

ECONOMIC BENEFITS OF ŠUMAVA NATIONAL PARK

Josef Stemberk¹ 

DOI: <https://doi.org/10.31410/ITEMA.2020.73>

Abstract: *The main task of nature protection is to preserve or improve the current state of nature. Thus, it might seem that the economic benefits of the national park are not important for the management of the protected area, but calculating the economic benefits of protected areas for the region improves its acceptance among locals and visitors, as well as political and economic actors.*

From 2017 to 2019, Šumava National Park (Bohemian Forest National Park) in the Czech Republic and Nationalpark Bayerischer Wald (Bavarian Forest National Park) were subjected to extensive socio-economic monitoring, which included, among other things, research focusing on the economic benefits that visitors brought to both national parks. This article presents the results of research of the regional economic benefits that visitors brought to Šumava National Park compared with those in Bavarian Forest National Park, although the methods and findings were not absolutely identical and therefore difficult to compare.

Keywords: *Šumava national park, Economic benefits, Acceptance.*

1. INTRODUCTION

First of all, national parks are a classic tool for large-scale nature protection. After some development, they currently focus on the protection of natural processes. It is a difficult task not only in Central Europe, where it is a particularly challenging task as nature and landscape have been influenced by human use in the long-term. Land use in national parks is limited due to nature conservation, which is often understood as an intervention in spatial planning. Local residents, including political leaders, usually accept national parks with their main functions only reluctantly and see them as a hindrance to regional development. On the other hand, national parks as major natural attractions are among the most sought-after destinations. As a result, their contribution to regional development and its economic benefits is beyond reasonable doubt. This contribution aims to show the economic benefits generated by Šumava National Park, which is the largest national park in the Czech Republic.

a. Šumava National Park

Šumava National Park was declared in 1991 on an area of 69,000 ha and thus became not only the largest national park in the Czech Republic, but also one of the largest national parks in Central Europe. It stretches in a strip up to 26 km wide along the Czech-German border in the length of 70 km and its southern tip touches the Czech-Austrian border. More than 80% of the territory is covered by forests with numerous fragments of primeval forests. The most valuable are climax mountain spruce forests located in the highest parts of the mountains and in vast Šumava plains at an altitude of about 1,000 m. Numerous peat bogs and wetlands covering about 3,500 ha are protected under the Ramsar Convention on Wetlands. The whole Šumava

¹ University Hradec Kralove, Rokitanského 62, 500 03 Hradec Králové III, Czech Republic

National Park area is also protected as a Natura 2000 area. According to the IUCN (International Union for Conservation of Nature) criteria, Šumava National Park is included in Category II (Dudley, 2008). The natural (non-intervention) zone covers 27.7% of the area, i.e., over 15,000 ha. Together with the adjacent Šumava Protected Landscape Area, the area is part of a network of biosphere reserves within the UNESCO Man and the Biosphere Programme. Today, this landscape features both natural values and landscape attractions, in which many traces of the original colonization effort have been preserved. (Těšitel et al, 2005)

The formation of the natural values of the Šumava was significantly influenced by its demographic development. The forested border mountains were inhabited much later than other areas and significantly so only in the 19th century. The displacement of the predominantly German population after World War II and the launch of the Iron Curtain on the Czechoslovak western border after 1948 caused a great discontinuity of socio-economic development in the area. The resulting significant decline in population and the decision to close the area to ordinary people led to the demise of numerous settlements. The only surviving economic activities, i.e., agriculture and forestry, were carried out here in their extensive form. Employment in state-owned enterprises in the primary sector placed low demands on the education of workers, which was reflected in the demographic composition of the population. The educational structure was lower than average. Further economic development of the area was enabled only after the fall of the Iron Curtain and the subsequent establishment of the Šumava National Park when tourism has become the most significant economic sector.

2. METHODS

In 2017, a socio-economic monitoring system was introduced in Šumava National Park, which, in addition to quantitative monitoring of the number of visitors, collected qualitative data from questionnaire surveys among the public (Transboundary socio-economic monitoring ..., 2020). The surveys focused on both the acceptance of Šumava National Park among the locals and the economic benefits of visitors, which will be discussed in this contribution.

