

## Monitoring of Tourism in the Czech National Parks

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**Abstract:** Recreational and tourist exploitation of selected parts of four Czech National Parks has been investigated since the year 1997. The article presents cross-section data from 2000. During a nine-day period in the high summer season the basic quantitative census of tourists, cyclists and cars on selected crossroads of tourist paths in the core area of national parks had been carried out and qualitative characteristics, opinions and attitudes of visitors were evaluated. Relation between socio-demographic structure of visitors and their behaviour and attitudes to conservation management activities of the national park's Authorities was analysed using a special type of a questionnaire based on interviews with a random and representative sample of visitors. There are evident differences between various National Parks (Krkonose, Sumava, Podyji, Ceske Svycarsko) and between the attitudes of foreign visitors and Czech visitors. Investigation has been focused also on local inhabitants and elected representatives of local communities. Results are used by NP Authorities within the process of estimation of ecological and psychological carrying capacity as well as the one of appropriate indicators of sustainable development of the Czech National Parks. Monitoring will continue in the next years.

### INTRODUCTION

Based on four nine-day surveys (August 12 - 20, 2000) and using results of similar research activities from previous years we evaluate selected quantitative and qualitative data, which characterize recreational and tourist exploitation of the central part of four Czech National Parks - Krkonose, Sumava, Podyji a Ceske Svycarsko (Fig. 1). While monitoring the national park Podyji we have also evaluated the Hardegg point that lies in the Austrian National Park Thayatal (Cihar & al. 2001).

The given research project enhances and develops research activities of the Institute for Environmental Studies, carried out also in Czech landscape protected areas Zdarske vrchy, Slavkovsky les, Krivoklatsko, Labske piskovce, Litovelske Pomoravi and around the capital city of Prague. The research reflects modern trends and requirements for a progressive conservational management (e. g. Shipp & al. 1993, Ceballos-Lescurain 1996, Messerli & Ives 1997, Godde 1999). In the year 2000 we focused on the counting of tourists at 20 pre-selected monitoring points, together with interviewing the random sample of visitors. The aim of interviews was to ascertain basic social demographic characteristics of the tourists and to describe their opinions and attitudes regarding the environment and environmental

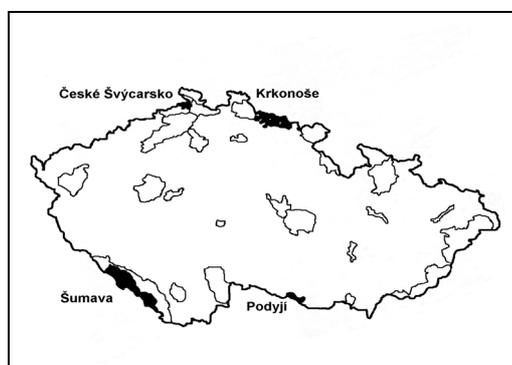


Fig. 1 – National Parks (black) and Protected Landscape Areas (white) in the Czech Republic

conditions in the national parks. Parallel survey ascertained a range of opinions held by high-ranking representatives of local governments (e.g. Cihar & al. 2000a). However, the results of these two surveys are outside the framework of this article.

### SOME SELECTED RESULTS

#### *Quantitative aspects of monitoring*

In the course of survey at all 20 monitoring points (Tab. 1) the research team counted hikers, cyclists and cars (CIHAR & al., 2000b, c, d, e, f, 2001a). The total number of people passing/biking/driving through was 390.074. Each

person is recorded twice at each monitoring point – for the first time, when arriving *to* the point, for the second time, when coming *from* the point, the documented number of records corresponds with almost 200.000 monitored tourists. A total of 160.801 hikers, 23.961 cyclists and 7.925 cars were recorded to have passed the monitoring points. The ratio hikers : cyclist is therefore 1 : 6,7, with the peak at Pricky (Podyji) with ratio 1 : 0,7 and minimum 1 : 2.921 (ridge locality at Slaski dom, Krkonose). Regarding the hiking tourism, the most frequented site in Krkonose National Park appeared to be the crossroad at Slaski dom (daily average 5.518 tourists), in Ceske Svycarsko National Park the crossroad Pravcicka brana (1.194), in Sumava National Park the monitoring point Antýgl (1.176) and in the Czech part of Podyji National Park the crossroad Na Keplech (117).

