

Wilderness in German national parks: The gap between rhetoric and reality

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Introduction

There are numerous reasons for the conservation of wilderness areas – not least because of the provision of benefits for nature and humans. Wilderness areas are considered to be the embodiment of a dynamic landscape, offering unique experiences for visitors unobtainable in our otherwise civilized environment (Garms et al., 2017). However, in most parts of Europe, extensive pristine wilderness is almost nonexistent today. Nevertheless, Germany pursues considerable efforts to preserve or “rewild” potential wilderness areas. By implementing the National Biodiversity Strategy (NBS), the German Federal Government set the target to allow nature to take its own course on at least two percent of the country's total land area by 2020 (Schumacher et al., 2018).

Wilderness definition of the National Biodiversity Strategy

However, what is meant by wilderness according to the NBS in the light of intensively reshaped and used cultural landscapes in Germany? This question is crucial as the strategy on the one hand demands strict protection and the absence of humans, while on the other hand it calls for access to nature and even for designing the “wilderness” (Lupp et al., 2011). As a result of the political NBS framework a definition has been developed for Germany: “*Wilderness areas in the sense of the NBS are sufficiently large, (predominantly) non-fragmented areas free of intrusive or extractive human activity. They serve to permanently provide for the ecological functioning of natural processes without human interference*” (Finck et al., 2013, p. 343). The key criteria are: size of the area (>500 ha), fragmentation and usage, and further “quality criteria” such as a natural and undisturbed character.

National parks and wilderness

National parks (NP), as popular tourism destinations (Mayer & Woltering, 2018) and part of the country's natural heritage, comprise 0.6 percent of the terrestrial territory and are regarded now - self-evidently - as wilderness areas (Schumacher et al., 2018). This ascription is also strengthened by recent marketing activities, tourism services and offers of NP and dependent businesses (e.g. wilderness trails).

Thus, we address the following research questions: Are German NP able to fulfill wilderness standards of the NBS given their regional development goals? Which potential wilderness areas are left when visitor as well as management disturbances (e.g. hunting) are considered? What new challenges arise with high visitor numbers and related pressure on potential wilderness areas?

Case Study Region and Methods

This study allows insights into the implementation of the NBS aims and its challenges by highlighting the Western Pomerania Lagoon Area NP, located at the German Baltic Sea coast. The planned extension of the terrestrial core zones provides a suitable framework to deal critically with the existing path network of the largest forest in the NP, the Darßwald (about 5,000 ha) and the peninsula Ostzingt (3,000 ha). Due to their outstanding natural

features and the associated high recreational value both areas are popular tourist destinations. More than 4 million visitor days per year were recorded in 2014 (Job et al., 2016). As a result, the NP is exposed to an enormous visitor pressure. Especially in the summer season, popular hiking routes are massively frequented by various user groups such as cyclists, hikers and horseback riders. To deal with the research questions an extensive GIS-analysis containing measurements, adjustments of the path network and the usage of appropriate tools (disturbance buffer) were applied. Moreover, scenarios including different levels of use intensity and possible path reductions were developed to identify potential wilderness areas.

Results

Due to the former forest management, the Darßwald has a very dense network of forestry roads and paths with a total length of about 281 km, which results in a path density of 55 meters per hectare (m/ha). More than half of the routes are intensively used by tourism. In the core zone of the Darßwald (1,500 ha), which has a total path network of 73 km, the path density is slightly lower (47 m/ha) than in the Darßwald in total. Nevertheless, these values are very high compared to other German NPs.

Under particularly strict NBS requirements with a special focus on disturbances (buffer 250 meters left and right to the base of the road) and prospective reductions of unused (mostly forest management) trails, 40 un-fragmented areas (average size about 8 ha) arise in the Darßwald and 29 un-fragmented areas (average size 18 ha) arise in the region Ostzingst. A rather “soft scenario”, where the disturbance factor is reduced to only intensively used trails, results in the extension of potential wilderness areas (from 9% to 38% of the total area). Nevertheless, under the presented conditions none of the areas fulfills all requirements, especially the minimum size of at least 500 ha cannot be realized in the forests of this NP.

Conclusions

To sum up, the NBS wilderness definition is not applicable for the terrestrial parts of the Western Pomerania Lagoon Area NP under mentioned conditions and probably, because of high path/road fragmentation and visitor frequency rates, in hardly any German NP. Even if NPs belong to the largest and most strictly protected areas, wilderness in German NP seems to be more a marketing slogan, than reality. Thus, the wilderness concept appears to be inconsistent with high visitation rates. However, the question arises if small undisturbed areas in a NP are also able to contribute to a high recreational value as well as to the conservation of nature? Wilderness has both an ecological and a subjective meaning and is not necessarily a fixed and objective concept. The visitor may perceive wilderness in the NP even on small areas. In aggregation, the forests of Western Pomerania Lagoon Area NP for instance provide more than 700 ha (ca. 9% of the total area) undisturbed terrestrial areas under strict NBS-conditions, as well as more than 3,000 ha (ca. 38% of the total area) under weaker requirements. Finally, the NP management has to decide whether their park should be a strict wilderness area or to allow visitors to access and gain unique nature experiences.

References

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