

Article

Park–People Relationships: The Socioeconomic Monitoring of National Parks in Bavaria, Germany

Hubert Job ¹, Sarah Bittlingmaier ¹, Marius Mayer ² , Eick von Ruschkowski ³  and Manuel Woltering ^{1,*} 

¹ Institute of Geography and Geology, University of Würzburg, 97070 Würzburg, Germany; hubert.job@uni-wuerzburg.de (H.J.); sarah.bittlingmaier@uni-wuerzburg.de (S.B.)

² Department of Strategic Management, Marketing and Tourism, Team SME & Tourism, University of Innsbruck, 6020 Innsbruck, Austria; marius.mayer@uibk.ac.at

³ Alfred Toepfer Akademie für Naturschutz, 29640 Schneverdingen, Germany; Eick.vonRuschkowski@nna.niedersachsen.de

* Correspondence: manuel.woltering@uni-wuerzburg.de; Tel.: +49-931-31-88290

Abstract: Questions about park–people relationships and the understanding and handling of the conflicts that may result from the creation and management of national parks in the surrounding area are prerequisites for both successful park management and sustainable rural tourism development. This paper analyzes the roles that research may play in relation to park–people relationships in the context of the two oldest German national parks located in Bavaria. The different fields of action of national parks are used to identify the potential for conflict, using detailed case studies from the Bavarian Forest and Berchtesgaden National Parks using quantitative population surveys carried out in 2018. The overall attitude towards both national parks is overwhelmingly positive, with trust towards park administrations and the perceived economic benefits from rural tourism being the attitudes most strongly correlated to the overall level of park–people relationships. Nevertheless, some points of contention still exist, like the ecological integrity approach towards strict nature conservation and related landscape changes (e.g., deadwood cover). A comparison over time shows in both cases that the spatial proximity to the protected area negatively influences people’s attitudes towards the parks, but less so than in the past. Recommendations for national park management include communicating proactively and with greater transparency with locals and decision-makers, to identify conflicts earlier and, where possible, to eliminate them. Furthermore, developing a standardized method to monitor park–people relationships in Germany is a must and would benefit integrated approaches in research and management based on conservation social science.

Keywords: park–people relationships; rural tourism; Germany; Bavaria; conflicts; national parks; Berchtesgaden; Bavarian Forest



Citation: Job, H.; Bittlingmaier, S.; Mayer, M.; von Ruschkowski, E.; Woltering, M. Park–People Relationships: The Socioeconomic Monitoring of National Parks in Bavaria, Germany. *Sustainability* **2021**, *13*, 8984. <https://doi.org/10.3390/su13168984>

Academic Editors:
Elisabeth Kastenholz, Bernard Lane
and Maria João Carneiro

Received: 23 July 2021

Accepted: 7 August 2021

Published: 11 August 2021

Publisher’s Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2021 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

Managing resources in terms of inter- and intragenerational justice and sustainable living on a global scale is one of the greatest challenges facing humanity. In view of climate change, population growth and increasing pressure on resources, the task of placing land and water areas under protection is gaining importance worldwide. Therefore, the UNEP goals for the Post-2020 Global Biodiversity Framework are ambitious: “By 2030, protect and conserve through well connected and effective systems of protected areas and other effective area-based conservation measures at least 30 per cent of the planet with the focus on areas particularly important for biodiversity” [1]. But how can these lofty aims be achieved?

National parks, as a prominent category of protected areas, play a key role in preserving biodiversity, providing ecosystem services and have strong links to the UN’s Agenda 2030 and Sustainable Development Goals (SDGs) [2]. However, conflicts between national parks and their adjacent populations have been globally recognized since the establishment

of the first national parks [3]. Positive local attitudes towards national parks and other protected areas are indispensable for their designation and expansion and for their ongoing functioning and management [4–6]. These park–people relationships are also intricately interwoven with issues surrounding rural tourism. Due to the spatial location of most national parks in rural areas, their visitation by non-local guests fulfills the definitions of rural tourism [7]. Successful rural tourism development in and around protected areas is generally regarded as an important argument in favor of protected areas, potentially mitigating disadvantages that parks might entail for local people [8–11]. However, the effect and size of this pro-tourism argument is rarely analyzed. In addition, rural tourism to protected areas could also lead to adverse effects for local people (e.g., traffic, noise, crowding etc.), impairing park–people relationships [12].

This is true for Germany, where the history of its 16 national parks—classified as IUCN Category II—is quite short. The first one was designated in the Bavarian Forest in 1970, followed in 1978 by Berchtesgaden, Germany’s only alpine national park. Both are located on the very periphery of Bavaria and were created both for nature conservation and to prevent the construction of large ski tourism infrastructure projects by offering less intrusive nature-based rural tourism alternatives for promoting regional development [13]. Together, Germany’s national parks comprise a terrestrial share of only c. 0.6% of the federal territory [14]; far less than the 2% wilderness areas target foreseen in Germany’s federal biodiversity strategy [15]. In addition, many parts of Germany’s national parks do not per se qualify as wilderness areas due to their long history of human land use.

Protected area designation conflicts with other land use interests. Several potential national parks in Germany have been rejected. Bavaria is no exception: Efforts to create a third national park failed in 2018 after two years of tough negotiations [16] and despite overwhelmingly positive majorities in public opinion polls outside the directly surrounding areas [17]. In particular, concerns about potential impacts on the land use rights of citizens in the vicinity of the proposed park led to massive protests, even though the project would have affected only state forest areas. The Bavarian Prime Minister concluded that such parks must emerge from “decisions grown by the people” and not just “imposed” from outside [18].

This apparent lack of support for future national parks on the local level raises questions about how Bavaria’s two existing parks are perceived by their local populations after several decades. This also includes the analysis of park–people relationships from the perspective of rural tourism and the determination of the roles tourism plays for park–people relationships compared to other factors.

Three main research questions arise:

1. What determinants have a critical impact on attitudes toward national parks?
2. How do these factors influence park–people relationships?
3. What is the influence of the perceived benefits and disadvantages of rural tourism on park–people relationships?

This article begins by critically analyzing the term ‘park–people relationships’. It provides a synopsis of the existing research on this topic in German national parks. Two case studies are then presented, with a description of the study design, a presentation of results and a comparative discussion. Finally, conclusions are drawn, and desiderata are pointed out.

2. Park–People Relationships: Terms, State of Research, Predictors

The term ‘park–people relationships’ has no clear equivalent in the German language. Analyses of these relationships in German-speaking countries have mostly used the term “acceptance”. However, there is no uniform definition of this concept either, not even for purposes of nature conservation [19–23], but v. Ruschkowski and Nienaber [24] defined it as:

- a latent variable operationalized sociologically as an attitude that, in contrast to values and norms, can be spatially and temporally volatile (that is, depending on events such as large-scale bark beetle infestation in a forest national park).
- a continuum on a scale ranging from rejection through neutrality to agreement.
- a symptomatic expression of (dis)satisfaction based on a complex network of causal factors of the protected area as the object of park–people relationships (including formal legal foundations and actions by the decision-makers responsible) that are weighed individually by actors in a park region in the light of their sociocultural reference system (see Figure 1).

Although acceptance refers only to the positive aspects of park–people relationships, we use it in accordance with the international literature. We need informed discussion of whether this concept needs to be renamed in German-language research to include all aspects of individual and public perceptions of protected areas [4,25].

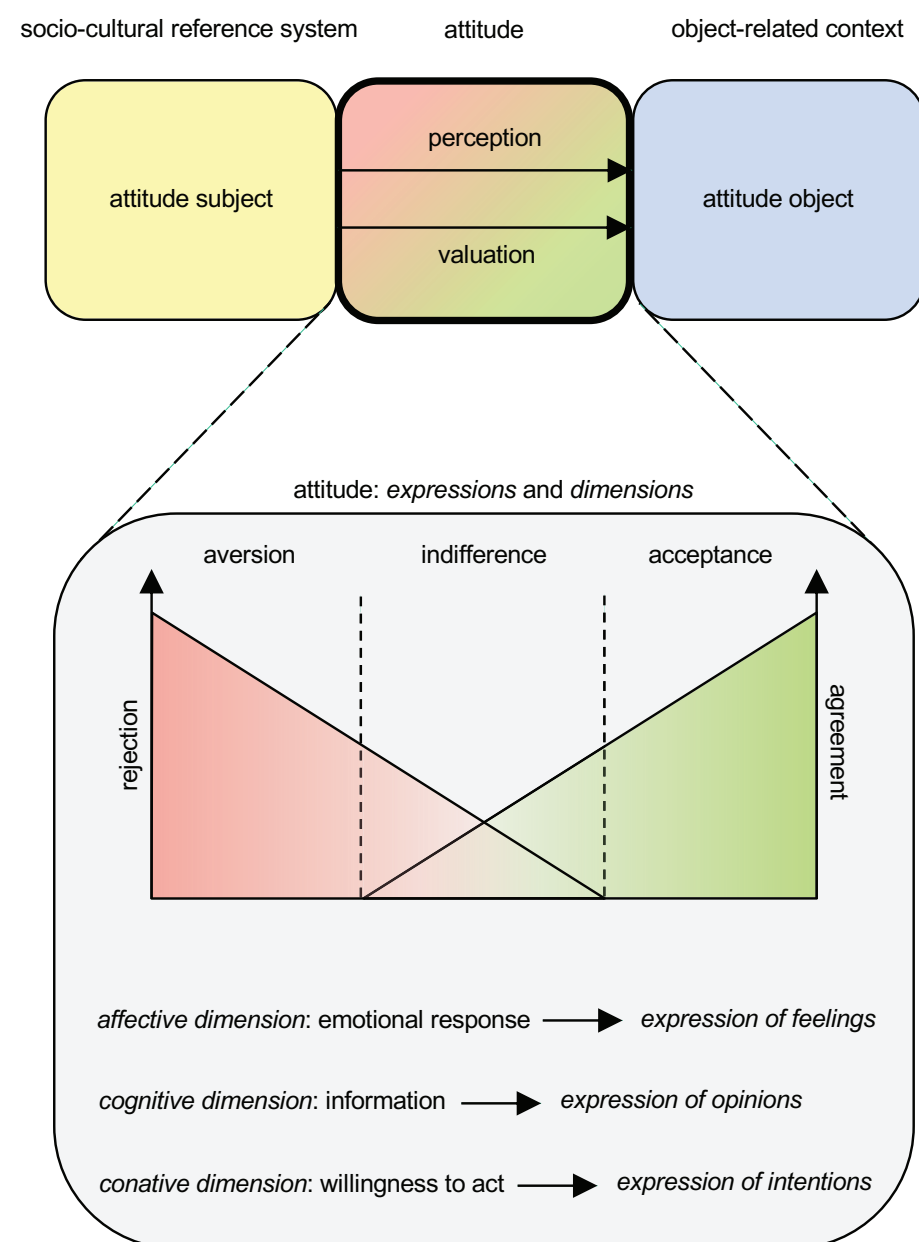


Figure 1. Park–people relationships and attitudes (Source: elaborated from [19] (p. 89), [26] (p. 15f.) and [22] (p. 61ff.)).

Initial research on park–people relationships in Germany focused exclusively on national parks [26,27], though it later expanded to include nature conservation as a whole. Research expanded its remit because the entire concept of nature conservation, not only protected areas, met with public resistance [28]. Recently, analyses of park–people relationships have also been carried out in less strictly protected areas, including biosphere reserves, nature parks, etc. (e.g., [29–32]).

Since Rentsch’s first study in the surroundings of the Bavarian Forest National Park [28], analyses of local population attitudes towards national parks have also taken place in other countries as well (see [33–36]). Studies of park–people relationships are available for ten of Germany’s 16 national parks (see Table 1). Many pertain to the ‘gray’ literature; published only in excerpts or long after data collection or only available as graduate theses. Others are judged unscientific because they lack data or are methodologically inadequate and, therefore, unreliable. In addition, they can be extremely diverse in research design and have only a modest empirical basis impeding comparisons or their use in benchmarking. Their content varies widely depending on regional situations: some studies focus on nature tourism, while elsewhere this issue is not addressed at all in terms of its perception by locals or even the acceptance of the park by tourists themselves. This impacts their value for park management and for rural tourism development.

Table 1. Synopsis of studies of park–people relationships in German national parks (Source: own compilation).

