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Do Economic Opportunities Offered by National Parks Affect Social Perceptions of Parks? A Study from the Polish Carpathians

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The economic benefits of protected areas are at the core of the worldwide discourse about nature protection. The literature as well as simple logic suggest that economic benefits are likely to enhance positive attitudes toward the source of the benefits. However, the results of the present research project, based on both quantitative and qualitative (interview) data, covering 2 national parks in the Polish Carpathians, do not support this hypothesis. At the local level, the worst relationships between park authorities and local communities and governments were identified in municipalities

that absorbed most of the park-generated money flows or at least maintained the most business relationships, primarily because of their physical proximity to the park's headquarters, enabling more frequent formal and informal contacts. By contrast, positive attitudes toward the parks usually came from more distant municipalities. This may be due to either a generally low importance of park-generated financial benefits for the local people in these areas or the limited impact of utilitarian arguments on their attitudes toward nature protection.

Keywords: Perception; economic benefits; conservation; national parks; Polish Carpathians.

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Introduction

The relationship between nature protection and economic performance is a key aspect of the international debate on the functioning of protected areas within their social and institutional context. This debate started in the 1970s (Rodary and Castellat 2003), has intensified since the mid-1990s (Hirschnitz-Garbers and Stoll-Kleemann 2011), was further emphasized during the International Union for Conservation of Nature's Fifth World Parks Congress ("Benefits Beyond Boundaries") in Durban, South Africa, in 2003, and continues today. At the same time, an emphasis on a more integrative approach to nature protection has drawn more attention to how parks are perceived by different stakeholders. When parks and reserves fail to meet nature protection goals, negative attitudes of local communities are usually seen as a key reason (Heagney et al 2015: 1648; Bennet 2016: 588; Michel 2017; Lindenmayer et al 2018: 316–317). This can trigger a "back to the barriers" attitude, also called "fortress conservation," resulting in further social conflict, as reported in particular from some developing countries (Hutton et al 2005; Aubertin et al 2011). Better understanding of the reasons behind local residents'

rejection of or lack of commitment to protected areas can help to stop this vicious circle.

In a mountain context, looking for common ground between nature protection and local development is especially important. In the global North, efforts to protect habitats of exceptional biodiversity value in mountain areas often clash with high pressure to develop ski resorts and other sports and leisure facilities, which are often seen by local populations as the only way to compensate for the weaker economic position that these usually peripheral regions have experienced for centuries (Mayer and Mose 2017).

Economic influence and economic value brought by different types of protected areas have been studied worldwide and approached through reviews of case studies (IUCN 1998), in-depth assessments of a park's economic performance in its local context (eg Mika et al 2015), and from a regional perspective, for example, for southeastern Australia (Conner and Gillian 2003; Heagney et al 2015) and northern Sweden (Lundgren 2009). Although many studies on nature conservation's influence on poverty alleviation in developing countries have been criticized for overestimating their universal transferability and overgeneralizing their findings and conclusions

(Agrawal and Redford 2006), some more recent studies on the topic demonstrate this influence more convincingly, for example, for Costa Rica and Thailand (Andam et al 2010; Sims 2010) and Bolivia (Canavire-Bacarreza and Hanauer 2013).

Links between effective nature protection and the development expectations of local communities have also been the subject of broader syntheses, such as those by Rodary et al (2003) and Aubertin et al (2011) for developing countries; Mose (2007), Hammer et al (2016), and Hirschnitz-Garbers and Stoll-Kleemann (2011) for Europe; and Petrova (2014) for postsocialist central and eastern Europe. Most of these studies suggest that acknowledging local communities' rights to economic benefits from protected areas will enhance both protected area performance and human welfare.

Common sense suggests that benefits brought by protected areas to local communities should also result in greater social support for nature protection. This interdependence is repeatedly asserted in recommendations, policy statements, and guidebooks (Lockwood et al 2006; Kettunen and ten Brink 2013; Marton-Lefèvre 2014). However, there is a growing body of evidence that this may be an oversimplification. Some authors have described a phenomenon of “concentrated pain and diffuse benefits” (Lindenmayer et al 2018: 318): restrictions experienced by the parks' closest neighbors or a relatively small group of stakeholders are often obvious, while benefits (such as ecosystem services, clean environment, and aesthetic values) are much more subtle and long-term and belong to higher categories of Maslow's pyramid (Bragagnolo et al 2016: 172). Direct financial benefits generated by a protected area, even if high in absolute values, are usually unevenly distributed, going to a relatively small group of residents (and not necessarily the ones affected the most by park-related restrictions), resulting in a sense of social injustice (Pullin et al 2013: 26–27; Bragagnolo et al 2016: 170; Vedeld et al 2016; Neudert et al 2017). The creation of a new protected area can change power relations between local stakeholders considerably (Pullin et al 2013: 28) and sharpen the contrast between indigenous (usually rural and poorer) people and visitors coming from distant (often urban and richer) places to admire landscapes and species.

