

Review paper

TOURIST POTENTIAL OF THE ŁĘCZNA-WŁODAWA LAKELAND AND ITS APPLICATION IN THE CONTEXT OF THE FUNCTIONING OF THE POLESIE NATIONAL PARK

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Abstract

Introduction. The conducted study regarding the environmental and cultural tourism values, level of management and transport accessibility, as well as selected elements of the tourism policy of the local authorities involved the determination of the tourist potential of the Łęczna-Włodawa Lakeland. Areas of the Łęczna-Włodawa Lakeland most attractive in terms of landscape are under protection in the form of the Polesie National Park. The article discusses the issue of the tourist exploration of the PNP. It presents information on the tourism management and tourist traffic rate and variability in the years 1993-2013. **Material and methods.** The article was prepared based on direct observations and research by the authors in the Łęczna-Włodawa Lakeland. The research procedure performed in 15 communes involved the analysis of factors influencing the features of the tourist space of the Łęczna-Włodawa Lakeland. The tourist potential of the communes was assessed based on 18 features classified into three groups (tourist values, tourist management, and transport accessibility). The assessment was expressed in numerical values of synthetic measures of tourist attractiveness specified for each of the communes. The tourist attractiveness of the area and degree of development of the tourist and holiday function were assessed in the context of the description of its tourist potential. **Results.** The synthetic measures of tourist attractiveness calculated by means of the method of multidimensional comparative analysis varied from 0.142 (Hańsk) to 0.368 (Włodawa). Out of 15 communes located in the Lakeland, 5 communes were classified as very attractive, 7 as attractive, and 3 as moderately attractive. The very attractive communes include: Włodawa, Urszulin, Sosnowica, Uścimów, and Ludwin. Very attractive communes are distinguished by the highest degree of development of the holiday function. They show a varied degree of activity of the authorities – Włodawa (high activity), Sosnowica, Uścimów, Ludwin (moderate activity), and Urszulin (no activity). Very attractive communes show a varied degree of development of the tourist function. It is the basic function for Włodawa, supplementary function for Uścimów, and additional function for Sosnowica, Ludwin, and Urszulin. **Conclusion.** The organisation of tourism space in the Łęczna-Włodawa Lakeland in the area of the Polesie National Park offers extensive possibilities of practicing various forms of tourism while maintaining the good condition of the environment.

Key words: tourist potential, Łęczna-Włodawa Lakeland, Polesie National Park

Introduction

The Łęczna-Włodawa Lakeland is one of the most important tourist areas of the Lublin Region. The papers by Mileska [1] and Wyrzykowski [2] providing an overview for Poland include the Lakeland to the group of areas recognised as holiday destinations. The local tourist values predestine the area for practicing a number of types of tourism [3, 4].

In terms of physiographic division, the Łęczna-Włodawa Lakeland is a part of West Polesie [5]. It constitutes a depression confined to elevations on three sides (Chełm Hills, Łuszczów Plateau, Włodawa Hump), open towards the east and north-

west. The latitudinal extent of the Lakeland is approximately 60 km, and longitudinal – from 10 km in its middle part to 29 km in its western part. In hypsometric terms, it is varied to a very low degree. The denivelations do not exceed 30 m. The north-west part of the Lakeland is located the lowest – approximately 150 m a.s.l. In the remaining area, altitudes reach 175 m a.s.l. In terms of land relief, considerable areas are occupied by lacustrine plains with extensive peatlands in which organogenic sediments (gyttjas, peats) reach a thickness of up to approximately a dozen metres [6].

Lakes and wetlands are the most significant hydrographical elements in the landscape. A total of 55 natural lakes with an

area exceeding 1 ha and 6 lakes fulfilling the function of a retention reservoir are currently located in the Lakeland. The group of Łęczna-Włodawa lakes also includes 6 objects located in the vicinity of the physiographic region of the Łęczna-Włodawa Lakeland (hence, the number of lakes frequently encountered in the literature is 67). The lakes occupy a total area of 33 km², and accumulate approximately 100 million m³ of water [7]. The natural lakes of the Lakeland are usually small – usually with an area of several tens of ha and weakly diversified shapes. 14 of the lakes have an area exceeding 50 ha, including only 4 above 100 ha. The largest Lake Uściwierz occupies an area of 284 ha. The sizes of the three following lakes, namely Łukie, Białe Sosnowickie, and Białe Włodawskie, vary from 150 to 100 ha. The Łęczna-Włodawa Lakeland is dominated by shallow and very shallow lakes. More than 40% of the lakes have maximum depths of up to 6.6 m. Lakes with depths exceeding 25 m (Rogóźno, Zagłębocze), or even 30 m (Białe Włodawskie, Krasne, Piaseczno) are also encountered [8].

The varied and frequently curious living and non-living environment of the Łęczna-Włodawa Lakeland is under various forms of nature protection. The entire Lakeland is under protection in the form of the UNESCO “West Polesie” Biosphere Reserve. The basic forms of protected areas of the Łęczna-Włodawa Lakeland are the Polesie National Park and four landscape parks: Poleski, Pojezierze Łęczyńskie, Sobiborski, and Nadwiprzański.