National Park	Year	Author	Methodology
Bavarian Forest	1988	Rentsch, G.	quantitative survey (direct)
	2008	Mayer, M., Woltering, M.	quantitative survey (postal) with (tourism) entrepreneurs
	2011	Liebecke, R., Wagner, K., Suda, M.	expert interviews + quantitative survey (by telephone)
Berchtesgaden	1990	Rentsch, G., Kuhn, H.	expert interviews + quantitative survey (direct)
Black Forest	2015	Blinkert, B.	quantitative survey (by telephone)
Eifel	2007	Sieberath, J.	expert interviews + standardized written survey (postal)
	2015	Hillebrand, M., Erdmann, K.-H.	expert interviews + quantitative survey (postal)
Hainich	2003	Hendel, E.	–
Harz	1996	Job, H.	quantitative survey (direct)
	2010	Ruschkowski, E. v.	quantitative survey (without interviewer present) + participatory observation
Jasmund	1998	Lichtenberg, T., Wolf, A.	quantitative survey (direct)
Lower Oder Valley	2001	Müller, U.	–
Lower Saxony Wadden Sea	1996	Meemken, P.	–
	2003	Beckmann, O.	expert interviews + quantitative survey (direct)
Saxon Switzerland	2000	Leipzig Student Agency Initiative	–
	2006	Leipzig Student Agency Initiative	–
	2012	Leipzig Student Agency Initiative	–
Western-Pommeranian Bodden Landscape	1998	Krieger, C.	quantitative survey (direct)
	2001	Katzenberger, M.	–

As early as 2002, the SRU (=Sachverständigenrat für Umweltfragen) identified significant deficits regarding the acceptance of nature conservation in Germany on the basis of a meta-analysis [28]. Five main park–people relationship problems were identified: 1. economic disadvantages or unfavorable financial and organizational frameworks 2. lack of familiarity with the objectives of nature conservation; 3. opposing values and beliefs; 4. forms of communication that participants perceive as unsatisfactory or authoritarian; 5. fear of behavioral restrictions, paternalism and heteronomy. To date, however, no generally valid theory for explaining park–people relationships has been developed [12,37]. Nevertheless, two paradigms are prominently represented in relevant research. One prevailing assumption is that (regional) economic incentives determine park–people relationships in national parks. Stern [8] describes this theoretical approach as “economic rationalism”, which normally centers economic effects like revenues from rural nature-based tourism. It is postulated that these revenues will benefit—directly or indirectly—local people, (over)compensate for any opportunity costs and, hence, encourage a better understanding of nature conservation measures [8].

An alternative view emphasizes that it is the quality of participation and communication in the relationship between park management and local populations leading to mutual trust that ultimately determines the degree of acceptance [8]. Stoll [21] (see also [38–40]) identifies four factors that may affect park–people relationships: First, the emotional level, fed by fear of restrictions and the loss of freedom of action and decision The Theory of Psychological Reactance [41] describes the connection between restrictions (e.g., prohibitions on entry to national parks) and the resulting attitudes. This theory originated in psychology and was first applied by Stoll [21] in research on the causes of the problems of acceptance of protected areas. Second, perception barriers are a cause of poor park–people relationships. Third, the ways that information is transmitted and received is strongly related to cultural aspects and values that can act as perception filters. Hence, traditional values that conflict with the objectives of nature conservation are a cultural issue in park–people relationships. Finally, communication barriers and group processes affect these relationships in any given area, because they are influenced by interpersonal interaction. Successful communication and reduced social distance are thus recognized as fundamentals for creating effective park–people relationships.

Beckmann [22] supplemented Stoll’s assumptions by adding the aspect of ‘user interests’, since conflicts over land use are multidimensional and can be evaluated as economic, emotional or cultural predictors, depending on the point of view adopted. In the case of restrictions on forest exploitation, for example, increased heating costs due to a lack of local timber production (economic), limits on people’s freedom of action (emotional) and the threat of losing the familiar image of the working forest (cultural) may all be important.

Generally, the predictors of park–people relationships identified in empirical research to date can be summarized as: economic, emotional, interpersonal and sociocultural. However, the need to include a spatiotemporal predictor of park–people relationships is given too (*cf.* Table 2), because diverging spatial-structural contexts regarding national park regions and local traditions are indispensable for understanding conflicts. Therefore, ‘geography matters’ when it comes to the acceptance of parks. This approach shifts the focus to examining the importance of spatial distance as a predictor of park–people relationships in the tradition of Tobler’s first law of geography and its inherent distance-decay effect [42].

Thus, Rentsch [27] provides a fundamental insight by describing a ‘crater’ in park–people relationships; that is, a significantly worse level of relationships in areas adjacent to the Bavarian Forest National Park compared to communities located only a few kilometers further away. This ‘crater’ of acceptance does not emerge only after the designation of a park, as the many examples of failed national park projects show. Hillebrand and Erdmann [43] provided further insight into the spatial as well as temporal effects on park–people relationships in their study of the 2004-designated Eifel National Park, which compared the results of an initial and a follow-up study and found higher levels of positive attitudes in places that had high levels earlier. In contrast, a community that had

manifested low levels of park–people relationships in the initial study was found to have even lower levels in the follow-up analysis. Thus, this paper examines the time factor in detail. Associating the assumption of spatial distance with this time factor leads to the hypothesis that—*ceteris paribus*—the farther away people live from the protected area and the longer a protected area exists, the lower the issue salience of conflicts, the lower the perceived disadvantages and the better the habituation and thus, performance of the park–people relationships.

Table 2. Theoretical foundations, research criteria and assumptions according to predictors of attitude (hypotheses on park–people relationships). (Source: elaborated by the authors based on [13] (p. 48)).

Predictor	Theoretical Basis	Research Criteria	Assumption
Economic predictors	<ul style="list-style-type: none"> - Economic rationalism 	<ul style="list-style-type: none"> - Perception of effects of the national park on tourism development - Levels of attitudes of groups potentially benefiting from national park tourism 	Attitude towards the national park is controlled by economic losses/incentives.
Emotional predictors	<ul style="list-style-type: none"> - Theory of psychological reactance 	<ul style="list-style-type: none"> - Restriction - Reactance - Participation deficits 	Restrictions on the freedom of decision and action have a negative impact on attitudes.
Interpersonal predictors	<ul style="list-style-type: none"> - Social identity theory - Theory of symbolic interaction 	<ul style="list-style-type: none"> - Communication basis (information) - Social distance and perception of the communication partner 	Missing or inadequate communication and social distance between the actors have a negative effect on attitudes.
Sociocultural predictors	<ul style="list-style-type: none"> - Lifestyle approach - Cultural theory - New environmental paradigm 	<ul style="list-style-type: none"> - Sociodemographic characteristics - Leisure behavior - Values relating to nature and human–environment relations - Tradition vs. nature conservation 	Consistency with (process nature conservation) values of the national park promotes positive attitudes.
Spatio-temporal predictors	<ul style="list-style-type: none"> - Park–people relationship crater - Park–people relationship gap - Nimby-effect 	<ul style="list-style-type: none"> - Geography matters: spatially-differentiated research - Seniority with regard to the existence of a national park - Generation change 	With increasing spatial distance and duration of existence, <i>ceteris paribus</i> , the park–people relationship of the national park improves.

Regarding the complex and multi-faceted nexus of protected areas, park–people relationships and rural tourism, it can be argued at least in theory that there is a positive relationship between protected areas and rural tourism as the parks are important attractions, relevant or even decisive for visitors’ trip decisions. Tourism leads to income and tangible financial and service provision benefits for surrounding communities, increasing their quality of life and compensating for the potential opportunity costs of protection measures. Positive attitudes towards the parks follow, through economic rationalism [44–46]. Nevertheless, there might be problems and issues impeding those positive effects: too few protected area visitors can limit the economic impact and job creation, poor marketing due to protected area administrations prioritizing protection over regional development or simply a lack of tourism management skills (see [5,47–49]) Tourism may generate income, but the local population might not profit adequately due to high leakages and/or uneven distribution while many experience the disadvantages of park tourism [50]; the park–people relationships are negative so that local tourism operators face difficulties of convincingly marketing a protected area they do not support (or worse), which contradicts an authentic experience for the guests [22,51]. It may be that the local population does not support tourism at all (or at least no further increase) and criticizes the protected area for attracting even more visitors (overtourism problem) (see Section 4); if the local people reject a protected area or its management for cultural or other reasons, it does not matter how positive economic benefits from park tourism are [8]. In other words, park tourism benefits cannot easily overshadow (all) other potentially negative perceptions and attitudes of local people towards protected areas.

Despite the relatively large number of park–people relationship studies available, only a few provide reliable information on the actual influence of tourism on attitudes towards large-scale protected areas. Seven of the studies conducted in German protected areas contain correlation analyses that relate local people’s perception of park tourism benefits to their overall attitudes towards the parks.

For the Harz National Park where 53.6% of the locals surveyed believe that the existence of the park promotes tourism in the region, von Ruschkowski and Mayer [52] (p. 163) confirm a moderately strong correlation of this statement (0.509 ***) with their overall attitude towards the park. However, subjects’ reactions (−0.591 ***) in terms of (perceived) restrictions and participation (0.567 ***) reach a slightly higher correlation strength. The tourism argument is also put into perspective by the fact that 73.6% of the respondents are neither personally nor through family members economically affected by the national park (11.2% positively affected, 13.7% negatively). The fact that tourism exerts an influence on overall attitudes but is not its dominant influencing factor is underlined by a regression model by Mayer and Stoll-Kleemann [12], based on Ruschkowski’s [25] Harz dataset: Agreement with the statement that the national park promotes tourism has a positive effect on overall attitude. However, the assessment that only a few stakeholders benefit from park tourism has a more negative effect on the overall attitude. Nevertheless, these relations are much stronger compared to Job’s study [20] in the same park, which revealed only a weak correlation (Cramer’s V 0.253) between overall approval of the park and the statement “the National Park creates jobs”.

Sieberath [53], as well as Hillenbrand and Erdmann [43], found for Eifel National Park that the overall assessment of the park correlates positively with moderate strength ($C = 0.405$ resp. $C = 0.446$) with the assessment of the importance of the national park for tourism. However, the causality is not clear as a positive overall attitude towards the national park that might lead to a positive assessment of the park’s role for tourism.

Regarding Bavarian Forest National Park, Liebecke et al. [54,55] found out that the factor “tourism” shows the highest correlation results with the dichotomous overall attitude towards the national park (between 0.491 for the old and 0.575 for the extension part of the park). According to the authors, the high approval of national-park-induced tourism explains the overall positive voting result in favor of the park, which was not expected given the criticism of the park’s forest management (see Section 3).

Von Ruschkowski and Mayer [52] also examined the attitude of tourism operators towards the Bavarian Forest National Park (see also [51]). The negative correlation between the overall attitude towards the park (negative scale) and the statement “Without the National Park more tourists would come to the region” (-0.408^{***}) indicates that the park’s perceived attractiveness for tourist is related to a positive attitude towards the park. The negative correlation between overall attitude and the importance of direct and indirect business relationships with the park (-0.377^{***}) similarly suggests a possible link between positive attitudes towards the park and economic benefits due to the park. Tourist operators with a positive attitude toward the park are also much more inclined to use the protected area in their marketing efforts (0.466^{***}).

Finally, Stoll-Kleemann et al. [56] also report positive, highly significant correlations of weak to medium strength between the question about the continued existence of four German UNESCO biosphere reserves and the statement: “Due to the Biosphere Reserve the region also becomes interesting for many who otherwise would not come here at all.” (Cramer’s V 0.342 [Schaalsee], 0.312 [Schorfheide-Chorin], 0.212 [South-East Rügen], 0.279 [Middle Elbe]).

However, to put the tourism argument into perspective, Sacher and Mayer [16] reveal in their news media discourse analysis that the pro-park argument of the regional economic impact of protected area tourism is nowadays also used by opponents/critics of new national parks in Germany but with the aim of diffusing its power. This is done by highlighting the economic impacts of alternative land-uses (instead of a national park) by efforts (also relatively high investments) to vitalize rural tourism (to showcase that rural tourism could be promoted also without a strict protected area) and finally by arguing that the local population neither wish for nor need an increase in tourism activities.

To sum up, several studies has been conducted to analyze park–people relationships in German national parks and other protected areas. However, their results are mostly not comparable due to widely differing methodological approaches. To close this research gap, we present in this paper a broadly applicable methodological approach that covers the majority of potential sources of park–people conflicts and that allows intertemporal comparisons with earlier studies. Furthermore, this park–people relationship research also attempts to measure the often-overlooked social dimensions of rural tourism sustainability [57] in protected area destinations [5,49] and contributes to the literature, fulfilling the notion of Lane and Kastenholz [44] (p. 1144) who found that the “role of protected areas [is] . . . surprisingly underrepresented” in rural tourism research.

3. Study Areas

Why does the present study focus on the two Bavarian cases? First, by German standards, both national parks are old, so the time factor could play a role in questions of people’s attitudes. Secondly, we have comparable earlier studies for both areas [26,27,55]. Thirdly, both parks are controlled by the Bavarian Ministry of the Environment and have the same administrative conditions of their establishment; in Germany, nature conservation is a responsibility of individual federal states. Both study areas are located in border regions, near Austria and the Czech Republic. The counties of Freyung-Grafenau and Regen in the Bavarian Forest are structurally weak rural areas on the sparsely populated Bavarian periphery (see Figure 2). The county of Berchtesgadener Land is also rural and peripheral but has better transport connections and a somewhat stronger economic position.

