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## The effects of the COVID-19 pandemic in National Parks – diagnosis and forecast of sustainable tourism

**Abstract.** Tourist attractiveness of many areas in Poland is based on exceptional natural values, especially those protected by national parks. Recreation opportunities offered by national parks proved to be important during the COVID-19 pandemic, when the conditions for tourism changed. Many tourists gave up previously planned trips abroad in favour of staying in Poland. This raises the question whether tourists visiting national parks during the pandemic rested in compliance with the principles of sustainable tourism. The article is an attempt to diagnose changes caused by the influence of the COVID-19 pandemic on sustainable tourism by analysing the case of national parks in Poland. The article presents: 1) a diagnosis of changes triggered at different stages of restrictions introduced by the government to prevent the spread of the pandemic; 2) a forecast of how the pandemic may affect the development of tourism in terms of supply (tourist companies, hotels, catering, attractions) and demand (tourists). The summary provides recommendations for national parks, which can be helpful in achieving sustainable tourism objectives.

**Keywords:** sustainable tourism, COVID-19, national parks

**JEL Codes:** Z30, I31, Z19

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## 1. Introduction

The tourism market has been strongly affected by the restrictions on travel and business activities, which were introduced to stop the spread of the COVID-19 pandemic.

First of all, the pandemic influenced the behaviour of consumers who changed their holiday decisions for fear of their health. Secondly, because of the threat, national governments introduced restrictions on travel and activities of various types of companies. As a result, many potential tourists chose not to go ahead with their holiday plans and either gave them up altogether or changed the form and place of rest. When choosing a destination, tourists are often motivated by its attractiveness.

Tourist attractiveness of many areas in Poland is based on exceptional natural values, which constitute Poland's competitive advantage in relation to other countries. The Act on Nature Conservation of 16 April 2004 (Ustawa z dnia 16 kwietnia 2004 r. o ochronie przyrody) lists various levels of nature protection, the highest being that provided by national parks (Chapter 2. Article 6, item 1). According to the Act, making the listed areas of nature conservation available means enabling the use of a national park, a nature reserve or some of its areas and facilities for purposes of scientific, educational, tourist, and recreational activity, sports, filming, photography, as well as for profit (Chapter 2. Art. 5, item 22).

In this context, there is a research gap regarding motivations of tourists visiting national parks during the COVID-19 pandemic, when the conditions for tourism changed. Many tourists gave up their planned foreign trips in favour of staying in Poland, either because of official restrictions or for fear of getting infected. It can be hypothesized that many of those people decided to take advantage of recreation opportunities offered by national parks, treating them as a substitute for other activities. This hypothesis raises two questions: 1) was their decision to visit national parks during the pandemic motivated by their valuable and unique natural values; 2) did they rest in compliance with the principle of sustainable tourism.

The aim of the article is to diagnose changes caused by the influence of the COVID-19 pandemic on sustainable tourism by analysing the case of national parks in Poland. Because the pandemic has not finished, a thorough empirical analysis of pandemic-related changes in tourists' behavior will only be possible after it is over.

## 2. Sustainable tourism – theoretical assumptions

According to Poland's state policy, the principles of sustainable development must be implemented in various areas of the economy. In relation to the tourism

industry, they are connected with the concept of environmentally friendly tourism (natural, social and cultural) and the goal of ensuring economic efficiency. These assumptions underlie the concept of sustainable tourism (Nieżgoda, 2006; 2008).

According to the definition of the Federation of Nature and National Parks of Europe, the terms ‘sustainable tourism’ denotes any form of tourism development, management and activity that sustains the ecological, social and economic integrity of territories and preserves the natural and cultural resources of these territories intact (Zaręba, 2000, p. 34).

The objectives of sustainable tourism in areas of tourist reception can be grouped in the same way as the objectives of sustainable development (Nieżgoda, 2006, p. 43):

- environmental objective: preserve natural resources for tourism, reduce tourism-related pollution;
- economic objective: ensure the economic well-being of the population hosting tourists, maintain and ensure the optimal use of the tourist infrastructure;
- social objective: achieve satisfactory employment opportunities in tourism, provide recreation for locals and guests, protect the cultural identity of the local population, increase the participation of the local population in tourism policy.