The Polesie National Park established on 10 April 1990 occupies an area of 97.6 km². It is surrounded by a buffer zone with an area of 140.4 km². The park is located in the watershed separating the catchments of the Wieprz and Bug Rivers. The area of the park is drained by the upper courses of the Włodawka and Piwonia Rivers. The natural river network is weakly developed, as determined by low terrain inclination and very shallow occurrence of groundwaters [8]. Approximately 36% of the Park's area is occupied by nature reserves including the most valuable elements of the environment – lakes and the adjacent peatlands (fens, transitional bogs, and raised bogs) – Moszne, Długie, Karaśne, and Durne Bagno. The peatland ecosystems protected in the scope of the Polesie National Park are the north-westernmost fragments of tundra and forest tundra in Europe [9, 10].

Material and methods

The boundaries of the Łęczna-Włodawa Lakeland in the paper are established based on the physiographic division of the Lublin Region by Chałubińska and Wilgat [5]. Due to the complexity of the phenomena and analysed environmental elements, however, the study area was assumed to include the territories of 15 communes included in the Łęczna-Włodawa Lakeland. In administrative terms, they belong to four districts (fig. 1): Włodawski (Włodawa, Włodawa – town, Urszulin, Stary Brus, Hańsk, and Wola Uhruska); Łęczyński (Ludwin, Cyców, Łęczna, and Puchaczów); Lubartowski (Uścimów and Ostrów Lubelski), and Parczewski (Sosnowica, Parczew, and Dębowa Kłoda). With the assumption of such boundaries, the study area occupies 2.070 km² (206.954 ha).

The collection of source materials involved the application of both field research and desk study methods. The field research methods involved measurements of tourist traffic in objects requiring the ticket purchase, and surveys of various social groups (local authorities, inhabitants, tourist guides, tourists) regarding the perception of areas visited by tourists. The desk study methods included the analysis of the content of specialised literature (particularly tourism-related), and the analysis of archival materials.



Figure 1. Study area – the analysed communes and the Polesie National Park on the background of boundaries of the Łęczna-Włodawa Lakeland

The determination of the **tourist potential of the Łęczna-Włodawa Lakeland** involved the determination of: the tourist attractiveness of environmental and cultural tourist values, the level of management and transport accessibility, and activities of local authorities in the Lublin Region in the scope of tourism development.

The assessment of the tourist attractiveness was based on a multidimensional comparative analysis performed for the communes [11]. The analysed elements, described by means of 18 variables, were used for the calculation of the Synthetic Measure of Tourist Attractiveness (SMAT). Depending on its value, regions with varied level of attractiveness were distinguished in the Łęczna-Włodawa Lakeland (very attractive, attractive, moderately attractive, little attractive). The assessment of the attitudes of local authorities in the scope of pro-tourism activities employed the method by Pawlusiński [12] with the application of the tourism development functional index. It was developed based on criteria commonly adopted in the analysis of functional conditions of development of local tourist economy [12, 13, 14]. The criteria were classified into three basic pillars of the commune's tourist policy, namely the activity of local authorities and tourism management in the commune (*tourism development strategy; tourism development planning resulting from the adopted planistic documents; tourism development programs; importance of the unit dealing with tourism in the commune*), *promotion and information (folders; maps; www information on the commune; events; fairs; exhibitions etc.)*, and *cooperation (with the local tourist organisation; agri-tourist membership; other tourism-related inter-commune associations)*.

The research procedure of identification of the **tourist function of the Łęczna-Włodawa Lakeland** involved the analysis of indices describing the level of development of the tourist and holiday function. The identification and assessment of the level of development was based on relevant data concerning the accommodation offer. The assessment of the tourist function of the communes of the Łęczna-Włodawa Lakeland was performed by means of the method proposed by Warszńska [15]. According to the adopted method, the numerical values of the so-called Baretje and Defert index, expressed in the number of accommodation places per 100 inhabitants, permits the classification of the tourist function at a scale of five levels, from the level at which the process of development of the tourist function has not yet commenced (index <0.78) to the level at which the tourist function is the basic or one of the basic economic func-

tions (index >50.0). The assessment of the state of holiday settlement in the Łęczna-Włodawa Lakeland involved the application of the so-called holiday function development index, reflecting the number of holiday cottages per 100 of houses used year-round. According to Kowalczyk [16] and Faracik [17], the holiday function is strongly developed, if the index exceeds the value of 20. The moderate degree of development occurs at index values from 10 to 20, and low level below 10.

Results

Assessment of the tourist attractiveness of the Łęczna-Włodawa Lakeland

The tourist attractiveness of the Lakeland was expressed in numerical values of synthetic measures of tourist attractiveness (SMAT) determined for each commune. They permitted distinguishing three groups of communes differing in tourist-recreation attractiveness: **very attractive**, **attractive**, and **moderately attractive** (no **little attractive** communes were recorded in the Lakeland according to the SMAT numerical values).

Out of 15 communes included in the Łęczna-Włodawa Lakeland, 5 were qualified as very attractive, 7 as attractive, and 3 as moderately attractive. The SMAT numerical values determined for the analysed rural communes and small towns vary from 0.142 to 0.368 (tab. 1).

