# Problematic aspects of registering ecological land-use in the Real Estate Cadastre

Piotr Benduch<sup>1,\*</sup>, Agnieszka Peska-Siwik<sup>1</sup> and Paweł Hanus<sup>1</sup>

<sup>1</sup>AGH University of Science and Technology, Faculty of Mining Surveying and Environmental Engineering, Department of Geomatics, al. Mickiewicza 30, 30-059 Kraków, Poland

**Abstract.** Land-use as a part of the earth's surface used in an unitary manner, constitutes as one of the objects of Real Estate Cadastre in Poland. This register gathers data concerning actual grounds status, buildings and premises. Cadastre is carried out in an informational system on the basis of Geodetic and Cartographic Law and its implementing act. The contents of mentioned legal regulations are very general in terms of capturing and revealing data on ecological land-use. The rules are also related to environmental protection law. It often makes its proper interpretation difficult. In this article, the study aimed to systematize information about recording ecological land-uses in Polish Real Estate Cadastre has been performed. Practical and legal solutions concerning determination of the ecological land-uses coverage have been presented. The authors evaluate an order of individual activities leading to ecological land-use disclosure in cadastral database. The consequences and constraints in enforcing the ownership to land property or its parts where ecological land-use was allocated are analyzed as well. The statistical data in the scope of number and surface area of ecological land-uses in individual provinces have also been demonstrated.

### 1 Introduction

The data on land use types entered into the real estate cadastre represent in a unified manner the actual state regarding land use and land development. Pursuant to the geodetic and cartographic law [1], these data are widely used. They are essential for the implementation of works shaping the spatial structure of rural areas [2-5]. Land use types and keeping them updated are one of the mechanisms aimed at protecting agricultural and forest lands [6-8]. The data on land uses is also required for the preparation of statistical records at various levels of administrative division of the country. They also play an important role in land taxation [9,10]. This means that any change of land use type has wide consequences, including socio-economic ones.

One of the types of land uses contained in the real estate cadastre are ecological sites, first introduced by the Nature Conservation Act of 1991 [11]. They constitute a special, individual form of environmental protection [12]. The subject literature presents examples of research studies [13] which were conducted on the problem of entering such land into the register of land and buildings; the completeness of these data was also analyzed at the local level [14,15]. The role played by ecological sites in the context of spatial planning, both in undeveloped areas [16] and strongly urbanized areas [17-19] was specified. The influence of establishing ecological sites on the implementation of construction processes was considered as well [20]. Due to numerous changes in the regulations

The objective of this paper was to conduct the research involving a synthetic analysis regarding the capture, collection and entering the data on ecological sites into the real estate cadastre with regard to the currently applicable laws. The activities leading to the entering of an ecological site into the database of the register of land and buildings were systematized. The legal consequences resulting from the establishment of an ecological site within the real estate boundaries were assessed. Finally, the changes in the number and areas of ecological sites in recent years in Poland were analyzed.

## 2 Ecological site in database of the Real Estate Cadastre

In the conceptual model of the Polish real estate cadastre, the land use is represented by the class EGB\_KonturUzytkuGruntowego, whose lexical definition in accordance with Appendix 1a to the Regulation on the register of land and buildings [21] is as follows: continuous area of land within a cadastral district, approved as separate due to its actual use or manner of development based on the criteria set out in Appendix 6, or an area earmarked as an ecological site under separate regulations. In the light of the presented definition, it can

regarding the real estate cadastre, broadly understood real estate management and nature conservation which have been introduced in recent years, the analyzed problem remains valid.

<sup>\*</sup> Corresponding author: pbenduch@agh.edu.pl

be concluded that an ecological site is a special type of land use, whose entering into the cadastre is preceded by the implementation of additional, independent proceedings.

According to the aforementioned Appendix 6 to the Regulation on the register of land and buildings [21], contours of ecological sites are specified in the register based on a resolution of a competent commune council, adopted under nature conservation regulations, taking into account contours of land uses contained in this register, which have been established based on land properties resulting from the manner of its development or use. Ecological sites will therefore be established on other land use types. They should not be treated as a fully independent manner of land development.