In 2018 and 2019, visitors to Šumava National Park were interviewed in order to find out their expenses in the region. This was done in order to calculate the economic effects of tourism in Šumava National Park based on the number of visitors.

A highly structured questionnaire containing 31 closed as well as open questions, which was available in Czech, German and English, was used. Furthermore, face-to-face interviews were conducted by trained staff from both Šumava National Park and Bavarian Forest National Park. The survey took place at 23 locations in Šumava National Park, for a total of 27 days from June 2018 to May 2019, both on weekdays and on weekends and holidays. The answers of the respondents were recorded in an analogue questionnaire and subsequently converted into the electronic form. The interview took an average of 15 minutes. All visitors over the age of 15 who passed interview points were asked to participate in the survey. A total of 549 complete, error-free questionnaires were obtained and could be evaluated (the rejection quota was around 34.8%).

a. Visitor counting

The permanent counting of visits using people counting devices took place from 24th November 2017 to 23rd November 2018 at 34 different locations in Šumava National Park. Another standardized counting of people at 66 entrances to Šumava National Park was

conducted by Šumava National Park's collaborators. Data from people counting devices were used to calculate the number of visits in comparison with calculations performed by staff. (More details in: Transboundary socio-economic monitoring..., 2020)

b. Regional economic benefits

In order to ensure comparability with studies in other, especially Central European national parks, including the neighbouring Bavarian Forest National Park, regional economic benefits were determined according to the methodology developed in the study by Job et al. (2008).

3. RESULTS

a. Socio-demographic characteristics of the interviewees

According to the type of visitors, 69.7% of the interviewed were hikers, 14.8% were cyclists or MTB cyclists and 8.5% were cross-country skiers. The remaining 7.0% of respondents were runners, lovers of Nordic Walking or other users (snowshoe hikers, water sportsmen, etc.). 55.6% of respondents were men, 44.4% were women. On average, the respondents were 47 years old. A total of 26.9% of respondents had children with them (0-12 years). 9.7% of respondents were walking one or more dogs. The majority of dogs (89.3%) were on a leash at the time of questioning.

Only 18% of respondents were residents or cottage owners from the Šumava National Park region, i.e., locals. Over 80% of respondents were tourists (with 63% of overnight guests and 19% day-trippers). Of course, a higher proportion of overnight guests have an impact on regional economic calculations, as they spend more money in the region than day-trippers (Arnberger et al., 2015).

More than half of the visitors (54.6%) are employees or office workers, about 20% (21.3%) are retirees, about 14.7% are businesspeople, 4.2% students, 3.8% are on their maternity leave and others make 1.4%. More than 40% (42.2%) of the respondents completed university or higher education and even 44.2% passed the school-leaving examination. About 4.4% completed higher vocational education. Only 9.2% of visitors stated that they had a lower than secondary education (basic, without an apprenticeship certificate, etc.). When compared with the educational structure of the population of the entire Czech Republic, visitors to Šumava National Park boast of a higher level of education than the national average, especially when it comes to the university level (Source: Czech Statistical Office, 2019).

Approximately 80% of respondents answered a voluntary question regarding their gross domestic income, and a total of 45.6% of households had a gross monthly income of CZK 30,000 to 59,999 (Table 1).

Table 1. Gross monthly income of households in Šumava National Park.

Šumava NP– gross monthly income of households in CZK	Share in %
<14,999	5,4
15,000-29,999	25,1
30,000-44,999	26,2
45,000-59,999	19,4
60,000-74,999	10,4
75,000-89,999	4,5

90,000-104,999	5,0
105,000-119,999	1,8
120,000-134,999	0,5
135,000-149,999	0,2
>150,000	1,6
Total	100,0

Source: Transboundary socio-economic monitoring, 2020.

b. Attitude to the 'national park' status

Almost all respondents (98.4%) knew they were in a protected area. The majority of these respondents (90.4%) were able to correctly state the term "national park" when asked about a specific type of protected area. For just over a third of the visitors (35.9%) who stated national park in the previous question, the fact that it is a national park played a very large or large role for their visit on the day of the survey. 3.5% of all respondents stated that they would not come if Šumava National Park did not exist.