In terms of tourism intensity (overnight stays per 1000 inhabitants), the county of Berchtesgaden reports slightly higher tourism importance (28,136.8, rank nine in Germany) compared to the two national park counties of Freyung-Grafenau (17,579.6, rank 25) and Regen (28,224.2, rank eight) in the Bavarian Forest (2019 values) [58]. In both national park regions, tourism plays an important though not a dominant role in the regional economy. Both national parks record more than one million visitor days each (Berchtesgaden: 1.58 million in 2014; Bavarian Forest: 1.36 million in 2018 [59]). The role of national park status is evident; both parks serve as major tourist attractions with 27.7% (Berchtesgaden)

and 55% (Bavarian Forest) of park visitors being explicitly motivated by the protected area status to come to the park region [60,61]. The remarkable difference between both parks is due to the much longer tourism history of the Berchtesgaden region, dating back to the 19th century when the extraordinary scenic beauty of Lake Königssee began to attract visitors. In the Bavarian Forest, in contrast, especially in the district of Freyung-Grafenau where the original part of the park is located, tourism only began in parallel to park designation in 1970.

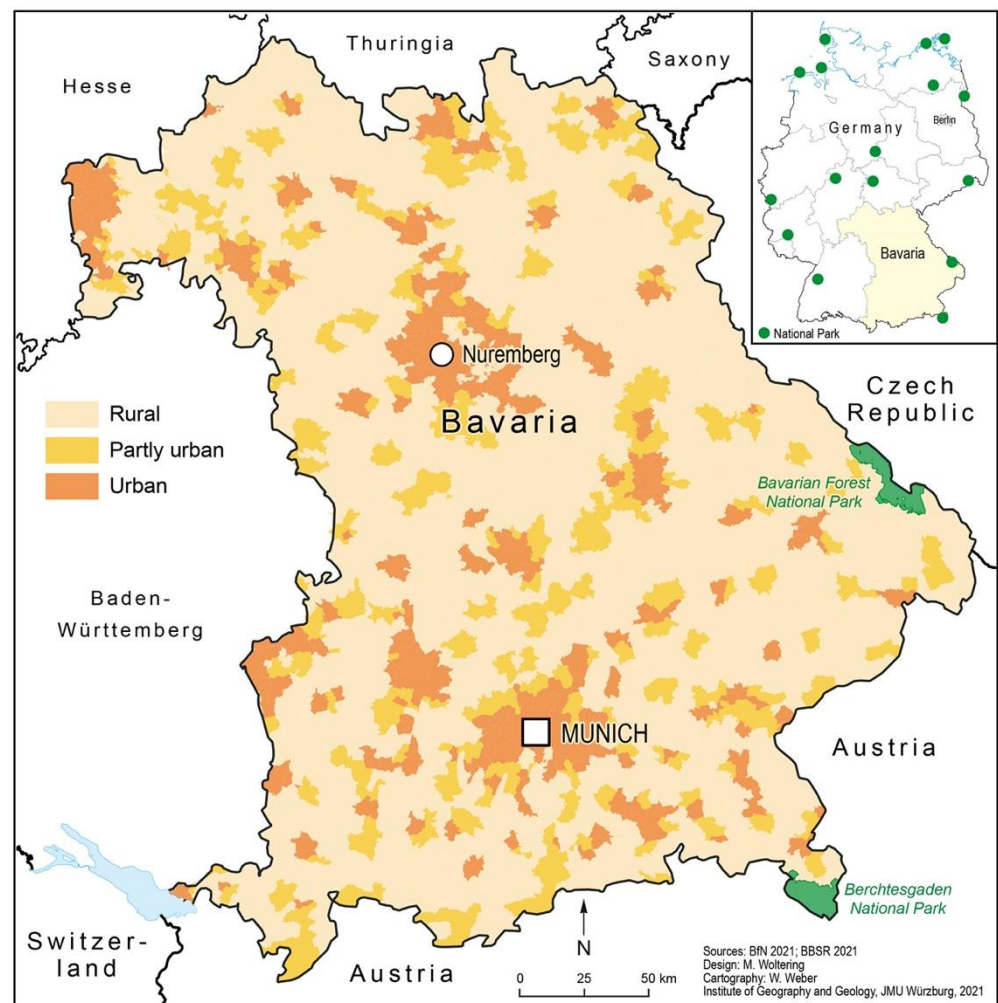


Figure 2. Location of the two study areas in Bavaria, Germany (Source: authors).

The specific cultural landscape and associated traditions (especially alpine pasture management in Berchtesgaden) also differ. In addition, the natural area of the high alpine mountains in the Berchtesgaden National Park (21,000 ha) contrasts significantly with the mid-mountain range landscape of the Bavarian Forest in terms of recent morphodynamics and the proportion of forest cover. In the latter, the proportion of forest is significantly higher (99%), which explains why disturbances by the spruce bark beetle are much more virulent [62]. In the past, these beetle-induced forest disturbances (leading to vast areas of deadwood) were a crucial source of heated and emotional conflicts between the local population, the national park administration and environmentalists in local and regional politics. The main trigger of these conflicts was that the park's aims were abruptly changed in the 1980s in a top-down manner from taking a traditional cultural landscape preservation approach, concentrating on regional development through tourism, to an ecological integrity approach with drastically reduced human interferences, which also meant not intervening in bark beetle outbreaks. The latter policies were completely at odds with

the local populations' traditions and environmental worldview but were also only barely communicated and explained [52,63–65].

4. Study Design

Data was gathered using a representative written household survey in 2018 with no participation by interviewers. This method was deemed suitable not only because of a huge sample size but also to avoid both interviewer errors and social desirability bias, as respondents could choose an appropriate time and concrete circumstances to complete the questionnaire. Unlike a telephone interview, for example, respondents had the questions at hand in written form, giving them sufficient time to respond. No conceivable representative online survey would have been feasible due to insufficient panel sizes in the remote study areas (see [66]). The elaboration of the actual survey instrument was guided mainly by previous studies in the Bavarian Forest National Park region, especially Liebecke et al. [55]. Thus, the questionnaire takes into account all the common predictors of attitudes towards national parks, as shown in Table 2.

To obtain as valid a statement as possible from the municipalities with specific spatial concerns, the local areas directly adjacent to the parks were deliberately overrepresented in the distribution of the questionnaires (60% local area to 40% long-distance area) even though they had lower overall numbers of inhabitants. These local areas were defined as those municipalities that bordered a park directly or whose boundaries overlapped with it. By measuring sample cases, the numerical superiority of the local area was again adjusted in favor of a uniform representation based on actual numbers of inhabitants. These measures helped ensure the reliability of the local area results.

The number of surveys distributed in each municipal district was set in relation to the number of inhabitants. In Berchtesgadener Land county (approx. 104,000 inhabitants), 8000 questionnaires were sent randomly, based on the official population register. In contrast, in the two affected counties of the Bavarian Forest National Park (Freyung-Grafenau and Regen), with a total population of 155,000 inhabitants, 12,000 surveys were distributed using the random walk method. Each household theoretically had the same probability of being sampled in both research areas. Within each household, the adult with the most recent birthday was asked to respond. This ensured that the final participants formed a random sample in the best possible sense. Respondents were given a time window of one month to respond and return the forms. The response rate in both survey areas was just below 20%: It was significantly higher in municipalities immediately adjacent to the parks but slightly lower in the "long-distance" areas. Altogether, 1582 usable surveys for the study area in Berchtesgaden and 2333 for Bavarian Forest were returned.

In order to evaluate park–people relationships within the two national park surroundings, the following analysis essentially focuses on a specific aspect, which is surveys of the so-called "Sunday Question" (referring to the identically named regular national election polls in Germany). It was posed as: "Let us assume that next Sunday there will be a vote on the continued existence of the Bavarian Forest/the Berchtesgaden National Park. Would you be in favour or against?" The analysis is intended to show what influence each of the predictor levels listed above has on answering this question. For this reason, the attitude predictors were reduced to one representative variable for each analysis. For multi-layer predictors, one variable per factor level was selected. The attitude predictors were measured using different Likert scales due to their origins in earlier studies for the two national park areas. Since the "Sunday Question" was a nominally scaled variable, Cramér's V was used as correlation measurement. Spearman's Rho, on the other hand, was applied for the intercorrelations with only ordinal scaled variables.

5. Results

5.1. Sociodemographic Characteristics

Both samples represent the local population in the two national park regions very well. In the Bavarian Forest National Park region the average age is 54.6 years (respondents

younger than 18 years were not included); male respondents are slightly overrepresented (57 vs. 43%), which also holds true for the base population (53.4 vs. 46.6%); more than three quarters of the sample (83.4%) can be interpreted as locals: the respondents either grew up in the survey area or moved there before 1981. In terms of professional background, respondents working in agriculture and forestry are clearly overrepresented (18.5 and 18.4%, respectively) which might be explained by their high issue salience regarding the national park (e.g., bark beetle infestations etc.). Slightly fewer respondents, 14.1%, have a professional background in tourism/hospitality. In total, 37.7% of the respondents indicated owning forests in the survey area, which is not uncommon given the very high number of small-scale forest owners in the Bavarian Forest (see [66]).

In the Berchtesgaden National Park region, the average age is 54.9 years; women make up 52.7% of the sample. Professional backgrounds in agriculture (13.6%) and forestry (7.8%) are less pronounced compared to the Bavarian Forest, while tourism and hospitality (19.1%) are more prominent, corresponding to the long tourism tradition dating back to the 18th century and its higher intensity in the county of Berchtesgaden. In comparison with the Bavarian Forest, 70.3% of the respondents can be classified as locals. Regarding the spatial distance to the national parks, 15.8% of the respondents in Berchtesgaden are living in close-range municipalities, and in the Bavarian Forest, 19.4%.

5.2. Open Associations with the Two National Parks

To gain some initial insights into the local public's opinion about their national parks, it is interesting to look at the answers to the open question about possible messages directed to the national park administration. The example of Berchtesgaden shows that, first, a large majority of respondents seem obviously satisfied with the work of the national park authority, simply pleading: "Keep going" (see Figure 3). In addition, different aspects of the topics "communication" and "tourism" are mentioned, both with positive and negative connotations. In the case of tourism, for instance, the need for more sustainable tourism is addressed, linked to curbing the phenomenon of overtourism manifesting itself in extreme congestion during high season.



Figure 3. Word cloud to the question "Is there anything else you would like to tell the national park administration?" for Berchtesgaden National Park (Source: authors).

The situation is quite similar for the Bavarian Forest National Park: here, also a great majority wants to "Keep going", and there is a desire for an increased exchange of information related to park activities. However, instead of naming tourism-related issues, the buzzword "bark beetle" with all its considerable effects on the visual, very densely forest covered landscape, clearly stands out. This is due to the historical development of

the park, where leaving windthrows and simultaneously tolerating the bark beetle has been highly controversial for nearly 40 years (see above). However, a majority is now in favor of leaving nature undisturbed, not removing the constantly rising heaps of deadwood and letting the bark beetle follow its course (see Figure 4).

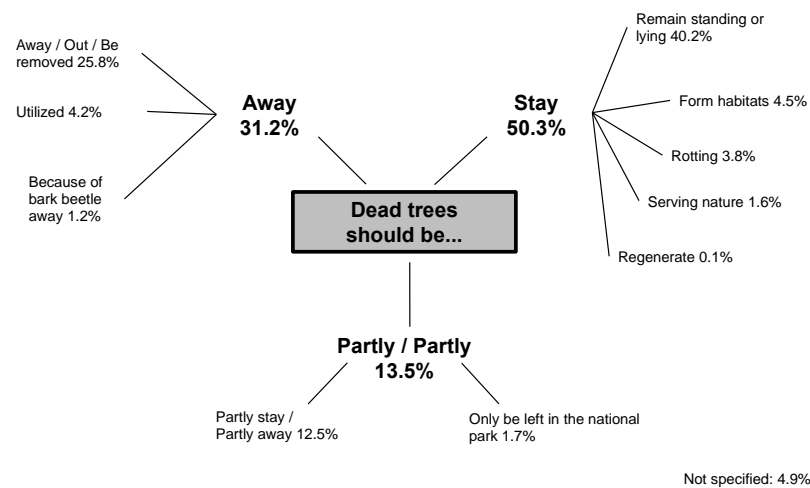


Figure 4. Categorized responses to the statement to be completed, “Dead trees should be . . . ” for Bavarian Forest National Park (Source: authors).

5.3. Overall Attitudes towards the Two National Parks

The local population’s attitudes on various issues related to the national parks ultimately manifest themselves in the Sunday Question about its future. In both cases, a very large majority favors their continued existence. For Berchtesgaden, the share is 96.1%, with only 1.6% in favor of abolition and 1.3% abstaining. The Bavarian Forest, on the other hand, falls off somewhat, but still shows a very good result of 85.8% for continuation and 8.6% for dissolution (with 3.8% abstention).

