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## THE LANDSCAPE PLAN FOR THE ŚLĘŻA RIVER PARK IN WROCLAW: NEW ORGANIZATIONAL AND TECHNICAL SOLUTIONS

### PLAN KRAJOBRAZOWY PARKU ŚLĘŻY WE WROCLAWIU: NOWE ROZWIĄZANIA ORGANIZACYJNE I TECHNICZNE

#### Abstract

The paper contains an introduction to the principles of landscape planning and presents the benefits of establishing a linear Ślęza River Park. It is one of five river parks that may be created in flooded areas in Wrocław, forming the core of the Green Infrastructure system. The adopted form of the landscape plan refers to similar studies from Germany, the Netherlands and the UK. In Polish conditions, the plan has an innovative character and enables the implementation of a number of technical and organizational solutions, leading to a more synergetic use of environmental resources in the belt of riverside areas. The program of the management of the park and the related tourist trail refers to the history of Western Slavs, called Slezane, who inhabited the basin of Ślęza in the early Middle Ages. Along the river there are many archaeological sites from this period and the route Wrocław with the massif of mount Ślęza – the holy place of ancient worship in Silesia.

*Keywords: Green Infrastructure, landscape plan, Wrocław*

#### Streszczenie

Artykuł przedstawia metodę opracowania oraz korzyści wynikające z utworzenia linearnego Parku Ślęzy. Jest on jednym z pięciu parków rzecznych, które mogą powstać na terenach zalewowych Wrocławia, tworząc rdzeń systemu Zielonej Infrastruktury miasta. Przyjęta forma planu krajobrazowego nawiązuje do analogicznych opracowań z terenu Niemiec, Holandii i Wielkiej Brytanii. W warunkach polskich ma ona charakter nowatorski i ułatwia wprowadzenie szeregu rozwiązań technicznych i organizacyjnych, prowadzących do bardziej synergicznego wykorzystania zasobów środowiska przyrodniczego w pasie terenów nadrzecznych. Program zagospodarowania parku i szlaku turystycznego nawiązuje do historii Ślęzy, wzdłuż której rozwinęła się historia Słowian Zachodnich, zwanych Ślęzanami. Znajduje się tu wiele stanowisk archeologicznych z tego okresu, a sam szlak wzdłuż rzeki łączy teren współczesnego Wrocławia z masywem Ślęży – świętej góry Śląska.

*Słowa kluczowe: Zielona Infrastruktura, plan krajobrazowy, Wrocław*

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## 1. Introduction

The riverside green belts combined with public spaces, greenways and boulevards, sometimes referred to as river parks, are becoming a common feature of our cityscapes and almost as important for their identity as complexes of historical architecture. They can be found in London (Brent River Park), Madrid (Manzanares River linear park) and Berlin (Spreepark). The first river park system in Poland was formulated in the years 1996–1997, in the master development plan of the city of Cracow and has been implemented there ever since [1]. Eleven years later, a programme called the Szczecin Floating Garden 2050 was created as a long-term vision of urban development at a lagoon in the Odra/Oder estuary. The question arises: whether river parks can be recognised as a step towards a sustainable city concept just like sustainable transport or energy efficient management?

In Wrocław, the idea of establishing a linear park along the Odra was developed at the Faculty of Architecture of the Wrocław University of Technology (WrUT) in 1992 [2]. It was not taken into account in official planning documents, although the river valleys were identified as areas of special importance in the first study of spatial development conditions and directions of the city from 1997. The aim of the Blue Strategy of Wrocław (BSW), which is presented in this article with regard to the conception of the Ślęza River Park, is to facilitate the development of the urban green infrastructure system.

## 2. Ecological corridors as a part of Wrocław's natural and cultural heritage

The early medieval identity of the Silesia region was linked with the Ślęza River. The name of this right-bank tributary of the Odra gave origins to the names of the Slavic tribes that settled here (*Sleenzane*) and their holy mountain called Ślęza, which rises in the middle of a vast lowland, about 50 km south of Wrocław. Calm waters and fertile soils had created favourable conditions for the settlement; however, after the 10th century, the nucleus of the future city was formed on the islands near the main crossing of the Odra. The mouth of Ślęza, situated a few kilometres west of the ford, protected one part of the city, while the access to the eastern section was limited by Oława, which has supplied the city moats with water from the 12th century. The northern zone of protection was delineated by the Widawa River, which today forms part of Wrocław's boundaries.