In order to ensure comparability with research in other national parks, the concept of affinity with national parks was taken over from Job et al. (2003) in a slightly modified form. The national park visitor in the narrower sense was defined according to three questions:

- (1) Do you know that you are in a protected area? (a closed question)
- (2) If yes, what is its name? (an open question)
- (3) What role did the national park status of this area play for your visit today? (a closed question)

According to the above mentioned view, the national park visitor in the narrower sense knows that he is in a protected area, he can specifically name the national park he or she is visiting and its protection status, and the national park status plays a very large or large role for him or her in deciding to visit this area on the day of questioning. Almost a third of all respondents (31.9%) fell into the category of the national park visitor in the narrower sense.

c. Number of visitors

In total, about 1,840,000 visitors were counted in Šumava National Park during the monitored period (1 year). The survey participants comprised of 63.4% of overnight guests, 18.9% day-trippers, and 17.7% of local residents.

In order to determine the number of visitors for each type of visitor, the share of the respective types of visitors was divided according to the affinity for the national park (yes / no national park visitor in the narrow sense).

Table 2. Distribution and visitor number according to the type of visitors and affinity for the Šumava National Park

Type of visitor according to the affinity to the national park	Respondents		Number of visitors in 01/2018
	Number	Per cent	
Overnight guests: NP visitors in the narrower sense	109	20.2	370 924
Overnight guests: other NP visitors	236	43.7	803 101

Day-trippers: NP visitors in the narrower sense	30	5.6	102 089
Day-trippers: other NP visitors	70	13.0	238 208
Local residents/cottage owners: NP visitors in the narrower sense	33	6.1	112 298
Local residents/cottage owners: other NP visitors	62	11.5	210 984
Total	540	100.0	1 837 605

Source: Transboundary socio-economic monitoring, 2020.

d. Economic effects of visitors

For individual types of visitors, net expenses for individual categories of expenses were recalculated according to the current rate of Czech value added tax.

Table 3. Day expenditures (mean value, net) of visitors according to categories in the national park region

Day expenditures (net in CZK)	VAT	Overnight guests: NP visitors in the	Overnight guests: other NP visitors	Day-trippers: NP visitors in the narrower	Day-trippers: other NP visitors	Local residents/cottage owners: NP	Local residents/cottage owners: other
Accommodation	15%	353.7	364.1	-	-	-	-
Food / soft drinks in accommodation and catering facilities	15%	152.8	141.6	161.6	138.6	86.0	98.6
Alcoholic beverages in accommodation and catering facilities	21%	27.7	38.3	19.0	15.9	8.7	14.8
Foodstuffs in shops (including own food)	18%#	35.4	34.2	10.9	5.1	17.4	34.1
Books, magazines	10%	1.4	3.8	3.8	-	1.0	0.4
Other purchases: alcoholic products, souvenirs, sports equipment, etc.	21%	23.6	20.4	16.8	18.3	12.9	4.8
Public transport	10%	12.1	5.0	35.0	13.5	9.0	8.4
Parking fees	21%	8.1	7.9	8.0	10.9	12.5	7.3
Refuelling (in the region)	21%	13.7	24.8	29.4	29.1	12.8	36.1
Rental of sports equipment, etc.	21%	9.3	6.9	-	-	-	-
Tickets and admission	15%	17.2	13.3	8.3	1.2	-	-
Municipal taxes / guest card	15%	16.8	16.1	-	-	-	-
Spa treatments / doctor's fee	15%	1.8	2.4	-	-	7.9	1.0

Other expenses	18%*	0.6	-	-	-	-	-
Lump sum	18%^	11.4	80.7	-	6.1	-	-
Total		685.8	759.5	292.8	238.8	168.1	205.5
N		109	236	30	70	33	62

Notices: # Mixed value added tax because food is taxed differently; * Mixed value added tax for all categories except accommodation; ^ Mixed value added tax for all categories.

Source: Transboundary socio-economic monitoring, 2020.

Table 4 shows a summary of average total expenditure per person according to the type of visitor and affinity for the national park.