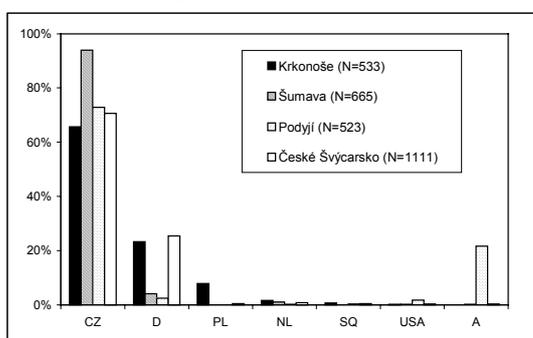


Fig. 2 - Nationality of respondents (over 0,5%)

With regards to cycle tourism, the predominant area was Modrava in Sumava (daily average 719 tourists), Turisticky most in Ceske Svycarsko (172), Na Keplech in Podyji (117) and Lucni bouda in Krkonose (8). It should be mentioned here that cycling is not permitted at any monitoring point in a ridge art of Krkonose. For more details see Tab.1.

To conclude and summarize the results of quantitative part of our research, in terms of hiking tourism intensity, Krkonose National Park is the most affected, mainly its ridge locations influenced to a large extent by nearby terminals of funiculars. They are followed by easily reachable natural attractions in Sumava (Antýgl) and Ceske Svycarsko (Pravcicka brana). In respect to cycle tourism, the most frequented localities can be found in Sumava (mainly Modrava and Kvilda). High densities of cyclists are also recorded in the northwestern part of Ceske Svycarsko (Turisticky most, Na Tokani) and in the entire area of Podyji.

#### *Qualitative aspects and results of opinion poll*

In the course of our tourist opinion poll in 2000, 2822 completed questionnaires were gathered, computer-processed and analyzed (Krkonose 533, Sumava 665, Podyji 523, Ceske Svycarsko 1111). Each questionnaire covered basic social and demographic characteristics of tourism (the structure of the questionnaire was similar in parallel

surveys in all Czech National Parks. We employed the standard method of personal interviews. As to the method of selecting people for the poll, this was carried out on a random basis. From the results of research final reports (Cihar & al., 2000b, c, d, e, 2001b) we refer to the following primary findings:

1. In the national make-up of respondents (Fig. 2) there is prevailing domination of Czech tourists. The highest proportion of Czech tourists is characteristic for Sumava (94% of Czech visitors), followed by Podyji (72,8%), Ceske Svycarsko (70,6%) a Krkonose (65,7%). In terms of the national structure of foreign visitors, the most frequent are Germans (in Ceske Svycarsko 25,5 % of respondents, in Krkonose 23,3% and in Sumava 4,1%). The only exception is Podyji National Park where the small proportion of Germans (2,5%) is compensated by a high number of Austrians (21,6%). Other foreign visitors in the Czech National Parks are of Polish (7,9%) and Dutch (1,7%) nationality in Krkonose, American in Podyji (1,7%) and Dutch again in Sumava (1,1%).

If we focus in a more detail on the Czech visitors of National Parks, the highest percentage of tourists comes from Prague, followed by visitors from nearby districts. In case of Krkonose, Prague constitutes 28,9% of visitors. On the second place there are inhabitants of Semily district with 6,9% and on the third one Trutnov district with 6,3%. In case of Sumava is Prague with 31% followed by Plzen (7,4%), in case of Podyji is Prague with 22,8% of visitors followed by Znojmo (15,6%) and Brno (13,5%) districts, and finally in Ceske Svycarsko there is 15,9% of visitors from Prague and 8,6% from local district of Decin.

2. The majority of all respondents were male (Podyji 58,9%, Ceske Svycarsko 57,9%, Krkonose 56,3%, Sumava 53,4%). As to the social make-up of the tourists, the predominant group constituted white-collar workers (Ceske Svycarsko 42,5%, Sumava 42,4%, Krkonose 41,7%, Podyji 39,2%), and the predominant age category was 40-59 (children under 14 were not counted). Sumava is the most attractive park for elderly people (age groups over 40 and over 60), on contrary, Podyji for younger people (up to 39). The majority of all respondents had completed a secondary school education (from 44,6% in Krkonose to 56,7% in Sumava), and approximately one third of respondents were university graduates (from 31,4% in Podyji to 39,5% in Krkonose).