This paper reports on a study that explored the spatial distribution of economic benefits generated by parks and compared parks' business ties with nearby communities to those communities' attitudes toward park activities. Focusing on municipalities (smallest administrative units in Poland, grouping one or more villages) that shared a part of Pieniński or Magurski National Parks in the Polish Carpathians, the study investigated whether more frequent economic contacts and higher money flows corresponded with greater social support for the parks, and related these findings to the context of regional economic ties developed by these parks, thus linking

insights at the local level with insights from a regional perspective.

Study area

Pieniński and Magurski National Parks, the focus of this study (Figure 1), differ considerably (especially given Poland's relative homogeneity) in terms of social, historical, landscape, and physical characteristics and extend across multiple ethnographic/cultural regions (Podhale and Spisz for Pieniński National Park; Małopolska and Podkarpacie for Magurski National Park). Both locations are peripheral not only from a national perspective (at the border between Poland and Slovakia) but also in their distance from regional capitals and major cities.

This study was part of a larger qualitative study of protected areas' impact on regional and local development in the Carpathians, which also included the national parks Babiogórski, Gorczański, and Bieszczadzki. Research in multiple parks made it possible to identify regional characteristics as well as park-specific features and problems. The issue of economic impact of a park on local communities was studied in detail by Mika et al (2015) with reference to Babiogórski NP, providing broad (mostly quantitative) input for possible discussion, while a member of the same research team, Zawilińska, described findings from a social survey on perceptions of the park among local residents (Zawilińska 2016). The current paper relies on these insights as well but extends the comparison further, based on additional research described below.