In light of the acceptance crater hypothesis, it is interesting to analyze these results on a spatial level, very clearly exemplified for the Bavarian Forest. In neighboring municipalities, 83.1% of local residents support the national park, while from a distance of more than 15 km from the national park, very positive attitudes are evident with nearly 90% approval rates for its future presence. For a distance of more than 20 km, national park opponents are already negligible in number: c. 95% are in favor of the parks (Figure 5).

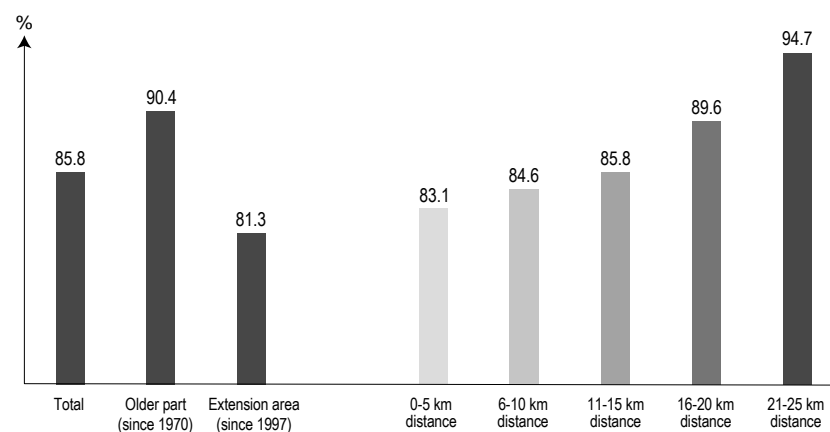


Figure 5. Overall park–people relationships according to the “Sunday Question” in varying distance to the national park border in Bavarian Forest, 2018 (just values for continuation, in %) (Source: authors).

Regarding the Bavarian Forest National Park, there are statistically significant differences regarding the Sunday Question between the old part in the county of Freyung-Grafenau and the recent extension area in Regen county. In the surroundings of the original park 90.4% of respondents would vote for the national park, but only 81.3% would do so in the extension area (Cramér's V 0.140, $p < 0.001$).

Answers to the statement "It was a bad idea to establish a national park in our cultural landscape" also serve as a measure of overall attitudes towards the parks. In Berchtesgaden, (92.7%) disagrees with this statement, while in the Bavarian Forest, the level of rejection is slightly lower, at 81.6%. The answers to this statement consequently correlate with a very high level of significance and with medium strength to the results of the Sunday Question (Bavarian Forest: Cramér's V 0.539, $p < 0.001$; Berchtesgaden: Cramér's V 0.403, $p < 0.001$).

5.4. Attitudes towards the Two National Parks: Descriptive Results

Table 3 presents descriptive results regarding local people's attitudes towards both national parks. The first group of attitudes focuses on socio-economic topics, including national park tourism. Over 80% of respondents in both park regions agree that the national parks will bring many more tourists to the region; in the Bavarian Forest, the level of agreement is slightly higher (mean value in the Bavarian Forest: 1.66; Berchtesgaden: 1.70). An identical pattern exists for the question whether the regions have become better known, nationwide and internationally, due to the national parks (Bavarian Forest: 88.8% fully and rather applies, mean value 1.66; Berchtesgaden: 83.4%, 1.81). The image effect of the protected area is strongly recognized. When asked if the parks increased the quality of life of local residents, the great majority agreed (Bavarian Forest: 74.7% fully and rather agree, mean value 2.06; Berchtesgaden: 88.3%, 1.41). This might relate to respondents' differing attitudes towards the emerging "wild" landscape due to the parks' ecological integrity approach. In Berchtesgaden, 77.9% fully or rather agree to the statement that the emerging secondary forest wilderness attracts many tourists to the region (mean value 1.68), while in the Bavarian Forest, the level of agreement is considerably lower (66.4%, 2.00), although still positive. Asked about who do they think benefits most from the national parks, a relative majority of the respondents in both survey areas answered "nature" (Bavarian Forest: 35.7%; Berchtesgaden: 45.9%), followed by "locals and tourists" (Bavarian Forest: 26.9%; Berchtesgaden: 38.4%), tourists only (Bavarian Forest: 14.3%; Berchtesgaden: 7.1%), no benefits at all (Bavarian Forest: 9.2%, Berchtesgaden: 2.0%) and locals (Bavarian Forest: 2.3%; Berchtesgaden: 3.4%). Thus, respondents in the Bavarian Forest are more skeptical regarding the park's benefits, which is also reflected in a much higher share of "do not know" answers compared to Berchtesgaden, and they tend to attribute these benefits to the tourists than to themselves. This corresponds to their less positive attitude towards the park's effect on their quality of life. Considerable differences are also obviously related to the perceived frequent visits to the park region by tourists: While in the Bavarian Forest, nearly half of the respondents rated the number as "just right" (49.1%), 14.8% deem the number as too little and only 7.5% as too high, but the situation is quite different in Berchtesgaden, where almost a third (32.4%) rate visitor levels as too high, only 3.3% as too little, while 41.1% deem it as just right. In conclusion, local socioeconomic attitudes towards the two national parks are mostly overwhelmingly positive, which includes attitudes regarding rural tourism in the parks and the perception of its economic effects.

Table 3. Selected descriptive statistics for the two case study regions (Source: authors).

Bavarian Forest National Park												
Determinant category	Statement/Variable	Fully agree (1)	Rather agree (2)	Rather do not agree (3)	Do not agree at all (4)	Do not know	Mean	SD				
Economic/Tourism	"I think that the national park will bring many more tourists to the region."	50.5	33.1	10.0	3.9	2.5	1.66	0.82				
Economic/Tourism	"Especially the emerging forest wilderness attracts many tourists to the region."	33.5	32.9	18.3	7.7	7.5	2.00	0.95				
Social/Economic	"The national park increases the quality of life in our region."	49.5	25.2	13.9	7.6	3.7	1.79	0.97				
Economic/Tourism	"Dead trees in the national park scare away tourists."	11.8	16.9	35.1	30.0	6.3	2.89	1.00				
Interpersonal a) communication basis	"The national park administration almost always makes its decisions without the consent of the affected population."	29.4	25.6	20.2	6.5	18.2	2.05	0.96				
Overall attitude II	"It was a bad idea to establish a national park in our cultural landscape."	8.8	6.5	21.1	60.5	3.0	3.38	0.96				
Interpersonal b) social distance / perception of dialogue partners	"All in all, I am satisfied with the work of the national park administration."	26.5	35.9	15.0	7.5	15.1	2.04	0.92				
Sociocultural c): perception of landscape development	"I'm annoyed they let nature be nature in the national park."	16.5	19.4	18.2	45.1	0.8	2.93	1.15				
Determinant category	Statement/Variable	Stable (1)	Rather stable (2)	Rather unstable (3)	Unstable (4)	Do not know	Mean	SD				
Sociocultural a): perception of nature	"Nature is stable."	21.2	37.6	31.4	7.5	2.3	2.26	0.88				
Determinant category	Statement/Variable	Locals		Tourists		Locals and tourists		Nature		Mean	SD	
Economic	"Who do they think benefits most from the national park?"	2.3		14.3		26.9		35.7		9.2	11.7	
Determinant category	Statement/Variable	Fully applies (1)	Rather applies (2)	Neither nor (3)	Rather does not apply (4)	Does not apply at all (5)	Do not know	Mean	SD			
Economic/Image	"Due to the national park, the region has become better known nationwide and internationally."	43.3	45.5	5.7	1.8	0.5	3.2	1.66	0.72			
Emotional	"In the national park, many things are forbidden that should be allowed."	12.5	17.7	11.9	28.2	18.8	11	3.26	1.36			
Determinant category	Statement/Variable	Fully agree (1)	Agree (2)	Partly (3)	Do not agree (4)	Do not agree at all (5)	Do not know	Mean	SD			
Sociocultural b): human-environment relationship	"People have the right to intervene in the environment."	2.7	10.5	51.2	19.5	15.3	0.7	3.34	0.96			
Determinant category	Statement/Variable	Very low -3	-2	-1	0	+1	+2	Very high +3	Do not know	Mean	SD	
Interpersonal a) communication basis	"How well informed do you feel about the work of the National Park Administration?"	7.8	8.2	8.2	15.7	19.6	22.4	7.3	10.8	0.43	1.74	
Interpersonal b) social distance / perception of dialogue partners	"How much trust do you have in the work of the national park administration?"	6.7	4.1	4.1	9.6	16.2	32.8	14.6	11.8	1.05	1.73	
Determinant category	Statement/Variable	Too many (1)		just right (2)		Too little (3)		Do not know		Mean	SD	
Economic/Tourism	"How do you rate the number of tourists in the national park?"	7.5		49.1		14.8		28.7		2.10	0.55	
Determinant category	Statement/Variable	18–35 years			36–50 years			51–65 years			>65 years	
Temporal	Age categories	14.7			20.9			38.1			26.3	
Determinant category	Statement/Variable	Close-range					long-distance range					
Spatial	Close-range vs. long-distance range	19.4					80.6					

Table 3. Cont.

Berchtesgaden National Park											
Determinant category	Statement/Variable	Fully agree (1)	Rather agree (2)	Rather do not agree (3)	Do not agree at all (4)	Do not know	Mean	SD			
Economic/Tourism	"I think that the national park will bring many more tourists to the region."	40.9	41.6	10.3	1.3	5.8	1.70	0.72			
Economic/Tourism	"Especially the emerging forest wilderness attracts many tourists to the region."	43.6	34.3	9.9	2.2	10.0	1.68	0.77			
Social/Economic	"The national park increases the quality of life in our region."	66.3	22	5.6	2	4.2	1.41	0.69			
Economic/Tourism	"Dead trees in the national park scare away tourists."	3.9	7.9	27.1	56.6	4.6	3.43	0.81			
Interpersonal a) communication basis	"The national park administration almost always makes its decisions without the consent of the affected population."	12.4	25.9	21.4	5.6	34.6	2.31	0.88			
Overall attitude II	"It was a bad idea to establish a national park in our cultural landscape."	2.2	1.9	15.3	77.4	3.2	3.73	0.61			
Interpersonal b) social distance / perception of dialogue partners	"All in all, I am satisfied with the work of the national park administration."	39.4	34.4	5.2	1.2	19.7	1.61	0.68			
Sociocultural c): perception of landscape development	"I'm annoyed they let nature be nature in the national park."	10.8	10.1	12.6	65.1	1.4	3.34	1.04			
Determinant category	Statement/Variable	Stable (1)	Rather stable (2)	Rather unstable (3)	Unstable (4)	Do not know	Mean	SD			
Sociocultural a): perception of nature	"Nature is stable."	14.8	31.6	40.7	10.5	2.4	2.48	0.877			
Determinant category	Statement/Variable	Locals		Tourists		Locals and tourists		Nature		Mean	SD
Economic	"Who do they think benefits most from the national park?"	3.4		7.1		38.4		45.9		2.0	3.0
Determinant category	Statement/Variable	Fully applies (1)	Rather applies (2)	Neither nor (3)	Rather does not apply (4)	Does not apply at all (5)	Do not know	Mean	SD		
Economic/Image	"Due to the national park, the region has become better known nationwide and internationally."	32.4	51	6.7	2.9	0.9	6.3	1.81	0.77		
Emotional	"In the national park, many things are forbidden that should be allowed."	8.5	9.1	10.7	28	29.8	14	3.71	1.30		
Determinant category	Statement/Variable	Fully agree (1)	Agree (2)	Partly (3)	Do not agree (4)	Do not agree at all (5)	Do not know	Mean	SD		
Sociocultural b): human-environment relationship	"People have the right to intervene in the environment."	1.2	7.2	49.8	24.6	16.6	0.5	3.48	0.90		
Determinant category	Statement/Variable	Very low -3	-2	-1	0	+1	+2	Very high +3	Do not know	Mean	SD
Interpersonal a) communication basis	"How well informed do you feel about the work of the National Park Administration?"	8.2	11.2	9.7	18.8	18.7	15.5	3.8	14.2	0.05	1.68
Interpersonal b) social distance / perception of dialogue partners	"How much trust do you have in the work of the national park administration?"	1.4	1.4	1.8	9.4	13.3	40.6	15.1	17.1	1.58	1.22
Determinant category	Statement/Variable	Too many (1)		just right (2)		Too little (3)		Do not know		Mean	SD
Economic/Tourism	"How do you rate the number of tourists in the national park?"	32.4		41.1		3.3		23.2		1.62	0.57
Determinant category	Statement/Variable	18–35 years			36–50 years			51–65 years			>65 years
Temporal	Age categories	17.3			20.3			31.3			31.1
Determinant category	Statement/Variable	Close-range					long-distance range				
Spatial	Close-range vs. long-distance range	15.8					84.2				

The second series of questions refers to interpersonal attitudes and, among them, to the communication basis between the local population and the protected area administrations. A slight majority of the respondents in the Bavarian Forest fully or rather agrees that the national park administration almost always makes its decisions without consulting the affected population (55.0%, mean value 2.05), whereas in Berchtesgaden, the level of agreement with this statement is much lower (38.3%, 2.31). In both parks, the share of locals rejecting this notion is much smaller (13.4% for Bavarian Forest and 13.5% for Berchtesgaden), while a much bigger part of the sampled locals answer with “do not know”: 34.6% in Berchtesgaden and 18.2% in the Bavarian Forest. In general, respondents in both survey areas feel quite well informed about the work of the national park administrations (38.0% in Berchtesgaden, 49.3% in Bavarian Forest for the three positive levels of the scale, while 29.1% in Berchtesgaden and 24.2% in the Bavarian Forest answered the negative levels of the scale). Again, a third of the locals in Berchtesgaden is either neutral or does not know.

