

SUBURBAN AREAS OF HISTORICAL VALUE AS AN IMPORTANT ELEMENT OF THE ECOLOGICAL BUFFER OF WARSAW

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ABSTRACT

The article aims to identify areas of historical, cultural, and landscape values that are located in the suburban area of Warsaw and which may play an essential role in stabilizing the urban ecosystem of Warsaw in the future. Since it turns out that the most effective form of preserving these values is to take them under legal protection, the article shows good and bad practices in this area, identifying the most significant threats and indicating opportunities and scenarios worth considering for the future. Finally, the purpose of the article is to draw attention to the importance of spatial and scenic connections, emphasizing the importance of the surrounding landscape, which was once an immanent feature of, e.g. suburban estates. The hypothesis is that in the face of progressing climate change and melting natural resources, it is worth paying attention to the importance of all urban ecosystem elements, even smaller ones, because they are a component of a larger whole and are required for ecological balance. Existing resources should be strengthened and protected, and new places for protection should be sought. Such sites may be the former foregrounds, the immediate surroundings of monuments, which in the past functioned as larger compositions and should be protected as such.

Key words: suburbs, Warsaw, historic landscape, cultural landscape, natural landscape, climate change

INTRODUCTION

In the face of climate change, we should change our approach to the issue of optimal resource management, especially natural resources, not only in the cities themselves but also on the outskirts (Gill, Handley, Ennos & Pauleit, 2007; Williams, Joynt & Hopkins, 2010; Brink et al., 2016). After the political transformation and introduction of the free market, many Polish cities encouraged investors in various ways to make investments, also by offering price-competitive land, usually located near the administrative borders of large towns or just behind them. Maybe under challenging years of adaptation to new, free market principles, it was a beneficial activity, but its continuation seems irrational from today's perspective. Self-governments still show a strong commitment to conduct-

ing such a spatial policy of communes and disposing of undeveloped land properties to strengthen the commune budget. Thus, we get rid of resources that can help resist or reduce the harmful effects of climate change. It seems that ecologically valuable areas can be protected against such a wasteful policy by legal provisions, but unfortunately, this does not happen.

Investment attractiveness also depends mainly on the administrative efficiency of issuing construction decisions and, often, a sympathetic response to such activities from communes. It turns out quite often that, although lawful construction decisions are given, they are contrary to environmental prudence. Unfortunately, in Poland, we still observe a low level of civic responsibility awareness in terms of the conditions in which we live, which is easy to see with the example of smog. Striving to improve the environment's

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quality is not the residents' primary goal, and thus the local self-governments that represent them do nothing in this respect. It is not surprising that the quantity of natural resources is not directly linked to the quality of life, and the purity of the environment is not a goal in itself. We are still following the vision of an egocentric world, forgetting that we translate it back to the front, depriving future generations of the right to live in a healthy environment.

Green communes around Warsaw, unaware or aware of these processes' consequences, give their resources to developers, which ultimately, guided mainly by financial calculations, decide to develop them functionally and spatially. It turns out that we lose many valuable areas, which previously were the foreground for historically, aesthetically, and environmentally attractive places. And although it was possible to protect natural and cultural values, the areas in their vicinity were not. The protection of valuable natural and cultural sites is not an adequate tool in the fight against faulty urbanization in the suburbs. Hence, the conclusion is that more useful forms and tools influencing the development of suburbs with the cultural and natural landscape should be sought.

When thinking about actions in urban areas aimed at limiting the progressing climate change, we often focus on protecting and strengthening the resources of the so-called blue-green infrastructure (Perini & Sabbin, 2016). In this context, it is also worth paying attention to the resources of areas protected for historical reasons. Historical assumptions are often connected with green spaces. Those can be either large-scale residential premises or historical urban developments, or individual elements, such as avenues of trees or old trees accompanying villas or churches. They are a valuable element that can significantly support the system of green areas in the city and its suburbs, and in many places, protected areas.

MATERIAL AND METHODS

The summary list of areas protected for natural reasons and areas under conservation protection was made based on Geographical Information System data for the communes neighboring Warsaw. On this base, the ratio of protected areas in comparison with

the overall area of the communes was calculated. This shows the level of protection for each commune. The created map of protected areas shows the spatial relationship and connections between all forms of conservation of the landscape. The research was conducted with the use of the database of the National Heritage Board of Poland as well as of the geoportal databases. Functional and spatial analyzes were performed based on a comparative analysis. The study was also supported by a table that allowed for the formulation of conclusions related to the examined communes. The communes administratively adjacent to Warsaw were selected for the study. The resources of 28 units were analyzed, including communes and cities.

