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## METHOD OF LANDSCAPE EVALUATION AND ELABORATION OF PROTECTION FOR INDIVIDUAL ELEMENTS OF THE RURAL SPACE OF THE DRAWSKI LANDSCAPE PARK

METODA OCENY KRAJOBRAZU I OPRACOWANIE STOPNI OCHRONY  
POSZCZEGÓLNYCH ELEMENTÓW PRZESTRZENI WIEJSKIEJ  
DRAWSKIEGO PARKU KRAJOBRAZOWEGO

**Summary.** The aim of the study was to develop a method of landscape evaluation and its verification, basing on a representative part of the Drawski Landscape Park. The first step in the research was division of the area into characteristic spaces that differed in their land use. On this basis, the areas of compact development and the areas of open landscape were identified. The next step involved a graphical inventory of landscape elements of high value. The third stage of the study was determination of the space character considering the above high value elements. The study concluded in a construction of the table of landscape evaluation that included three degrees of landscape protection.

**Key words:** landscape, landscape evaluation, the degree of landscape protection, Drawski Landscape Park

### Introduction

Landscape in the 21st century is subordinated to human activity. The shape and view are created through actions of landscape architects, architects and spatial planners and depend on many factors, both natural and anthropogenic (SPENS 2003). Landscape planning in recent years has become one of the basic aspects of social development.

In 2000 the European Landscape Convention was passed in Florence. It is an agreement, on the power of which member countries are obliged to protect their natural and

cultural heritage. In view of the above the identification of landscape, classification of its types, protection of natural and cultural heritage, as well as studies on landscape functioning, have become priorities. The primary tool used in these actions comprises landscape evaluation, consisting in its quantitative and qualitative valuation. It is a starting point for the development of different types of strategies connected with the protection of natural and cultural heritage.

There are many fields of science involved in the study of landscape. One of them is landscape ecology, in which according to FAHRIG (2005) the primary element of studies is to gain insight into the composition and configuration of landscape. The former element includes e.g. the size of forest area, the ecotone layer or density of the road network. Configuration comprises, among other things, a list of individual elements, habitats and their mutual relationships. Investigation of individual landscape components and their interdependences is a key element used in environmental protection.

The aim of the conducted investigations was to develop a method of landscape evaluation, used when creating a concept of landscape protection, and its verification basing on a representative fragment of the Drawski Landscape Park.

## Area of study

Analyses were conducted in the Drawski Landscape Park, which is situated in the north-western part of Poland, in the Western-Pomeranian voivodeship. This park was established on the power of an act of the Voivodeship National Council in Koszalin of 24 April, 1979, in order to protect natural, landscape and cultural values found in that area. The park covers an area of 41 430 ha and it is located in the communes of Barwice, Borne-Sulinowo, Czaplonek, Ostrowice, Połczyn Zdrój and Złocieniec. In order to test the developed evaluation method a representative section of the Drawski Landscape Park was selected, located in the administrative boundaries of the Czaplonek commune and covering an area of 16 100 ha. Two villages (Siemczyno and Czarne Wielkie) were chosen from that area and on their basis the manner of result recording is presented.

The analysed area was shaped by the relief-forming activity of the Scandinavian ice-sheet. The northern section of the study area comprises a fragment of a very wide postglacial plateau, which characteristic feature is the occurrence of not one end moraine series, but rather an entire series of moraine knolls, among which bigger and smaller ribbon lakes are found. This area is one of the most marked end moraine series. It crosses the Drawskie Lake and many forms composed of tills or sands, and glacial gravels can be distinguished. Numerous moraine knolls with height differences ranging from 10-30 m are found there, too (BARTKOWSKI 1965).

Another characteristic element of the postglacial landscape is connected with lakes, with ribbon lakes being predominant. The Drawskie Lake, formed as a result of crossing of several deep glacial channels, is the biggest water body there. This lake was created as a consequence of a channel being formed in one direction, while another was filled with ice, which prevented it from being covered with the material carried by waters circulating in the channel of the first direction.

The relief in the Drawski Landscape Park is a factor playing the greatest role in the maintenance of plant cover diversity. There are many different habitats in that park,

among which habitats connected with waters, water body banks or shores, marsh habitats and peatlands are of greatest importance (FIJAŁKOWSKI et AL. 1994).