Another part of the interpersonal attitudes questioning focuses on the social distance and perception of dialogue partners. It reveals that nearly three quarters in Berchtesgaden (73.8%) and nearly two thirds (62.4%) in the Bavarian Forest declare themselves satisfied with the work of the national park administrations. Again, 15.1% (Bavarian Forest) and 19.7% (Berchtesgaden) were “do not knows”. When asked about their trust in park administrations, the local population show quite positive results for both parks at 63.6% (Bavarian Forest) and 68.9% (Berchtesgaden). Negative results were 14.9% (Bavarian Forest) and 4.5% (Berchtesgaden), with 21.4% (Bavarian Forest) and 26.5% (Berchtesgaden) staying neutral or “do not know”.

The third important group of attitudes covers emotional aspects with regard to the national parks. It is represented here by the locals’ reactions to restrictions and regulations set up by the park authorities. In both park regions, it is only a minority of 17.6% (Berchtesgaden) and 30.2% (Bavarian Forest) who fully or rather agree with the statement that, in the national park, many things are forbidden that should be allowed, while 57.8% Berchtesgaden) and 47.0% (Bavarian Forest) do rather not or not agree at all. These values reflect a much higher locals’ reaction level in the Bavarian Forest compared to Berchtesgaden.

Finally, the fourth group of park–people relationship attitudes are sociocultural issues. The first sociocultural aspect deals with the local population’s perceptions of nature. Regarding the perceived stability of nature, respondents from Berchtesgaden have a slight tendency towards instability (46.4% stable or rather stable vs. 51.2% unstable or rather unstable), whereas in the Bavarian Forest the opinions tend more towards stability (58.8 vs. 38.9%).

Furthermore, the sociocultural dimension analyzes the human–environment relationship which is operationalized with a statement from the New Environmental Paradigm scale trying to detect anthropocentric environmental worldviews, namely “People have the right to intervene in the environment.” Respondents reacted with a pronounced middle tendency with about half of the answers stating “partly” (49.8% Berchtesgaden, 51.2% Bavarian Forest), but overall 41.2% in Berchtesgaden and 34.8% in the Bavarian Forest do not agree or do not agree at all with this statement. Thus, anthropocentrism seems to be more prominent (on a very low level) among the inhabitants of the Bavarian Forest.

Finally, a final sociocultural variable asked for the locals’ perception of landscape development in the national parks by measuring the level of annoyance provoked by the ecological integrity approaches pursued in both national parks. In both survey areas, the majority of the local population questioned in our study does rather not agree or does not agree at all with the statement “I’m annoyed they let nature be nature in the national park.” (77.7% Berchtesgaden vs. 63.3% Bavarian Forest). However, between a fifth (20.9% Berchtesgaden) and more than a third (35.9% Bavarian Forest) of the respondents rather or fully agree. In the Bavarian Forest, the issue of deadwood in the densely forest-covered landscape in the park still seems to be the biggest point of contention.

5.5. Correlations between Predictor Variables and Overall Attitude towards the National Parks

Apart from the perception of nature as more or less stable, all considered predictors exerted a notable influence on park–people relationships as operationalized with the “Sunday Question”. The strength of the relation was examined by means of a correlation analysis, as described in the following (Table 4).

Table 4. Correlation of the predictors with attitudes toward the national park according to the “Sunday Question” (Source: authors).

Predictor	Variable	Cramér’s-V Bavarian Forest	Effect on attitudes toward the national park according to the “Sunday question”	Cramér’s-V Berchtesgaden	Effect on attitudes toward the national park according to the “Sunday question”
Economic	“I think the national park will bring more tourists to the region.”	0.371 ***	positive	0.270 ***	positive
Emotional	“In the national park, many things are forbidden that should be allowed.”	0.283 ***	negative	0.123 ***	negative
Interpersonal a) →communication basis	“Degree of information on the work of the national park administration.”	0.255 ***	positive	0.121 ***	neutral
Interpersonal b) → social dis- tance/perception of dialogue partners	“Trust in the work of the national park administration.”	0.462 ***	positive	0.372 ***	positive
Sociocultural a) → perception of nature	“Nature is stable.”	0.050	neutral	0.056	neutral
Sociocultural b) → human- environment relationship	“People have the right to intervene in the environment.”	0.180 ***	negative	0.094**	neutral
Sociocultural c) →perception of landscape development	“I’m annoyed they let nature be nature in the national park.”	0.300 ***	negative	0.109 ***	neutral
Spatial	Close-range vs. long-distance range	0.108 ***	positive	0.140 ***	positive
Temporal	Age categories	0.032	neutral	0.044	neutral

*** The correlation is significant at the level of 0.001 (2-sided); Positive: The stronger the agreement or the higher the expression of a variable, the greater the support for the national park.; Negative: The stronger the agreement or the higher the expression of a variable, the lower the support for keeping the national park.; Neutral: No trends discernable.

In both park regions, the variable trust in the work of the national park administration as part of the interpersonal predictors is most strongly correlated with respondents’ answers to the “Sunday Question” regarding the continued existence of the national park (Bavarian Forest: Cramér’s V 0.462, $p < 0.001$; Berchtesgaden: Cramér’s V 0.372, $p < 0.001$). That means

that, the higher the trust in the park authority, the lower the inclination of respondents to hypothetically vote against the national parks.

The second highest correlation could be found for the economic/tourism predictor (“I think the national park will bring more tourists to the region.”) for both national parks (Bavarian Forest: Cramér’s V 0.371, $p < 0.001$; Berchtesgaden: Cramér’s V 0.270, $p < 0.001$). Thus, for these two German national parks, the alignment with the argument that protected areas foster tourism development positively influences the overall attitude towards the park.

Ranked 3rd in the Bavarian Forest is the sociocultural predictor of landscape development with Cramér’s V 0.300 ($p < 0.001$), which measures the degree of agreement with the ecological integrity philosophy of nature protection. It has a negative influence on the overall attitude. That means that the more the respondents are annoyed about the ecological integrity approach, the higher the share of them voting for the dissolution of the national parks. On a quite similar level are the emotional and another interpersonal predictor: The emotional predictor ranks 4th, i.e., the more the restrictions of a national park are perceived as restrictive, the worse the overall attitude towards the protected area. This is followed by the degree of information on the work of the national park administration, which is positively correlated to the overall attitude towards the park (Cramér’s V 0.255, $p < 0.001$). The anthropocentric environmental worldview is also correlated to the overall park attitude (Cramér’s V 0.180, $p < 0.001$) in the Bavarian Forest but in a negative direction, similar to the landscape development variable.

In contrast to the results in the Bavarian Forest, there are no other correlations at a similarly high level for Berchtesgaden besides the values presented for the interpersonal and economic predictor. The remaining predictors listed so far all rank at relatively similar very low levels, with Cramér’s V values between 0.094 (human-environment relationship) and 0.123 (emotional). The effects of spatial distance and habituation over time get smaller and smaller, and only for the former are there still statistically significant but very weak correlations with the overall attitude toward the national parks according to the “Sunday Question” (see Table 4).

5.6. Correlations between Attitude Variables

We also analyzed the extent to which these attitude variables correlated with each other. For the examination of this intercorrelation, the item which correlated most strongly with the overall attitude towards the national parks was selected from the multi-layered attitude groups (see Table 5).

Table 5. Intercorrelation of the predictors in the study areas Bavarian Forest and Berchtesgaden (Source: elaborated by the authors).

Bavarian Forest	Economic	Emotional	Interpersonal b)	Sociocultural c)	Spatial	Temporal
Economic		-0.324 ***	-0.478 ***	-0.315 ***	-0.091 ***	0.019
Emotional	-0.324 ***		0.427 ***	0.483 ***	0.141 ***	-0.147 ***
Interpersonal b)	-0.478 ***	0.427 ***		0.404 ***	0.080 **	0.140 ***
Sociocultural c)	-0.315 ***	0.483 ***	0.404 ***		0.080 ***	-0.185 ***
Spatial	-0.091 ***	0.141 ***	0.080 **	0.080 ***		-0.043
Temporal	0.019	-0.147 ***	0.140 ***	-0.185 ***	-0.043	
Berchtesgaden	Economic	Emotional	Interpersonal b)	Sociocultural c)	Spatial	Temporal
Economic		-0.088 **	-0.179 ***	-0.016	0.001	-0.081
Emotional	-0.088 **		0.172 ***	0.359 ***	0.049	-0.147 ***
Interpersonal b)	-0.179 ***	0.172 ***		0.090 **	0.012	0.179 ***
Sociocultural c)	-0.016	0.359 ***	0.090 **		0.005	-0.267 ***
Spatial	0.001	0.049	0.012	0.005		-0.018
Temporal	-0.081	-0.147 ***	0.179 ***	-0.267 ***	-0.018	

** The correlation is significant at the level of 0.01 (2-sided); *** The correlation is significant at the level of 0.001 (2-sided).

The highest (positive) correlation in both national park regions is between the emotional and the sociocultural predictor: The stronger respondents oppose the ecological integrity approach, the higher also their sense of feeling restricted by the park regulations (Bavarian Forest: Spearman's Rho 0.483, $p < 0.001$; Berchtesgaden: 0.209, $p < 0.001$). For the Bavarian Forest, some other correlations follow at a similar strength level: the second highest correlation was found between the economic predictor (the national park fosters tourism development) and the perceptions of forest management (respondents are annoyed about the ecological integrity approach) with a Spearman's Rho of -0.478 ($p < 0.001$). Thus, the higher the perceived economic benefits of national park tourism, the lower the level of annoyance about strict nature protection measures, or the other way around, as causalities cannot be clarified. Ranked third is the positive correlation between the interpersonal and again the sociocultural attitude with Spearman's Rho 0.404 ($p < 0.001$). This is hardly surprising as it means that the more respondents are opposed to the ecological integrity paradigm, the less they trust the national park administration. This is followed by two more negative correlations with the economic attitude, one by the emotional attitude (Spearman's Rho -0.324 , $p < 0.001$) and the other by the sociocultural attitude (Spearman's Rho -0.315 , $p < 0.001$). This indicates that the more the respondents believe in the positive effects of the National Park for tourism activities, the more they are willing to accept restrictions and support the idea of future secondary wilderness. Spatial and temporal differences are reflected in the correlation analyses with only comparatively low values.

This looks quite different for Berchtesgaden where the age of the respondents definitely shows an influence on the response behavior: the second highest correlation is between the temporal and the sociocultural predictor (Spearman's Rho -0.267 , $p < 0.001$), i.e., the younger the population, the more they accept the ecological integrity paradigm in terms of wilderness development. If the previous results for Berchtesgaden are in any way lower compared to the Bavarian Forest, further correlations drop significantly. Besides the temporal predictor, only the interpersonal attitude with Spearman's Rho values slightly below 0.2, but still highly significant, could be mentioned.

6. Discussion

Our results reveal that the interpersonal attitude trust towards the national park administrations is most strongly correlated to the overall attitude towards the national parks as measured with the Sunday Question. This confirms Stern's [8] notion of the "power of trust" in park–people relationships. Even though the level of trust towards the park administration is high in both Berchtesgaden and the Bavarian Forest National Park regions, the relatively lower amount of trust expressed by the population in the Bavarian Forest may be explained through the much higher share of small private forest owners and, even more important, can be traced back to conflicts in the 1980s and 1990s when the park administration misinformed people about the spread of bark beetle in the park and, in general, followed a much more top-down approach with less open and transparent communication [52,55].

The second highest correlation was found between perceptions of positive regional economic impacts of the national parks on tourism and positive attitudes towards the park. This confirms the hypothesis that, according to economic rationalism, economic incentives positively influence park–people relationships [67,68]. This is in line with the relevant regional economic impacts that national park-induced tourism generates in both the Bavarian Forest and Berchtesgaden. However, compared to earlier studies in German national parks, the strength of the correlations is relatively weak [12]. Additionally, compared to studies by Liebecke et al. [55] and von Ruschkowski and Mayer [52] in the Bavarian Forest, the correlation between the overall attitude towards the park and the tourism argument is considerably smaller. Differences between Bavarian Forest and the Berchtesgaden national park regions regarding these socioeconomic attitudes are mostly due to the varying evolution of tourism in those survey areas. In Berchtesgaden, tourism

has a much longer tradition and far more international visitors compared to the Bavarian Forest, where the level of awareness was considerably increased by the park designation.

