid basis for the future conservation of the Diploma holding.

5. Management

Institutional arrangements

In comparison with other protected areas, management of the Siebengebirge Nature Reserve is specific. In 1958 it was entrusted by law to the voluntary organisation VVS. On the initiative of the VVS, the Rhein-Sieg District took over full-time sponsorship in 2018.

The main role of the VVS is linked to different competencies of bodies at local and regional level. Their activities must be in accordance to nature conservation legislation and Management Plan. It was adopted in 2015 and regularly updated. It is not a management plan usually used in protected areas, but more flexible structured and pragmatic, so adjustments to changes on the ground are immediately possible (e. g. forest calamities).

The main focus of work of volunteers of the VVS is to inform and educate visitors, including maintaining the visitor infrastructure (trails, 180 benches, 26 refuge huts, information posts), preparing publications for various target groups and organising outdoor camps for youth. They have a small, but rich exhibition at the VVS HQ Forsthaus Lohrberg. The members of the VVS (about 2000 members!) are contributing to monitoring (gathering data on plants and species) and acting as rangers. However, they don't have specific competences, but can help and advice visitors. Their important role is in warning visitors in case of violation of the protected area code of conduct. In this way they are well present and effective in the reserve area.

The VVS has an important coordinating role in planning research and some specific management issues, like forestry. For research of the wilderness area a scientific advisory board was installed. The members

VVS is in fact the historical guardian of the Reserve. The core conservation frame work is legislation, respected by stakeholders, but crucial is a general commitment of broader society (feeling of ownership) about the assets of the area, its history, values and need to save it for future.

Forest management

Specific management issue is the forest management as forest is the main natural asset of the Reserve. Forests covers 4,500 ha. Characteristic are broad-leave beech (*Luzulo-Fagetum*, *Asperulo-Fagetum*) and oak/hornbeam forests (*Galio-Carpinetum*). Part of these forests are up to 150 years old, some of them are legacy of typical use for vineyards ('kopfholzbuchen'). Some areas were planted by spruce and most of them suffered by heat and draught in 2019, followed by bark beetle attack (mostly in the southern part).

Ownership structure is as follows:

- State forest NRW 1,510 ha,
- City forest Bad Honnef 730 ha,
- ➢ VVS forest 840 ha,
- NRW Foundation Forest 90 ha,
- Private forest 1,330 ha.

This area has been divided into 4 sections. Responsible for these sections are 4 foresters of the Regional Forest Authority NRW, Rhein-Sieg-Erft. Each forester has his own section. All measures are coordinated and agreed on. Private owners are advised and informed by 2 special supervisors of the Regional Authority.

This construction turned out to be very beneficial to all partners in a coordinated reaction on measures in the spruce tree and bark beetle crisis and is certainly a good approach to the climate change adaptation.

At the moment the main challenge in forestry management is the reforestation of damaged spruce forests. On different areas, different reforestation methods are used, mostly focused on various techniques to prevent damage by ungulates and possible differences regarding climatic conditions. The aim of reforestation is to achieve a mixed, drought- resistant and species-rich forest. Different native broad leave tree species are used (different oak species, mountain ash, ...), exploring to get most successful plants according to new climatic situation. Best practices will be later used widely. Special attention is given to forest tree seed banks.

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Financial matters

The annual direct costs of the VVS are approximately 200,000 EUR without investments. It is important to mention their in-kind financial support through voluntary work of the members (cca. 8 500 working hours, equivalent of cca. 300 000 EUR).

Annual costs for the nature conservation measures of the whole reserve are about 1,242,000 EUR (excluding staff costs). But this is just the core budget for basic vital functioning of the reserve. The main financial part is needed for research and conservation actions, maintenance of sign posts, development of visitors management, etc. This is mainly financed through projects.

Main contributors:

- Rhein-Sieg- District,
- Landesbetrieb Wald und Holz,
- ➢ Bonn-Ennert Part,
- ➢ Bad Honnef,
- ➢ Königswinter,
- Biologische Stationen RSK und Bonn.

Substantial part of financing comes from projects, namely Project Chance 7 (2020 - 2023), Regional 2010 (2010 - 2020), NRW Foundation and Cologne District Government.

Visitors' management

Visitors pressure on the reserve is increasing, especially after the COVID-19 pandemic. Many inhabitants of the densely populated Rhineland discovered Siebengebirge as an attractive area for outdoor activities in their vicinity. The pressure on certain 'honey pots', like marvellously restored 19th century Gothic Drachenburg Castle (up to 50,000 visitors during weekend), increased, as well as visiting trails within the reserve. Consequently, there are temporarily problems with traffic chaos, overcrowded parking lots, littering, trampling and general disturbance (noise).