In sustainable tourism the emphasis is not only placed on the natural environment, but also on the social and cultural environment, in other words, on all areas and sectors of tourism (green areas, such as protected and rural areas, as well as large tourist destinations) (Majewski & Lane, 2001). The issue of exposing the fragile natural world to visitor pressure arouses much controversy, and scientists and practitioners are trying to find compromise solutions (Machnik 2018, p. 14). One of them is nature-based tourism, which is supposed to minimize the negative impact of tourism on the natural, economic and social sphere. For this to happen, conditions need to be created in which tourist values can be enjoyed in such a way that they will not be degraded and can be preserved for the next generations. As Eagles, McCool, & Haynes (2002) point out with regard to the limitations of natural areas of high value, increasing the number of visits (tourists) is risky because it may have negative effects on the natural environment. Natural areas of high value should attract visitors who can appreciate them, i.e. tourists with high environmental awareness (Nieżgoda, 2012).

An excessive number of tourists on sightseeing routes or spots with high traffic intensity (peaks, passages, viewpoints, route nodes) is associated with environmental threats, such as noise, pollution, litter, destruction of the landscape, off-trail trampling, synanthropization, anthropopressure (Partyka 2010). Too many tourists on routes often results in dispersion, i.e. illegal leaving the marked route. The reason for “avoiding” the trails is very often their low throughput, as well as the ease of movement beyond them (Witkowski et al., 2010).

In order to examine the development of sustainable tourism in national parks during the COVID-19 pandemic, the authors propose taking into account:

- a diagnosis of changes triggered at different stages of restrictions introduced by the government to prevent the spread of the pandemic,
- a forecast of how the pandemic may affect the development of tourism in terms of supply (tourist companies, hotels, catering, attractions) and demand (tourists).

### 3. Tourism in national parks during the COVID-19 pandemic – diagnosis

Areas of high natural value and biodiversity play a key role in making Poland attractive for tourists. Out of concern for their natural values, including fauna and flora, so crucial for sustainable development, traditional, unsustainable industry has to be limited (Łuszczuk, 2010, p. 10). Designating a given area as a national park makes it more valuable and attractive for tourists (Miazek, 2020, p. 77; Stasiak, 1997, p. 6). Paradoxically, the creation of a protected area is associated with threats from tourism. The number of visitors in national parks is steadily increasing and includes not only nature enthusiasts but also people looking for opportunities to relax and enjoy outdoor sports. Of all natural attractions, be that in Poland or elsewhere, national parks enjoy the highest attendance (Kruczek, 2017; Liszewski, 2009). National parks in Poland cover a total area of 315 thousand hectares, which is only 1.1% of the country's area. Compared to the European average of 3.4%, Poland ranks only 26<sup>th</sup> in this respect. The last national park was established in 2001. Additionally, according to the 2019 report by the WWF Foundation and the Boston Consulting Group entitled *2050 Poland for Generations. Our Future – Our Choice*, “Only 27% of habitats were in the favourable condition and over 70% were in inadequate or bad condition” (WWF&BCG, 2019, p. 107). That is why, it is urgently necessary to create new parks and take coordinated actions to manage them properly, also in the context of tourism development. As Krukowska, Świeca & Tucki rightly emphasize (2016, p. 130), it is important to define such directions of development and tourist access to national parks so that these areas can perform their functions, and the growth of tourist traffic does not lead to the degradation of their values. In order to prevent negative impacts on nature, access to national parks is restricted: tourist traffic takes place only in designated areas and under certain conditions; in some cases, entrance fees are charged, which are used to cover part of the operating costs. According to a 2006 report by the Supreme Audit Office (NIK), national parks in Poland take two approaches to visitor management. The purpose of the first approach is to maximise the use of the national park, while ensuring an appropriate organization of visitor

traffic, by creating new routes, viewpoints or other forms of participation. In the second approach (used by smaller parks with a large number of visitors), in order to minimize the interference of tourists with the park's ecosystem, the number of trails leading to attractive places is kept to a minimum (NIK, 2006, p. 19). In order to effectively combine parks' protective function with their tourist function, in addition to merely limiting the number of visitors it is necessary to analyse visitors' behavior, length of stay, concentration spots and the purpose of visiting (Lindberg, McCool, & Stankey, 1997).