Table 1. Variability of the tourist attractiveness of the communes of the Łęczna-Włodawa Lakeland (according to SMAT)

Degrees of tourist attractiveness. Communes:			
<i>very attractive</i>	<i>attractive</i>	<i>moderately attractive</i>	<i>little attractive</i>
Włodawa (0.368)	Włodawa(m) (0.219)	Dębowa Kłoda (0.150)	–
Urszulin (0.337)	Stary Brus (0.218)	Puchaczów (0.144)	
Sosnowica (0.322)	Wola Uhruska (0.196)	Hańsk (0.142)	
Uścimów (0.276)	Ostrów Lubelski (0.183)		
Ludwin (0.239)	Parczew (0.175)		
	Cyców (0.174)		
	Łęczna (0.171)		

The communes classified as “**very attractive**” (Włodawa, Urszulin, Sosnowica, Uścimów, and Ludwin) occupy a total of 39.5% of the area of the Lakeland, and are inhabited by 20.1% of its population. Only slightly lower contribution (38.4%) was reached by the area of **communes** classified as “**attractive**” (Włodawa (t), Stary Brus, Wola Uhruska, Ostrów Lubelski, Parczew, Cyców, and Łęczna). These communes were inhabited by 67.7% of the total population. Out of the 15 communes, only 3 (Dębowa Kłoda, Puchaczów, and Hańsk) were classified as “**moderately attractive**”. They occupied 22.1% of the area of the Łęczna-Włodawa Lakeland, and were inhabited by only 12.2% of its population.

The research procedure regarding the tourist policy of the communes of the Lublin Region involved a detailed analysis and assessment of the **activity of the local authorities in the scope of tourism**. The procedure employed the survey results. The assessments of the attitudes of the local authorities in the scope of pro-tourist activities were performed for the communes predestined for tourism development [18].

Out of 15 communes of the Lakeland, 12 communes were subject to the research procedure (the communes of Hańsk, Puchaczów, and Dębowa Kłoda were not considered). The analysed communes show a varied level of activity of the local authorities (**high**, **average**, **none**), expressed in a numerical value of the **tourism development functional index** (tab. 2).

Table 2. Variability of the activity of commune authorities according to the value of the tourism development functional index

Degree of activity of commune authorities			
<i>very high activity</i>	<i>high activity</i>	<i>moderate activity</i>	<i>no activity</i>
–	Włodawa (0.61)	Ludwin (0.39)	Łęczna (0.22)
	Wola Uhruska (0.58)	Uścimów (0.39)	Cyców (0.16)
	Włodawa(t) (0.56)	Sosnowica (0.36)	Urszulin (0.08)
	Parczew (0.56)	Ostrów Lubelski (0.33)	
		Stary Brus (0.27)	

The group of communes with determined “**high activity of the local authorities**” in the Łęczna-Włodawa Lakeland is represented by Włodawa, Wola Uhruska, Włodawa (t), and Parczew. The “**average level of activity of the local authorities**” according to the index is represented by the communes of Ludwin, Uścimów, Sosnowica, Ostrów Lubelski, and Stary Brus. The lowest values of the tourism development functional index among the analysed communes were determined for the communes of Urszulin, Cyców, and Łęczna. The communes were classified to the group described with “**no activity of the local authorities**”.

Spatial diversity of the tourist function of the Łęczna-Włodawa Lakeland

The analysis of the tourist function of the Łęczna-Włodawa Lakeland applied two diagnostic characteristics, namely the **degree of development of the tourist function** and the **degree of development of the holiday function**.

The **degree of development of the tourist function** was determined for 14 communes of the Lakeland (the index was not determined for the Cyców commune due to the absence of the accommodation offer). The obtained numerical index values (tab. 3) vary from 0.11 to 120.84 [19].

Table 3. Index values and description of the tourist function in the communes of the Łęczna-Włodawa Lakeland

Commune	Index	Tourist function
Włodawa	120.84	basic or one of the basic functions
Uścimów	28.66	equal or supplementary
Sosnowica	24.45	additional
Dębowa Kłoda	24.34	
Ludwin	22.67	
Urszulin	17.54	
Wola Uhruska	6.06	at the initial stage of development
Stary Brus	2.07	
Puchaczów	1.6	
Ostrów Lubelski	1.49	
Włodawa (t)	1.4	
Parczew	0.38	the process of development of the tourist function has not commenced
Hańsk	0.13	
Łęczna	0.11	

Based on the thresholds adopted following Warszzyńska [15], the degree of development of the tourist function in the communes of the Lakeland was determined. The calculated numerical data suggest that the highest degree of development of the **tourist function** was reached for the **Włodawa commune** (120.84). It remains **the basic or one of the basic economic functions**. The tourist function was also of high importance in the **Uścimów commune**. The numerical index value (28.66) suggests that the **tourist function is equal or supplementary to other economic functions**. In the following four communes (Sosnowica, Dębowa Kłoda, Ludwin, and Urszulin), the index reached values from 24.45 to 17.54, corresponding to the **additional function**. The first three communes reached the index value approximate to the top value in the range. Due to this, even a slight change in the data (increase in the number of accommodation places, decrease in the number of inhabitants) may result in the “promotion” of the commune. **The initial stage of development of the tourist function** was determined for 5 communes (Wola Uhruska, Stary Brus, Puchaczów, Ostrów Lubelski, and Włodawa (t)). In the case of the remaining three communes (Parczew, Hańsk, and Łęczna) **the process of development of the tourist function has not commenced yet**. The Baretie and Defert index adopted values below 0.78 – Parczew (0.38), Hańsk (0.13), and Łęczna (0.11).