VVS developed a visitors' management strategy to decentralise visitors pressure on the reserve and spread it to the rest of the Nature Park.

Because of the specific nature of this reserve, they didn't close it for visit, but they arranged special education trails and signs. In this way access is limited and controlled. It has an important educational role for people coming from urbanised areas having the opportunity to experience and learn in nature. Many previous spontaneous shortcuts and parallel ways were abandoned and left to natural regeneration.

The signposting was developed, as well. It is unified, clear and modest, not to disturb the visual perception of natural environment. Trails for walking, cycling and horse riding are clearly indicated. The approach of signposting is different for the Reserve area (essential information only, using signs on the volcanic rocks) and the rest of the Nature Park. In this way it is very clear for visitors, whether they are in the Nature Reserve or not.

To help planning visits to the Nature Park, there are excellent maps and phone applications. Alternative attractions (historic, natural, local farm products, traditional kitchen...) have been created and the cooperation of local touristic providers has been encouraged. As they depend from the natural environment, they induce tourists to respect nature conservation concerns and mitigate negative impacts on natural and cultural heritage.

In this way, visits of the Nature Reserve are successfully decentralised.

However, a wilderness exhibition centre would be very appropriate to balance the well-known cultural attractions (like Drachenfels) and use the opportunity to raise the awareness of visitors about the wilderness concept and wilderness itself. VVS proposes an appropriate place for such visitor's centre at the Margarethenhöhe (Ittenbach), where the infrastructure and the location itself are very convenient. It is owned by VVS and could be arranged, built and run in the future by VVS in cooperation with the Nature Park.

At the Margarethenhöhe there is large and convenient parking place, owned by VVS. It is an excellent opportunity for channelling visitors as it is easily accessible from all directions, functioning as a central point for the hiking network and very convenient starting point to the attractive destinations of the reserve within walking distance.

The parking fees are exclusively used for nature conservation measures by the VVS. These parking charges, however, only achieve the desired effect, because the VVS additionally performs enormous voluntary work (8 500 hours/year). It is only with this voluntary work together with these financial ressources (120 000 ϵ /year) that the VVS can contribute to the sustainable development of the Nature Reserve.

Cultural landscape and connectivity

One of the highlights of the Siebengebirge is the landscape. During the Romantic period, the artistic view was essential. But landscape is just a reflection of combination of natural assets and human activity. And this social and economic framework was constantly changing through history. These changes are drivers for ecological changes: e. g. abandoned vineyards are naturally overgrown by forest, open space plant and animal species are disappearing.

VVS is trying to recover some visual characteristics and, in parallel, restore habitats (renovation of vineyards and orchards), suitable for open space species (e. g. building of new dry walls, management of grasslands by pasture). The main challenge for the sustainability of those activities is to secure an economic background. VVS with partners is encouraging farmers to take an active role in these processes (transhumance) and solving actual problems simultaneously. For instance, Siebengebirge is in a potential wolf area, so farmers are obliged to use prevention measures. For the time being there were no wolf damages on livestock. On the other hand, there are some indications that wild boar population is increasing. It is essential to carefully monitor wild boar population and be prepared for immediate action regarding population control, if needed.

Restoration of habitats is planned to form a corridor for certain species along the left bank of the Rhein. Special attention is given to amphibian passages that were cut by road infrastructures.

In the North-eastern part of the Reserve a main road (A3) and railway are cutting a natural corridor (Logebachtal). New habitats were introduced for amphibians functioning and breeding areas. Another project with interesting results was the wild cat monitoring.

Wilderness concept

In Germany the wilderness concept is set up at national level. It is following the spirit of the UN Rio Conference (1992), COP CBD in Bonn (2008) and the Message of Prague (EC Presidency conference on wilderness and large natural habitat areas, 2009).

There are two goals in the German Biodiversity Strategy (2007):

- Aim of 2% (= 2% of the German land area with preservation of natural processes);
- \blacktriangleright Aim of 5% (= 5% of the national forests with preservation of natural processes).

It is important to stress that this are not virgin wilderness areas but intentional non-intervention areas. In Germany they are using following definition (BfN, Vilm, 2012):

`In the sense of the national strategy for biodiversity (NSB) wild areas are sufficiently dimensioned areas (extensively) not fragmented and free of human activities.

They shall insure permanent natural processes without human influences.

Minimum size:

- from 1,000 ha for forests, mountainous regions, former military training areas, former mining areas,
- ➢ from 500 ha for fenland, river and coastal areas.

In this sense the management goals of the area are set and gradually non-intervention areas were extended (see review of recommendations). In 2023 they cover 981 ha with a perspective for further enlargement.