The rivers shared characteristic lowland watercourses; they formed new arms after floods, frequently changing the shape of the river bed and posing a threat to nearby inhabitants. For this reason, people were settling at a safe distance from the water, which flowed in a wide corridor between meadows and forests that strengthened its banks. The palaces constituted a derogation from this principle, due to the parks and their necessity of access to water. A majority of parks in the present-day Wrocław were established outside its boundaries in the vicinity of the rivers.

A well-developed network of riverside green corridors is best visible in the Wrocław city development plan (1924–1925), supervised by Fritz Behrendt, who regarded the Ślęza as an axis for locating garden housing estates (Ill. 1). He left a wide belt along the Odra free from any development, especially upstream, where he allowed the river to flood the nearby areas in order to protect the city. The inflow point of the Ślęza into the Odra (where the modern-

day Kozańów housing estate is situated) provided additional flood protection, similar to the Widawa River valley, which is used as a sort of a relief canal for the Odra. None of the later plans reflect such an in-depth understanding of the role of the rivers. Behrendt's plan assumed the construction of two new ports, which were to serve the industrial zones to be developed along both banks of the Odra. Together with the city port, established in 1897, and two river shipyards, they formed a dense waterway infrastructure, located some distance from the city centre. Two hydropower stations, erected under Max Berg in the years 1924–1925, created the only interference with the old cityscape.



III. 1. The view from the proposed Śleza River Park and the community Mammoth Park with a sculpture by Tadeusz Teller (photo by the author)

Behrendt's plan set out the main directions, which were followed until the mid-1940s [5]. After WWII, the transport operations on the Odra Waterway resumed and further developed until the post-1989 socioeconomic transformations, when the river navigation collapsed and numerous navigation-related facilities were closed down [3]. It is expected that the modernization of the Wrocław Water Junction in the years 2009–2015 will improve the situation. Constituting part of the Odra Catchment Area Flood Protection Programme (POPDO), it focuses on improving the flood protection facilities and adapting the existing water engineering facilities to the requirements of a class III waterway. However, it does not provide for any accompanying capital investment projects aimed at their multi-purpose use in line with sustainable development principles. As a result, Behrendt's vision is still awaiting its creative continuation.

### 3. The Blue Strategy of Wrocław

Since 1993, the Section for Environmental Planning of the Faculty of Architecture of WrUT has been carrying out numerous research and educational programmes, engaging in a type of a dialogue with the planning solutions related to the Odra and other rivers proposed by the city authorities. The BSW constitutes an attempt at gathering all such reflections into an integrated package of projects and designs, inspired by the corresponding documents drawn up for London (“The Blue Ribbon Network”), Lille (“Trame Bleue”) or Madrid (“Madrid Rio”). The strategy aims to establish a network of green infrastructure along the Odra and its tributaries: Oława, Ślęza, Bystrzyca and Widawa – as a core integrating Wrocław’s present-day landscapes into a new cultural entity. An important role is assigned to ‘the river’s tales’ about the history of the site and its inhabitants, to make them part of the city’s mission to become a meeting place.

1. As a chain of ‘**meeting places with nature**’, the valleys combine the *Natura 2000* sites with a number of other areas with the highest natural values, presenting the typical forests, plants and animals of Lower Silesia. However, despite of their riverside location, currently these places are neither connected to each other nor properly prepared for public use. From this point of view, the planned actions aimed at mitigating climate change should concentrate on strengthening and expanding the ecological corridors and greenways along the rivers. This means, for instance: additional plantings of local trees, restoration of the selected old river beds or turning of some areas into eco-parks (e.g., irrigation fields removed from service).