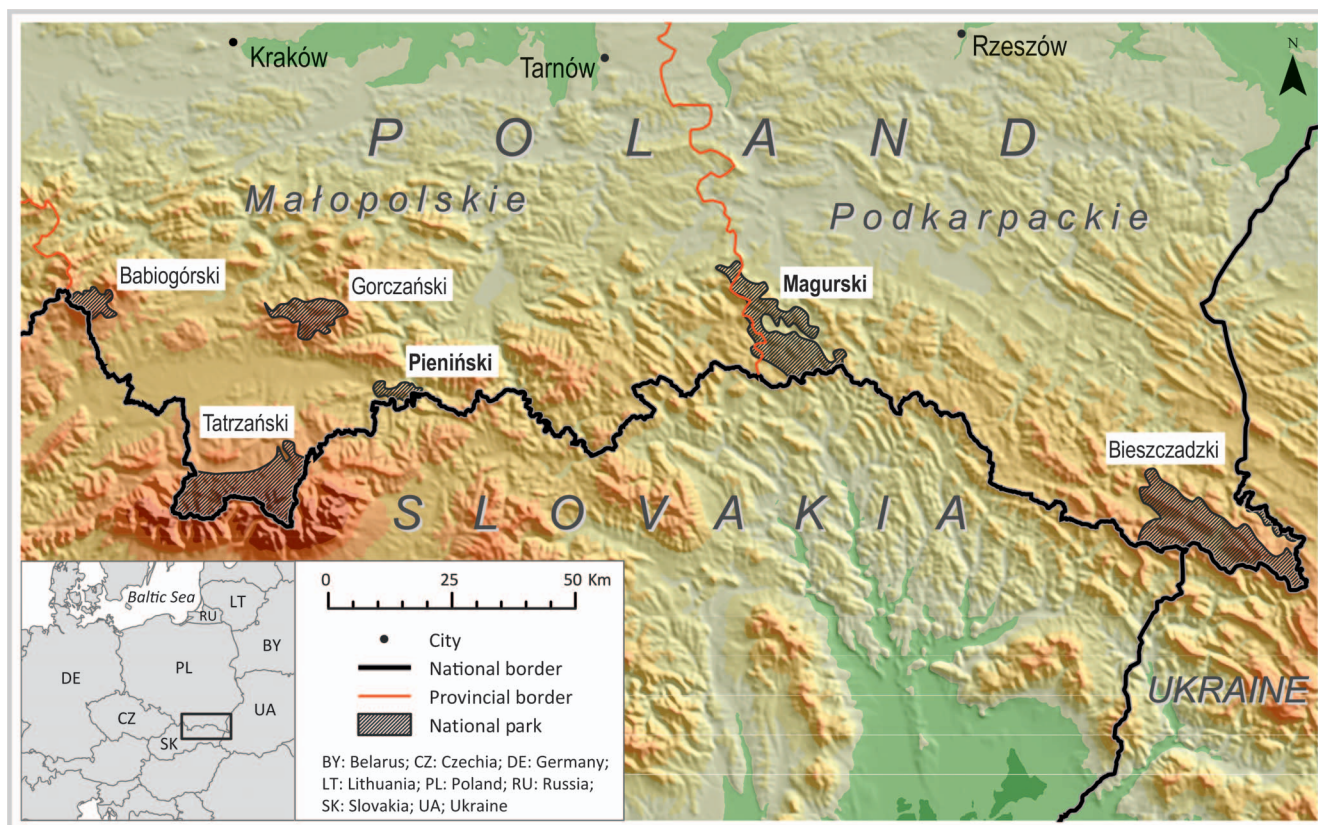
Methods and data sources

The following questions guided the quantitative part of the study:

- What is the spatial distribution of economic relationships between the chosen national parks and their business partners?
- What differences in thematic structure and value of national parks' expenditures can we observe at the local level, that is, within park municipalities (defined as municipalities with part of their territory lying in a park)?

Data were collected on major contracts awarded by the 2 parks after calls for tender, which by law must be made public. These data were provided directly to the author by Magurski National Park authorities for 2010–2014 and were collected from Pieniński National Park's website for 2012–2016. The data were then analyzed to determine the spatial distribution of the transactions—by gross value, number of contracts awarded, and number of contractors—at 5 administrative levels: municipalities

FIGURE 1 National parks in the Polish Carpathians. Pieniński and Magurski National Parks, which are the focus of this paper, are shown in bold type. (Map by Agata Warchalska-Troll and Mateusz Troll; source: EU-DEM/Państwowy Rejestr Granic CODGiK, www.codgik.gov.pl/)



with part of their territory lying within the park, outside those municipalities but in the same district, outside the district but in the same province, elsewhere in Poland, and outside Poland. Table 1 summarizes the nature of these data.

The qualitative part of the research, conducted in 2014 and 2015, focused on local and regional stakeholders' attitudes toward parks, and more generally toward nature protection, and the reasons for their willingness or lack of willingness to cooperate with park authorities. This involved individual in-depth interviews and observations, as well as a review of local documents such as spatial planning and management records, local websites and blogs, and local media reports.

The chosen interview formula allowed respondents to engage in a discussion of their values and visions for the development of their home area. A total of 54 interviews were conducted with key local and regional stakeholders representing different perspectives on nature protection (local government staff, farmers, members of NGOs, tour operators, owners of tourism/recreation businesses, and public forestry administration staff).

Park authorities and managers were also interviewed, using a semistructured format. The main topics were projects and activities carried out by the park for and with local communities, social perceptions of the park, the

main challenges in communication with local residents, and conflicts over park-related restrictions. Park documents (mostly chronicles and reports) were reviewed to better understand park staff's attitudes toward local communities and vice versa.

Results

Spatial distribution of national park–contractor relationships

For both parks, fewer than half of park contractors were located in (or, if they had multiple sites, had headquarters in) the same municipality or district as the park (Figure 2). Magurski National Park's economic ties to its neighbors were weaker than Pieniński's; more of its contractors came from the provincial level than from the municipal level. This can be a good indicator of this area's economic situation, partly resulting from its peripheral location at the boundary of 2 provinces, relatively far from major cities and popular tourist attractions, with low population density and low levels of entrepreneurship. This general picture was confirmed during interviews.