Private owners

They are some private owners in the reserve area that own relatively large areas within the Nature Reserve. They are obliged to respect regulations of the protected area. However, they are voluntary playing active role in active conservation management, but their contribution is neither directly nor indirectly recognised. We met Ms Fiona Achenbach. Her family property includes relatively large parts of the forest and open land in the Nature Reserve and the funicular to the Drachenfels. They are very proud about the natural and cultural assets and they are maintaining them voluntarily and contribute to the conservation measures (in accordance to VVS and scientific advice). However, their efforts are taken as granted. There are no tax or other benefits available. Furthermore, activities on their property are limited - e. g. possibility to charge for parking on their land or limit access to some vulnerable areas.

Conclusion: Management is in place and is operational.

6. Review of the condition and recommendations of the Resolution CM/ResDip(2011) on the renewal of the European Diploma of Protected Areas awarded to the Siebengebirge Nature Reserve (Germany)

Condition: To draw up a management plan within three years in order to guarantee the preservation of the reserve and its cohesion within the larger area of the nature park.

As the Management Plan was adopted in 2015, the condition is fulfilled. The Management Plan and its implementation are closely linked to the Large Scale Conservation Project Chance7 – Natur- und Kulturlandschaft zwischen Siebengebirge und Sieg¹⁷, largely financed by the State. As the project

¹⁷ https://www.chance7.org/startseite/

finished in 2023 with very promising results, it is important to secure the sustainability of actions, including the monitoring of targeted populations and the efficiency of the measures.

Recommendations:

In case of changes in the management of the area, the leading role of the VVS (Verschönerungsverein für das Siebengebirge), whose work to date has been fully satisfactory in the eyes of the Council of Europe, should be maintained.

Regarding the management of the Nature Reserve there are no changes planned in the foreseeable future. Work of the VVS remains fully satisfactory. However, the Reserve is an integral part of the Siebengebirge Nature Park, managed by the District enterprise. The management of the Nature Park is more oriented towards recreation, tourism as well as marketing the natural and cultural identity of the area. It is a good opportunity to direct the majority of visitors outside the Nature Reserve and the surrounding Nature Park works as a buffer area for the reserve. On the other hand, Nature reserve assets are one of the attractions of the Nature Park, so a balance between recreational use and nature conservation is very important. That means that the active role of the VVS in the management policy of the Nature Park should be further guaranteed.

develop a new financial plan together with local communities and the Rhein-Sieg-District;

Relation to the local communities is established and is operative.

continue the provision of financial support by the North Rhine Westphalia government;

The support of the different Federal and NRW institutions over these years is outstanding, but a great proportion is financed through projects. This is not the best guarantee for sustainability of long-term measures and regular maintenance works. However, it seems likely that financial support will continue.

maintain great vigilance regarding the possible construction of new roads;

At the moment this issue is not actual. New roads have neither been built not are they planned. There are increasing discussions whether to reduce the speed limit from 70 km/h to 50 km/h on the four east-west crossroads of the reserve.

Seasonal timetables of daytime buses in summer have been improved and a special weekend bicycle bus has been introduced.

minimise disturbance caused by traffic on all roads crossing the Siebengebirge area and consider the setting up of a system of public transport for visitors;

In cooperation with VVS, Königswinter community and Rhein-Sieg District 3 pollards were installed in 2023 to block illegal traffic especially to Drachenfels and Löwenburg. Active visitors management is giving results, pressures of traffic on the reserve area are declining, rules for cycling (clearly marked cycling trails) were introduced.

continue investigating the possibility of extending the wilderness area so as to guarantee the preservation of the natural beauty, features, resources and biodiversity of the Siebengebirge as a protected area.

In 2010, VVS decided in agreement with the NRW government to establish its private "wilderness area" with a size of 523 ha of its beech forests. Meanwhile the NRW Forest Authorities (208 ha) and the NRW Foundation (93 ha) have officially added together another 301 ha, so that it covered 824 ha, untouched by human influence.

In September 2022 the VVS got the NRW government confirmation of its proposal to enlarge its "developing wilderness" area by 50.9 ha. The compensation payment was adjusted accordingly by $6.874,05 \in$. In July 2023 the city of Bad Honnef - in a treaty with the Federal Chance7 project – committed itself immediately to set aside 106 ha of its forest in return of financial compensation. Thus,

the wilderness area covers 981 ha in the reserve. In the near future the government has envisaged an enlargement by another 31.1 ha of VVS forest. In this case the Siebengebirge area would comply with the recommended minimum size of 1,000 ha.

encourage the continuation and extension of scientific research.