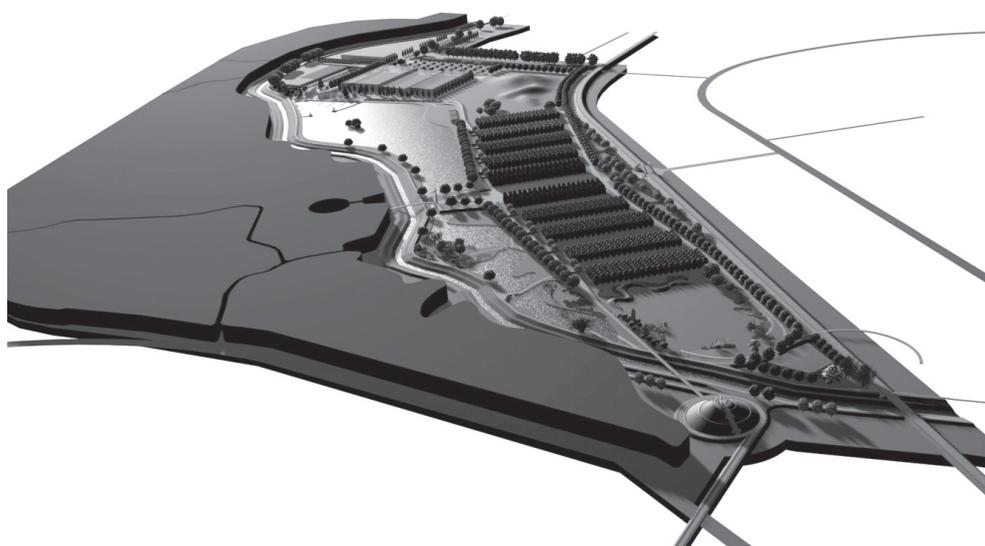
2. As a network of ‘**meeting places with economy**’, the blue infrastructure forms a kind of an eco-museum [4], which emphasizes the role of science and technology in the city life, combining such significant issues as the use of the rivers for transport, energy and water management. The last point has a particular importance in the context of flood control and climate change mitigation. This should be understood as the adoption of new urban standards linked with the so-called water sensitive urban design (wsud), which is aimed at using rainwater near the point of precipitation in variously shaped biologically active areas. This way of re-naturalization of the urban environment is related to the introduction of green infrastructure as supplementing or replacing traditional rain water drainage. The rivers and riversides constitute the terminal areas in the systems of water capture, storage, phytomelioration and infiltration sites. The main wsud objective is to minimise the impacts of rainwater on the built environment by mimicking the natural water cycle as closely as possible. The adoption of the new standards of floodplains management becomes very important in the light of the changes in spatial policy, caused by the implementation of the Water and Flood Directives.

Simultaneously, a special place should be provided for various forms of urban agriculture that can be found in the riverside ecological corridors. Their development requires appropriate organizational support and a peculiar landscape reinterpretation, along the lines followed by Vienna, Berlin or Milan.

3. As a set of ‘**meeting places with people**’, the blue network should be regarded as the core of a new system of public spaces, encompassing beaches, parks, sports-and-recreational infrastructure, agricultural land and a multitude of water engineering facilities located along the rivers. In practice, this translates into the need to formulate new standards relating to the development of floodbanks, inter-embankment zones and floodplains with a view to:

- ensuring the continuity, attractiveness and safety of pedestrian and bicycle paths running along the banks (the issue of separated underpasses under bridges),
- preparing a visual identification system based on the tradition of the site,
- formulating an organizational and legal framework to support the civic initiatives related to the implementation of BSW.

According to these principles, the emerald network is to perform ecological, economic and social (including cultural) functions. In the case of the design work done by the Section for Environmental Planning, special attention is paid to understanding the ‘spirit of the place’ and creative interpretation. Despite many similarities, Wrocław’s rivers are fairly varied in nature. Identification studies are thus intended to determine further development directions for waterside areas, which can be recognized in the context of the history of the areas along the Odra River and their inhabitants since time immemorial (Ill. 2).



Ill. 2. Millennium Park – the main landmark of a commemorative importance along the Ślęza River: the initial concept from 2000 (currently under construction). The authors: Alina Drapella Hermansdorfer, Teresa Lorenc, Ryszard Majewicz, Paweł Ogielski et al. Graphic layout by Piotr Asfeld

#### 4. The place of the Ślęza River Park in the Blue Strategy of Wrocław

In terms of BSW, the river’s tales were differentiated according to the tradition of the place and the current features of the site. This kind of interpretation can pay attention to the rich natural and cultural heritage of the city where:

- inaccessible overflow areas of the Oława River in water-bearing areas are interpreted as remains of primary wildscapes,
- the belt of archeological sites along the Ślęza River and a potential tourist route linking Wrocław with the Ślęza Mountain alludes to the early settlement and formation of Silesia’s cultural identity,

- the belt of parks, palaces and mills along the Bystrzyca River reflects the period at the top of the development of agrarian culture in these areas (at the turn of the 19th century),
- vast meadows on the Widawa combined with an eco-park in the irrigation fields are a testament to a new era in the city's history, oriented towards sustainable development.