However, persons to whom such economic advantages can be attributed do not necessarily perceive these effects, as underlined by the fact that the local population does not attribute most park benefits to themselves but to nature and tourists. Thus, it can be concluded that, first and foremost, a clear understanding of the regional economic possibilities of a national park and its tourism must be obtained, as it is only based on this information that profiteers can build their attitudes in terms of economic rationalism. This provides a clear argument in favor of future economic impact studies of protected areas tourism.

Our study further revealed that the tourism benefits of national parks do not necessarily have to focus just on quantitative increases. In the Berchtesgaden study area, many citizens do not necessarily wish for more such benefits, especially those in the municipalities neighboring the park, where about 40% of the respondents opposed more tourists in the national park region. For them it is of crucial importance that national park administrations recognize residents' interest in more sustainable rural tourism and seek to form additional synergies with their goals, for example, not expanding existing mountain hut provision or making them more luxurious [13]. During the high season, overtourism phenomena [69,70] with traffic problems, such as long traffic jams, wild parking, etc. could sometimes be observed there before the COVID-19 crisis. This is often due to day-trippers arriving by private transport, affecting the recreational satisfaction of overnight visitors, as well as displacing local visitors (from the county). However, it could be argued that protected areas like national parks at least have some means of visitor management compared to other landscapes attractive for outdoor recreation and tourism, which might have the same "overtourism" (overcrowding in the German Alps due to the proximity of the agglomeration of Munich) problems. For instance, in Berchtesgaden National Park, the administration recently barred access to a waterfall popularized by social media leading to landscape degradation and visitors endangering themselves [71,72].

The positive perceived effects of the national parks related to the quality of life of the local population is similar to the results of other studies in a protected area context [46].

The assumption of the theory of psychological reactance [38–41] in the sense that restrictions on the freedom of decision and action influence overall park–people relationships can also be confirmed. Both research areas showed a (relatively weak) statistically significant connection between perceptions of limitations and overall attitudes towards the parks. However, the strength of these perceptions depends on various other predictors as well, such as perceptions of participation (see Section 5.6), preferred leisure behaviors and their spatial impacts [13]. The specific restrictions that are perceived as undesirable or inappropriate depend heavily on regional and cultural contexts. Residents around the Berchtesgaden National Park, for instance, do not adequately understand the regulations on alpine pastures as cultural landscapes, while in the Bavarian Forest, it is mainly the ban on picking mushrooms and berries that is perceived as restrictive. The latter perception has not really changed over time, if we consider the earlier acceptance studies [27,55]. Thus, the higher levels of perceived restrictions in the Bavarian Forest reported in Section 5.4 make sense.

These general prohibitions primarily affect emotional predictors and—due to their nature—seldom gain approval among inhabitants. In practice, one example of a more flexible handling of this problem is the permission to pick mushrooms and berries in certain areas of the Harz National Park [25]. Through such adaptive park management, pressures on the use of the total area can be channelled and one reason for local resistance can be avoided. However, the potential impacts of such uses must be subject to permanent monitoring.

The effects of inadequate information and negative perceptions of national park authorities as partners in communications on park–people relationships are also clearly indicated in our results. In addition, the interpersonal predictors correlate with most

other attitude measures considered (except for “nature is stable” and partly the spatial variable in Bavarian Forest and reactions and human interferences in nature for the case of Berchtesgaden). Economic benefits are less likely to be recognized if there is poor perceived communication, nor does participation or the communication of nature conservation values work. However, the results referring to non-adequate communication of the park administration has to be taken with a grain of salt as rather high shares of the respondents were not able to answer these questions. This could either indicate that those locals answered the questions who might be unhappy with the park authorities’ communication or that the respondents just do not care about the parks’ outreach and have nothing to complain about.

Hence, timely, effective, ongoing and transparent proactive communication can be regarded as being fundamental to positive park–people relationships. This factor must be given the highest priority.

The assumption that agreement with specific environmental worldviews and the values of nature conservation promotes more positive park–people relationships was confirmed, although with rather weak correlation strength. Similarly to Liebecke et al.’s [55] and von Ruschkowski and Mayer’s [52] studies, the perception of landscape development in the national parks significantly influences the overall park–people attitude. In other words, if the local population does not appreciate and/or understand the ecological integrity approach to nature protection, which leads to more deadwood or other forms of gradual “rewilding”, this could potentially undermine the overall support for protected areas (see also [64,65] for the case of the Bavarian Forest). The much more critical stance of the population in the Bavarian Forest towards ecological integrity compared to Berchtesgaden reflects the long-lasting conflicts that have occurred there since the mid-1980s. This issue was never a major point of contention in Berchtesgaden. In a similar vein, anthropocentric approaches to nature represent a barrier for positive park–people relationships. The concrete transfer of these value patterns into topics of regional conflict like forest management, landscape development and deadwood is also fundamental for the formation of attitudes towards national parks.

However, our measurement of overall park–people attitudes with the help of the dichotomous Sunday Question is also bound to have some important limitations. First, from the perspective of the parks, the very high level of pro-park votes is of course very positive but leads to problems in measuring correlations or in building more complex regression models due to the relatively low number of contra-park votes. Second, there are some considerable doubts in the literature regarding the validity of such a simple yes/no operationalization of park–people attitudes [52,55], because there is, most likely, not just one overall attitude towards a complex socio-ecological system like a national park. It is more likely that there are different attitudes towards various issues and topics that can also be contradictory and not always consistent, as illustrated by our results (e.g., the attractiveness of the parks for tourism is viewed positively, while forest (non-)management might be seen negatively). Nevertheless, the Sunday Question clearly illustrates that, despite several points of contention like landscape development and communication or restrictions, there is, crucially, overwhelming support for the continued existence of the parks.

We cannot confirm the existence of the formerly deep ‘crater’ in park–people relationships. Attitudes towards both national parks have converged over time at an overall better level across both study areas. In accordance with the existing morphological nomenclature, the former crater now appears only as a ‘depression’. The example of the Bavarian Forest shows the ‘depression’ particularly clearly (see Figure 4). Overall attitudes towards the park improve with increasing distance to the park, which conforms to the existence of a distance-decay effect in Tobler’s [42] tradition. Von Ruschkowski and Mayer [52] likened this phenomenon to the well-known NIMBY (not in my backyard) effect. The assumed gap—that is, a decline of approval ratings for the national park in areas with pre-existing deficits and an improvement of these values in areas that already have positive attitudes and values—was not seen in the present study, although the difference in the Sunday

Question between the original and extension parts of the Bavarian Forest National Park remained exactly at 9.1 percentage points if we compare our results with those of Liebecke et al. [55]. However, the overall attitude towards the park has improved considerably in the last decade in parallel with the gradual calming down of conflicts.

Growing appreciation and changes in attitudes towards the national parks can be expressed by different verbal associations. The comparison of the two latest studies about the Bavarian Forest National Park clearly highlights this. Whereas in 2007, the terms “deadwood areas/bark beetles”, which are strongly emotional and traditional, were the ones that were most frequently mentioned [55]; in 2018, the associations “nature”, “animals” and “tourism/recreation” are mentioned more often. This shows a mitigation of the deadwood situation in the Bavarian Forest, leading to more positive attitude values. The appreciation of a national park using a temporal comparison is illustrated by the Berchtesgaden case, since approval ratings show that the national park raises the awareness of the region over time and helps to improve the region’s popularity. The changing image of nature is continuously accepted and internalized. Nevertheless, in both national parks, there remains a residual group of “inconvincible” national park opponents, which, while becoming smaller, seems to be persistent. This was also found in other analyses, e.g., [25]. There was a clear improvement of attitudes toward the national parks over time in all sub-regions examined. This fact further confirms the assumption of improved park–people relationships through the habituation processes that we might call ‘park seniority’. The positive development of park–people relationships can be illustrated by the “Sunday Question” (Figure 6). Although the temporal effect depends on regional conditions, it seems to be generally valid. That is why the Berchtesgaden National Park has experienced a greater increase in its positive perception compared to the newer part of the Bavarian Forest National Park, which has only existed since 1997, though it still performs significantly worse than the 1970-part in the county of Freyung–Grafenau (similar to the studies of tourism operators by Mayer/Woltering [51] and v. Ruschkowski/Mayer [52]).

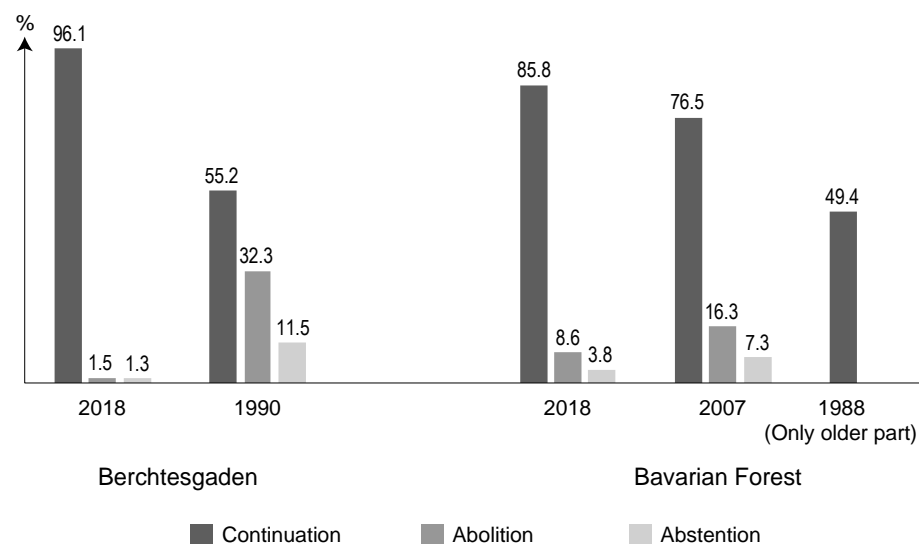


Figure 6. Overall park–people relationships according to the “Sunday Question” in temporal comparison (values in %) (Source: elaborated by the authors based on [27] (p. 58), [26] (p. 55) and [55] (p. 52)).

7. Conclusions, Implications and Further Research

National parks are very often the subject of controversial discussions, before, and most often after, their establishment. The state-of-the-art scientific research on park–people relationships in German national parks is still incomplete in terms of thematic coverage, topicality and, above all, research design and the standard and rigorousness

of the methodologies applied. In addition, most studies still seem to “scratch at the surface” only—while current symptoms of negative attitudes or even resistance towards the parks are usually identified in the studies, the exact causes often remain unknown. However, every management strategy can only be as good as its evidence basis. In general, park–people relationships should be considered a sublevel dimension of conservation conflicts [73]. As suggested earlier, no common theory has been developed to explain park–people relationships. However, supplementary to the prevailing paradigms, a look into the disciplines of conservation social science [74] and the human dimensions of wildlife [75] might deliver some additional theoretical basis to improve both research and management in the context of park–people relationships. While the influence of values and norms in this context have been recognized before, recent publications in the field of wildlife conflicts (e.g., [76,77]) suggest the much higher importance of conflicting values and social norms as the root cause for conservation conflicts. Skogen et al. [77] provide strong evidence that the true cause behind wolf-related conflicts are conflicting social norms and values in rural areas and an increasing urban-rural divide. Despite maybe a differing level of emotional context, it seems possible that protected areas as a source for conflicts serve the same proxy function as wolves (or other conflicting issues associated with conservation).

Hence, a different approach to the integration of park–people relationship issues into the management of protected areas in Germany should be applied on two levels: First, it is necessary to conceive park–people relationships as a permanent and ongoing monitoring task of equal importance as ecological and socio-economic monitoring. Second, current management planning focuses on ten-year cycles. While it is undoubtedly of importance to have a long-term planning document as a baseline, recent challenges such as climate change or the COVID-19 pandemic illustrate that external influences may be highly dynamic. Thus, the management of protected areas under these and other influences requires a shift from rather static to more adaptive management cycles and methods.

Analyzing the development of park–people relationships in our case studies reveals that the overall attitudes of the local population towards both parks are overwhelmingly positive, with 96% of the respondents in Berchtesgaden national park region versus nearly 86% in the Bavarian Forest national park region hypothetically voting in favor of the continued existence of the protected area. Compared to earlier studies by Rentsch [27] and Liebecke et al. [55], the overall attitude towards the Bavarian Forest National Park has improved considerably (though starting from a rather unfavorably low level).