The interviews also revealed differences between areas neighboring the park that were not always visible in statistics. As one Magurski National Park manager said, "Here, in Krempana [a village in Podkarpackie province, home to the park headquarters and seat of the Krempana

TABLE 1 Summary of the quantitative data collected during the study (PLN: Polish zloty).^{a)}

	Magurski National Park	Pieniński National Park
Period	2010–2014	2012–2016
Number of contracts ^{b)}	133	119
Number of contractors ^{b)}	87	57
Number of municipalities where contractors were based	42	25
Total gross value of transactions	PLN 15,633,820 (USD 4,101,427)	PLN 3,112,340 (USD 816,501)

^{a)}Data sources: park records covering calls for tender made available to the author by the park (Magurski) or available online (Pieniński) at <http://www.pieniny.pl/pl/872/0/przetargi.html> and <https://bzp.uzp.gov.pl/>; compiled by the author.

^{b)}Total number of contracts and contractors at all administrative levels.

municipality authorities], after 20 years of the park's existence and with our reception center attracting 16,000 tourists every year, there is still no place where you could sit and have a coffee." By contrast, local leaders in Sękowa, another municipality sharing part of its territory with the park but in another province (Małopolska), are often the first to propose common projects and further inclusion of the park in their projects and promotions, but they indicated during interviews that they were not satisfied with the park's commitment to local development. Pieniński National Park had exceptionally few district-level relationships. This suggests that park municipalities in the Podhale region (Krościenko nad Dunajcem, Szczawnica, and Czorsztyn)—which is densely populated and has a culture highly supportive of entrepreneurship—were able to meet almost all the park's needs for basic services and goods, and slightly more distant neighborhoods were not really of use to the park. But more specialized orders needed to be sourced from major cities outside the district.

The final value summarized in Figure 2 is the total gross value of the parks' business transactions. For this value, the results for Babiogórski National Park are shown as well. This comparison highlights the economic weakness of municipalities sharing part of Magurski National Park, which can provide only basic and inexpensive services and goods, while the park's money flow is mostly absorbed outside its municipalities and district. For example, even though the municipality of Krempna (where the park headquarters are located) absorbs most of the park's municipal-level spending, it is far behind not only the city of Kraków (which absorbed 3 times more park spending than Krempna) but also the not-that-distant municipality of Frysztak, which has a large wood-products factory.

Local park spending compared to local perceptions of the parks

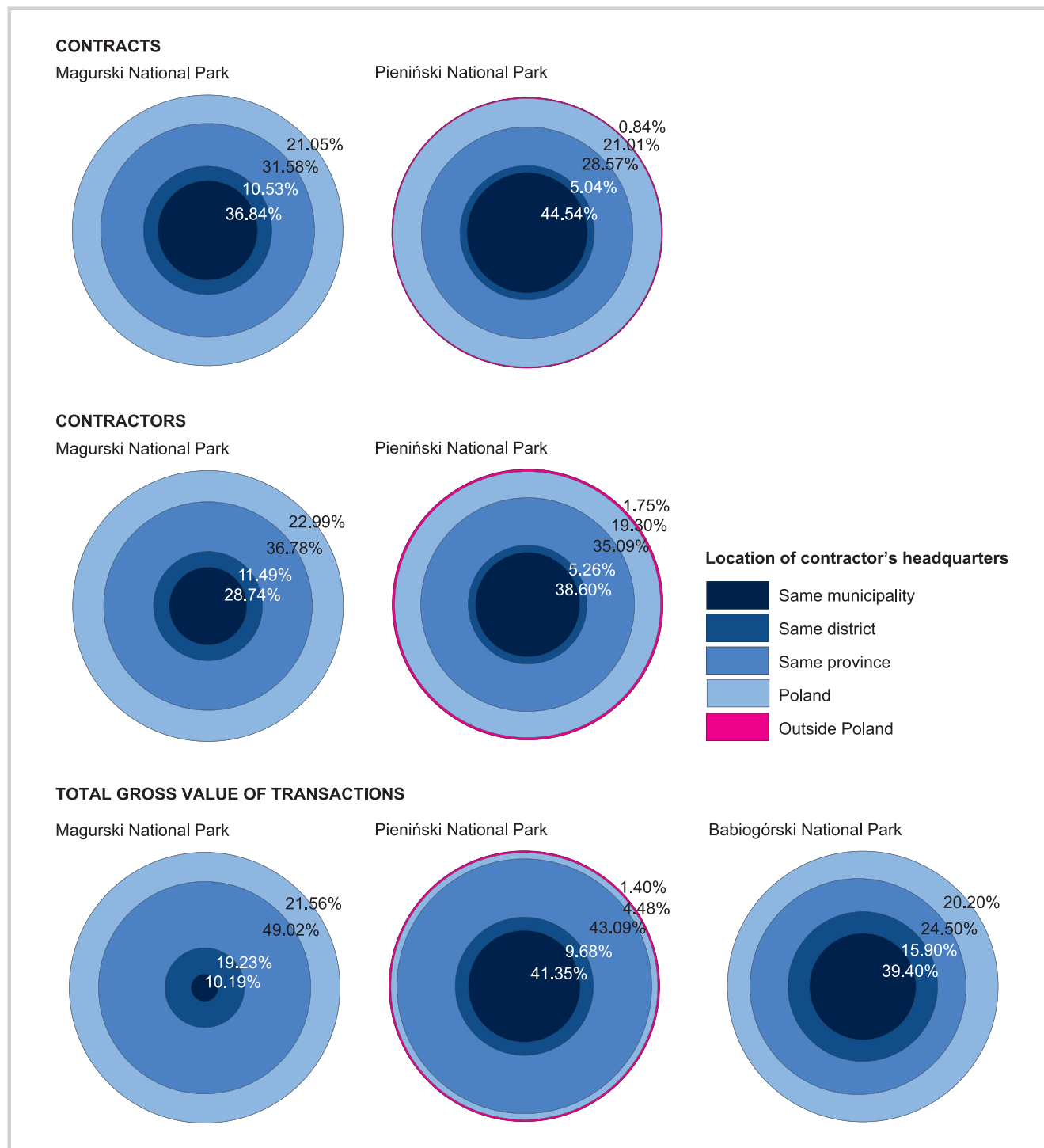
Not very surprisingly, more than half of all national park transactions with contractors from park municipalities concerned protection of ecosystems and species (Table 2). Services in this category usually involved forestry tasks,