The goal of the first wave of restrictions introduced by the government was to encourage people to stay home. As a result, many accommodation and catering facilities as well as tourist attractions had to suspend their activity. Initially, people were still allowed visit forests, as this type of activity was classified as "an essential everyday need", like walking a dog or going shopping. However, after some time, when it turned out that people did get together in larger groups in forest areas (including national parks), some of them introduced entry bans. Other parks limited their activities: tourist information points and museums in the parks were closed, other activities and educational events were cancelled. This had a positive effect on wildlife: some rare species of animals were spotted near empty tourists trails, e.g. a bear, grouse and black grouse turfs in the Tatra National Park or a wolf in the Wielkopolski National Park. The period of the pandemic and restricted access to the parks was therefore "a breath of respite" for nature.

The lockdown was intended to limit the spread of the virus, but in the long run, the society's mental recovery after the pandemic requires the possibility of coming into contact with nature (physical and mental).

During the first wave of the pandemic, following recommendations of the Polish Tourist Organization, actions were taken to maintain constant contact between service providers and tourists by using social media and the Internet. Some of these initiatives included offering virtual tours instead of actual visits, promotional films, animations, virtual competitions and quizzes with prizes in the form of tickets and special invitations for long-term use and popularizing information local nature resources and natural tourist attractions (POT, 2020). According to an online study by the BBC and the University of California at Berkeley, even virtual contact with nature (watching natural history footage from Planet Earth II) evokes positive emotions and has a huge impact on our well-being: Earlier studies have shown that "a connection to nature has multiple positive effects on outlook and behaviour including: enhanced attention, focus and cognitive performance. It decreases stress and enhances calm. People who experience a connection with nature are more pro-social and effective teamworkers" (BBC, 2017).

In the next stage of the pandemic, when restrictions were relaxed and active participation in tourism was possible again, Polish tourism companies took some creative actions to revive the domestic tourism market. For example, the Foodkry-

wcy company, which had so far organized culinary trips to Asia, decided to focus on the domestic market and started offering trips “with taste”, to such destinations as Gdańsk, the Vistula Spit, Podlasie and Bieszczady (Miazek, 2020). Such incentives to rest in Poland were a welcome boost for other service providers. While mainly motivated by the desire to maintain existing jobs, these initiatives also helped to meet social goals such as contact with other people and rest. Restrictions were also lifted in national parks, which could reopen, although park directors were allowed to exercise discretion in whether or not to close the most popular routes in the parks. In fact, while some parks did reopen, others, for fear of a mass influx of visitors, decided to postpone such decisions (e.g. the Kampinos National Park). The public, starved for contact with nature, began to visit green areas, forests and national parks en masse. However, a sudden influx of tourists had its negative effect, especially in area of high natural value. Polish national parks were visited by groups of tourists who were not always interested in nature but rather treated their stay in a national park as a substitute for another trip (abroad, to large resorts, etc.) or even other forms of activity (social events, a visit at a shopping gallery, gym exercises). A study of reviews posted on TripAdvisor conducted by Niezgoda and Nowacki (2020) suggests that most tourists visiting the Tatras National Park between 2011 and 2019 were not looking for experiences related to nature but mostly for opportunities to practise physical activity.

This means that tourists who are not motivated to visit national parks by their intrinsic natural values but rather treat them as a substitute may have a harmful effect. An increased influx of such tourists causes congestion and littering in an environmentally sensitive place. As noted by the Supreme Audit Office in its 2006 report (NIK, 2006, p. 4), negative phenomena in national parks include the ‘reconstruction’ of forest stands, damage caused by the maintenance of ski trails, fishing in areas located within coastal national parks and trampling impacts on attractive tourist routes. As a result of increased tourist traffic in national parks during crisis situations, such as the pandemic, these phenomena are likely to intensify. Additionally, crowded tourist trails often cross paths and animal tracks, thus limiting their hunting space. In addition, the use of disposable packaging, face masks and gloves has certainly resulted to more littering in areas of natural value during the pandemic. This not only spoils the landscape but also poses a threat to animals and plants. Litter left in forests pollutes the soil and water and can facilitate the start of a fire. It is therefore particularly important to raise ecological awareness of national park visitors, e.g. by organising actions such as „#take5fromtheforest” (5 pieces of garbage found during a visit in the forest) or garbage collections programmes.