Furthermore, the spatial-temporal differences between the adjacent municipalities of the two Bavarian national parks vary less today than in the early years after their establishment (or expansion in the Bavarian Forest case). The crater that once existed in park–people relationships has shrunk to a simple depression. Nevertheless, there remains a shrinking group of reluctant park neighbors, where the attitudes towards the parks are low. Economic, emotional, inter-personal and sociocultural attitudes were also examined, with the interpersonal predictors (e.g., trust) showing the strongest statistical effect. Greater transparency, pro-active communications and a more open participation in national park management by the administrations and rangers as opinion-formers are, therefore, necessary measures [24,78]. Possibilities include informal “park regulars’ tables” in enclaves or neighboring communities (a classic, popular and well-tested German approach to relationship building). The coherent and supportive involvement of state and—especially—regional politicians will also promote better park–people relationships, particularly in relation to the authorities responsible for park administration [79]. The attitudes referring to the perception of regional economic benefits induced by rural park tourism showed clear correlations with positive overall attitudes towards the national parks. Consequently, analyses of the regional economic effects of nature-based tourism in the rural national park regions are an absolute necessity, but by no means sufficient, criteria for the positive development of park–people relationships [12].

For this reason, regional economic studies must identify more clearly than before who (which actors, companies and visitors to the park) benefits directly and indirectly

(monetarily) from the park and its visitors and what opportunities exist [80]. The communication of these benefits must also become more accessible and emotional to better connect to local people's realm of experiences. It seems that the locals within the national park region do not want to be steamrolled by day trippers and tourists staying just one night who only want to make a check on their sights-list or on the most fashionable 'Instagram' postings. Moczek et al. [71] show that such visitor groups exist in Berchtesgaden National Park. These tourists are also less enthusiastic about the idea of a national park and the destination itself, because there is no time for that during a visit of only a few hours, which then threatens to drive away the regular guests in the small businesses of the locals (such as farmstay holidays). More quality instead of quantity in rural nature tourism also corresponds much better with national park management and its nature conservation concerns (do not extend or enlarge huts and paths but rather the reverse). This also requires keeping an eye on the digital social media world and implementing appropriate visitor management measures [81].

This paper began its life because of a long-established research interest in protected areas. It became apparent that there were very close and growing links between protected areas and rural tourism development and management. Those links can be traced back to the early 21st century work of Paul Eagles [82]. The links were developed by later researchers and commentators—see [5,49]. Lane and Kastenholz [44] made a strong case for better rural tourism governance and management. This paper highlights the complexities of linking protected area and rural tourism management, of understanding the links between both groups and of communications with politicians and with tourists themselves. That work of creating better understanding needs ongoing research. There are important roles for the academic community here. Those roles need academics to understand the special requirements of working with practitioners and public sector regulatory agencies (see [83]).

Having said that, scholars must be aware that the comparability of park–people relationship research between specific parks or even within the same protected area region over time is difficult to achieve due to both different baseline conditions and the respective issues at stake. Thus, it is also impossible to simply transfer the results for the two Bavarian case studies to the other terrestrial national parks in Germany without having conducted independent surveys on park–people relationships in the respective regions. For the same reason, our findings cannot be transferred to the situation in German marine protected areas, such as the national parks in the Wadden Sea region, which is also a UNESCO Natural World Heritage Site. The latter example shows that a transfer of site-specific results to other types of protected areas is by no means possible without adaptations of the survey instruments and independent surveys in the respective park surroundings. Finally, to gain full insight into the complexity of park–people relationships, a qualitative in-depth analysis of local conditions is needed in addition to the quantitative perspective, as it is presented here for the two case study regions. Only in this way can park–people relationships and recommendations for management action based on their analyses be adequately considered [84]. Without any doubt, these limitations do not only apply to comparisons within Germany between individual regions or types of protected areas but at the international level, where these problems of transferability and generalizability of results pose even greater challenges due to multiple socio-cultural differences. Thus, a meta-analysis of park–people relationships controlling for socio-cultural background and types of protected areas might be a challenging but nevertheless worthwhile endeavour.

Author Contributions: Conceptualization, H.J. and E.v.R.; Data curation, S.B., M.M. and M.W.; Formal analysis, M.M. and M.W.; Funding acquisition, H.J.; Project administration, H.J. and M.W.; Supervision, H.J.; Visualization, M.W.; Writing—original draft, H.J., S.B., M.M., E.v.R. and M.W. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by the administrations of Bavarian Forest and Berchtesgaden National Parks as part of the Bavarian State Ministry of the Environment and Consumer Protection.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: The datasets are not available for the public.

Conflicts of Interest: The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

References

1. CBD (Convention on Biological Diversity). *Update of the Zero Draft of the Post-2020 Global Biodiversity Framework*; Convention on Biological Diversity: Montreal, QC, Canada, 2020.
2. Dudley, N.; Ali, N.; Kettunen, M.; MacKinnon, K. Editorial essay: Protected areas and the sustainable development goals. *Parks* **2017**, *23*, 9–12. [CrossRef]
3. Pretty, J.; Pimbert, M. Beyond conversation ideology and the wilderness myth. *Nat. Res. Forum* **1995**, *19*, 5–14. [CrossRef]
4. Zube, E.; Busch, M. Park-people relationships: An international review. *Landsc. Urban Plan.* **1990**, *19*, 117–131. [CrossRef]
5. Getzner, M.; Vik, M.L.; Brendehaug, E.; Lane, B. Governance and management strategies in national parks: Implications for sustainable regional development. *Int. J. Sustain. Soc.* **2014**, *6*, 82–101. [CrossRef]
6. Nestorová Dická, J.; Gessert, A.; Bryndzová, L.; Telbisz, T. Behavioural survey of local inhabitants' views and attitudes about Slovak Karst National Park in Slovakia. *Sustainability* **2020**, *12*, 10029. [CrossRef]
7. Lane, B. What is rural tourism? *J. Sustain. Tour.* **1994**, *2*, 7–21. [CrossRef]
8. Stern, M. The power of trust: Toward a theory of local opposition to neighboring protected areas. *Soc. Nat. Res.* **2008**, *21*, 859–875. [CrossRef]
9. McCleave, J.; Espiner, S.; Booth, K. The New Zealand people-park relationship: An explanatory model. *Soc. Nat. Res.* **2006**, *19*, 547–561. [CrossRef]
10. Fortin, M.-J.; Gagnon, C. An assessment of social impacts of national parks on communities in Quebec, Canada. *Environ. Conserv.* **1999**, *26*, 200–211. [CrossRef]
11. Fiallo, E.A.; Jacobson, S.K. Local communities and protected areas: Attitudes of rural residents towards conservation and Machalilla National Park, Ecuador. *Environ. Conserv.* **1995**, *22*, 241–249. [CrossRef]
12. Mayer, M.; Stoll-Kleemann, S. Naturtourismus und die Einstellung der lokalen Bevölkerung gegenüber Großschutzgebieten. *Nat. Landsch.* **2016**, *91*, 20–25. [CrossRef]
13. Job, H.; Fließbach-Schendzielorz, M.; Bittlingmaier, S.; Herling, A.; Woltering, M. *Akzeptanz der Bayerischen Nationalparks (=Würzburger Geographische Arbeiten 122)*; Würzburg University Press: Würzburg, Germany, 2019.
14. BfN (Federal Agency for Nature Conservation). National Parks. Available online: <https://www.bfn.de/themen/gebietsschutz-grossschutzgebiete/nationalparke.html> (accessed on 22 July 2021).
15. BMU (Federal Ministry for the Environment, Nature Conservation and Nuclear Safety). *National Strategy on Biological Diversity*; Bonifatius: Berlin, Germany, 2007.
16. Sacher, P.; Mayer, M. Regionalökonomische Effekte als Argument in gesellschaftlichen Aushandlungsprozessen über Großschutzgebiete—Eine diskursanalytische Betrachtung der Nationalpark-Debatte im Steigerwald. In *Landschaftskonflikte*; Berr, K., Jenal, C., Eds.; Springer: Wiesbaden, Germany, 2019; pp. 331–356. [CrossRef]
17. Bayerischer Rundfunk. Umfrage: Mehrheit für dritten Nationalpark in Bayern. 2018. Available online: <https://www.br.de/nachrichten/bayern/umfrage-mehrheit-der-bevoelkerung-fuer-dritten-nationalpark,SMSAkt> (accessed on 5 July 2021).
18. Die Welt. Bayerns Pläne für den Dritten Nationalpark vor dem Aus. 2018. Available online: <https://www.welt.de/regionales/bayern/article172888922/Markus-Soeder-Dritter-bayerischer-Nationalpark-steht-vor-dem-Aus.html> (accessed on 23 July 2021).
19. Lucke, D. *Akzeptanz. Legitimität in der Abstimmungsgesellschaft*; Leske und Budrich: Opladen, Germany, 1995.
20. Job, H. Großschutzgebiete und ihre Akzeptanz bei Einheimischen. *Geogr. Rundsch.* **1996**, *48*, 159–165.
21. Stoll, S. *Ursachen für Akzeptanzprobleme von Großschutzgebieten*; Peter Lang: Frankfurt, Germany, 1999.
22. Beckmann, O. *Die Akzeptanz des Nationalparks Niedersächsisches Wattenmeer bei der einheimischen Bevölkerung*; Peter Lang: Frankfurt, Germany, 2003.
23. Mose, I. Akzeptanz, Einstellung und Image als Einflussgrößen von Großschutzgebieten. Einige theoretische und methodische Vorüberlegungen. In *Wahrnehmung und Akzeptanz von Großschutzgebieten*; Mose, I., Ed.; BIS-Verlag: Oldenburg, Germany, 2009; pp. 9–35.
24. von Ruschkowski, E.; Nienaber, B. Akzeptanz als Rahmenbedingung für das erfolgreiche Management von Landnutzungen und biologischer Vielfalt in Großschutzgebieten. *Raumforsch. Raumordn.* **2016**, *74*, 525–540. [CrossRef]
25. von Ruschkowski, E. *Ursachen und Lösungsansätze für Akzeptanzprobleme von Großschutzgebieten am Beispiel von zwei Fallstudien im Nationalpark Harz und im Yosemite National Park*; Ibidem: Stuttgart, Germany, 2010.
26. Rentsch, G.; Kuhn, W. *Die Akzeptanz und Ablehnung des Nationalparks Berchtesgaden durch die lokale Bevölkerung*; Technical University of Munich: Munich, Germany, 1990; unpublished report.
27. Rentsch, G. *Die Akzeptanz eines Schutzgebietes. Untersucht am Beispiel der Einstellung der lokalen Bevölkerung zum Nationalpark Bayerischer Wald (=Münchener Geographische Hefte 57)*; Kallmünz: Regensburg, Germany, 1988.