more rarely mowing and other work connected with maintenance of seminatural or anthropogenic meadows (especially for Pieniński National Park). The overall structure of parks' transactions with their closest neighbors reflects the parks' specific characteristics—for example, Pieniński is a tourist destination of national importance and Magurski covers vast forest areas. It also suggests what park municipalities can provide to the park. Tourist-oriented municipalities of Pieniny can easily provide tourism services to Pieniński National Park, while mountain communities of Beskid Niski (within and around Magurski National Park) have long traditions of forestry and logging. However, the supply of forestry-related services in this latter case by far exceeds the demand, even in communities with a high number of contract awards: of 25 forestry-related businesses in Krempna, fewer than half provided goods or services to the park at least once during the study period. A similar situation was found for Babiogórski National Park (Mika et al 2015: 104).

Economic relationships at the local level reveal further interesting contrasts. For both Magurski and Pieniński National Parks, some park municipalities had no transactions with the park during the period of study (Table 3), while municipalities closest to the park's headquarters had the most contracts and contractors. The latter category is somewhat ambiguous in the case of Pieniński National Park, because the park headquarters (in Krościenko nad Dunajcem) is only 4 km from the town of Szczawnica, and the towns almost form a single built-up area, so Szczawnica can be almost equally treated as the park's closest neighbor. Between them, these 2 towns provided the bulk of the park's goods and services, one with a slightly higher number of contracts and the other with more contractors.

Contracts with businesses closer to the park also had higher total gross values, in both absolute terms and per capita (Figure 3). A similar situation was observed for Babiogórski National Park (Mika et al 2015: 86): almost three quarters of park contractors between 2010 and 2014 were based in the same municipality as the park's

FIGURE 2 Spatial distribution of contracts awarded by Magurski (2010–2014), Pieniński (2012–2016), and Babiogórski (2010–2014) National Parks, by contractor’s location in relation to the park. Data sources: park records provided directly to the author (Magurski) or found online (Pieniński); for Babiogórski, Mika et al (2015: 94).



headquarters, although bigger enterprises from 2 other park municipalities had contracts with greater total value.