RESULTS AND DISCUSSION

Areas protected due to their natural and cultural values

Areas protected due to their natural and cultural values are covered by various forms of nature protection: national parks (Kampinowski National Park), landscape parks (Mazowiecki Landscape Park and Chojnów Landscape Park), Natura 2000 sites, nature reserves, and the Warsaw Protected Landscape Area, whose main task is to protect the continuity of ecosystems around Warsaw. The ring of protected areas runs mostly through the municipalities directly neighboring the city border. However, the system's discontinuity on Warsaw's west side is visible (Fig. 1).

By comparing protected areas due to their natural values with areas under conservation protection, it can be seen that areas of historical and cultural significance in the suburbs of Warsaw complement and support the green ring system around the city. This means that they play an essential role in maintaining the ecological balance of the suburbs.

Under the wording of the Act on Protection of Monuments and Preservation of Monuments the Provincial Conservator of Monuments may enter in the register of monuments a "real estate [...], parts or assemblies thereof, being the work of man or related to his activities, and constituting a testimony of a past epoch or events the preservation of which is in the social interest because of historical, artistic or scientific values [own trans.]" (Ustawa 2003 r. o ochronie

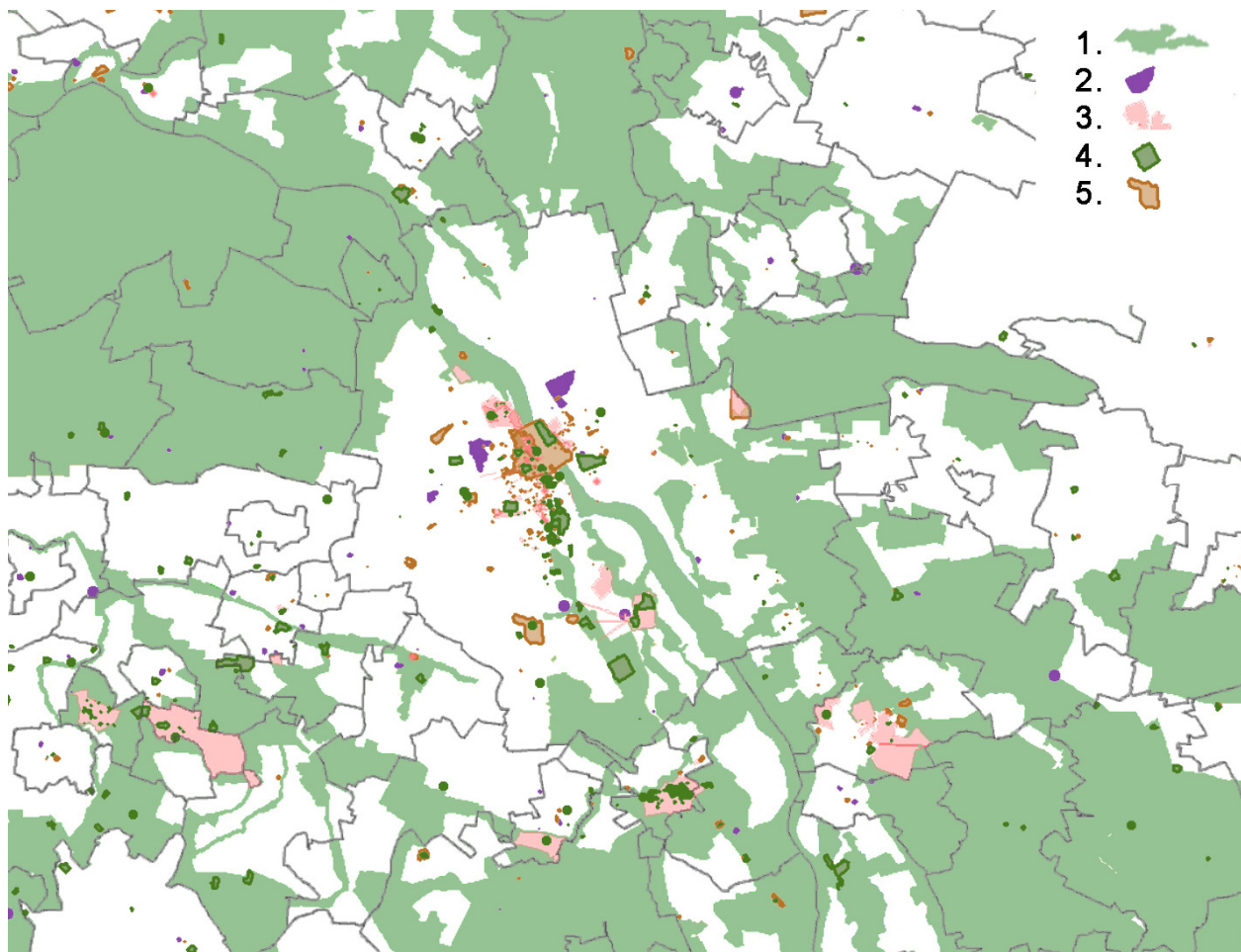


Fig. 1. System of protected areas in Warsaw and its suburbs: 1 – areas protected for natural reasons; 2 – historic cemeteries; 3 – historic urban areas; 4 – historic greenery; 5 – protected surroundings of historical monuments (based on <http://mapy.zabytek.gov.pl/> & <http://geoserwis.gdos.gov.pl/mapy/>, accessed 12.12.2019)