The degree of development of the holiday function measured by means of the index of holiday houses per 100 permanently used houses [16, 17] was determined for 10 out of 15 communes of the Łęczna-Włodawa Lakeland (in five communes – Hańsk, Łęczna, Parczew, Stary Brus, and Włodawa (t) – the holiday house phenomenon does not occur). The calculated values of the index of development of the holiday function (tab. 4) vary from 1.3 to 283.9 [19].

The highest degree of development of the holiday function was determined for six out of ten communes – Ludwin, Uścimów, Urszulin, Sosnowica, Włodawa, and Dębowa Kłoda (tab. 4). **The average degree** (index 15.2) was determined for the commune of Ostrów Lubelski. The three remaining communes (Wola Uhruska, Cyców, and Puchaczów) were classified **at the low degree**.

Table 4. Index values and degree of development of the holiday function of the communes of the Łęczna-Włodawa Lakeland

Commune	Index	Holiday function
Ludwin	283.9	the highest degree of development
Uścimów	107.1	
Urszulin	79.6	
Sosnowica	75.5	
Włodawa	74.3	
Dębowa Kłoda	32.4	moderate degree of development
Ostrów Lubelski	15.2	
Wola Uhruska	4.1	low degree of development
Cyców	1.7	
Puchaczów	1.3	

The mean index (26.6) determined for the Łęczna-Włodawa Lakeland suggests the highly developed holiday function. The development of holiday settlement continuing from the 1960's resulted locally in the strong urbanisation of recreational areas and development of large districts of holiday houses, and locally even in a decrease in their recreational values.

Current state of the receptive capacity of the Łęczna-Włodawa Lakeland

The primary index of the receptive capacity of a region is the accommodation offer considered as the basic measure of tourist management [20]. It includes all types of accommodation facilities in buildings, as well as on campsites. 11 out of 15 communes of the Łęczna-Włodawa Lakeland featured mass accommodation offer in 2013 (tab. 5).

Table 5. Collective accommodation establishments of the Łęczna-Włodawa Lakeland communes

Commune	Number of accommodation establishments					Accommodation capacity				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Dębowa Kłoda	10	10	8	7	7	378	372	306	282	346
Ludwin	3	4	4	3	4	76	223	223	204	226
Ostrów Lubelski	1	1	1	1	1	100	100	100	100	100
Parczew	3	3	1	1	1	159	154	11	11	11
Sosnowica	2	3	3	3	2	255	286	285	285	45
Stary Brus	1	1	1	1	1	25	25	25	25	25
Urszulin	3	3	2	3	3	97	84	62	77	84
Uścimów	7	6	4	4	5	426	366	255	305	319
Włodawa	36	36	30	32	33	2321	2350	1900	2090	2115
Włodawa (t)	4	5	4	4	5	203	253	207	198	277
Wola Uhruska	1	1	1	1	1	25	25	25	25	25
TOTAL	71	73	59	60	63	4065	4238	3399	3602	3573

The material for analysis was obtained from the Local Data Bank at www.stat.gov.pl/bdl/. The registered collective accommodation offer certainly does not provide a full image of the reality. Data of statistical office are considerably different than results of the field research. However, due to the size of the study area, the registered accommodation unit was used for the detailed analyses.

In 2013, the Łęczna-Włodawa Lakeland included 63 mass accommodation objects providing accommodation for 3,573 visitors (tab. 5). Approximately 15% of them were available all year round. The highest number of 33 objects, i.e. approximately half of the objects functioning in the Lakeland, are located in the commune of Włodawa (mainly in Okuninka on Lake Białe). This commune also shows the highest number of accommodation places (2,115), constituting 59.2% of the total number (tab. 5).

In addition to the number of accommodation places, one of the most important characteristics of the accommodation offer is the type and category of the accommodation object. It is usually the resultant of the tourist attractiveness of the region, the character of the tourist traffic, and the needs and expectations of the potential tourist customer. The results of the performed research suggest that the Łęczna-Włodawa Lakeland is characterised by high diversity of forms of the accommodation offer. The structure of mass accommodation objects (tab. 6) is dominated by holiday-recreation objects (holiday resorts, training-recreation centres, tourist cottage complexes) offering 2,308 places (64.6% of the total number of places).

Table 6. Types of collective accommodation establishments in the Łęczna-Włodawa Lakeland

Commune	Number of accommodation establishments					Accommodation capacity				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Hotels	0	1	2	2	2	0	42	140	174	206
Guest houses	2	3	3	3	3	100	130	129	134	125
Other hotel establishments	4	3	1	1	1	121	102	24	25	25
Holiday resorts	41	39	34	28	29	2636	2497	2068	1953	1714
Summer camp centres	2	2	–	–	–	75	72	–	–	–
Training and recreation centres	3	3	2	3	3	255	259	160	255	255
Tourist cottage complexes	5	6	6	6	6	188	200	204	366	339
School hostels	5	6	5	5	6	272	302	365	295	371
Campsites	3	5	2	2	2	220	330	55	61	185
Other non-classified objects	6	5	4	10	11	198	304	254	339	353
TOTAL	71	73	59	60	63	4065	4238	3399	3602	3573

Source: Local Data Bank, www.stat.gov.pl/bdl.