monitoring point	NP	number of directions	average number of records per day per direction			number of records per whole period	
			hikers	cyclists	motor vehicles	average per day	total
Slaski dom	Krkonose	7	1576,6	0,6	3,1	11061,9	99557
Snezka (summit)	Krkonose	3	1674,0	3,3	3,7	5042,2	45380
Modrava	Sumava	4	371,0	359,5	98,5	3316,7	30533
Antygl	Sumava	3	784,0	152,3	4,7	2823,7	26447
Pravcicka brana	C. Svycarsko	3	796,3	5,7	1,0	2409,4	22003
Horska Kvilda	Sumava	4	114,8	194,8	242,3	2207,0	20362
Mezni mustek	C. Svycarsko	4	540,3	1,5	1,0	2170,7	19830
Lucni Bouda	Krkonose	5	419,4	3,2	3,0	2128,1	19153
Snezka ("traverse")	Krkonose	3	653,0	0,7	0,0	1960,4	17644
U ctyr panu	Krkonose	5	370,6	10,6	2,0	1915,4	17239
Kvilda	Sumava	3	237,0	315,0	35,0	1761,4	16525
Ruzohorky	Krkonose	3	433,3	1,7	3,7	1316,4	11848
Kralovsky smrk	C. Svycarsko	3	225,3	34,7	0,7	781,8	7345
Hardegg	Podyji	3	163,3	65,3	18,7	742,1	6843
Na Tokani	C. Svycarsko	5	82,6	51,8	10,2	722,6	6690
Loupeznicky hrad	C. Svycarsko	3	188,0	32,0	2,7	667,8	6175
Turisticky most	C. Svycarsko	4	55,5	86,0	4,5	583,6	5373
Na Keplech	Podyji	3	77,7	78,3	8,3	493,8	4544
Pod Sobesem	Podyji	3	73,0	71,7	5,3	450,2	4173
Pricky	Podyji	5	18,8	28,6	5,0	264,2	2410

Tab. 1 - Quantitative characteristics in the monitoring points in the Czech National Parks (August, 12 - 20th, 2000)

3. Interesting finding represents rate of the first time visitors of the National Park to regular visitors. In the case of Krkonose, this rate is 18,4% to 75,2% respondents, in Sumava 20,2% to 75,9%, in Podyji 69,2% to 31,5% and finally in Ceske Svycarsko 44,2% to 48,1%. The highest number of people who owns weekend house (typical Czech phenomenon of the "second-housing") in the park was recorded in Ceske Svycarsko (6,2%), the lowest in Podyji (1,5%). The same park embodied the highest rate of local inhabitants in the interviewed sample (4%), on the contrary to lowest number that was documented in Ceske Svycarsko (1,5%). The most frequent period of stay for both „large” parks was one week (Sumava 45,5%, Krkonose 35,8%), smaller parks are characterized by one-day visits (Podyji 32,9%, Ceske Svycarsko 25,2% - see Fig. 3).

4. The most popular type of accommodation was in case of three parks a pension (Sumava 37,9%, Podyji 31,1%, Krkonose 27,8%). In Ceske Svycarsko the largest part of respondents was preferring "other" types of accommodation (e.g. house of friends, outdoor etc.). Car is the far most popular mean of transport to the Czech National Parks (from 68,1% in Krkonose to 78,8% Sumava). There are differences on the second place: it is bus

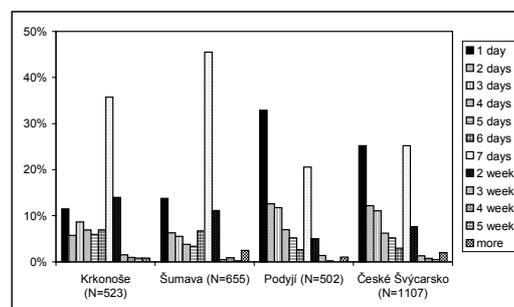


Fig. 3 - Period of stay in the National Parks

in case of „large” parks, bicycle in Podyji and finally train in Ceske Svycarsko.

