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Evaluation of national parks on the basis of Nature 2000 areas

Parki narodowe w systemie obszarów natura 2000

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Abstract

The goal of this work is to present the valorisation of national park based on the criteria resulting from standard data forms (SDF). The analysis covered a number of areas protected under the Birds Directive and Habitats Directive with the A, B or C category. Habitats and species marked as D in the SDF are not protected in the Nature 2000 areas, which is why they were not taken into account in the analysis. The presented characteristics made it possible to determine the hierarchy of national parks amongst the most valuable natural objects that deserve protection in the first place and also to verify the views on most valuable areas.

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Streszczenie

Celem opracowania jest przedstawienie waloryzacji parków narodowych w oparciu o kryteria wynikające ze standardowych formularzy danych. Analizie została poddana liczba przedmiotów ochrony wynikających z dyrektywy ptasiej i siedliskowej o ocenie A, B lub C. Siedliska i gatunki oznaczone w SDF jako D nie są przedmiotem ochrony danego obszaru Natura 2000, dlatego też nie uwzględnione zostały w analizie. Przedstawiona charakterystyka pozwoliła ustalić hierarchię parków narodowych wśród najcenniejszych obiektów przyrodniczych, które w pierwszej kolejności zasługują na zabezpieczenie i ochronę, a także pozwoliła zweryfikować poglądy na temat obszarów najbardziej cennych.

1. INTRODUCTION

Both national parks and Nature 2000 areas are amongst the nature protection forms applied in Poland that overlap, that is, all national parks in Poland (23 parks) are also Nature 2000 areas. These areas are varied. Some of them result from the Birds Directive (Special Bird Protection Areas PLB) or the Habitats Directive (Special Habitat Protection Areas PLH) or from both directives combined. National parks are forms of nature protection that are relatively well recognised when it comes to the environmental values, thanks to the works related to the completion of Nature 2000 standard data forms (SDF) for areas having national parks within their limits. The collected data make it possible to evaluate individual objects based on the environmental valorisation that, according to Baryła [1995], is a hierarchical arrangement of a body of the selected category of natural objects attained with the use of selected criteria, that is, features and components, and the highlighting of natural values of such objects.

2. GOAL OF THE WORK

The goal of this work is to present the valorisation of national parks based on the criteria resulting from SDF completed for each Nature 2000 area. SDF contain the entire most important information relating to species and habitats occurring in Nature 2000 covered area. Additionally, they contain the evaluation of the importance of the area with regard to habitats and individual species covered with the protection type A, B, C or D. Valorisation results will make it possible to determine the hierarchy of national

parks amongst the most valuable natural objects in our country deserving safety and protection in the first place. One has to be aware that each national park constitutes a unique and exceptional natural and cultural value.

3. WORK METHODOLOGY

The adopted valorisation criteria for national parks were the data contained in the SDF for appropriate Nature 2000 areas (PLB, PLH, PLC) relating to: (1) habitats, (2) birds, (3) mammals, (4) amphibians and reptiles, (5) fish, (6) invertebrates and (7) plants (Table 1). In the evaluation of national parks, when it comes to the representativeness of a natural habitat, habitats taken into account were marked in the SDF as A, excellent; B, good; and C, significant. As in the case of the evaluation of the population, only those populations that were marked in the SDF as A, 100% $\geq p > 15\%$; B, 15% $\geq p > 2\%$; and C, 2% $\geq p > 0\%$ were taken into account. One point was assigned for each habitat and species (with the general evaluation of the area A/B/C). In turn, habitats and populations marked as D are not protected according to the opinion of the Ombudsman of the EC General Court of Justice, which is why they were not taken into account in the analysis. National parks cover the entire Nature 2000 area or its part (Table 2). Irrespective of the part of the Nature 2000 area covered by a national park, data for the Nature 2000 area were applied for valorisation purposes. This solution can entail a certain error, especially in the case of a national park that constitutes a small

Table 1. Natural valorisation of national parks located in Nature 2000 areas.