In this narrative concept, the Odra, as a river linking all historical periods, performs a role corresponding to the time axis and is best equipped with various elements of natural, transport, social, etc. infrastructure. In determining the boundaries of the Ślęza River Park, the Landscape Character Assessment (LCA) method has been applied [6] and has been used by the Institute of Landscape Architecture of the Faculty of Architecture of Cracow University of Technology since 1970s [9].

The landscape plan of the Ślęza River Park is an example of such a method of study. It was elaborated during classes with second-year students of Bachelor of Science (BSc) in Spatial Planning and Management Programme at WrUT [7].

### Karta Inwentaryzacji Krajobrazowej

Obszar: Teren zieleni spontanicznej przy rzece  
Data: 11 stycznia 2013  
Nr jednostki: 11NZs  
Nr Zdjęcia: 9, 10  
Kilometraż: Od 6+100 do 7+600

#### Kierunek Widoku:

- 9 - widok na teren jednostki
- 10 - widok na teren jednostki

Rys. 1 - Mapa Historyczna Rys. 2 - Kierunki - Ochrona i Kształtowanie Środowiska Rys. 3 Uwarunkowania - Przaszaczenie i Zagospodarowanie



#### Elementy dominujące w krajobrazie:

##### Zabudowa Mieszkańcowa:

Brak zabudowy

##### Obiekty Inżynijne:

Jednostka przylega do jednostki rzecznej, w której występują wały rzeczne oraz progi wodne.

Jednostka przylega do linii kolejowej

##### Komunikacja:

Ścieżki pieszo rowerowe

##### Woda:

Brak

Jednostka znajduje się w bezpośrednim kontakcie z jednostką rzeczną

##### Zieleń:

Ogródki działkowe

#### Typ krajobrazu

Jednostka o charakterze nizinnym znajdująca się w bezpośrednim kontakcie z rzeką Ślężą. Jest to duży teren zieleni niezagospodarowanej.

Ill. 3. Landscape Character Assessment of the unit "11NZs": a part of a typical inventory card, containing elements of the historical and visual analysis [7]

The study area (approximately 900 acres of emerald network) has been divided into 84 landscape units, homogeneous in terms of topography and land cover (Ill. 3). The students worked in three teams of 4-5 people and each group examined a section with a length of circa 6 km, since the total length of the river in the city is 17.5 km. The research focused on the green belts situated along the Ślęza River and in their direct vicinity, taking into consideration the mutual relationship between them. It was estimated that the nearest areas are inhabited by over 60 thousand residents (about 10 percent of Wrocław's population) and

it should be emphasized that these districts have the lowest ratio of open space to built-up areas in the city. The examination also covered the planning intentions related to the areas in question contained in the 2010 Study of Spatial Development Conditions and Directions of Wrocław [10].

For each unit a separate inventory card was prepared (reviewing the various analytical aspects) and then subjected to various assessments aimed at establishing the optimum development option (protection and continuation of the current function or its transformation). This led to the creation of a rich database, which can be used for various purposes and the conceptual options proposed by individual groups are a source of inspiration for a civic discussion about changes in the next version of the Study. After completion of the analysis, each team presented its own concept of development of the entire area (Ill. 4). The concepts were supposed to include all the previously discussed ‘meeting places’ following the principles of sustainability.



Ill. 4. The main areas of the Ślęza River Park as the elements of “emerald network” designated to the further development and connection by a system of biking and foot paths. Legend: 1) The hippodrome in the Partynice, 2) The Grabiszynski Park and planned community Mammoth Park, 3) The Millennium Park, 4) the Pilczycki Forest: a Special Area of Conservation (SAC) within the Natura 2000 network [7]. Graphic layout by Grzegorz Kasza

#### 4. Conclusions

The concept of the Blue Strategy of Wrocław is aimed at initiating a public debate on the cityscape identity. The lack of such a vision is conducive to the implementation of accidental capital investment projects at attractive locations near the rivers, which in the future can significantly hinder access by the public to open areas which form a historical legacy of the many generations that have lived here before us. In addition, the obligation to draw up our own landscape policy and to determine the so-called landscape quality objectives arises from the European Landscape Convention signed by Poland in 2004. At a time when a significant number of European cities are implementing their own green infrastructure development plans, this is still a notion largely unknown in Poland, which is neither reflected in legislation nor specialized vocabulary, just like the notion of water sensitive urban design. The preparation of young people for performing such tasks in sustainable development categories and their inclusion in the preparation of a civic discourse was one of the goals of the Ślęza River Park landscape plan that has been presented here.

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