5. With the sentence „the reason why I am staying in the National Park is the nature and its beauties“ agreed or quite agreed 99,4% of respondents in Ceske Svycarsko National Park, in Sumava 98,8%, in Krkonose 98,5% and 76% of respondents in Podyji (see Fig. 4A). With the similar statement „the reason why I am staying in the National Park are sporting activities” (Fig. 4B) agreed 80,4% of respondents in Krkonose, 71,9% in Sumava, 65,7% in Ceske Svycarsko and 65,0% in Podyji. The third most important reason of visits to NP is “relaxing” (Sumava 91%, Krkonose 89,6%, Ceske Svycarsko 85,9%, and Podyji 81,7%

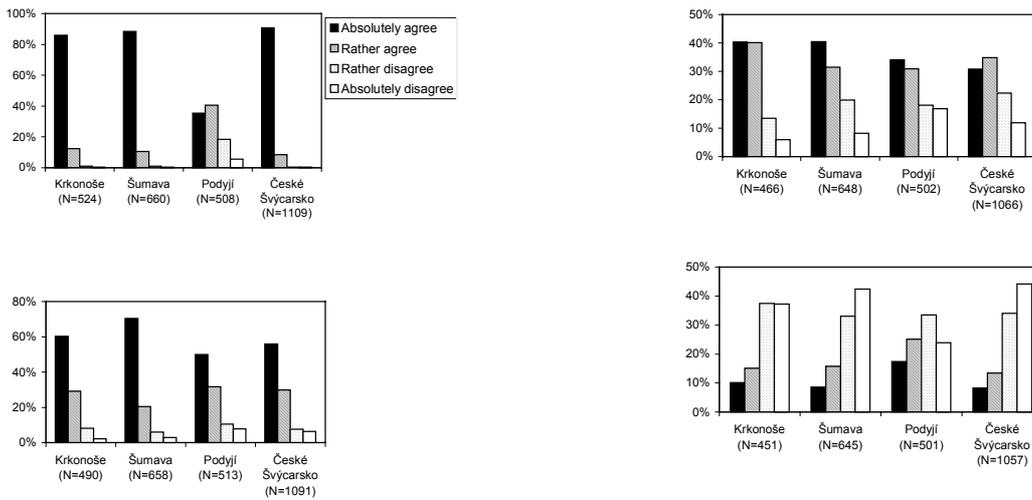


Fig. 4 - The main motive of visit in the National Parks (A - The scenery/nature spots, B - Sporting activities, C - Relaxing, D - Cultural activities)

(Fig. 4C.). „Cultural activities” (Fig. 4D.) as the main reason of visits play an important role in Podyji (42,5%). In other words, the south-moravian park is attractive not only for its nature, but also for its cultural features (compared to the other parks).

6. The highest number of visitors, who believed that the quality of environment in the National Park “has got worse” throughout the last decade was in Sumava 18,4% (!), followed by Krkonoše with 10,7%, Podyji and Ceske Svycarsko with only 5,2% (Fig. 5). Especially interesting and significant finding for park management (public relations departments) represents the number of people who wasn’t able to evaluate the state of the environment (e.g. in Podyji it raises to 61,8% of respondents). Over the last four years, the number of people who positively view the current state of the environment has increased among the respondents from Krkonoše and Sumava (Cihar a kol., 2000a,b).

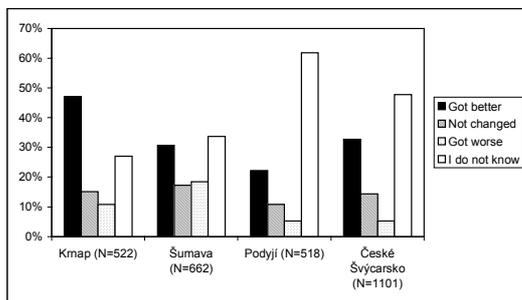


Fig. 5 - Do you think that over the last decade the condition of the environment in the territory of the NP has...

7. Respondents (60,5% of them) was able to name (in an open question) at least one ecological problem in Sumava NP (eight-toothed engraved beetle calamity was with 40,2 % indicated most frequently). The same question was able to answer only 53,7% of respondents in Krkonoše (the state of forests and waste management were among the prevailing problems). In České Svycarsko, the

amount of filled open questions decreased from 31,7 % of the answers (the problem number one was waste management) up to 16,6 % in Podyji (among the mentioned ones there were agriculture, environmental pollution and waste). When having the optional choice (Fig. 6), visitors of “large” National Parks tended to choose the state of the forests, in “smaller” parks the prevailing problem indicated was the question of waste and eventually the quality of water (Podyji).