High significance, particularly in the summer season, concerns low standard accommodation offer, including: school hostels and tourist cottage complexes (approximately 20%). A separate problem in the region refers to the accommodation offer with the highest level of services, comprising hotel objects (hotels, guest houses, and other hotel objects). The Łęczna-Włodawa Lakeland generally has a weakly developed network of hotel objects; this type of objects provides less than 10.0% of all accommodation places (tab. 6).

The analysis of the dynamics of development of the accommodation offer in the Lakeland in the period of 5 years between 2009 and 2013 (tab. 6) shows a decrease in the number of mass accommodation object by 18.3%. In 2013, the number of holiday resorts largely decreased in relation to 2009 (number of objects by 30%, number of accommodation places by 35%). An increase in the number of accommodation places in the hotel offer is a very positive phenomenon. In 2013, 6 hotel objects offering 356 accommodation places were recorded (increase by 61%).

Use of the tourist space of the Łęczna-Włodawa Lakeland; tourist traffic

The assessment of the tourist traffic is one of the most difficult areas of research on tourism [21]. Tourist traffic is a dynamic phenomenon distributed in space, and vary diverse in terms of form. The subject of the phenomenon is a person who visiting a given area for tourist purposes usually practices several forms of tourist traffic depending on their needs in the scope and on the conditions for the development of a number of forms of tourism available in the region. This paper particularly presents the analysis of tourist traffic recorded in mass accommodation objects, as well as the traffic register based on entry tickets to the Polesie National Park. **Tourist traffic in mass accommodation objects** is the part of the phenomenon systematically recorded by official statistics. In 2013, 42.657 persons were registered in the analysed communes of the Łęczna-Włodawa Lakeland (tab. 7). This number is equivalent to 6% of tourist traffic in the Lublin Province.

Table 7. Use of collective accommodation establishments in the communes of the Łęczna-Włodawa Lakeland in 2013

Commune	Number of tourists	Including foreign tourists	Total number of overnight stays	Included those provided to foreign tourists
Dębowa Kłoda	3 700	13	11 857	86
Ludwin	1 333	27	4 894	31
Ostrów Lubelski	45	–	45	–
Parczew	231	–	373	–
Sosnowica	913	–	1 701	–
Stary Brus	32	9	55	9
Urszulin	434	8	983	8
Uścimów	2 708	–	3 765	–
Włodawa	31 237	743	74 715	966
Włodawa (t)	1 953	317	5 488	325
Wola Uhruska	71	–	143	–
TOTAL	42 657	1 117	104 019	1 425

Source: Local Data Bank, www.stat.gov.pl/bdl.

The highest number of persons (74.1%) visited the commune of Włodawa. A considerably lower contribution was recorded in the case of the remaining communes, e.g. Dębowa Kłoda (8.7%), Uścimów (6.3%), and the town of Włodawa (4.6%). Hotel objects were visited by 7.657 persons, i.e. 18.0% of all persons visiting mass accommodation objects that year. Foreign tourist traffic is weakly developed. It is particularly recorded in hotel objects (approximately 1.1 thousand annually – approximately 2.6% of tourist traffic). Foreign tourist were provided with 1.425 overnight stays. This constitutes 1.4% of the total number of the provided overnight stays (tab. 7).

Importance of the Polesie National Park for tourism development

The Polesie National Park is of high significance for the development of forms of tourism in the Łęczna-Włodawa Lakeland. One of the basic tasks of national parks in accordance with their definition is making parks available for the society for tourist purposes in a manner causing no damage to the environment. This is done by means of established hiking, bicycle, and horse trails, didactic paths, natural museums, educational centres, and show centres. The elements satisfy the elementary needs related to human contact with nature, and constitute a form of obtaining environmental knowledge [22].

The possibility of the tourist penetration of the Polesie National Park is closely related to the degree of its management. The basic tourist facilities in PNP are represented by objects related to satisfying cognitive needs. This group of facilities particularly includes elements with linear character, mainly tourist trails and environmental paths. Six marked tourist trails currently run through the area of the Park. These are:

- black trail “Nałęcz” – a historical-environmental trail for hiking and cycling, with a length of 13 km, including 10 km within PNP and its buffer zone. The trail runs through the following villages: Sosnowica-Górki-Zienki-Jamniki;
- red trail “Partyzancki” – for hiking and cycling. The total length of the trail amounts to 115.9 km, including 12 km within the Park and its buffer zone. It runs from Urszulin to Parczew.
- yellow trail “Krawędziowy Poleskiego Parku Narodowego” – for hiking, with a length of 22 km, entirely within the Park and its buffer zone. The route of the trail: Wołoskowola-Nowiny-Stawy Bruskie-Łowiszów-Lake Wytyckie-Babsk-Załużce Stare, PNP Museum;

