

The Effect of Nature Conservation Legal Instruments on Spatial Management in a Commune

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Abstract

The aim of the study was to analyse the dependence between nature conservation instruments and the percentage of land covered by local spatial development plans and to assess the effect of conservation areas on the type of spatial management in a commune. The material for the analyses comprised local spatial development plans, an administrative decision concerning terms of construction and land management (the WZiZT decision) and administrative decisions on location of public purpose investment projects (LPP decisions) issued in the years 2004–2012. Based on the Mosina commune (in Wielkopolskie Province) an analysis was conducted on land allocated to individual land use forms in spatial development plans as well as their distribution in relation to existing land surface conservation areas. The study investigated the issue of whether the current spatial planning approach at the commune level covering all land within the boundaries of conservation areas with spatial development plans ensures rational spatial management.

Keywords: spatial planning, nature conservation areas, commune

Introduction

Nature conservation and spatial planning are primary tasks for communes in Poland.¹ These obligations overlap. Sustainable spatial management requires adherence to nature conservation principles, including preservation of existing nature conservation objects and indication of areas of nature value to be covered by legal protection (Hełdak 2009; Zbierska, Przybyła, and Zbierska 2012). Spatial development in Poland on the local level is mainly based on the spatial policy defined in the Study of Determinants and Directions for the Spatial Management of a Community (STUDY). A tool used to carry out the spatial policies contained in the STUDY is the local spatial development plan (LSDP — Polish MPZP) (Hełdak and Raszka 2013). These documents promote limitation of urban sprawl (Frenkel and Ashkenazi 2008; Hasse and Lathrop 2003). However, frequently we may observe considerable procedural problems connected with passing a LSDP. In such situations the main tool for spatial development is provided by an administrative decision concerning terms of construction and land management (in Polish a “WZiZT decision”), which by virtue of the law do not have to and frequently do not reflect the spatial policy of the commune specified in the STUDY (Nowak 2012). These decisions do not require nature value analyses in the form of ecophysiological studies or environmental impact analyses, required in the case of LSDP. In such situations we frequently observe spatial conflicts of highly varied background (Rannikko 1996).

1. See: Obwieszczenie Marszałka Sejmu Rzeczypospolitej Polskiej z dnia 24 kwietnia 2012 r. w sprawie ogłoszenia jednolitego tekstu ustawy o planowaniu i zagospodarowaniu przestrzennym. DzU z 2012 r. poz. 647 as amended [The Act on planning and spatial development]; Obwieszczenie Marszałka Sejmu Rzeczypospolitej Polskiej z dnia 14 maja 2013 r. w sprawie ogłoszenia jednolitego tekstu ustawy o ochronie przyrody. DzU z 2013 r. poz. 627 as amended [The Act on the protection of nature].

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Dutkowski (1995) defines the source of spatial conflicts as “the occurrence in a given area of many various potential land development options and/or many different interests and goals, including those connected with use of environmental goods. Thus the greater the value of a given area, the greater the probability of a conflict (Hełdak and Raszka 2011; Kistowski 2007).

The incidence of spatial conflicts is most evident in the case of towns and villages located within metropolitan areas of big cities comprising within their limits areas of nature value.² This is the case of the Mosina commune, being the subject of this study. The primary problem in such areas is connected with suburbanisation, transformation of farmland and forested land and fragmentation of landscape (Lisowski and Grochowski 2008; Przybyła et al. 2011). In communes contained in the forming metropolitan areas we observe a dramatic increase in the demand for new development areas (Szczepański, Pyszny, and Zydróż 2013). Thus, as it was observed by Bednarek-Szczepańska et al., “pressure on areas of nature value increases and it may be assumed that spatial conflicts between development of suburban areas and the environment are going to deepen.” (Bednarek-Szczepańska, Więckowski, and Komornicki 2010)

The basic problem, connected with the occurrence of nature conservation objects in communes, is also related to the fact that they are very often treated as barriers to development (ibidem). This is determined by the fact that in the case of a conflict between intentions of the investor and requirements of nature conservation, communes often decide not to pass a local spatial development plan for a given investment project. Then a dominant role in spatial management tends to be played by the WZiZT decision. In turn, this instrument is perceived as one disintegrating space. For this reason Solon (2010) stated in his study that the greatest planning needs in the years 2005–2007 were observed in communes located in national or landscape parks and their protection zones. That author was of an opinion that only complete coverage of a given area with spatial planning documents facilitates rational spatial management.