One example of how national parks react to the growing number of tourists is the approach adopted by the Tatra National Park (TPN)<sup>1</sup>, which was visited

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<sup>1</sup> Information obtained in a telephone interview with employees of the Tatra National Park.

by 3,947.4 thousand tourists in 2019, making it the most visited national park in Poland (GUS, 2020). TPN tries to limit the number of visitors entering the park, which is associated with several problems. First of all, it is necessary to determine actual possibilities of limiting access, which is related to the way of measuring the number of visitor and the duration of restrictions. Secondly, the introduction of limits is not always received well by tourists and travel service providers. Thirdly, access restrictions have to be enforced, which generates additional costs and, frequently, public opposition.

Currently, the limiting measures taken by TPN are determined by transport capacity, parking capacity, ticket gates capacity and include the ban on entry from dusk to dawn. Despite limiting the sale of e-tickets, with sales continuing through traditional ticket offices, these restrictions do not prevent congestion.

Results of a study by Giergiczny and Zwijacz-Kozica (2018) indicate that a systematic and transparent educational and informational campaign conducted by TPN could dispel many doubts and significantly improve the public perception of the measures taken by the Park and increase public support for passive protection. Access restrictions accompanied by an appropriate information campaign are more likely to raise ecological awareness of the public and might help to attract more tourists who are genuinely interested in natural values.

In the second stage of the pandemic, when people, tired of being “locked up” in their homes, started to travel again, most of them looked for more secluded places, off the beaten track, e.g. cottages or guesthouses by the lake or by the sea. An analysis of the most popular Google searches in 2020, conducted by the wGospodarce portal, included destinations located relatively close to people’s places of residence (usually within the same province) and connected with nature – national parks and mountains (search term: Tatra National Park, Białowieża Forest, Polesie National Park, Błędowska Desert, Turbacz), while the number of searches for destinations offering more urban attractions, such as as theme parks decreased (search terms: Energylandia, ZOO Wrocław, Czocha Castle, Kazimierz Dolny, Karpacz) (wGospodarce, 2020). The above observations indicate a move away from mass tourism in favour of more alternative tourism. From the point of view of sustainable tourism, this trend involved:

- tourism in small groups, thematic or active tourism (bikes, kayaks, hiking),
- getting to know a given place instead of moving around intensively.

Changes in tourists’ behavior were also manifested in preferred means of transport and types of accommodation, with almost 60% of tourists surveyed as part of the Think Forward Initiative<sup>2</sup> reporting avoidance of public transport in favour of their own car (ING, 2020b). Such a preference contradicts the idea of sustain-

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<sup>2</sup> A survey commissioned by the Think Forward Initiative and conducted by IPSOS BV on a representative sample of 1002 Polish respondents.

able tourism, which strives to eliminate environmental pollution by encouraging the use of public transport. As regards accommodation, hotels were still the most popular option, but more than 50% of tourists, when asked about changes in their travel arrangements because of the pandemic, indicated the intention of avoiding large hotels (ING, 2020a). This aspect is in line with principles of sustainable tourism, which promotes small businesses and local service providers.

To sum up: the above diagnosis of sustainable tourism during the pandemic takes into account:

1. Changes in the number of tourists in areas of natural value.
2. Changes in tourist traffic (use of public transport vs. car).
3. Preference for specific types of accommodation facilities (small, local vs. chain hotels).
4. Assessment of the number of new tourism products and ventures that have emerged as a result of the needs of tourists in the face of the pandemic (e.g. local tours, new forms of accommodation – tents, etc.).
5. Evaluation of waste management, the amount of waste additionally generated by the safety requirements during the COVID-19 pandemic.