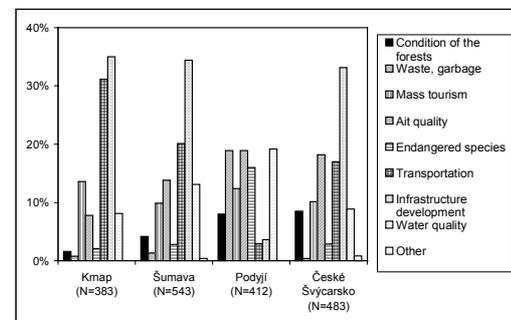
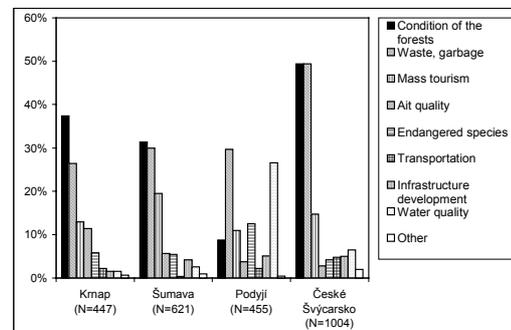


Fig. 6 - The problems needs to solved first (A) and least (B)

8. The number of tourist who used border-crossing points for pedestrians and cyclist during their stay was relatively balanced (Krkonoše 28,9%, Sumava 29,1%, Ceske Svycarsko 25,3%) with the exception of Podyji 61,4 % (Fig. 7). On the other

hand, as many as 76,1% of respondents in Podyji, 75,5%, in Sumava 73,8%, in Ceske Svycarskou and in Krkonose 72% were in favor of opening new border crossings of this kind.

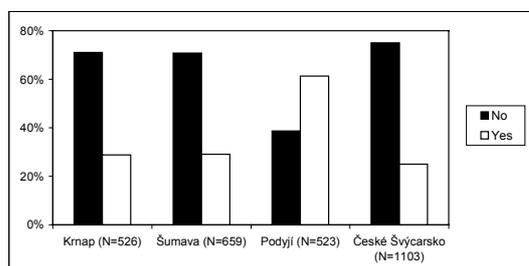


Fig. 7 - The use and potential use of pedestrian border crossings in the territory of the NP

9. The majority of respondents in all four parks (Podyji 49,3%, Ceske Svycarsko 45,9%, Sumava 44,5%, Krkonose 43%, see Fig. 8) considered the cost of their stay in the Sumava National Park to be “in accordance with their expectations”. Foreign visitors are more satisfied with the cost of their stay than Czech visitors: “satisfied” or “greatly satisfied” is 78,9% of foreigners and 43,1% of Czech visitors in Sumava, 66,1% of foreigners and 29,2% of Czechs in Krkonose, 55,6% of foreigners and 30,4% of Czechs in Ceske Svycarsko and finally 48,5% of foreigners and 38,2% of Czechs in Podyji. In contrast, 12,7% of foreign tourist and 3,9% of domestic visitors in Krkonose expressed extreme dissatisfaction. Similarly, it was 9,7% of foreign tourist and 3,7% of Czechs in Ceske Svycarsko, 9,2% of foreign tourist and 2,2% Czechs in Podyji and 1,8% of foreign tourist and 5,3% of Czechs in Sumava. As to the most common estimate for daily expenses per person (accommodation + board), foreign tourists stated the equivalent of CZK 800 in Podyji, CZK 500 in Krkonose, CZK 400 in Ceske Svycarsko and CZK 200 in Sumava. Czech tourist estimated the same expenses as CZK 300 in Sumava and Krkonose, CZK 200 – 300 in Podyji and CZK 200 in Ceske Svycarsko.

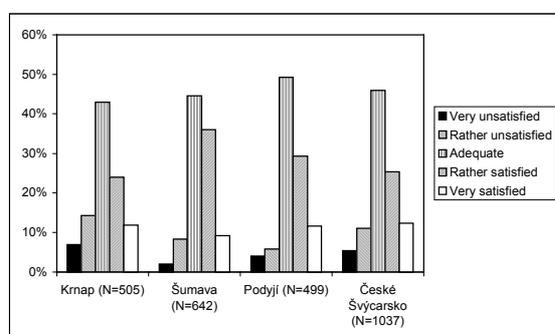


Fig. 8 - How are you satisfied with your holiday expenditures in the territory of the NP?

## CONCLUSIONS

The data presented in the paper represent only small part of the results of the far-reaching tourism monitoring in the Czech National Parks. In the year 2000, for the first time in history of the tourism research in the Czech Republic, all four National Parks in the Czech Republic were observed using the same research criteria and assumptions.

Further in-depth evaluation of all origins and implications of inner- and inter- park tourism-management relations is needed. However, given results outline the first step to the continuous monitoring of the tourism exploration of the Czech protected areas. Accordingly, their practical dimension makes them irreplaceable for park management structures.

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