- blue trail “Pojezierny Północny” – for hiking, with a length of 120 km, runs from Urszulin to Włodawa. Its 10 km section is within the Park and its buffer zone. The route of the trail: Pieszowola–Wielki Łan–Łowiszów–Wytyczno;
- red trail “Bagno Bubnów” – for hiking, located entirely within the Park and its buffer zone. It has a length of 13 km. The route of the trail: Serniawy–Bartoszycha–Wojciechów–Kulczyn–Pikulawka–Zastawie.
- yellow trail “Pojezierny Południowy” – for hiking, with a length of 57.8 km. It runs from Hniszów to Urszulin. Its western section with a length of 14 km is located within the Park and its buffer zone, along the following route: Serniawy–Kolonja Tarnów–Wielkopole–Kolonja Wereszczyn–Zastawie–Urszulin.

The first horse trail in the Lublin Region was established in the Polesie National Park. The Polesie Horse Trail has a length of 280 km, including 60 km within the Polesie National Park and its buffer zone. In the main complex, the trail begins in the Kol. Kochanowskie village, and develops a loop with spurs towards the Kołaczce village and the other part of the PNP, namely the Bagna Bubnów and Staw complex. Horse studs are located along the trail. Five horse studs are located in the direct vicinity of the Park. These are: the horse stud in Wola Wereszczyńska, the Horse Riding Club “Goniec” in Kaniwola, the Horse Riding Centre “Bachus” near Sawin, the Horse Riding and Breeding Centre “Żurawiejka” in Bukowa Mała, and the Horse Riding Centre “Stajnia Makoszka” in Makoszka.

Six **educational environmental paths** are available within the Polesie National Park (five hiking paths and one cycling path):

- **Path Dąb Dominik** with a length of 2.5 km (longer variant 3.5 km) runs through various types of forests (high and low dry ground forest, hummock-hollow alder forest, marshy coniferous forest) to Lake Moszne in the last phase of dystrophic overgrowing. A part of the footbridge is adjusted for use by persons with disabilities.
- **Path Perehod** has a length of 5 km, and runs through a pond complex. It is of ornithological character. It is the most interesting in the period of bird migrations the observation of which is facilitated by 2 observation towers and an observation shelter.
- **Path Splawy** with a length of approximately 3.5 km. It presents the following forest assemblages: Subboreal marshy birch forest, and hummock-hollow alder forest, as well as a transitional bog and various types of meadows. Its particular attraction are carnivorous plants and blooming orchids. The path ends at Lake Łukie.
- **Environmental-historical path “Obóz Powstańczy”** with a length of approximately 4 km. It begins in the Lipniak village. The path presents various forest assemblages, including among others low dry ground forest and hummock-hollow alder forest. It runs along a dike, along a complex of Zienkowskie Meadows (called “Pociągi”) to a large beaver lodge. “Dąb powstańców”, as well as the insurgent cemetery and camp, constituting historical elements of the path, provide tourists with an insight into the course of the January Uprising in the Łęczna-Włodawa Lakeland.
- **Path Żółwik** is located in the premises of the Didactic-Museum Centre of PNP in Załucze Stare. It is designed for children. The path with a length of approximately 0.5 km among others presents the structure of a forest, describes the life of the pond turtle, and presents a small Rehabilitation Centre for Wildlife created by the Park.
- **Didactic cycling path of PNP “Mietułka”** with a length of 21 km forms a loop running through the pond complex in Pieszowola, and then along the Mietułka River. The beginning and end of the path is located at the raised bog “Durne Bagno” with a vantage tower.

In order to provide visitors with the possibility to see usually inaccessible areas of the Park, 7 vantage towers were constructed (2 – Bagno Bubnów wetland, 2 – Durne Bagno wetland, 2 – Perehod ponds, 1 – Bagno Staw wetland). They permit admiring the panoramas of open carbonate peatlands and the landscape of a continental type raised bog overgrown with a marshy coniferous forest. The towers located on dams on ponds permit the observation of water and wetland fowl. Foot bridges are of high importance in PNP due to the abundance of wetlands. They facilitate tourist traffic, simultaneously providing its safety.

The highest form of didactic activity in PNP is represented by two educational centres: the **Didactic-Museum Centre (OD-M)** in Załucze Stare (since 1993) and the **Didactic-Administrative Centre (OD-A)** in Urszulin (since 2009).

The Didactic-Museum Centre is an important educational object of the Park. It includes a museum, a museum shed, path “Żółwik” with a waterhole, Rehabilitation Centre for wildlife with an aviary for birds and open-air run for mammals, and a tourist gazebo and bonfire area. The museum part features collections including archaeological, entographic, historical (militaria, numismatics, documents), and environmental exhibits, as well as those presenting the cultural heritage of West Polesie.

The Didactic-Administrative Centre of PNP features the “Pond Turtle Protection Centre”, where pond turtles can be observed from September to May. Films on the environment of the Polesie National Park and the culture of Polesie are presented in the building of the Centre in a specifically prepared projection room. The building also includes the PNP management offices and a library with a small book collection. The Didactic Garden is located next to the building, featuring fragments of some of the habitats typical of the Park: transitional bog, flower meadow, and a water body with an adjacent reed bed.