1 Methodology

Analyses were conducted in the town and rural commune of Mosina. The location of the commune in the immediate vicinity of the City of Poznań and the nature value and high tourist attractiveness is connected with strong urbanisation pressure. In its area there are many overlapping nature conservation forms: the Wielkopolski National Park (together with the buffer zone covering 18% area of the commune), the Rogaliński Landscape Park (45,5% area of the commune), four Natura 2000 areas (overlapping with the other conservation areas), 11 reserves, the Łęgi Rogalińskie nature and landscape complex as well as numerous natural monuments.

The main aim of the study was to analyse urbanistic pressure on areas of nature value. This pressure in this study was assumed to be the transformation of the existing manner of land development into residential, service or industrial functions. The indirect aim of the study was to indicate a dependence between the incidence of nature conservation objects and the percentage of land covered by planning documents in the commune, and thus to show their effect on the manner of spatial management in the commune. The material for analyses comprised local spatial development plans (LSDP), the administrative decision concerning terms of construction and land management (WZiZT decision) and administrative decisions on location of public purpose investment projects (LPP decision) issued in the years 2004–2012. Other planning and strategic documents of the commune were also analysed in order to define priority tasks for the commune.

The study presents a comparison of 24 local spatial development plans with a total area of ca. 1 714 ha. Surface areas of the areas covered by individual LSDP were considered together with main resulting directions for development, which were classified into 7 functions: housing development (MN), service facilities development (U), housing development with service facilities (MN/U), production facilities, storage and warehouse development (P), agricultural and livestock facilities (RU/RM), managed green areas and forested areas (ZL) and water construction facilities (W).

2. See: Uchwała Nr 239 Rady Ministrów z dnia 13 grudnia 2011 r. w sprawie przyjęcia Koncepcji Przestrzennego Zagospodarowania Kraju 2030. Monitor Polski z 2012 r. poz. 252.

A similar generalisation of functions was conducted for 1 145 WZiZT decisions and 78 LPP decisions collected from the commune register. In relation to the selection process only those decisions were analysed which were connected with the introduction of new development (housing, production, service, garage facilities) and water facilities as those having the greatest impact on space and the environment. Collected data from planning documents were compared with the changes in land use resulting from the land and building records and the analysis of cadastral maps and orthophotomaps. The dependence between the distribution of nature conservation objects and the number of issued planning decisions was analysed using the QGIS programme. Moreover, a tabular analysis was conducted for the percentage of land covered by planning decisions and the dynamics of increase in the land area covered by the plans.

It was assumed in this study that in the case of communes with a large conservation surface area—i.e., such as the Mosina commune, it would be essential to ensure the greatest possible area included in planning documents providing such a spatial development, which would not cause a negative impact on conserved nature or which would impose the obligation to provide adequate nature value compensation. It was assumed that the listing of the area allocated to individual functions in the commune based on LSDP and WZiZT decisions gives grounds for inference on the spatial policy in a given commune.

2 Results and discussion

In the course of the decade of 2002–2012 the population of the commune increased by over 19%. Taking into consideration the rate of natural increase in the commune it may be stated that the factor determining changes in the number of inhabitants was the inflow of inhabitants from other regions. When analysing changes in land use types recorded in the register of land and buildings we may observe an increase in the developed area at the expense of farmland (fig. 1). Farmland was also partly afforested. In the commune environmental protection policy specified in the Environmental Protection Programme for the Mosina commune for the years of 2004–2012 the primary assumptions include also the necessity to protect biodiversity by combining requirements of nature conservation with assumptions of spatial policy. We also need to stress the necessity to prevent excessive investments in conservation areas, as well as to cultivate existing and introduce new green areas in order to increase the aesthetic attractiveness of the commune. This was reflected in the Study of Determinants and Directions for the Spatial Development of the Mosina commune from the year 2008. Development areas in that study were limited to six development zones—settlement units, for which it was deemed necessary to pass local spatial development plans in order to limit unplanned development. The need to develop LSDP was also assumed for farmland with soils of the best quality classes to prevent or limit investment activity in that area. When comparing the area and main planning functions in the binding LSDP with the areas for which the preparation of the plan was postulated in the Study, it may be stated that the commune authorities to a