## Results

In order to develop a novel method of landscape evaluation based on the conducted survey the following were used:

- 1) an analysis of cartographic materials (1:5000 cadastral maps),
- 2) the historical method (the use of descriptive, cartographic, supplementary sources),
- 3) an analysis of interiors and panoramas,
- 4) historical and town planning studies,
- 5) the floristic method,
- 6) an analysis of elements of spatial structure affecting the observer.

The applied historical method is one of the indirect analytic methods and comprises an analysis of historical past (MAJDECKI 1993). In the course of the analyses the following types of sources were used:

- 1) descriptive,
- 2) cartographic,
- 3) iconographic,
- 4) supplementary – including inscriptions, graphical labelling, interviews and reports of currently living people.

Another method applied in the study, based on an analysis of individual interiors, makes it possible to gain insight into the specific character of landscape in the local aspect. In turn, the perspective view and the panorama make it possible not only to complete the plan, but also facilitate a three-dimensional presentation of the landscape interior (BOGDANOWSKI et AL. 1981). In the opinion of DĄBROWSKA-BUDZIŁO (1990), the composition of a view is a direct consequence of the urban/town structure, comprising natural properties (layout, vegetation cover, water), as well as anthropogenic aspects. Thus the panorama is a picture of a city or town, which presents its past, while at the same time showing its present-day beauty.

When developing the landscape evaluation method a historical and town planning study, composed of two parts, was also used. One is the historical analytical part, covering an analysis of the spatial arrangement, the status of preservation of historical and artistic value, as well as a catalogue of historical monuments. The other part comprises an analysis of conservation motions, which are presented in the form of guidelines and recommendations (BERGMAN 1991).

One of the tools used in landscape evaluation was the floristic method, in which the assumed indicator is the occurrence of characteristic vegetation in a given area. According to MAJDECKI (1993), two types of this method can be distinguished. One comprises an analysis of remnants of specific species, while the other is an assessment of spontaneously formed vegetation. Transformation of a natural area and the presence of differ-

ent types of structures in the soil may result in a change in habitat conditions and as a consequence cause the appearance of characteristic species.

The last element used when developing the evaluation method was the analysis of external environmental conditions influencing the observer, found in all the basic elements of the city/town landscape. These include the form, individual characteristics distinguishing a given habitat, as well as functions and the social role of individual objects of a given spatial system or this system as a whole. According to WEJCHERT (1974), elements most readily identifying urbanised space include:

- 1) elements specifying the city/town plan,
- 2) streets,
- 3) regions,
- 4) boundary lines and ranges,
- 5) dominants of spatial arrangement,
- 6) outstanding elements of landscape,
- 7) junctions,
- 8) landmarks.

## **The landscape evaluation method**

The first stage in the development of the study method consisted of the identification of areas in the object of the study, which would differ in their land use. On this basis areas of compact development and areas of open landscape were identified.

### **Areas of compact development**

Areas of compact development include rural areas, characterised by a settlement type of land use. It is connected with the occurrence of different spatial systems. An element determining the character of the compact development area is connected with landscape interiors, as well as exposure of objects with high landscape value.

In the study area, on which the evaluation was performed, 17 compact development areas were distinguished, which names correspond to individual villages, i.e. Czarne Wielkie, Drahimek, Głębozeczek, Kluczewo, Kołomąt, Kuszewo, Kuźnica Drawska, Nowe Drawsko, Piaseczno, Prosinko, Prosino, Rzepowo, Siemczynno, Sikory, Stare Drawsko, Stare Gonne and Żerdno.

### **Areas of open landscape**

Areas of open landscape comprise areas with agricultural or forestry land use. This space was identified on the basis of boundaries of individual land register districts. In the functioning of open landscape areas a considerable role is played by both natural and anthropogenic objects. An interesting aspect, connected with the potential occurrence of two areas in the study location, differing in their management methods, is related with the occurrence of the contact line, referred to by environmentalists as the ecotone zone. It serves a highly important function, connected both with the perception of landscape and the functioning of the forest ecosystem.