zabytków i opiece nad zabytkami, art. 3 pkt 1). The vast majority of immovable monuments are works of architecture and construction. Still, the register of monuments also includes cultural landscapes, urban and rural zones, as well as building complexes, cemeteries, parks, gardens, and other forms of designed greenery, as well as places that commemorate historical events or activities of eminent personalities or institutions (Ustawa z 2003 r. o ochronie zabytków i opiece nad zabytkami).

While analyzing the entries in the register of monuments, it should be noted that not only historic greenery has value for the ecosystem of Warsaw suburbs. It is worth paying attention to the important role played

by the surroundings of monuments constituting the “area around or by the monument designated in the decision to enter this area in the register of monuments to protect the monument’s scenic values, and protect it against the harmful effects of external factors [own trans.]” (Ustawa z 2003 r. o ochronie zabytków i opiece nad zabytkami, art. 3 pkt 15).

There are not many large-area monuments in the suburbs of Warsaw, but there are many smaller monuments, mainly gardens and surroundings, which are a valuable ecological resource. Restrictive conservation protection concerning all investment processes in force in these areas provides excellent support for protecting the green ring ecosystem around Warsaw (the table).

Table. Summary list of protected areas in communes located in Warsaw suburbs (based on <http://mapy.zabytek.gov.pl> & <http://geoserwis.gdos.gov.pl/mapy>, accessed 12.12.2019)