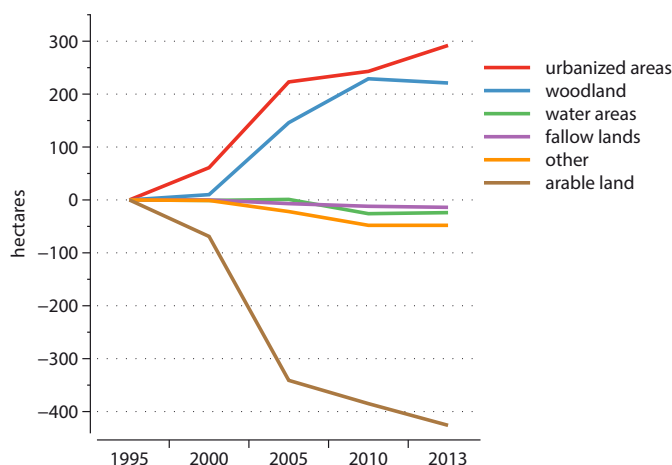


Fig. 1. Differences in the area

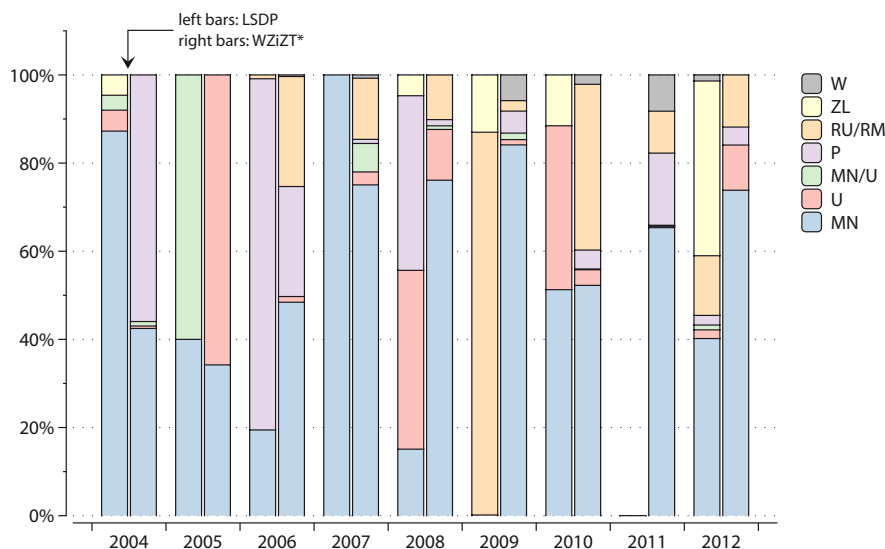


Fig. 2. The percentage of land allocated for each function

limited degree realised the imposed goals in that respect. The share in the area observed for the plans, which provided protection of farmland, was also limited (fig. 2). Only one LSDP from 2009 and to a limited degree LSDP for areas in a section of the village of Radzewice from 2012 met this recommendation.

The commune comprises predominantly LSDPs of small areas prepared mainly for housing and service facilities development (fig. 2). A problem is connected with the preparation of plans for specific investment projects and not ensuring appropriate spatial policy. Planned regulations concerning planning for conservation areas are also inadequate (tab. 1). Even if for an area within the nature conservation area an LSDP is established, its planning specifications concern mostly housing development. A vast majority of changes in land use in conservation areas are executed based on WZiZT and LPP decisions (fig. 3). The total number of issued decisions ranged in the analysed period from 77 to 192, including those for plots located within the land surface conservation objects, with the greatest number of decisions issued in 2005. Similarly as with LSDP, the biggest number of decisions concerned the introduction of housing development areas (fig. 2) and they were also small areas. Throughout the study period one decision was issued on the location site for a public

Tab. 1. The number and area of land covered by the local spatial development plan (LSDP located within the forms of nature protection*