In the analysed fragment of the Drawski Landscape Park a total of 17 open landscape areas were distinguished. They cover land register areas of Brzezinka, Czarne Wielkie, Głęboczek, Kluczewo, Kołomąt, Kuźnica Drawska, Nowe Drawsko, Piaseczno, Prosinko, Prosino, Rzepowo, Siemczyno, Sikory, Stare Drawsko, Stare Gonne, Suliborz and Żerdno.

The next step in the study was to collect all data concerning the analysed areas into lists including:

- 1) a table defining the character of the space,
- 2) a drawing including a survey of objects with high landscape value (Fig. 1),
- 3) a table specifying the assessment and degree of protection for individual objects.

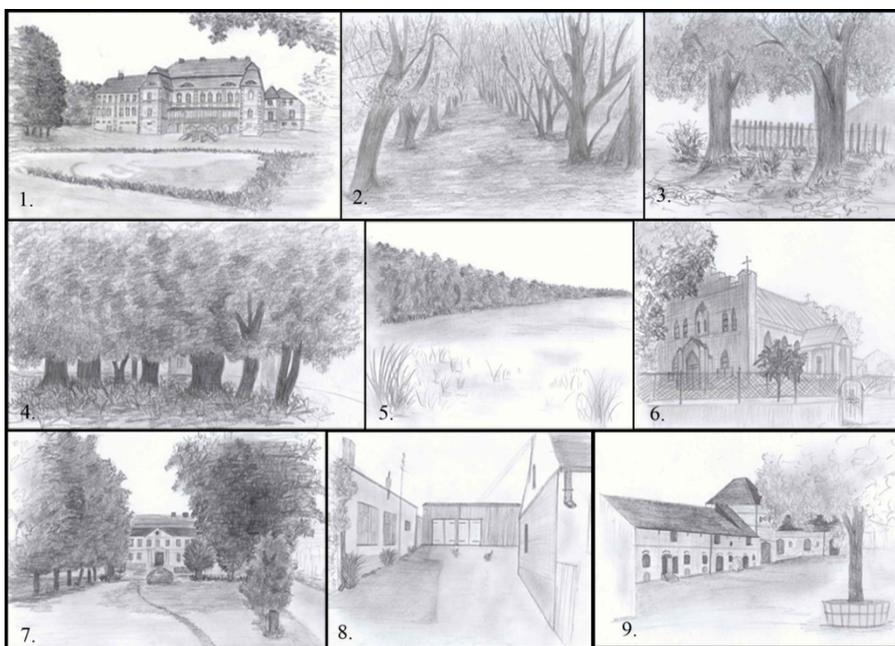


Fig. 1. Survey of objects with high landscape value of the compact development area of the village of Siemczyno: 1 – baroque palace, 2 – baroque park, 3 – characteristic plantings, 4 – evangelical cemetery, 5 – Drawskie Lake, 6 – church, 7 – view axis, 8 – homestead layout, 9 – buildings of the manor and manor farm

Rys. 1. Inwentaryzacja obiektów o dużych wartościach krajobrazowych obszaru zwartej zabudowy wsi Siemczyno: 1 – barokowy pałac, 2 – barokowy park, 3 – charakterystyczne obsadzenie, 4 – cmentarz ewangelicki, 5 – Jezioro Drawskie 6 – kościół, 7 – oś widokowa, 8 – układ zagrody wiejskiej, 9 – zabudowa zespołu dworsko-folwarcznego

Tables containing data concerning the character of the analysed area were prepared separately for individual areas. A list covering compact development areas (Table 1) contains the location of the area, a historical analysis and the character of the space. A list concerning the open landscape area (Table 2) includes land cover, layout and character of the space.

Table 1. Characteristics of the compact development area of the village of Siemczyno