No.	National park	PLB ¹	PLH ²	PLC ³	Habitats	Birds	Mammals	Amphibians (Reptiles)	Fish	Invertebrates	Plants	Total score	Place
1.	Babiogórski	120011	120001		18	9	2	-	-	2	1	32	15
2.	Białowiecki			200004	10	23	6	2 (-)	1	20	3	65	5
3.	Biebrzański	200006	200008		18	39	5	2	5	10	6	85	1
4.	Bieszczadzki			180001	22	20	9	3 (-)	3	7	4	68	4
5.	Bory Tucholskie	220001	220026		21	13	2	2	1	1	5	45	13
6.	Drawieński	320016	320046		19	21	4	2 (1)	5	8	3	63	7
7.	Gorczański	120001	120018		17	13	4	2	-	-	-	36	14
8.	Gór Stołowych	020006	020004		14	6	4	-	2	2	1	29	17
9.	Kampinoski			140001	8	8	2	-	-	6	3	27	18
10.	Karkonoski	020007	020006 020044		25	13	2	1	1	4	3	49	12
11.	Magurski	180002	180001		14	23	10	3	1	10	3	64	6
12.	Narwiański	200001	200002		9	15	2	2	4	4	-	36	14
13.	Ojcowski		120004		13	-	6	1	-	1	1	22	20
14.	Pieniński			120002	14	7	3	2	-	2	3	31	16
15.	Poleski	060019 060001	060013		17	14	3	2 (1)	4	5	6	52	11
16.	Roztoczański	060012	060017		11	25	7	2	6	3	1	55	9
17.	Słowiński	220003 990002	220023		20	19	4	-	8	2	2	55	9
18.	Świętokrzyski		260002		13	-	1	-	-	7	2	23	19
19.	Tatrzański			120001	32	19	8	2 (-)	-	2	6	69	3
20.	Ujście Warty			080001	9	34	4	-	5	2	-	54	10
21.	Wielkopolski	300017	300010		16	6	3	2	-	8	1	36	14
22.	Wigierski	200002	200004		13	42	4	2	3	7	7	78	2
23.	Woliński	320002	320019		25	22	4	2	2	3	-	58	8

PLB¹, special bird protection area; PLH², special habitat protection area; PLC³, an area combining PLB and PLH.

Table 2. Percentage of the area of national parks in Nature 2000 areas.

No.	National park	PLB ¹	NP share in %	PLH ²	NP share in %	PLC ³	NP share in %
1.	Babiogórski	120011	69	120001	100		
2.	Białowiecki					200004	17
3.	Biebrzański	200006	40	200008	49		
4.	Bieszczadzki					180001	26
5.	Bory Tucholskie	220001	12	220026	62		
6.	Drawieński	320016	6.06	320046	3.99		
7.	Gorczański	120001	100	120018	38.9		
8.	Gór Stołowych	020006	32	020004	57.73		
9.	Kampinoski					140001	100
10.	Karkonoski	020007	31.97	020006 020044	32.63 0.8		
11.	Magurski	180002	13	180001	97		
12.	Narwiański	200001	100	200002	100		
13.	Ojcowski			120004	100		
14.	Pieniński					120002	100
15.	Poleski	060019 060001	42.01 99.19	060013	95.44		
16.	Roztoczański	060012	8.2	060017	100		
17.	Słowiński	220003 990002	98.87 5.73	220023	99.35		
18.	Świętokrzyski			260002	93.8		
19.	Tatrzański					120001	100
20.	Ujście Warty					080001	24.25
21.	Wielkopolski	300017	35	300010	90.3		
22.	Wigierski	200002	11	200004	94		
23.	Woliński	320002	70	320019	35		

PLB¹, Special bird protection areas; PLH², Special habitat protection areas; PLC³, 'bird' and 'habitat' protection areas combined.

The following areas were omitted because of the minor share of the Park area in the Nature 2000 areas: PLH120033 (0.01%), PLH180052 (0.03%), PLH180015 (1%), PLH180014 (0.01%).

part of a Nature 2000 area. In particular, it applies to the following national parks: Drawieński (PLB 6.06%), Wigierski (PLB 11%), Bory Tucholskie (PLB 12%), Magurski (PLB 13%), Roztoczański (PLB 8.2%), Białowiecki (PLC 17%), Ujście Warty (PLC 24.25%), Bieszczadzki (PLC 26%) and Karkonoski (PLB 32% and PLH 33%).

4. RESULTS AND CONCLUSIONS

Attempts at the valorisation of national parks have been made before [Denisiuk 1992]. Denisiuk's *Walory przyrodniczo-krajobrazowe parków narodowych w Polsce* are based on the comparison of 17 natural features determined, to a great

degree, with the use of subjective methods. These features are (1) the variety of biocoenoses, (2) the presence of unique plant communities, (3) the richness of plant species, (4) the richness of protected plant species, (5) the presence of unique plant species, (6) the richness of animal species, (7) the richness of protected animal species, (8) the presence of unique animal species, (9) degree of living nature preservation, (10) degree of natural habitats preservation, (11) diversity of the physical composition, (12) landscape diversity, (13) presence of unique elements of the landscape, (14) attractiveness for tourists, (15) resistance of the environment to anthropogenic impact, (16) surface area category, (17) percentage share of the strictly protected area. Each characteristic was valorised at a 7-degree scale. A higher