Year	The number of LSDP		Area of land covered by the LSDP located within the forms of nature protection (ha)			The main forms of land use
	Total	Within the forms of nature protection	Buffer zone of Wielkopolski National Park	Rogaliński Landscaped Park	Natura 2000	
2004	4	3	74,0	–	–	Single-family housing
2005	4	3	17,7	–	–	Single-family housing
2006	3	2	12,7	3,0	3,0	Single-family housing
2007	1	1	–	0,6	0,6	Single-family housing
2008	2	0	–	–	–	–
2009	2	1	–	27,3	–	Wooded area
2010	2	1	–	–	0,5	Agricultural buildings
2011	0	0	–	–	–	–
2012	6	1	–	7,5	–	Main water line

* [In the journal European practice of number notation is followed—for example, 36 333,33 (European style) = 36 333.33 (Canadian style) = 36,333.33 (US and British style).—Ed.]

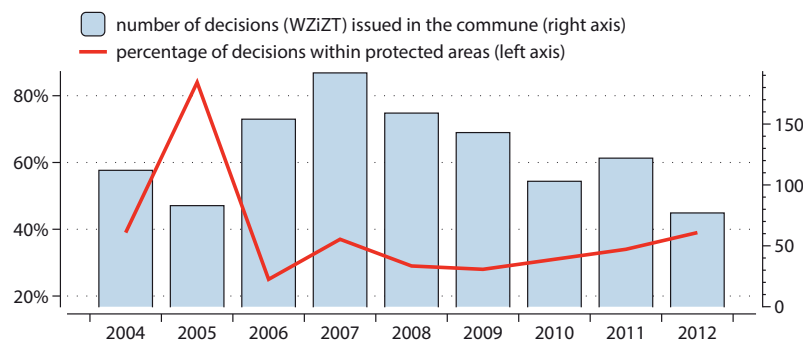


Fig. 3. Percentage of decisions within protected areas and number of decisions issued in the commune

purpose investment project for land within a conservation area. This decision concerned construction of elements of resort infrastructure on a plot located within the Wielkopolski National Park.

In the first analysed year the area covered by specifications based on LSDP was comparable to the surface area of plots, for which development orders (WZiZT) were issued. Three out of four plans passed in 2004 were located in the buffer zone of the Wielkopolski National Park (tab. 1) and over 95% of these areas were allocated to single family housing and service facilities. They were areas of compact development, which was connected with an inflow of a large number of new inhabitants. Moreover, location in that area for development combining the housing and services functions may result in an increased intensity of vehicle traffic, and thus potential negative impact on nature in the park.

In 2005 based on specifications of LSDP an area adjacent to a large forest complex protected within the Natura 2000—Ostoja Rogalińska bird refuge area was allocated to single family housing development with service facilities. Despite the location between two forest complexes no green areas were introduced, which would serve the role of an ecological corridor. Similarly, in 2006 land use for areas covered by specifications of newly established local plans was divided into two functions: industrial (ca. 80%) and housing, with a small area of farmland. Specified housing development areas were planned both in the buffer zone of WNP and in Ostoja Rogalińska (at the same time being located in the Rogaliński Landscape Park). However, they were single family detached buildings, with limited impact on the above mentioned nature conservation objects. Housing development concerned almost the entire area covered by regulations of the only LSDP in 2007, located at the same time within the boundaries of the Rogaliński Landscape Park and Ostoja Rogalińska.

Since 2008 we have been observing a gradual increase in the area allocated to use connected with cultivated green areas and afforestation. In 2008 almost 5% the total area covered by LSDP was allocated to green areas, while in 2012 such areas accounted for almost 40% of the total area of the issued studies. A considerable document in this respect was the LSDP for over 362 ha for a part of the village of Radzewice, located at the boundary with the Rogaliński LP. The primary land use in this area was specified as cultivated green areas and the already existing forest. The incorporation of such a large part of the ZL area in the planning specifications was primarily the effect of the immediate vicinity of wetlands connected with the Warta River and protected within the Special Protection Area Natura 2000 (i.e., Ostoja Rogalińska, which to a considerable part overlaps with the Rogaliński Landscape Park). Such a location most probably also had the greatest effect on the small (11%) share of the housing development area in the area covered by the plan. This LSDP also concerned farmland, on which housing development, including farmstead development, was prohibited, which resulted from the need to protect soils, as postulated both in the Study (for soils of class IVa) and in the Environmental Protection Programme for the Mosina commune for the years 2004–2012. Among the LSDPs issued in 2012 the strongest impact on nature conservation objects could have been exercised by the specifications of the plan connected with the construction of a water main running through the Rogaliński Landscape Park (tab. 1).