Given these trends, social perceptions of the parks in the closest municipalities appeared to be in sharp contrast to what one could expect: instead of showing appreciation

of economic opportunities offered by the parks, study participants were rather negative. For Pieniński National Park, the most negative perceptions expressed by study participants occurred in Szczawnica, a resort town catering to skiers and other mountain tourists, where

TABLE 2 Parks' contracts with local businesses by category.^{a)}

Type of contract	Magurski National Park (2010–2014)	Pieniński National Park (2012–2016)
Protection of ecosystems and species	76.7%	57.1%
Education and tourism, visitor services	13.3%	28.6%
Renovation of buildings and roads	–	4.8%
Administration and transport; collecting fees	–	9.5%
Provision of machines, tools, fuel, and other such goods	10.0%	–

^{a)}Data sources: park records covering calls for tender made available to the author by the park (Magurski) or available online (Pieniński) at <http://www.pieninykn.pl/pl/872/0/przetargi.html> and <https://bzp.uzp.gov.pl/>; compiled by the author.

residential housing has spread into the hills surrounding the town center, and hotels and tourism infrastructure have expanded in the valley. This development strategy clashes with Park's protection goals and even threatens its existence—as a small and relatively isolated protected area, it is highly dependent on ecological corridors connecting it with surrounding forests and mountain ranges. Szczawnica has a long tradition as a spa resort, and historical buildings and infrastructure have recently been revitalized. However, a vision of the town as a quiet, green luxury-spa center, which would be consistent with nature protection goals, has so far not convinced local authorities and voters. The park finds its supporters instead on the

other side of the Trzy Korony massif in Czorsztyń municipality, home to about one fifth of the park's contractors.

Local attitudes toward Magurski National Park are likely influenced by the area's relatively weak entrepreneurship culture and low economic diversity. The forestry sector has long dominated the local labor market. Low population density and distance from regional cities limit year-round economic activity in trades and services, since tourists visit the area mostly in the summer. Park initiatives to promote local products and services have generated little enthusiasm. There is a widespread belief that times were better before the park was created, which occurred in 1995 while Poland was undergoing a difficult period of economic transformation. Here, too, positive attitudes toward the park were expressed by study participants from municipalities located on the other side of the mountain than the park's headquarters, in an area belonging to Małopolska province, which has had few economic transactions with the park but has sought to promote the area's natural and spiritual heritage. These positive attitudes were expressed especially frequently in Bartne (Sękowa municipality), a remote village whose residents, predominantly Lemko (an ethnic group identified either as Ukrainians or Rusyns), have tried, led by an Orthodox priest, to promote their "little homeland"—for example, by creating tourist trails through the park and nearby areas, linking a focus on Lemko historical heritage and education about protected habitats.

TABLE 3 Number of park contracts and contractors in park municipalities.^{a)}

Municipality	Contracts	Contractors
Magurski National Park (2010–2014)		
Dębowiec	0	0
Dukla	2	2
Krempna	36	15
Lipinki	1	1
Nowy Żmigród	9	6
Osiek Jasielski	1	1
Sękowa	0	0
Pieniński National Park (2012–2016)		
Czorsztyń	12	4
Krościenko nad Dunajcem	25	11
Łapsze Niżne	0	0
Szczawnica	26	7