Tabela 1. Charakterystyka obszaru zwartej zabudowy wsi Siemczyno

Location Lokalizacja	A village at the boundary of the Drawski Landscape Park, at the main road from Czaplonek to Złocieniec, located at the Henrykowska inlet of the Drawskie Lake Wieś na granicy Drawskiego Parku Krajobrazowego, przy drodze krajowej z Czaplonek do Złocienicy, zlokalizowana przy Zatoce Henrykowskiej Jeziora Drawskiego
Historical analysis Analiza historyczna	The village was founded in the 13th century as a typical street village. It was seriously destroyed during the Thirteen Years' War (1454-1466). A baroque palace originating from 1722 (the seat of the von Goltz family) and baroque park, entered in the register of historical monuments are found there Wieś powstała w XIII w. jako typowa ulicówka. Podczas wojny trzydziestoletniej (1454-1466) została poważnie zniszczona. Znajdują się w niej barokowy pałac z 1722 r. (rodowa siedziba rodziny von Goltzów) oraz barokowy park, wpisane do rejestru zabytków
Character of space Charakter przestrzeni	An agricultural area with elements typical of rural space: the characteristic home- stead layout and buildings of the manor and manor farm have been preserved. The area has numerous assets for the development of tourism, which may be used in the creation of the village development concept Obszar o charakterze rolniczym z elementami typowymi dla przestrzeni wiejskiej: zachowany charakterystyczny układ zagrody oraz zabudowa zespołu dworsko-folwarcznego. Obszar posiada liczne walory turystyczne, które można wykorzystać do stworzenia koncepcji rozwoju wsi

Table 2. Characteristics of the open landscape area in the Czarne Wielkie village

Tabela 2. Charakterystyka obszaru krajobrazu otwartego wsi Czarne Wielkie

Land cover Pokrycie terenu	Arable fields, fallow lands, forests, water bodies, watercourses Pola uprawne, nieużytki, lasy, zbiorniki wodne, ciek wodne
Layout Ukształtowanie powierzchni	Slightly undulating area Teren lekko pofalowany
Character of space Charakter przestrzeni	Agricultural area Teren rolniczy

Tables containing the assessment and degree of protection (the so-called evaluation tables) were prepared in a uniform manner for areas of compact development and areas of open landscape (Table 3).

Table 3. Specific assessment and degree of protection for objects of high landscape value  
 Tabela 3. Dokładna ocena oraz stopień ochrony obiektów o dużych walorach krajobrazowych

Nr No.	Name of object Nazwa obiektu	Value – Walor			Functioning in landscape Funkcjonowanie w krajobrazie	Remarks Uwagi	Degree of protection Stopień ochrony
		natural przyrodniczy	cultural kulturowy	tourism turystyczny			
1.	Baroque palace Barokowy pałac		X	X	5	Private property Własność prywatna	II
2.	Baroque park Barokowy park	X	X	X	3	Commune property Własność gminy	I
3.	Characteristic plantings Charakterystyczne obsadzenie	X	X		6	Two linden trees at the entrance to the building Dwie lipy przy wejściu do budynku	III
4.	Evangelical cemetery Cmentarz ewangelicki	X	X		5	Located in the centre of the village, surrounded by a stone wall. No gravestones. Characteristic vegetation is found Zlokalizowany w centrum wsi, otoczony murkiem z kamieni. Brak nagrobków. Występuje charakterystyczna roślinność	II
5.	Drawskie Lake Jezioro Drawskie	X		X	6	No tourism infrastructure Brak infrastruktury turystycznej	III
6.	Church Kościół		X		5	Includes a chapel built in 1699 Wbudowana kaplica z 1699 roku	III
7.	View axis Oś widokowa		X		5	Section of the palace and park layout Część założenia pałacowo- parkowego	II
8.	Homestead layout Układ zagrody wiejskiej		X		6	Characteristic interior Charakterystyczne wnętrze	III
9.	Buildings of the manor and manor farm Zabudowa zespołu dworsko-folwarcznego		X		4	Private property Własność prywatna	II

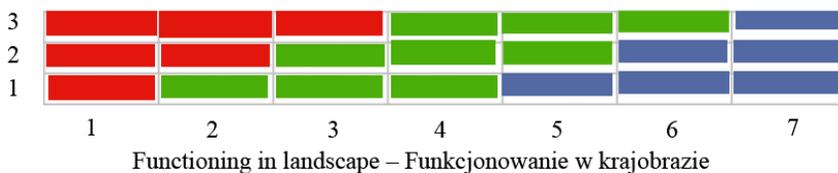
Conducted valuation consisted in the determination of value of the analysed objects, i.e. natural (P), cultural (K) and tourism values (T). Additionally, the functioning of a given element in the landscape was evaluated. It was specified in a 7-point scale:

- 1) objects exhibiting slight association with the surroundings,
- 2) objects exhibiting poor association with the surroundings,
- 3) objects exhibiting medium association with the surroundings,
- 4) objects exhibiting satisfactory association with the surroundings,
- 5) objects exhibiting good association with the surroundings,
- 6) objects exhibiting very good association with the surroundings,
- 7) objects exhibiting excellent association with the surroundings.