Among development orders (WZiZT decisions) the introduction of housing or farmstead development predominated throughout the study period, with a periodical increase in the share of areas allocated to production facilities, warehouse and garage development (fig. 2). For most

of the analysed years the surface area of land managed based on WZiZT decisions exceeded that covered by local spatial development plans. Such a situation may confirm the opinion on problems with passing LSDP. A positive sign is connected with the fact that we have been observing a systematic reduction, starting in 2007, in the number of WZiZT decisions issued annually, including also WZiZT decisions issued for plots from conserved areas. We need to stress here the fact that despite the decrease in both the total number of issued development plans and those for plots from conservation areas, the share of the latter in the total number of decisions in the successive years of the study increased, to reach almost 40% in 2012 (fig. 3).

When analysing the number of LSDP and issued WZiZT decisions, the greatest number was issued for areas within the administrative limits of the town of Mosina and its nearest vicinity (fig. 4). This shows a high investment rate for this town in comparison to the rest of the commune. It is also significant that in the town except for its northern part there are no nature conservation objects, which facilitates a less constrained spatial management. Some plans in that town are regulatory in character and refer to the already existing development, which corresponds to the proposals contained in the Study referring to the protection of spatial order. A greater number of passed plans and issued decision were also reported for the towns and villages located in the north of the commune (i.e., Czapury, Babki and Daszewice). These areas are not covered by nature conservation, which has an advantageous effect on the potential localisation of economic development. Factors initiating the passing of LSDP may also include the immediate vicinity of the central metropolitan centre, i.e. the City of Poznań (development areas targeting population working in the city), availability of infrastructure as well as its high quality, vicinity of motorway A2 (a factor of spatial development for production use). Since planning regulations in the form of LSDP target investment functions, the existence of nature conservation objects is treated as a limiting factor for these LSDP being passed.

Results indicating a low proportion of land being covered by planning specifications (fig. 5) are consistent with the data presented in the annual statistical reports on the status and conditions for planning works in communes (Śleszyński et al. 2014). This reports classifies the Mosina com-