Name of Commune	Protected areas										Percentage of area protected for historical reasons
	Commune area [m ²]	Area protected for natural reasons [m ²]	Percentage of area protected for natural reasons	Historic greenery	Historic complexes	Historic urban areas	Surroundings of monuments	Historic cemeteries	Area protected for historical reasons	Percentage of area protected for historical reasons	
Halinów – city	2 842 307.9	0	0.00%	0	0	0	0	0	0	0	0.00%
Halinów – commune	60 196 298.9	21 346 192.5	35.46%	30 887.4	9 462.7	0	3 078.8	5 442.2	48 871.1	0.08%	
Izabelin	64 943 914.7	64 943 914.7	100.00%	0	0	0	0	10 678.7	10 678.7	0.02%	
Jabłonna	64 744 814	45 862 597.6	70.84%	465 704.3	465 704.3	0	97 221.9	18 436.8	1 047 067.3	1.62%	
Józefów	23 896 781.8	16 656 416.3	69.70%	17 150.3	0	0	3 672.8	0	20 823.1	0.09%	
Karczew – miasto	28 099 830.8	19 464 440.3	69.27%	0	0	0	14 345.8	54 575.7	68 921.5	0.25%	
Konstancin-Jeziorna – city	17 732 682.9	8 917 096.6	50.29%	203 826.6	3 455 746	4 270 543	135 822	0	8 065 937.6	45.49%	
Konstancin-Jeziorna – commune	60 778 281.1	36 302 168.8	59.73%	195 414.5	109 966.1	244 512	127 693	36 874.2	714 459.8	1.18%	
Legionowo	13 531 425.5	2 834.8	0.02%	18 098	0	0	25 862.9	0	43 960.9	0.32%	
Lesznowola	69 230 923.9	16 612 170.4	24.00%	0	0	0	0	5 798.4	5 798.4	0.01%	
Łomianki – city	8 394 041.5	8 394 041.5	100.00%	7 844.2	0	0	3 020.4	0	10 864.6	0.13%	
Łomianki – commune	30 432 398.4	30 432 398.4	100.00%	0	0	0	0	15 139.3	15 139.3	0.05%	
Marki	2 612 278.1	9 255 727.8	35.43%	49 610.3	0	0	26 806.9	0	76 417.2	0.29%	
Michałowice	3 470 2631.7	11 947 201.8	34.43%	1 088 815	911 786.6	249 589.7	12 474.3	5 264	2 267 929.6	6.54%	
Nieporęt	95 972 300.4	88 813 763.7	92.54%	0	0	0	17 345.3	2 627.3	176 080.3	0.18%	
Otwock	47 272 320.1	21 382 845.6	45.23%	94 275.6	0	0	449 801.8	0.1	544 077.5	1.15%	
Ożarów Mazowiecki – city	8 111 817.3	0	0.00%	22 213.1	18 652.1	0	0	7 435.6	48 300.8	0.60%	
Ożarów Mazowiecki – commune	63 061 178.4	1 979 991.6	3.14%	212 802.7	134 155.1	0	0	0.3	346 958.1	0.55%	
Piaseczno – city	16 215 906.4	4 830 925.9	29.79%	31 529.1	0	0	39 782.2	147 39.7	8 605.1	0.53%	
Piaseczno – commune	111 910 752.6	85 056 495.1	76.00%	59 131.7	51 100.9	0	230 114.3	601.1	340 948	0.30%	
Piastów	5 759 674.7	0	0.00%	1 274.8	0	0	4 257.6	0	5 532.4	0.10%	
Pruszków	19 168 469.7	768 505.7	4.01%	31 7374.4	804 266.2	95 666.4	106 912.3	692 59.2	1 393 478.5	7.27%	
Raszyn	43 876 036.6	11 974 033.1	27.29%	113 472.4	117 244.3	0	85 944.7	396 45.9	356 307.3	0.81%	
Stare Babice	63 355 783.4	57 767 383.4	91.18%	188 445.8	131 946.9	0	0	8 131.6	328 524.3	0.52%	
Sulejówiek	19 292 319.1	3 191 840.4	16.54%	1 333.5	39 014.3	0	6 636.4	0	46 984.2	0.24%	
Wiązowna	102 045 420.7	72 642 044.8	71.19%	13 3621.3	13 581.2	0	17 797.1	17 736.3	182 735.9	0.18%	
Ząbki	10 973 476.8	3 037 156.2	27.68%	0	409.5	0	4 513.1	0	4 922.6	0.04%	
Zielonka	79 411 143.8	726 75 173.8	91.52%	5 502.6	0	0	0	298.6	5 801.2	0.01%	

Practical aspects of conservation protection

If an object or area is listed in the register of monuments, it does not establish nature protection in a given area but allows for strict control over all investments carried out there. The Provincial Conservator of Monuments' opinions and decisions include land divisions and real estate sale or logging. All new investments: buildings, road investments, the introduction of greenery, engineering structures, and ubiquitous advertising media require agreement with the Provincial Conservator.

Areas covered by conservation protection in the suburbs of Warsaw

The largest monuments in the area on the outskirts of Warsaw are urban layouts. Most of the resources are spatial developments of garden cities on the southern side of the city. The spatial systems of cities entered

in the register of monuments are protected as a whole system of interrelated elements. The protection covers the arrangement of streets and squares, the arrangement and shaping of buildings in the area of historic design, the intensity of building development, land ownership divisions, and the formation of greenery, as well as the shaping and furnishing of public spaces.