#### **4. Impact of the pandemic on tourism in national parks – forecast**

Changes caused by the COVID-19 pandemic can only be predicted based on estimates, given that the end of the epidemic is unknown. How long it will take to recover from the crisis will definitely differ from country to country and its effects will be visible on the demand and supply side. These effects will be difficult to quantify, especially given the small number of historical cases (Sieroń, 2020). Because of the complexity and uncertainty of the crisis situation, possible ways out of the crisis are only just emerging and have a debatable and partially contradictory character (Banaszyk & Gorynia, 2020).

In the light of the above, the future of sustainable tourism as a result of changes caused by the COVID-19 pandemic should be analysed taking into account both supply and demand.

The study of demand during the pandemic is complex because tourists' choices are determined not only by individual needs but also by temporary external factors (restrictions introduced by the government).

With regard to national parks, it would be valuable to study tourists' motivation for choosing destinations of this kind. Was the choice motivated by a genuine interest in nature conservation, for example, or was it merely a substitute choice (instead of another kind of trip, or even another form of activity)? Attendance in

national parks keeps increasing, but varies greatly across different parks. At the end of 2018, the highest number of tourists was recorded in the Tatras National Park (4 million people) and the Karkonosze National Park (2 million people), while the lowest numbers of tourists visited the Narew National Park (12 thousand people) and the Drawa National Park (20 thousand people) (GUS, 2019). These differences in the volume of tourist traffic can be partly explained by geographical location (including types of terrain), communication accessibility and tourism infrastructure (enabling various forms of tourism) (Miazek, 2020).

Another effect of the pandemic is the fact that tourists have learned to use virtual forms of travel. During the first lockdown, when it was not possible to engage in recreational and tourist activities, people started to take advantage of information provided online, which was treated as a form of entertainment. Particularly important in this respect were initiatives taken by entities promoting national parks, which included films promoting areas of particular natural value or quizzes and competitions with prizes. In addition to broadening the knowledge of regular visitors, such projects encouraged people who had not visited such areas before to get to know them and see them as an attractive holiday alternative.

However, the question arises: will these people continue to visit areas of natural value after the current restrictions on tourist traffic have been lifted, or will they return to their old habits? While people will probably return to their pre-pandemic habits after the pandemic is over, after facing such a global and existential threat, their behaviors may become more prudent also in terms of nature conservation.

National parks in Poland are among the most frequently visited tourist destinations, accounting for almost 30% of the national tourist traffic (Miazek, 2020). Results of report by Kantar Millward Brown indicate that Poles are increasingly aware of the threats related to the state of the environment and see the need to ensure ecological safety for contemporary and future generations also in terms of creating nature protection areas. The vast majority of respondents (80%) believe that new national parks should be established in Poland (Kantar Millward Brown, 2019). Another evidence of the importance of national parks for Poles is the fact that they are viewed by surveyed respondents as places that should be seen by foreigners in order to regard Poland as an interesting country, i.e. the ones that Poles can boast about to others (CBOS, 2010). It should be noted for 45% of respondents surveyed by CBOS in May 2020, the most burdensome restrictions during the first lockdown, apart from the stay-at-home requirement (48%) and the need to wear masks (44%), was the ban on entering forests and parks (including national parks) (CBOS, 2020). In addition, given the impact of the pandemic on social interactions (Kowalska, Niezgodna, 2020), the majority of potential tourists will prefer to visit less populated places where the risk of infection is minimal. After the pandemic is over, domestic tourism can be expected to increase (Korinth, 2020).

The sense of safety associated with places like national parks, which translates into better physical and mental health, can lead to a permanent increase in their popularity for those tourists who did not visit them before the pandemic. During the pandemic, parks – described as “a refuge from the ills of civilisation” and used for the “recreation of the human spirit” (as cited by Dahlberg, Rohde, & Sandell, 2010, p. 210) – have become an important resource enabling people to cope with the global health crisis. According to a study by Buckley et al. (2019, p. 7), “there is direct link between protected area visits and individual human mental health and wellbeing, which translates to a very substantial but previously unrecognised economic value for protected areas and conservation”. The authors found that stays in non-park greenspace and national parks improve the quality-of-life (QOL), with the effect size for parks being several times greater than that for greenspace (Buckley et al., 2019, p. 4).