A diagram was prepared for the determination of the degree of protection in case of the analysed landscape values (Fig. 2). It presents the degree of relationships between individual elements and the surroundings, as well as their value assessed on the basis of the number of features characteristic of a given object (natural, cultural and tourism, defined in a 3-point scale). The mutual relationship of these factors contributed to the establishment of three degrees of protection:

- I° protection: objects requiring immediate renewal actions,
- II° protection: objects requiring the undertaking of protection measures,
- III° protection: objects requiring the undertaking of tending measures.

Value – Waler



Degrees of protection – Stopnie ochrony

- I – objects requiring immediate renewal actions  
obiekty wymagające podjęcia natychmiastowych działań rewaloryzacyjnych
- II – objects requiring the undertaking of protection measures  
obiekty wymagające zabiegów ochronnych
- III – objects requiring the undertaking of tending measures  
obiekty wymagające podjęcia zabiegów pielęgnacyjnych

Fig. 2. Diagram determining degrees of protection of objects

Rys. 2. Diagram określający stopnie ochrony obiektów

Developed degrees are closely related with the protection of landscape, through indication of elements requiring the undertaking of immediate renewal actions. In the Protection Plan for the Landscape Park it is necessary to take into consideration obligations, bans, limitations and admissible measures in an area covered by I° protection. This will facilitate the entry of the area into the Local Physical Development Plan.

Objects covered by II<sup>o</sup> and III<sup>o</sup> protection need to be included in the Protection Plan for the Landscape Park, with the identification of specific guidelines for the area, connected both with the valuable element itself and its exposure.

## Conclusions

1. The developed evaluation method, incorporating natural, cultural and tourism elements, was tested on the basis of a representative fragment of the Drawski Landscape Park, covering an area of 16,100 ha.

2. The landscape evaluation method may be used in studies concerning rural landscape, particularly in landscape parks. After the compact development area has been divided into the areas of individual city districts, it may also be applied in areas, in which cities of over 200,000 inhabitants are located.

3. The developed degrees of protection may be used at the establishment of protection plans for landscape parks, including transboundary parks, located at the boundaries of provinces, the development of the Local Physical Development Plan and studies concerning protection of natural and cultural heritage within the framework of the European Landscape Convention.

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## METODA OCENY KRAJOBRAZU I OPRACOWANIE STOPNI OCHRONY POSZCZEGÓLNYCH ELEMENTÓW PRZESTRZENI WIEJSKIEJ DRAWSKIEGO PARKU KRAJOBRAZOWEGO

**Streszczenie.** Celem przeprowadzonych badań było opracowanie metody waloryzacji krajobrazu, która mogłaby być wykorzystywana przy tworzeniu koncepcji ochrony krajobrazu, oraz jej weryfikacja na przykładzie reprezentatywnego fragmentu Drawskiego Parku Krajobrazowego. Pierwszym etapem badań był podział obszaru na charakterystyczne przestrzenie różniące się sposobem i rodzajem użytkowania. Na tej podstawie wydzielono obszary zwartej zabudowy i obszary krajobrazu otwartego. Kolejnym etapem badań była inwentaryzacja rysunkowa obiektów o dużych walorach. Trzecim etapem było określenie charakteru przestrzeni, które opierało się na analizie zinwentaryzowanych obiektów o dużych walorach krajobrazowych. Ostatnim etapem badań było opracowanie tabeli waloryzacji, zawierającej stopień ochrony zinwentaryzowanych obiektów.

**Słowa kluczowe:** krajobraz, waloryzacja krajobrazu, stopnie ochrony krajobrazu, Drawski Park Krajobrazowy

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*Accepted for publication – Zaakceptowano do opublikowania:*

*17.02.2014*

*For citation – Do cytowania:*

*Dudzińska A., Szpakowska B., 2014. Method of landscape evaluation and elaboration of protection for individual elements of the rural space of the Drawski Landscape Park. *Nauka Przyr. Technol.* 8, 2, #17.*