Comparing the areas of protected urban layouts with their immediate vicinity in satellite photos (Fig. 2), the difference in buildings' density and tall greenery share is visible. Historic systems have a significantly higher percentage of vegetation and lower building intensity. This is due to the Conservator's protection of public greenery and the necessity to consult all tree logging. In this aspect, it is also crucial that it is necessary to consult all land ownership divisions in the area entered in the Register of Monuments. Moreover, the Conservator's opinion on public space projects guarantees a higher arrangement quality of streets and squares.

The difference in the percentage share of greenery and building density is visible on the border of the historical spatial development of Konstancin-Jeziorna and the Strzecha Polska housing estate in Komorów (Fig. 2). It should be emphasized that the historical urban complexes on the southern side of Warsaw are part of the Warsaw Landscape Protection Area established in 1997. This is because they have preserved their natural value and are part of an ecologically important system. Therefore, it can be concluded that the conservation protection of urban systems is essential for the protection of historical and artistic values, and plays a vital role in the protection of urban greenery.

Conflict of interest

In neighboring communes of Warsaw, we observe a kind of "silent consent" to change the purpose of investment in areas that should be protected. Communes compete in terms of investment attractiveness. Few of them decide to dictate their conditions and limit this investment freedom. Changes in the suburban landscape occur and are



Fig. 2. Konstancin-Jeziorna and the Strzecha Polska housing estate in Komorów: 1 – boundaries of protected areas (based on <https://www.geoportal.gov.pl/> & <http://mapy.zabytek.gov.pl>, accessed 12.12.2019)

irreversible, in any case extremely difficult to reverse. Some protection of such resources is the office of the Provincial Conservator of Monuments, which the law allows for applying for the protection of objects that it deems necessary. It turns out that a big challenge for local authorities is to protect the historical assets of towns near Warsaw. This can be seen on the example of the historical system of the city of Otwock – including Brzegi, the districts of Świder, Soplicowo, and Śródborów as well as the development of the garden city of Zalesie Dolne that were ineffectively entered into the register of monuments.

In 2010, within the borders of Otwock, the Provincial Conservator of Monuments proposed an entry covering approximately 30% of the administrative area of the city. Such wide borders of entry resulted in a strong protest of the residents and city authorities. People feared that conservation protection would slow down or even prevent the city's economic development and would not bring measurable economic benefits to the owners of the properties included in the entry. The city authorities argued that most of the area proposed by the Conservator for entry is covered with local spatial development plans, which, in their opinion, provides sufficient protection for the city's historic values. Unfortunately, it should be noted that the local spatial development plan does not constitute such strong protection as conservation protection. Additionally, compliance with this plan or permitting exceptions is strongly dependent on economic and political conditions in the city authorities. Although the historical landscape's coherence and the connection of the historical buildings embedded in the natural environment favored entering the area into the register of monuments, it was not a sufficient argument for the local authorities, which successfully stopped the procedure.

Suburban residences

Fortunately, individual monuments set in the landscape, such as palaces and manors, do not meet local resistance. However, the problem arises when the idea of protecting their surroundings arises.

On the territory of today's Warsaw and its suburbs, many suburban noble residences were built primarily in the 17th and 18th centuries. Palaces have always been accompanied by park and garden arrangements.

The assumptions of suburban residences were strongly associated with the surrounding landscape: natural watercourses and reservoirs, arable fields that were scenic openings, and the arrangement of corners and routes, which were often planted with avenues of trees in the residence's vicinity.

The park and palace complex in Otwock Wielki is one such suburban residence. It was established in the 1980s of the 17th century and was the summer residence of the Bieliński family. The establishment was located on the route axis from Otwock Mały, in the bend of Lake Rokola. Around the lake, a park complex was created, surrounded by open spaces of arable fields. To this day, a magnificent linden alley has been preserved, extending along the road to the palace.

The palace in Jabłonna is similarly situated and was built in the years 1775–1779. It is compositionally connected to the road system, covering 46 ha; the landscape park is based on the Vistula valley. Therefore, it is a natural extension of the protected Natura 2000 area that cuts into the heavily developed city area.

As mentioned from the very beginning, the parks of suburban residences were connected with the arable fields surrounding them, which constituted scenic openings and provided an adequate panorama of a given monument. That is why it is so important to protect the historical complexes of gardens and parks themselves and protect axis and scenic openings important for the exhibition at the level of the Provincial Conservator of Monuments or Local Spatial Development Plans. On the example of the palace and park complex in Pęcice, it can be seen that the local spatial development plans do not include the fields around the park (Fig. 3). In view of the apparent strong investment pressure – construction of large-scale industrial facilities in relatively close vicinity, the scenic and nature continuity are currently not protected in any way.