The extent to which these changes in tourists’ habits persist after the pandemic is over will also depend on actions taken during and continued after the pandemic on the supply side of tourism. According to Fusté-Forné (2020), virtual experience could become a driver of future trends in tourism. Newly created tourism products and actions taken according to new rules of tourism promotion and service may change the behavior of tourists once they discover new technological possibilities. The offering of Polish national parks is also likely to change as a result of introduced modifications. Virtual walks in national parks, used during the pandemic, will still be available once it is over and can be the first point of contact between a tourist and the park, for the purpose of educating tourists before their actual visits. The modification may also concern the educational offer, which in a remote form will be at least partly continued due to the extension of the wider acceptance of digital technologies during the pandemic. The supply chain may conclude that for economic reasons it will be more profitable to offer part of the services in a remote form. Equally important are activities within the framework of children and youth education. Examples of such initiatives include a remote education project in the Ojcow National Park (OPN, 2020), another one developed by the Environmental Education Center in Włocławek, which offers online courses for children, young people and virtual workshops for teachers (WCEE, 2020) or a daily cycle of forest fairy tales, organized by the Regional Directorate of State Forests in Białystok (TVP3 Białystok, 2020).

As already mentioned, ecological awareness of visitors to national parks can also be raised by involving them in garbage collection programmes or initiatives such as “#take5fromtheforest”.

As regards possible future trends, one can expect changes concerning accommodation, catering and information. While the pandemic continues, efforts are likely to focus on reducing the capacity of accommodation and catering facilities, disseminating virtual guide programs, promoting non-cash transactions and online booking services.

## 5. Discussion and recommendations

In order to make sure that tourists feel safe in national parks, and, above all, to safeguard the status of parks as protected areas, it is necessary to apply measures aimed at counteracting congestion on tourist trails. In particular, this involves determining the maximum number of visitors that can stay at the same time in places visited by tourists and consistently applying such restrictions (including the assessment of how effective protective measures are).

Tourists can be counted based on information stored in entry and exit books, ticket sales, permits issued or other registration methods. Another method is direct counting, for example on the trail or by aerial observation (Kajala, 2007). Tourist traffic can also be measured automatically, for example using solutions such as those developed by Eco-Counter<sup>3</sup> (Rogowski & Małek, 2016; Spychała & Graja-Zwolińska 2014).

The monitoring of tourist traffic in national parks consists not only in counting visitors but also involves collecting more information about them (Miazek, 2020). This is typically done by conducting studies designed to collect data about attitudes and behavioral patterns of potential tourists in relation to the environment (Briassoulis, Van der Straaten, 1992). Tourist classification can be used, for example, for the purpose of zoning, i.e. adjusting the number of visitors to the natural value of the area, e.g. in the form of ticketing (Kruczek & Przybyło-Kisielewska, 2019).

Another important area from the perspective of the development of sustainable tourism in national parks comprises education and marketing activities. It should be remembered that many tourists visit protected areas very rarely and many problems related to their behavior result simply from the lack of knowledge and experience. Educating visitors about natural values consists in providing data, facts and advice about nature conservation, location of objects, regulations and information on appropriate behavior. A study conducted by Giergiczny and Zwijacz-Kozica (2018) showed that there is no real conflict between the social function of the Tatra National Park and its status as a protected area, because forests, which to a high degree perform protective functions are also perceived as more attractive for recreation. Therefore education of present and future tourists is very important. According to Józef Partyka, former director of Ojców National Park, while education in national parks can help to prevent and mitigate various conflicts, it is difficult to measure its effectiveness, since potential positive effects can only be observed after some time (Partyka, 2010, p. 21).

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<sup>3</sup> <https://www.eco-counter.com/application/natural-areas/>

Marketing can also help to preserve the biophysical and cultural attributes of protected areas, by attracting those visitors with high ecological awareness (Niezgoda, 2012).

Activities that can serve the protection of natural resources fit into the concept of demarketing (Niezgoda, 2006), which does not aim to eliminate the demand (inflow of tourists), but rather to reduce its level permanently or in certain periods (Kotler, 1994, p. 12-13). In national parks, selective demarketing can be used to discourage tourists who are not concerned about ecology or generate too little profit in relation to the losses resulting from their influx.