Objects facilitating practicing tourism include seven tourist information points of PNP located in: Urszulin (two), Załucze Stare, Wola Wereszczyńska, Kołaczce, Sosnowica, and Stary Brus. The points sell popular science publications concerning the Park and its vicinity.

The Polesie National Park number of visitors

The statistics of visitors in PNP in the years 1993-2013 suggest its considerable year-to-year variability (fig. 2). It varied from approximately 5 thousand in 1993 to approximately 30 thousand in 2013.

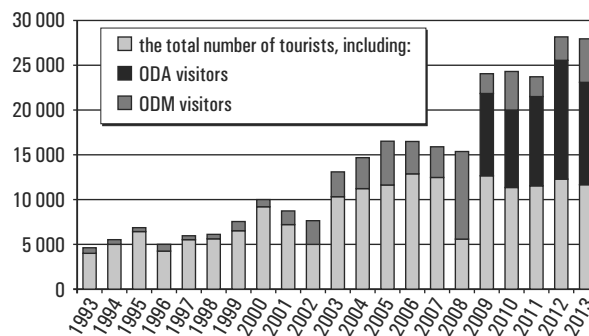


Figure 2. Visitor statistics in the Polesie National Park in the years 1993-2013

The register of number of visitors in the Polesie National Park based on the number of sold tickets suggests that in the years 2009-2013, the number grows by an average of approximately 26 thousand visitors annually, whereas the year-to-year variability is relatively low, varying from approximately 24 thousand to approximately 28 thousand visitors. The visitor struc-

ture is dominated by persons arriving in groups. They constitute approximately 70-80% of the traffic. The most numerous group is that of school children, mainly from elementary schools. After 2000, the structure shows a considerable trend of an increasing number of tourists visiting the Park individually. This largely results from the promotion of PNP involving introducing its official website, issuance of numerous new publications, and broadcasting documentaries on PNP on the national TV [23].

Tourism in the Polesie National Park shows high monthly variability (fig. 3). A relatively low rate of visitors is observed from November to March. In these months, in the multiannual of 2009-2013, the average number of visitors varied from 35 to 231 persons. A substantial activation of tourist traffic is particularly observed in May (5.579 visitors) and June (5.481). The total frequency in those two months accounts for approximately 50% of the annual number.

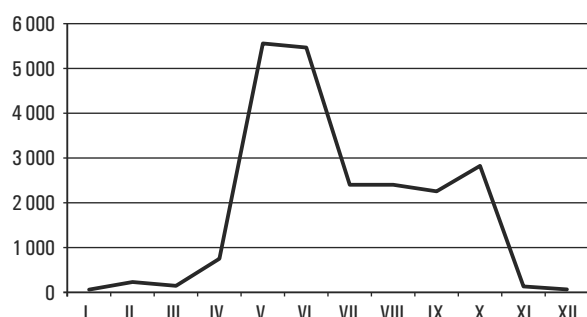


Figure 3. Seasonality of visitors to the Polesie National Park in the years 2009-2013

Summer school holidays (July-August) are a period of a decrease in the rate of tourists in PNP by almost half in relation to the two preceding months. Thus results from a decrease in the number of organised groups, and particularly school trips. Summer holidays also show the highest concentration of individual tourist traffic in PNP. For example, in 2006, individual tourists constituted 48% and 57% of the total number of visitors in July and August, respectively. The spring-summer season (from May to October) was a period with more than 90% of the total annual number of visitors [23]. The rate of tourist traffic in the spring and summer season in particular years is varied, and largely dependent on weather conditions [24].

Conclusion – discussion

Tourism in protected areas, particularly in national parks, raises a lot of controversy. Therefore, the problem is one of the most frequently discussed issued in tourism-related literature. The issue of the tourist use of the Polesie National Park was discussed by Iwaniuk and Piotrowski [24], and Skowronek et al. [25].

According to the analyses conducted above, the dominant part of the Park (77.1% of its area) occupies the area of communes classified as very attractive, namely Urszulin (52.1% of the Park) and Sosnowica (25.0%). A large part of these com-

munes is also located within the Park: 29.6% and 14.2%, respectively (tab. 8). Due to the above, the analysed phenomena determined for the communes will largely refer to the area of the Polesie National Park.

Table 8. The Polesie National Park administrative division structure

Commune	Area of the Park within the commune [%]	Area of the commune within the Park [%]
Urszulin	52.1	29.6
Stary Brus	5.0	3.7
Hańsk	6.0	3.3
Sosnowica	25.0	14.2
Wierzbica	9.7	6.5
Ludwin	2.2	1.8

Source: data of PPN.

The tourist function in the communes of Urszulin and Sosnowica, classified as very attractive, was assessed as additional in relation to their other economic functions. The degree of development of the holiday function reached the highest value. The analysis of the activity if the local authorities in the scope of tourism showed average activity of the local government in Sosnowica, and its lack in the case of Urszulin. This suggests that the analysed area presents a vast potential for tourism development due to its very high tourist attractiveness and already developed tourist and holiday function. Only the local government authorities undertake insufficient activities aimed at tourism development in the area. The gap seems to be filled with the activities of the Polesie National Park.