Conservation guidelines and conclusions in the process of spatial development plan preparation, and studies of the conditions and directions of the spatial development of communes are of key importance. Therefore, they should be “scientific, complete, and systemic, and include, apart from the scope of protection, indications regarding landscaping and spatial order, including possible and even desired investment, cleaning, geodetic regulations, etc. [own trans.]” (Dankowska, 2018, p. 21).

Fig. 3. Historical park and palace complex in Pećice, land cover with Local Spatial Development Plans: 1 – boundaries of the protected area; 2 – land cover with Local Spatial Development Plans (based on <https://www.geoportal.gov.pl> & <http://mapy.zabytek.gov.pl> & <https://pruszkow.e-mapa.net>, accessed 12.12.2019)



Other complexes

However, it is also worth paying attention to the much broader collection of green historical sites of

a smaller scale in the area surrounding Warsaw. There are many relatively small gardens accompanying historical houses and villas. Quite often, these are large plots of land on which buildings and the shape of greenery are protected by conservation. They are usually a green enclave in heavily developed city areas. Such an example is the garden of the Bryggs Palace in Marki.

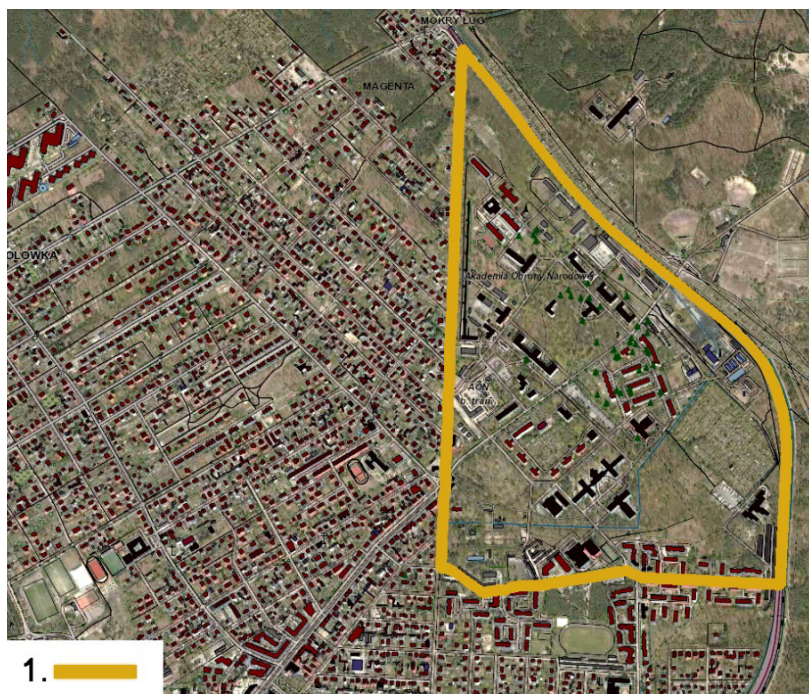


Fig. 4. The area is under conservation protection around the buildings of the National Defence University: 1 – boundaries of protected areas (based on <https://www.geoportal.gov.pl/> & <http://mapy.zabytek.gov.pl>, accessed 12.12.2019)

The mentioned surroundings of monuments also play an essential role in preserving the natural landscape. These areas do not have historical, artistic, or scientific values but are an excellent tool for protecting monuments and their scenic value. In terms of nature, it is worth recalling the example of the surroundings of the building complex of the National Defence University in Rembertów. Compared with the neighboring intensive housing development, the area subject to protection has an incomparably more significant share of greenery, constituting the university buildings' picturesque surroundings (Fig. 4).

The number of historic cemeteries is scarce and important for protecting green areas in the city. When comparing historic cemeteries with those emerging today, there is a substantial difference between tree-covered, shady historical developments and contemporary ones stripped of greenery.