## 6. Conclusion

In the process of identifying possibilities for the development of sustainable tourism in national parks during the COVID-19 pandemic, one should take into account:

- diagnosis and analysis of changes that have taken place in the environment (development of a coherent environmental data bank, including changes on the demand and supply side),

- synthesis and landscape-ecological forecast, including indications that define possibilities of a harmonious development of natural and tourist functions.

A spatial diagnosis of the state of the natural environment during the pandemic is a prerequisite for the process of synthesis and predicting future changes. The aim of the synthesis process is to harmonize the development of ecological and socio-economic functions in the parks in order to minimize conflicts that may arise. The synthesis stage should be strengthened by predictions of future development trends. However, one should remember about limitations in the forecasting process, resulting from the complex nature of the natural environment itself, among which the following should be mentioned first of all: selective knowledge about components of the natural environment, lack of knowledge about relations and connections between them and difficulties in applying quantitative parameters (as cited by Fagiewicz, 2003). Thus, forecasting the state of the natural environment requires the development of a methodology of multi-criteria analysis of the state of the environment and the development of a synthetic indicator of this state (Fagiewicz, 2003). An additional problem is the complex nature of the crisis situation and the adoption by the governments of individual countries of different methods of coping with the pandemic and different paths of exit from the crisis, which may condition certain solutions also in the field of sustainable tourism in national parks. The diagnosis and forecast concerning the possibilities of development of sustainable tourism in national parks in the face of the COVID-19 pandemic should not refer to individual entities (national parks), but should be

comprehensive and concern the scale of the whole country, obviously taking into account the diversity of individual national parks and factors differentiating the tourist traffic in the parks. In this respect it is extremely important to coordinate activities of all entities responsible for the development of sustainable tourism in national parks in the COVID-19 era.

Protected areas are very attractive destinations given the growing demand for various forms of activity, including tourism. Managers of protected areas are therefore faced with the challenge of ensure that visitors can participate in such activities while being aware of and making an effort to preserve unique natural values of visited areas. As Whitelaw, King, and Tolkach (2014, p. 586) point out, management strategies for national parks should be tailored to their environmental values: parks with lower environmental values may have potential for picnic areas, for example, with the provision of low-impact parking and food services for tourists. Parks with higher environmental values, on the other hand, require stricter control of tourist traffic, e.g. by offering organized tours of the park under the guidance of a properly trained guide, which will minimize the negative impact of tourist presence on park values.

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## Skutki pandemii COVID-19 w parkach narodowych – diagnoza i prognoza turystyki zrównoważonej

**Streszczenie.** Atrakcyjność turystyczna wielu obszarów w Polsce, w tym parków narodowych, opiera się na wyjątkowych walorach przyrodniczych. Możliwości rekreacji i wypoczynku, które oferują parki narodowe, okazały się ważne w czasie pandemii COVID-19, kiedy zmieniły się warunki uprawiania turystyki. Wielu turystów rezygnowało z wcześniej planowanych wyjazdów zagranicznych na rzecz pobytu w Polsce. Pojawia się pytanie, czy turyści odwiedzający parki narodowe w okresie pandemii wypoczywali zgodnie z założeniami turystyki zrównoważonej. Celem artykułu jest próba diagnozy zmian wywołanych wpływem pandemii COVID-19 na turystykę zrównoważoną na przykładzie parków narodowych w Polsce. Artykuł prezentuje: 1) diagnozę – zmiany w ujęciu na etapy ograniczeń wprowadzonych przez rząd w celu zapobiegania rozprzestrzenianiu się pandemii; 2) prognozę – przewidywanie, jak pandemia wpłynie na rozwój turystyki w ujęciu podaży (przedsiębiorstwa turystyczne, hotele, gastronomia, atrakcje) oraz popytu (turyści). W części podsumowującej wskazano rekomendacje dla parków narodowych, które mogą być pomocne w osiągnięciu celów turystyki zrównoważonej.

**Słowa kluczowe:** turystyka zrównoważona, COVID-19, parki narodowe



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