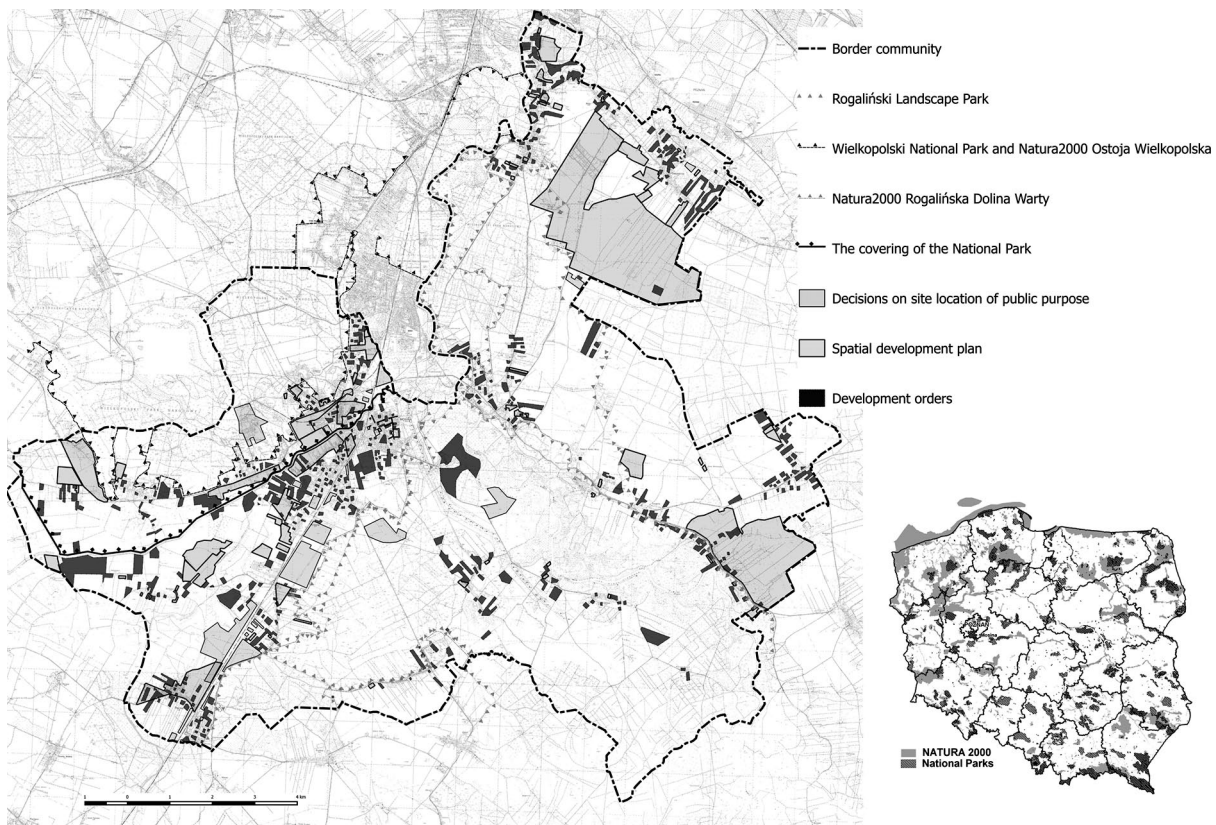


Fig. 4. Administrative limits of the town of Mosina

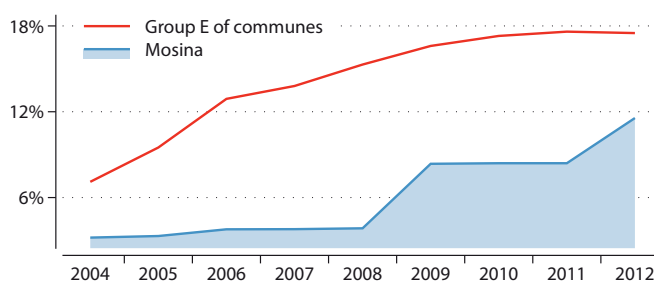


Fig. 5. Percentage of lands covered by planning specifications

mune among the group of communes located in outer zones of metropolitan areas. The average proportion of land covered by planning documents for this group in the period 2004–2014 ranged from 26,4% to 48,0%. The result reached by Mosina among the functional groups mentioned in the report was the closest to the level characteristic of communes with nature conservation features – group E (from 7,1% in 2004 to 17,5% in 2012), which had the lowest level of land covered by planning documents (fig. 5). The area covered by specifications of LSDP in the analysed commune was markedly different from the means recorded for all functional types of communes.

Conclusions

There are bilateral dependencies between nature conservation and spatial management. On the one hand, sustainable spatial management requires consideration of natural conditions and observation of nature conservation requirements, while on the other hand, planning decisions determine appropriate functioning of these areas and influence their potential to fulfil their protection tasks. The necessity to meet additional requirements by the planning documents covering conservation areas results in the adversely low proportion of land covered by planning documents in communes with a considerable share of protected areas. This is connected with the limited potential for allocation of areas to production, services or intensive housing development. Spatial management in conservation areas is mainly based on issued development orders. Unless the attitude of commune authorities changes in relation to the role of LSDP as a tool in the preservation of spatial order in the commune and preservation of environmental goods, the increasing share of protected areas covered by specifications of LSDP, leading to the complete coverage of a given area by planning documents, instead of providing a ration spatial management, as indicated by Solon, will show increasing intensity of impact on nature protected within the commune. Although in accordance with the law LSDP in Natura 2000 areas in the national park or a landscape park have to be arranged with respective bodies (the Regional Director of Environmental Protection Agency and the Director of the Park), based on solely legal aspects frequently no grounds are found for the prevention of an LSDP disadvantageous for the protection of nature value. Then a gradual increase in the total urbanised area within a given nature conservation object obviously affects the environment in that area.

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