28. SRU (Sachverständigenrat für Umweltfragen). *Für eine Stärkung und Neuorientierung des Naturschutzes. Sondergutachten*; Bundesanzeiger-Verlagsgesellschaft: Bonn, Germany, 2002.
29. Wallner, A.; Bauer, N.; Hunziker, M. Perceptions and evaluations of biosphere reserves by local residents in Switzerland and Ukraine. *Landsc. Urb. Plan.* **2007**, *83*, 104–114. [[CrossRef](#)]
30. Buer, C.; Solbrig, F.; Stoll-Kleemann, S. *Sozioökonomisches Monitoring in deutschen UNESCO-Biosphärenreservaten und anderen Großschutzgebieten (=BfN-Skripten 329)*; BfN (Federal Agency for Nature Conservation): Bonn-Bad Godesberg, Germany, 2013.
31. Braun, V.; Bendler, G.; Haller, A.; Heinrich, K. Pfade der Spannungen: Entstehungsverläufe von Schutzgebieten in den österreichischen Alpen. *Rev. Géogr. Alp.* **2018**, *106*, 1–20. [[CrossRef](#)]
32. von Lindern, E.; Knoth, R.; Junge, X. *Akzeptanz, Identifikation und Engagement: Ansichten und Mitwirkung der Bevölkerung in UNESCO Biosphärenreservaten (AklDEn)*; Forum Landschaft, Alpen, Pärke-Akademie der Naturwissenschaften Schweiz (SCNAT) & Österreichisches Nationalkomitee für das UNESCO-Programm “Man and the Biosphere”: Bern, Switzerland; Wien, Austria, 2019.
33. Bachert, S. Acceptance of national parks and participation of local people in decision-making processes. *Landsc. Urb. Plan.* **1991**, *20*, 239–244. [[CrossRef](#)]
34. West, P.; Igoe, J.; Brockington, D. Parks and peoples: The social impact of protected areas. *Annu. Rev. Anthropol.* **2006**, *35*, 251–277. [[CrossRef](#)]
35. Duval-Massaloux, M.; Gauchon, C.; Héritier, S.; Laslaz, C. *Espaces Protégés, Acception Sociale et Conflits Environnementaux*; Cahiers de Géographie 10; Collection EDYTEM: Chambéry, France, 2010.
36. Michel, A.H. How conceptions of equity and justice shape national park negotiations: The case of Parc Adula, Switzerland. *eco.mont* **2019**, *11*, 25–31. [[CrossRef](#)]
37. Schenk, A.; Hunziker, M.; Kienast, F. Factors Influencing the acceptance of nature conservation measures: A qualitative study in Switzerland. *J. Environ. Manag.* **2007**, *83*, 66–79. [[CrossRef](#)]
38. Stoll-Kleemann, S. Barriers to nature conservation in Germany: A model explaining opposition to protected areas. *J. Environ. Psychol.* **2001**, *21*, 369–385. [[CrossRef](#)]
39. Stoll-Kleemann, S. Opposition to the designation of protected areas in Germany. *J. Environ. Plan. Manag.* **2001**, *44*, 109–128. [[CrossRef](#)]
40. Stoll-Kleemann, S. Reconciling opposition to protected areas management in Europe: The German experience. *Environment* **2001**, *43*, 32–44. [[CrossRef](#)]
41. Brehm, J.W. *A Theory of Psychological Reactance*; Academic Press: New York, NY, USA, 1966.
42. Tobler, W.R. A computer movie simulating urban growth in the Detroit region. *Econ. Geogr.* **1970**, *46*, 234–240. [[CrossRef](#)]
43. Hillebrand, M.; Erdmann, K.-H. *Die Entwicklung der Akzeptanz des Nationalparks Eifel bei der lokalen Bevölkerung: Eine Untersuchung zehn Jahre nach dessen Ausweisung (=BfN-Skripten 402)*; BfN (Federal Agency for Nature Conservation): Bonn-Bad Godesberg, Germany, 2015.
44. Lane, B.; Kastenholz, E. Rural tourism: The evolution of practice and research approaches-towards a new generation concept? *J. Sustain. Tour.* **2015**, *23*, 1133–1156. [[CrossRef](#)]
45. Whitelaw, P.A.; King, B.E.M.; Tolkach, D. Protected areas, conservation and tourism-financing the sustainable dream. *J. Sustain. Tour.* **2014**, *22*, 584–603. [[CrossRef](#)]
46. Reimann, M.; Lamp, M.-L.; Palang, H. Tourism impacts and local communities in Estonian national parks. *Scand. J. Hosp. Tour.* **2011**, *11*, 87–99. [[CrossRef](#)]
47. Lundmark, L.; Stjernström, O. Environmental protection: An instrument for regional development? National ambitions versus local realities in the case of tourism. *Scand. J. Hosp. Tour.* **2009**, *9*, 387–405. [[CrossRef](#)]
48. Byström, J.; Müller, D.K. Tourism labor market impacts of national parks. *Z. Wirtsch.* **2014**, *58*, 115–126. [[CrossRef](#)]
49. Sharpley, R.; Pearce, T. Tourism, marketing and sustainable development in the English national parks: The role of national park authorities. *J. Sustain. Tour.* **2007**, *15*, 557–573. [[CrossRef](#)]
50. Goodwin, H.; Roe, D. Tourism, livelihoods and protected areas: Opportunities for fair-trade tourism in and around national parks. *Inter. J. Tour. Res.* **2001**, *3*, 377–391. [[CrossRef](#)]
51. Mayer, M.; Woltering, M. Angebotsseitige Analyse des Tourismus in der Nationalparkregion Bayerischer Wald. In *Die Destination Nationalpark Bayerischer Wald als regionaler Wirtschaftsfaktor*; Job, H., Ed.; Nationalparkverwaltung Bayerischer Wald: Grafenau, Germany, 2008; pp. 66–99.
52. von Ruschkowski, E.; Mayer, M. From conflict to partnership? Interactions between protected areas, local communities and operators of tourism enterprises in two German national park regions. *J. Tour. Leis. Stud.* **2011**, *17*, 147–181.
53. Sieberath, J. *Die Entwicklung der Akzeptanz des Nationalparks Eifel bei der lokalen Bevölkerung (=BfN-Skripten 206)*; BfN (Federal Agency for Nature Conservation): Bonn-Bad Godesberg, Germany, 2007.
54. Liebecke, R.; Wagner, K.; Suda, M. *Die Akzeptanz des Nationalparks bei der lokalen Bevölkerung (=Berichte aus dem Nationalpark 5)*; Nationalpark Bayerischer Wald: Grafenau, Germany, 2008; Available online: https://www.professors.wi.tum.de/fileadmin/w00bca/wup/Files/Proejkt_Akzeptanz_NP_BY_Wald_berichte_np_heft_5_suda_studie_kurz_web_ba.pdf (accessed on 21 July 2021).
55. Liebecke, R.; Wagner, K.; Suda, M. *Die Akzeptanz des Nationalparks bei der lokalen Bevölkerung (Langfassung)*. 2011. Available online: https://www.professors.wi.tum.de/fileadmin/w00bca/wup/Files/Langfassung_Akzeptanzstudie_NP_Bay_Wald.pdf (accessed on 21 July 2021).

56. Stoll-Kleemann, S.; Buer, C.; Solbrig, F. Erprobung eines sozioökonomischen Monitoringsystems in ausgewählten deutschen Großschutzgebieten. In *Das Nationale Naturerbe in der Praxis-Impulse, Herausforderungen, Perspektiven*; Brickwedde, F., Stock, R., Wahmhoff, W., Eds.; Erich Schmidt Verlag: Berlin, Germany, 2012; pp. 325–332.
57. Balaš, M.; Strasdas, W.; Neumann, F.; Mattes, A.; Becker, L.S.; Polania Giese, J.C.; Renner, A.; Weber, A.; Kohl, K.; Pinnow, D.; et al. Messung der Nachhaltigkeit des Tourismus in Deutschland-Entwicklung Eines Tourismus-Nachhaltigkeits-Satellitenkontos; 2021. Available online: https://www.umweltbundesamt.de/sites/default/files/medien/5750/publikationen/2021-04-19_texte_61-2021_weiterentwicklung_nachhaltiger_tourismus_zw_0.pdf (accessed on 22 July 2021).
58. Destatis. Figures on Tourism in Germany 2019 at Different Scale Levels. *Genesis Online Database*. 2021. Available online: <https://www-genesis.destatis.de/genesis/online> (accessed on 15 May 2021).
59. Allex, B.; Preisel, H.; Eder, R.; Arnberger, A. *Berechnung der regionalökonomischen Effekte durch den Tourismus in den Nationalparks Bayerischer Wald und Šumava*; Internal Interim Report 2019; BOKU: Wien, Austria, 2019.
60. Nationalparkverwaltung Bayerischer Wald; Nationalparkverwaltung Šumava. Grenzüberschreitendes Sozioökonomisches Monitoring in den Nationalparks Bayerischer Wald und Šumava in den Jahren 2017–2019. 2020. Available online: https://www.nationalpark-bayerischer-wald.bayern.de/forschung/projekte/doc/soziooekonomisches_monitoring_2020.pdf (accessed on 15 July 2021).
61. Job, H.; Merlin, C.; Metzler, D.; Schamel, J.; Woltering, M. *Regionalwirtschaftliche Effekte Durch Naturtourismus in Deutschen Nationalparks als Beitrag zum Integrativen Monitoring-Programm für Großschutzgebiete (=BfN-Skripten 431)*; BfN (Federal Agency for Nature Conservation): Bonn-Bad Godesberg, Germany, 2016.
62. Job, H. Bayerische Serengeti. Der Nationalpark Bayerischer Wald wird 50. *Geogr. Rundsch.* **2020**, *72*, 44–49.
63. Flint, C.G.; McFarlane, B.; Müller, M. Human dimensions of forest disturbance by insects: An international synthesis. *Environ. Manag.* **2009**, *43*, 1174–1186. [[CrossRef](#)] [[PubMed](#)]
64. Müller, M. How natural disturbance triggers political conflict: Bark beetles and the meaning of landscape in the Bavarian Forest. *Glob. Environ. Chang.* **2011**, *21*, 935–946. [[CrossRef](#)]
65. Michler, T.; Aschenbrand, E.; Leibl, F. Gestört, aber grün: 30 Jahre Forschung zu Landschaftskonflikten im Nationalpark Bayerischer Wald. In *Landschaftskonflikte*; Berr, K., Jenal, C., Eds.; Springer: Wiesbaden, Germany, 2019; pp. 291–311. [[CrossRef](#)]
66. Garms, M. Perception of Climate-Induced Forest Dieback and Silvicultural Adaptation to Climate Change in Mountain Forests – The Case of the Bavarian Forest; Dissertation Greifswald University, Germany. 2021. Available online: <https://nbn-resolving.org/urn:nbn:de:gbv:9-opus-45636> (accessed on 15 July 2021).
67. Lindberg, K.; Enriquez, J.; Sproule, K. Ecotourism questioned: Case studies from Belize. *Ann. Tour. Res.* **1996**, *23*, 543–562. [[CrossRef](#)]
68. Wunder, S. Ecotourism and economic incentives-an empirical approach. *Ecol. Econ.* **2000**, *32*, 465–479. [[CrossRef](#)]
69. Sæþórsdóttir, A.D.; Hall, C.M. Visitor satisfaction in wilderness in times of overtourism: A longitudinal study. *J. Sustain. Tour.* **2021**, *29*, 123–141. [[CrossRef](#)]
70. Dodds, R.; Butler, R. (Eds.) *Overtourism: Issues, Realities and Solutions*; De Gruyter: Berlin, Germany; Boston, MA, USA, 2019.
71. Moczek, N.; Dworschak, U.; Klar, C. Besucherverhalten im Nationalpark Berchtesgaden. Auswirkungen von Social Media. *Nat. Landsch.* **2020**, *95*, 492–499.
72. RND (Redaktionsnetzwerk Deutschland). Selfie-Hotspot: “Infinity-Pools” am Königssee gesperrt—bis zu 25.000 Euro Strafe; 2021. Available online: <https://www.rnd.de/reise/gumpen-am-koenigssee-nationalpark-sperrt-beliebten-instagram-hotspot-NIUCIXNF2FFT7P7AP3QSUVWFVA.html> (accessed on 8 July 2021).
73. Redpath, S.; Guitérrez, R.; Wood, K.; Young, J. (Eds.) *Conflicts in Conservation. Navigating towards Solutions*; Cambridge University Press: Cambridge, UK, 2015.
74. Bennett, N.; Roth, R.; Klain, S.; Chan, K.; Christie, P.; Clark, D.A.; Cullman, G.; Curran, D.; Durbin, T.J.; Epstein, G.; et al. Conservation social science: Understanding and integrating human dimensions to improve conservation. *Biol. Conserv.* **2017**, *205*, 93–108. [[CrossRef](#)]
75. Manfredo, M.; Vaske, J.; Brown, P.; Decker, D.; Duke, E.A. *Wildlife and Society: The Science of Human Dimensions*; Island Press: Washington, DC, USA, 2008.
76. Manfredo, M.; Bruskotter, J.; Teel, T.; Fulton, D.; Schwartz, S.H.; Arlinghaus, R.; Oishi, S.; Uskul, A.K.; Redford, K.; Kitayama, S.; et al. Why social values cannot be changed for the sake of conservation. *Conserv. Biol.* **2017**, *31*, 772–780. [[CrossRef](#)]
77. Skogen, K.; Krange, O.; Figari, H. *Wolf Conflicts: A Sociological Study*; Berghahn Books: Oxford, UK, 2017.
78. Berzborn, S. Wie gelingt Teilhabe an einem Großschutzgebiet? *Geogr. Rundsch.* **2018**, *70*, 10–15.
79. Frohn, H.-W.; Küster, H.; Ziemek, H.-P. *Ausweisung von Nationalparks in Deutschland—Akzeptanz und Widerstand (=Naturschutz und Biologische Vielfalt 148)*; Landwirtschaftsverlag: Bonn-Bad Godesberg, Germany, 2016.
80. Spenceley, A.; Schägner, J.P.; Engels, B.; Engelbauer, M.; Erkonen, J.; Job, H.; Kajala, L.; Majewski, L.; Metzler, D.; Mayer, M.; et al. *Visitors count! Guidance for Protected Areas on Assessing Visitation and its Economic Impact*; UNESCO: Paris, France, 2021.
81. Job, H.; Majewski, L.; Engelbauer, M.; Bittlingmaier, S.; Woltering, M. Establishing a standard for park visitation analyses: Insights from Germany. *J. Outdoor Recreat. Tour.* **2021**. [[CrossRef](#)]
82. Eagles, P.F.J. Trends in park tourism: Economics, finance and management. *J. Sustain. Tour.* **2002**, *10*, 132–153. [[CrossRef](#)]
83. Higuchi, Y.; Yamanaka, Y. Knowledge sharing between academic researchers and tourism practitioners: A Japanese study of the practical value of embeddedness, trust and co-creation. *J. Sustain. Tour.* **2017**, *25*, 1456–1473. [[CrossRef](#)]
84. Stoffle, R.W.; Minnis, J.; Murphy, A.; Van Vlack, K.; O’Meara, N.; Smith, T.; McDonald, T. Two-MPA model for siting a marine protected area: Bahamian case. *Coast. Manag.* **2010**, *38*, 501–517. [[CrossRef](#)]