Table 3. Natural values of national parks according to Denisiuk (1992), partly changed

No.	National park	Natural values in degrees 1–7 ¹																		Total score 1–17	Place
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
1.	Woliński NP	6	5	6	5	4	4	3	5	4	4	4	5	6	5	4	3	1	4,4	74	13
2.	Słowiński NP	7	7	6	5	6	3	6	4	6	7	3	5	7	7	3	6	5	5,5	93	5
3.	Drawieński NP	7	5	5	4	5	5	4	4	5	5	3	6	6	6	5	5	1	4,8	81	10
4.	Wigierski NP	7	5	6	7	4	5	3	6	5	6	3	5	6	6	5	5	1	5,0	85	9
5.	Wielkopolski NP	4	5	7	5	6	6	7	5	3	5	3	5	6	5	3	4	1	4,7	80	11
6.	Kampinoski NP	3	5	4	4	4	5	5	7	4	4	2	4	5	4	3	7	3	4,3	73	14
7.	Białowiecki NP	5	6	7	7	5	6	7	7	7	7	1	3	5	7	4	4	7	5,6	95	4
8.	Poleski NP	7	7	7	7	7	6	6	4	6	4	2	6	7	4	3	3	3	5,2	89	6
9.	Karkonoski NP	4	7	6	3	5	5	5	4	3	5	6	7	7	7	3	4	5	5,1	86	8
10.	Świętokrzyski NP	3	7	5	5	1	5	6	4	5	5	5	6	6	5	5	4	4	5,1	87	7
11.	Roztoczański NP	7	5	5	6	5	4	7	5	4	4	3	4	3	4	4	4	2	4,5	76	12
12.	Ojcowski NP	2	6	7	7	6	4	6	6	3	4	5	7	7	7	4	2	4	5,1	87	7
13.	Babiogórski NP	3	7	5	4	7	5	4	6	6	6	6	7	7	7	6	2	7	5,6	95	4
14.	Tatrzański NP	7	7	7	7	7	7	7	7	6	7	7	7	7	7	6	7	7	6,9	117	1
15.	Gorczański NP	2	4	4	1	5	4	5	4	3	3	5	5	4	4	4	4	3	3,8	64	15
16.	Pieniński NP	2	7	7	6	7	7	7	6	6	7	7	7	7	7	6	3	5	6,1	104	2
17.	Bieszczadzki NP	3	7	6	5	7	6	7	7	6	6	6	6	7	7	6	7	3	6,0	102	3

¹A higher number reflects a greater value of a park. Natural values: 1, the variety of biocoenoses; 2, the presence of unique plant communities; 3, the richness of plant species; 4, the richness of protected plant species; 5, the presence of unique plant species; 6, the richness of animal species; 7, the richness of protected animal species; 8, the presence of unique animal species; 9, degree of living nature preservation; 10, degree of natural habitats preservation; 11, diversity of the physical composition; 12, landscape diversity; 13, presence of unique elements of the landscape; 14, attractiveness for tourists; 15, resistance of the environment to anthropogenic impact; 16, surface area category; 17, percentage share of the strictly protected area; 18, average from 1 to 17.

digit refers to a greater value of a characteristic. Results of the valorisation according to Denisiuk [1992] are presented in Table 3. Even though the criteria were different for both valorisations, the comparison of results shows a great similarity of parts of national parks in the occupied position. It is particularly true for our most valuable objects: Tatrzeński National Park (in first position according to Denisiuk and the third one according to above-mentioned authors), Bieszczadzki National Park (in third and fourth positions) and the Białowiecki National Park (fourth and fifth positions). The first position amongst national parks currently belongs to the Biebrzański National Park (85 points). This high position can be overestimated as the share of that park in Nature 2000 areas does not exceed 50% of their area. The second position of the Wigierski National Park is also overestimated because data for the entire PLB200002 were adopted even

though the park occupies only 11% of that area. When analysing points within the PLB and PLH areas separately, positions of individual national parks are presented as follows. National parks considered most valuable because of the variety of bird species (PLB) include Wigierski NP (42 species), Biebrzański NP (39) and the Ujście Warty NP (34). National parks most valuable because of the richness of habitats and species (PLH) include Tatrzeński NP (50 habitats and species), Bieszczadzki NP (48), Biebrzański NP (46) and Białowiecki NP (42). Despite certain simplifications and generalisations resulting from the varied share of park areas, the presented valorisation of national parks in Nature 2000 areas allows us to understand better the role and importance of individual areas for the country and also to verify the existing views on the subject amongst the public.

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