According to the modern trends, in environmentally valuable areas such as national parks, the preferred types of tourism are environmental tourism, ecotourism, and qualified tourism. All of these forms of tourism particularly focus on the educational aspect of the tourist trip, on the provision of background knowledge before visiting a given place, and on respecting the nature, culture, and customs of the local community. These forms of tourism executed in the Polesie National Park can be treated as alternative forms of recreation activity, particularly practices in periods when the weather conditions are unfavourable for recreation on lakes.

In the case of the Polesie National Park, educational tourism is the dominant form of tourism. It concerns both the group of school children (from elementary and secondary schools), the group of students (particularly those of environmental science majors), and adults visiting PNP to participate in various kinds of events (training sessions, lectures, seminars, exhibitions, etc.).

The offer of group visits to the Polesie National Park involves the following elements including the guide service: projection of a film on the National Park, visit to the *Pond Turtle Protection Centre*, *Didactic-Museum Centre*, and a selected environmental path, and a bonfire at the end of the visit.

Moreover, the execution of educational activities is possible based on the natural and cultural richness of the region. Subjects suggested in the scope of the mode *“The Wildlife of Polesie”* are presented in table 9.

Table 9. Topics of classes conducted in the Polesie National Park

Classes conducted in the didactic centres of the Park	Field classes
<ul style="list-style-type: none"> – Encounter with the turtle; – Do ladybirds go to heaven? – Learning about insects; – Whose trace is it? Identifying traces left by animals; – What do animals do in winter? – Reading maps; – Moose Bullwinkle; – Little residents of the meadow; – From thread to fabric; – Bird corner; – In the imagination workshop – impressions, great animals, amazing plants – colography class; – Microscopy class – “Life in a water drop”; – Before you kick it or throw it... – learning about rocks; – From great grandmother’s chest – folklore outfits. 	<ul style="list-style-type: none"> – Beaver’s house; – Saw it and it will grow; – Nature’s guessing games; – Tacking old pond complexes; – In the land of the moose; – Measuring trees; – Do not get lost in the forest – GPS class.

Source: data of PPN.

Various educational events are organised in the Polesie National Park every year. These include among others “Earth Day”, PNP Knowledge Competition, and others, such as the International Ecological Run – Park Employee and Forester Run, the “Turtle Track” Rally, or the Autumn Bicycle Rally “Nałęcz”.

Hiking is most probably the dominant form of penetration of the area of PNP. This is confirmed by the fact that the majority of groups of school children participating in organised tourism walk around PNP, usually choosing to follow an environmental path. Hiking tourism is also popular among individual tourists. The events organised in the Park contribute to the fact.

Due to the wetland character of the terrain, practicing cycling tourism in the Park can be difficult, particularly in the period of increase precipitation. Cycling on the environmental paths is forbidden for safety reasons. The following trails in PNP and its buffer zone are adapted to cycling tourism: cycling environmental path “Mietułka”, and the black, red, and blue trails. The total length of the trails within PNP and its buffer zone amounts to approximately 45 km. PNP organises an annual cycling rally. It also runs bicycle rental in order to encourage visiting the Park on a bicycle.

Tourists interested in horse riding can rent a horse from one of the studs or come with their own horse and accommodate it there. In addition to horse rental, the nearby studs also offer horse riding classes. Additional attractions are also organised, such as horse-drawn carriage or sleigh rides.

Ornithological tourism concerns tourists particularly visiting PNP to observe the avifauna. The Polesie National Park provides very favourable conditions for practicing this form of tourism. As many as 215 bird species with dominance of water and wetland fowl occur in the relatively small area of PNP. A great asset of the Park is the mosaic character of its landscape. It permits observing birds inhabiting water-wetland, meadow, and forest habitats during one visit. Three trails are particularly interesting from the point of view of ornithological tourism: the environmental trail “Perehod”, the yellow trail, and the red trail.

The remaining forms of specialised tourism practices in PNP are of marginal importance. They usually constitute one of the supplementary objectives of visits to PNP. For example, a tourist interested in ornithological tourism can simultaneously photograph nature; a hiking tourist can also pick mushrooms and

blueberries, or practice angling. Angling is allowed in PNP and its buffer zone on Lake Wytyckie and at specified sites on the Pieszowola Ponds.

The assessment of the perspectives of further tourism development in the Polesie National Park should involve an insight into the possible results of the further development of tourist traffic in the area. According to the estimates [24], assuming even distribution of tourist traffic, the Park in its modern boundaries could be visited by approximately 50 thousand tourists a year with no substantial damage to the environment. This would generate benefits for both the local community and the environment. Due to the current relatively low interest in tourism in the study area, the number of persons involved in nature protection in the Park is low. Moreover, due to the small size and clear seasonality of the tourist traffic, the local community obtains inconsiderable revenues from tourism. The development and maintenance of tourist infrastructure is little cost effective.

The Park has been already preparing for accepting a higher number of tourists for a longer time. The provision on the development of the tourist and didactic function of PNP included in the protection plan determined activities until 2018 aimed at the development of environmental tourism and didactic activity in the Park, and at the development of the recreation function and service offer, with preferences for qualified tourism and agritourism in the buffer zone.

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