Table 4. Overview of visitor expenses by type of visitor and affinity for the national park (per person): gross and net, Visitors to the national park in the narrower sense

Type of visitor according to affinity for the national park	Daily expenditures (gross) in CZK	Daily expenditures (net) in CZK
Overnight guests: NP visitors in the narrower sense	794.3	685.8
Overnight guests: other NP visitors	882.3	759.5
Day-trippers: NP visitors in the narrower sense	339.5	292.8
Day-trippers: other NP visitors	278.7	238.8
Local residents/cottage owners: NP visitors in the narrower sense	196.1	168.1
Local residents/cottage owners: other NP visitors	240.7	205.5

Annual turnovers were calculated from daily expenditures according to the types of visitors and affinity for the national park (daily expenditures * number of visitors – Table 5). The total gross annual turnover was CZK 1,177 million and the net turnover was CZK 1,013 million (Table 5).

Table 5. Overview of gross and net annual sales by type of visitor and affinity for the national park: Visitors to the national park in the narrower sense

Type of visitor according to affinity for the national park	Daily expenditures (gross) in CZK	Daily expenditures (net) in CZK
Overnight guests: NP visitors in the narrower sense	294 638 369	254 369 033
Overnight guests: other NP visitors	708 578 908	609 935 368
Day-trippers: NP visitors in the narrower sense	34 658 705	29 891 314
Day-trippers: other NP visitors	66 394 257	56 881 851
Local residents/cottage owners: NP visitors in the narrower sense	22 026 683	18 877 366
Local residents/cottage owners: other NP visitors	50 782 668	43 358 065
Total	1 177 079 590	1 013 312 997

Source: Transboundary socio-economic monitoring, 2020.

The group of overnight guests generated the largest share of economic impacts. Their share in individual economic indicators was more than 80%. The expenditures of this visitor group for

accommodation and meals contributed to the total production (as well as on other monitored economic variables) by more than 50%.

e. Calculation of economic benefits

Melichar & Pavelčík (2020) calculated the economic benefits of Šumava National Park using input-output analysis. In 2018, Šumava National Park was visited by 1,837,605 visitors, whose expenditures of CZK 1.18 billion resulted in an increase in regional production (turnover) by a total of CZK 1.4 billion, including multiplier effects. Direct effects on primary providers of tourist products and services (in the sectors of accommodation, catering, transport, retail, refuelling, etc.) amounted to CZK 764 million. Of the total impact on production, CZK 484 million fell on the total increase in gross value added, or gross domestic product of the region's economy (Table 6).

Table 6. Total economic impacts of visitors to Šumava National Park: impacts on production, GDP, regional income, wages of employees and employment (in CZK, prices in 2018)

Type of economic effect	Direct impacts	Indirect impacts	Total impacts
Impacts on production	763 666 949	607 301 522	1 370 968 471
Impacts on GDP	290 065 737	193 994 589	484 060 326
Impacts on regional income	204 761 991	135 629 652	340 391 642
Impacts on employees' wages and salaries	120 947 991	54 571 391	175 519 382
Impacts on employment (Number of full-time jobs)	385*	164*	549*

Source: Melichar & Pavelčík (2020).

Expenditures of visitors to Šumava National Park also contributed in 2018 to an increase in income in the region of CZK 340 million. Of this amount, CZK 176 million was the wage income of employees of direct providers of tourist products and services and their subcontractors. At the same time, visitors' expenditures contributed to the creation or preservation of 549 jobs in the Šumava National Park region.

4. CONCLUSION

Visitors and tourism generate significant regional and economic effects in the peripheral area of the Czech-German border, in Šumava National Park. The annual expenditure (2018) of all visitors (1,837,605) represents CZK 1.18 billion (approximately € 47.1 million). If this data is compared with the neighbouring Bavarian Forest National Park, where the annual gross turnover is € 52.4 million with a calculated annual attendance of 1,361,367 people (Bavarian Forest National Park Administration, 2020), then in both cases tourism creates a significant regional economic effect. (See Table 7, compare with Table 5).

Table 7. Overview of gross and net annual sales by type of visitor and affinity for Bavarian Forest National Park.

Type of visitor according to affinity for the national park	Gross turnover in €	Net turnover in €
Overnight guests: NP visitors in the narrower sense	28 976 778	25 831 947
Overnight guests: other NP visitors	13 741 544	12 359 568
Day-trippers: NP visitors in the narrower sense	3 241 801	2 743 845

Day-trippers: other NP visitors	2 756 098	2 339 899
Local residents/cottage owners: NP visitors in the narrower sense	1 933 278	1 647 156
Local residents/cottage owners: other NP visitors	1 751 812	1 492 730
Total	52 401 311	46 415 145

Source: Transboundary socio-economic monitoring, 2020.