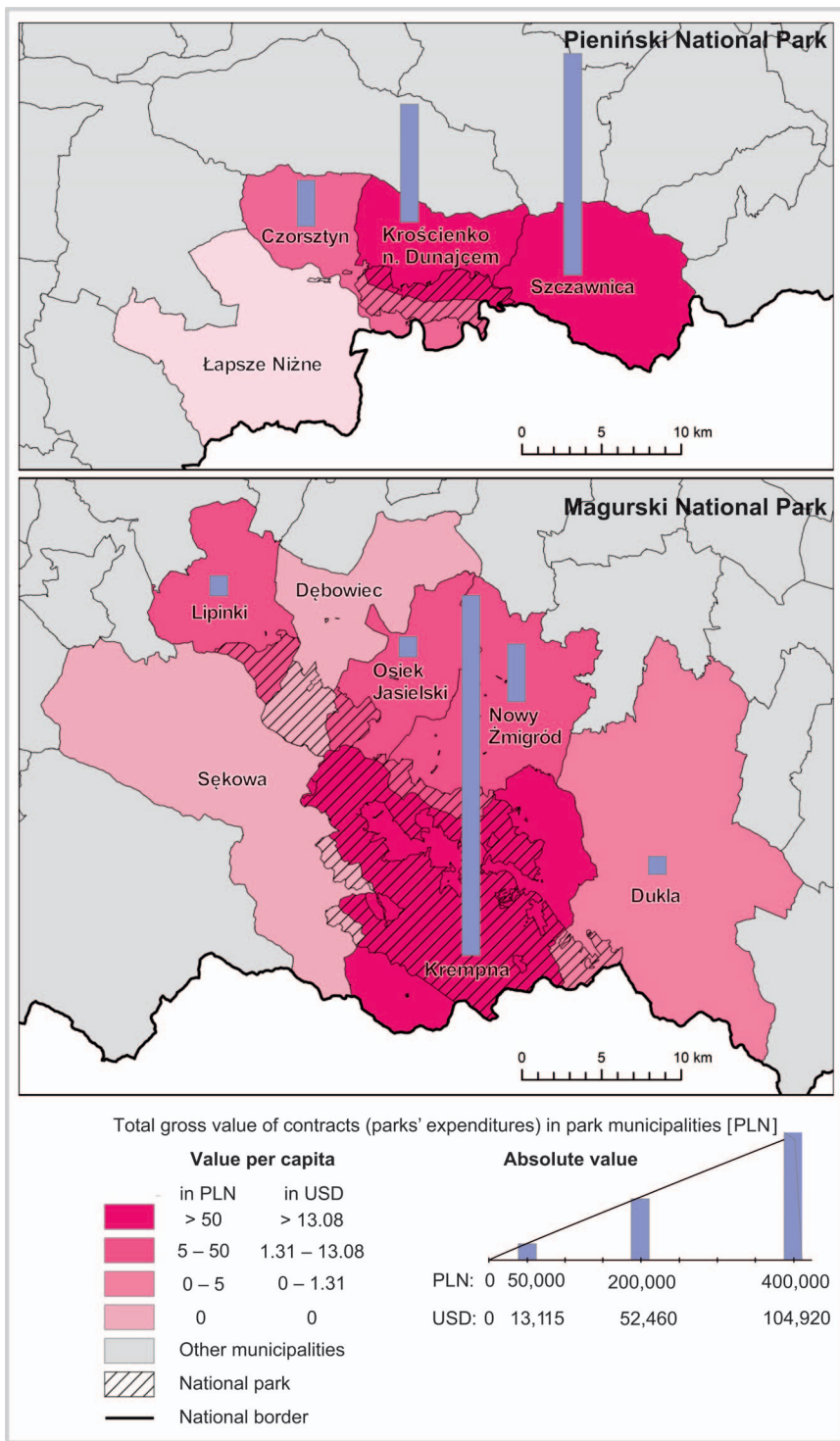
^{a)}Municipalities where seats of national parks are located are shown in bold type. Data sources: park records covering calls for tender made available to the author by the park (Magurski) or available online (Pieniński) at <http://www.pieninykn.pl/pl/872/0/przetargi.html> and <https://bzp.uzp.gov.pl/>; compiled by the author.

Discussion and conclusions

In the 2 parks in question, there did not appear to be a strong connection between park-related business opportunities and positive social perceptions of the park. Reasons for this may include the following:

1. Money flows and other economic benefits of the park's presence may be too modest to outweigh the inconvenience of park-related restrictions.
2. Park-related economic benefits may matter less than other factors such as pro-park local leadership,

FIGURE 3 Total gross value of contracts for goods and services awarded in municipalities sharing part of their territory with Pieniński (2012–2016) or Magurski (2010–2014) National Parks, in Polish zloty (PLN). Municipalities in which park headquarters are located are shown in bold type. (Map by Agata Warchalska-Troll and Mateusz Troll; data sources: park records provided directly to the author [Magurski] or found online [Pieniński]; cartography [municipal borders]: Państwowy Rejestr Granic CODGiK, www.codgik.gov.pl/)



socioeconomic development goals that are compatible with nature protection, strong cultural identity and revival of interest in local heritage including traditional land use, established entrepreneurship patterns, and the diversity of the local economy.

Most Polish scholars follow the first line of thought and argue that national parks in this country have insufficient investment and depend heavily on external funding (Hibszter 2013; Babczuk and Kachniarz 2015; PROP 2016). A reform of national park financing in

Poland in 2010–2012 transformed the parks' status from state budget entities to state legal persons, giving them more financial independence but at the same time much more responsibility for their own financing. As a result, national parks have to rely on external project funding mechanisms, most of which are short-term and require measurable results, to achieve long-term goals that are often difficult to quantify. Moreover, as public institutions they are required to choose contractors through a bid process that heavily prioritizes low pricing. This study confirms that these circumstances are a great hindrance in managing the national parks discussed in this paper.