CONCLUSIONS

The conducted research showed that areas with historical, cultural, and landscape values of the suburban area are an important element of the suburbs of Warsaw's ecological system. This system lacks continuity in some areas, especially on the west side of the capital. Communes with the lowest resources of protected areas, or those that do not have them at all (Halinów), should introduce a spatial policy that will create an equivalent of these deficiencies. Warsaw's neighboring communes located on the most important communication routes will be the most exposed to urban sprawl. These are communes such as Piaseczno, Żąbki, Marki, Sulejówek, Józefów, Łomianki, Jabłonna. Marki, Nieporęt, Jabłonna, Piaseczno will also develop very dynamically due to the spatial policy of Warsaw aimed at the development of multifamily housing in the districts of Warsaw: Białołęka, Targówek, and Wilanów.

Historical buildings, which, if protected together with the surrounding area, can strengthen this resource permanently, are also important. The idea of a green belt mentioned in the research, despite major shortcomings, can be reactivated thanks to consistent supplementation with green infrastructure. However, it may be difficult to achieve at present. It turns out that the most effective protection of resources, important from the point of view of strengthening the ecological base in the planning process so far, was subjecting them to restrictive legal protection. Simultaneously, communes' experiences near Warsaw show that the attempt to impose legal protection is met with resistance from local authorities, entrepreneurs, and residents. This situation shows that the local self-government system in Poland is far from perfect. The civic potential is still largely focused on negative reactions, i.e. protesting, which shows that it is easier to unite "against" and not "for". Polish society's ecological awareness is

still deficient, which is often used by populist political decisions. In this situation, it seems obvious to find as many arguments as possible "for" ecological solutions and strengthen the average citizen's awareness in this respect. From the perspective of Warsaw's preparation for climate change, it is important to connect it to the suburbs in this respect. In this situation, the decisions of individual self-governments neighboring Warsaw cease to be valid only for their residents and become decisions regarding the common good, including Warsaw residents. If Warsaw wants to have an ecological buffer zone, its decision-making participation in adjacent communes should be greater, which should also be reflected in targeted co-financing.

Authors' contributions

Conceptualization: J.Z.-W.; methodology: J.Z.-W., K.K.; investigation: J.Z.-W., K.K.; writing – original draft preparation: J.Z.-W., K.K.; writing – review and editing: J.Z.-W.; visualization: K.K.; supervision: J.Z.-W.

All authors have read and agreed to the published version of the manuscript.

Acknowledgements

This work was supported by the Faculty of Architecture, Warsaw University of Technology (grant number: 504/04193/1010 and 504/04541/1010/43.010017).

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PODMIEJSKIE OBSZARY O WALORACH ZABYTKOWYCH JAKO ISTOTNY ELEMENT EKOLOGICZNEJ OTULINY WARSZAWY

STRESZCZENIE

Celem artykułu jest identyfikacja obszarów o wartościach historycznych, kulturowych i krajobrazowych, które znajdują się w strefie podmiejskiej Warszawy, i które w przyszłości mogą odegrać ważną rolę w stabilizacji ekosystemu miejskiego Warszawy. Okazuje się bowiem, że najskuteczniejszą formą zabezpieczenia tych walorów jest objęcie ich prawną ochroną. W artykule przedstawiono dobre i złe praktyki w tym zakresie, identyfikując największe zagrożenia i wskazując możliwości i scenariusze warte rozważania na przyszłość. Wreszcie, celem artykułu jest zwrócenie uwagi na rangę powiązań przestrzennych i widokowych, z podkreśleniem rangi krajobrazu otaczającego, który był kiedyś cechą immanentną np. posiadłości podmiejskich. Hipoteza badawcza zakłada, że w obliczu postępujących zmian klimatycznych i topniejących zasobów naturalnych warto zwrócić uwagę na znaczenie wszystkich elementów ekosystemu miejskiego, nawet mniejszych, stanowią one bowiem element składowy większej całości i są niezbędne w dążeniu do równowagi ekologicznej. Istniejące zasoby należy wzmocnić i otoczyć lepszą ochroną, ale także skierować działania w kierunku poszukiwania nowych miejsc do ochrony. Miejscami takimi mogą być dawne przedpola, bezpośrednie otoczenie zabytkowych zespołów podmiejskich, które w przeszłości funkcjonowały jako większe kompleksy i jako takie powinny być chronione.

Słowa kluczowe: przedmieścia, Warszawa, krajobraz historyczny, krajobraz kulturowy, krajobraz naturalny, rozlewianie się miasta, eksurbanizacja, zmiany klimatyczne