In Šumava National Park, a socio-economic monitoring system has been gradually introduced since 2018, but the first research of the economic effects of the national park took place in Bavarian Forest National Park as early as 2007 and is repeated about every five years. (See Table 8). The main reasons for the increase in visitor expenditures (especially those of overnight guests) include the rising standard of accommodation facilities, which can also obtain a "National Park Partner" certificate, whose criteria include environmentally friendly operation as well as the support of the Bavarian Forest National Park approach: 'let nature be nature'.

Table 8. Daily expenditures (gross per person), according to the visitor's affinity for the national park.

Type of visitor according to affinity for the national park	Daily expenditure s 2007 (gross) in €	Daily expenditures 2013/14 (gross) in €	Daily expenditures 2018/19 (gross) in €
Overnight guests: NP visitors in the narrower sense	49.6	56.2	77.7
Overnight guests: other NP visitors	49.6	56.2	71.9
Day-trippers: NP visitors in the narrower sense	12.3	13.9	18.2
Day-trippers: other NP visitors	12.1	13.7	18.5
Local residents/cottage owners: NP visitors in the narrower sense	9.1	10.4	8.2
Local residents/cottage owners: other NP visitors	6.1	6.9	7.5

Source: Transboundary socio-economic monitoring, 2020.

Overall, the results in both neighbouring and comparable national parks show that soft forms of tourism, where the main reason for the visit is to stay and observe nature, bring significant economic benefits to the region. These results refute the general myth that nature conservation is at odds with socio-economic development (Těšitel et al., 2005) and at the same time support the claim that nature tourism, which combines nature experience with relieving the burden on nature and the environment, and with generating economic benefits, greatly increases the acceptance of protected areas (Job et al, 2005).

5. ACKNOWLEDGMENT

I would like to thank all my colleagues working together on the project *“Introduction of a transboundary socio-economic monitoring system in the National Parks of Šumava and Bavarian Forest”* from the Šumava National Park Administration, Bavarian Forest National Park Administration and the methodical and supervisor work of experts from the University of Natural Resources and Life Sciences, Vienna (BOKU). The common Czech-Bavarian project was supported by the European Union.

REFERENCES

- Dudley, N., (2008). *Guidelines for Applying Protected Area Management Categories*. Gland, Switzerland: IUCN. ISBN 978-2-8317-1086-0
- Těšitel J., Kušová D., Matějka K., Bartoš M. (2005). *Lidé v biosférických rezervacích /People in biosphere reserves*. České Budějovice, Czech Republic: Ústav systémové biologie a ekologie Akademie věd České republiky.
- Arnberger, A., Allex, B., Preisel, H., Eder, R. (2015): *Sozioökonomisches Monitoring Nationalpark Bayerischer Wald: Befragung und Besucherzählung 2013/2014*. Interner Endbericht.
- Job, H., Mayer, M., Woltering, M. (2008). *Die Destination Nationalpark Bayerischer Wald als regionaler Wirtschaftsfaktor*. Germany: Bavarian Forest National Park Administration.
- Job, H., Metzler, D., Vogt, L. (2003). *Inwertsetzung alpiner Nationalparke. Eine regionalwirtschaftliche Analyse des Tourismus im Alpenpark Berchtesgaden*. Münchener Studien zur Sozial- und Wirtschaftsgeographie 43.

ADDITIONAL READING

- Melichar J. & Pavelčík, P. (2020). *Evaluation of the economic effects of tourism in Šumava National Park*. Charles University/Prague, Czech Republic: Unpublished report.
- Transboundary socio-economic monitoring in Šumava and Bavarian Forest National Parks in the years 2017-2019. (Final report) (2020)*, Šumava National Park Administration/Vimperk, Czech Republic: Šumava National Park Administration (published on-line: <https://www.npsumava.cz/sprava-np/seznam-projektu/zavedeni-preshranicniho-socioekonomickeho-monitorovaciho-systemu-v-narodnich-parcich-sumava-a-bavorsky-les-2/>)