Small private enterprises generally perceive national parks to be reliable business partners (Mika et al 2015). But economic factors dependent on the recent political and legal developments described above limit the parks' ability to drive local economic growth. Instead, park-related business opportunities often go to well-developed areas with diverse labor markets (such as municipalities near Pieniński National Park) and cannot create substantial opportunities in economically stagnating areas (such as municipalities east of Magurski National Park). This trend has also been observed elsewhere (Feyeh 2016; Neudert et al 2017) and is a variation of the widely described phenomenon of uneven distribution of costs and benefits generated by nature protection (Pullin et al 2013; Bragagnolo et al 2016; Vedeld et al 2016; Neudert et al 2017).

The threat to existing economic interests was also the most commonly mentioned source of conflicts in a broad study of conflicts in Polish national parks based on questionnaire surveys (Królikowska 2007: 103–104). However, in this author's opinion the primary source of conflicts was rather connected with the spatial and legal conditions regulating the functioning of protected areas, that is, the spatial planning process led by the local authorities and strictly prioritizing the development of housing and trade-and-services zones, and the complicated, sometimes contradictory and constantly changing laws for protected areas. These factors were also broadly described by Hibszer (2013) in his more recent study on relationships between parks and communities in Poland.

It is also possible that financial benefits cannot easily convince people to support nature protection. In fact, a so-called neoliberal shift in discourse on nature protection, toward expressing the value of nature in monetary terms, has recently been criticized as shallow and inefficient (Królikowska 2007: 104; Ives and Fisher 2017; Allen 2018). Many scholars have argued that people's commitment to protecting nature is deeply anchored in value systems (eg Admiraal et al 2017; Ives and Fisher 2017; Manfredo et al 2017) and therefore appeals to the nonutilitarian, spiritual dimensions of human ties with nature are necessary to achieve conservation goals

(Allendorf 2007; Bragagnolo et al 2016; Zawilińska 2016). This seems to explain the situation around not only the 2 national parks in question, but also the other 2 Carpathian parks where interviews were conducted—Gorczański and Babiogórski National Parks. In all 4 cases, positive attitudes toward and willingness to cooperate with parks did not reflect economic ties and did not even coincide with better physical accessibility to the park's headquarters (a factor that is still relevant for personal communication in mountain areas). By contrast, more positive perceptions occurred on “the other side of the mountain,” in communities in which leaders worked to combine revival and promotion of local cultural and historical heritage with nature protection.

The crucial role of both formal and informal leadership in influencing social perceptions of protected areas has been confirmed worldwide (Bragagnolo et al 2016; Molina-Murillo et al 2016; Diedrich et al 2017)—including in a negative sense: an increasing trend toward protected area downsizing, downgrading, and degazettement (Mascia and Pailler 2011) is often driven by political leaders; surprisingly this has been observed not only in the global South but also in the global North (Lindenmayer et al 2018). Some indications of this trend can be observed in municipalities in which political leaders pursue development based on recreation facilities, especially for winter sports, and a secondary homes market—for example, Szczawnica (described above), Zawoja (home to the headquarters of Babiogórski National Park), Niedźwiedz (headquarters of Gorczański National Park), and Cisna (near Bieszczadzki National Park).

Thus, the relation between park-derived economic ties and social perceptions of the parks escapes simple explanations. Apparently, financial incentives for nature-friendly business opportunities and compensations for park-related restrictions are currently at too low a level to be of interest for local residents. But it is doubtful whether their implementation on a greater scale would, by itself, be enough to change attitudes toward these protected areas, especially when, as one of the respondents said, “Polish law does not assume good cooperation between the park and local residents.” Under such circumstances, it is hard to imagine parks taking a local or regional leadership role in promoting sustainable development based on protection of species, landscapes, and cultural values, on locally based high-quality ecological agriculture, on traditional crafts, on sustainable forestry, or on green and rural tourism. As a result, park-generated benefits are absorbed almost exclusively by communities that already have a diverse economic base, skilled workforce, and tradition of entrepreneurship, as well as popular support for the idea of parks. Communities without these economic assets are likely to remain marginalized and hostile toward the park even when, paradoxically, they are dependent on its existence

as they live on providing simple (but thus cheap) goods and services to the park. At the same time, communities that do have assets of the kind described above but are

pursuing more commercial mass tourism are likely to see a park as an obstacle to further development.

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