Scientific research is very intensive. There is a continuous interest of research institutions to study in Siebengebirge as it is a relatively well-preserved natural area within an intensively populated region. There are 2 important universities in the vicinity (Bonn and Köln) which are dealing with many scientific challenges of the Siebengebirge Nature Reserve.

VVS is actively taking part in the planning of scientific research within the nature reserve. They have very good support from the Biologische Station in Rhein-Sieg Kreis e. v. Emphasise is given to species of European importance (Habitats Directive), to ecological connectivity, forest restoration, climate change adaptation and resilience, influence of tourism, maintaining of cultural landscape, etc.

There is a huge knowledge gathered through the research in the last 150 years. It is an excellent base line for studying changes in ecosystems over years. However, recent research is often following financial opportunities, in most cases dealing with actual challenges. This basic systematic monitoring scheme is essential to be prepared to follow long term ecological changes and the efficiency of conservation measures.

It is very encouraging that some less popular taxa are studied, as well. It seems that fungi are one of the neglected groups which should be given more attention, especially in the view of relatively rapid climate changes resulting in the changes in plant and animal species composition.¹⁸ Providing the long time parts of the forests of the area haven't been exploited, the study of the present state of funga of Siebengebirge can be truly appreciated.

Beside publications in scientific magazines and books, it is important to stress that layman reports are regularly published in VVS magazine Siebengebirge (issued twice a year).

Issues not covered by previous recommendations

Climate change

Recommendation No. 206 (2019) of the Standing Committee of the Bern Convention, adopted on 6 December 2019, on nature-based solutions and management of protected areas in the face of climate change, is addressing EDPA, as well:

- Ensure adaptive management in the context of climate change is included, as appropriate, in Resolutions for the award or renewal of the European Diploma for Protected Areas (EDPA);
- Support the involvement of Emerald Network and EDPA sites in testing ways of scaling up and transferring nature-based solutions, as a response to climate change and for the prevention of natural disasters.

There is a lot of scientific data about changes in ecosystem connected to climate change. Some special research was done for some forest types - a shift of thermophilus tree species was clearly noticed. Changes are obvious in planted spruce forests. With the age they become vulnerable, and climate change is accelerating this process. These areas were highly affected by draught and consequently bark beetle attack. Planting or enabling natural succession of broadleaves in gradual replacement of spruce is taking place. Climate resistant tree species are studied, selected and used.

In open areas more thermophilus species are recorded, as well.

European Diploma visibility

¹⁸ <u>https://www.vv-siebengebirge.de/wp-content/uploads/Das-Siebengebirge_2020.pdf</u> (pp. 15 – 17)

We regularly pay attention to the visibility of the European Diploma on the spot. The European Diploma is regularly mentioned, but instead of the European Diploma logo, logo of the Council of Europe is used. Gradually, the logo should be changed.

At Weilberg there is a memorial dedicated to the European Diploma award on 15th October 1971. It is an interesting way how to raise the awareness of visitors on the European Diploma.

7. Conclusion and recommendations

We therefore recommend to the Group of Specialists on the European Diploma for Protected Areas and to the Standing Committee to the Bern Convention to renew the European Diploma of the Siebengebirge Nature Reserve for the next 10 years.

In addition, the following **recommendations** should be attached to the renewal:

Recommendations:

- 1. Secure the financial sustainability of the conservation measures and the maintenance of the infrastructures in the Nature Reserve by agreements with donors at all administrative levels;
- 2. Keep the decision-making role of the Verschönerungsverein für das Siebengebirge (VVS) within the management structure of the Nature Park;
- 3. Monitor and analyse the results of the different reforestation approaches of damaged spruce stands and use the most successful experiences to anticipate the effects of climate change;
- 4. Explore the possibility to build a wilderness exhibition centre at Margarethenhöhe and entrust VVS with the management of the central Margarethenhöhe parking spaces to ensure that parking fees remain allocated to nature protection in addition to the significant volunteer work carried out by VVS.
- 5. Further develop signposting and maintain trails to facilitate shift of visitors from the Nature Reserve to other areas of the Nature Park in cooperation with the management of the Nature Park and local communities;
- 6. Continue research and conservation projects as well as nature monitoring focusing not only on Natura 2000 objectives but also other groups, in particular fungi;
- Ensure that the existing open landscapes in the reverse are maintained and – by appropriate measures – a biotope network can be created;
- 8. Explore ways to acknowledge the contribution of private landowners to the management goals of the Nature Reserve;
- 9. Gradually replace the Council of Europe logo with the European Diploma logo in all information material and brochures, and explain the relevance of the Diploma wherever appropriate, in particular on the website, in the visitors' centre, and on information boards in the Nature Reserve.