Similarly to other land use types, also in the case of ecological sites, general regulations specified in Appendix 6 to [21] are not precise enough and additionally contain references to separate legal regulations. As it was pointed out in [22], too broad a field for interpreting regulations in this respect often leads to a number of ambiguities and creates problems with the correct and uniform determination of the extent of a specific land use.

Table 1 demonstrates acceptable types of ecological sites with their denotations (OFU), provided for in the UML application scheme of the data of the real estate cadastre, constituting, beside the geometry and identifier, the attribute of the EGB\_KonturUzytkuGruntowego class.

Based on Table 1, it can be stated that ecological sites can be established on selected land uses belonging to the group of agricultural land, forest land and land under water. In the provisions on the real estate cadastre, the legislator has not provided for the possibility of establishing ecological sites on developed and urbanized land, as well as on other land, which seems reasonable, of course.

**Table 1.** Types of ecological sites and their denotations (OFU) provided for in legal regulations

Types of ecological sites			
Ecological site on arable land			
Ecological site on permanent pastures			
Ecological site on permanent meadows	E-Ł		
Ecological site on land covered with trees and shrubs	E-Lz		
Ecological site on land covered with trees and shrubs on arable land			
Ecological site on forests	E-Ls		
Ecological site on land under surface flowing water	E-Wp		
Ecological site on land under surface still water	E-Ws		
Ecological site on land under ditches	E-W		
Ecological site on wasteland	E-N		

It is worth paying attention to some imprecision at this point. Neither Appendix 6 nor the main content of the Regulation on the register of land and buildings [21] mention ecological sites on the land under ditches (OFU: E-W). However, such a possibility was allowed in the dictionary of the UML application scheme of cadastral data for the EGB\_OFU attribute, that is for the land use denotation. Moreover, the list of permissible values of the

EGB\_OFU attribute was assigned the <<Enumeration>> stereotype, so there is no possibility of extending or modifying it. This fact may raise doubts as to whether in the event of an attempt to establish an ecological site in areas that are currently denoted in the cadastre as e.g. mining land use (OFU: K) or recreation areas (OFU: Bz), it would be necessary to change the type of land use beforehand. This is also related to the issue of updatedness of the data on land uses contained in the cadastre. The problem would probably arise at the stage of entering such ecological sites into the database.

Table 2. Creating denotations of ecological land use classes

	l		Exemplary	
OFU	OZU	OZK	denotation	Remark
E- Wp, E-Ws, E-N, E-Ls, E-Lz	-	-	E-Wp	For ecological sites on land that is not subject to soil classification (E-Wp, E-Ws, EN) and for ecological sites on land that is subject to soil classification, but for which such classification has not been carried out (E-Ls, E-Lz).
E-R	-	'I' or 'III' or 'IIIa' or 'IIIb' or 'IVa' or 'IVb' or 'V' or 'VI' or 'VIz'	E-RIIIa	For ecological sites on arable land.
E-Ps, E-L, E-Ls, E-Lz	-	'I' or 'II' or 'III' or 'IV' or 'V' or 'VI'	E-PsIII	For ecological sites on permanent pastures (E-Ps) or permanent meadows (E-L) and for ecological sites on forest land (E-Ls) or land covered with trees and shrubs (E-Lz), for which soil classification has been carried out.
E-Lzr, E-W	R	'I' or 'III' or 'IIIa' or 'IIIb' or 'IVa' or 'IVb' or 'V' or 'VI'	E-Lzr-RIIIa	For ecological sites on land covered with trees and shrubs on arable land (E-Lzr) and for ecological sites on land under ditches on arable land (E-W).
E-Lzr, E-W	Ps or Ł	'I' or 'II' or 'III' or 'IV' or 'V' or 'VI'	E-Lzr-PsIII	For ecological sites on land covered with trees and shrubs on permanent pastures or permanent meadows (E-Lzr) and for ecological sites on land under ditches on permanent pastures or permanent meadows (E-W).

emphasized should be that the EGB\_KonturUzytkuGruntowego class, representing the extent of a particular type of land use in the cadastre, is directly related to the cadastral district and not to the parcel, which is considered to be the leading object of the real estate cadastre [23]. However, attention should be paid to the object of the EGB Klasouzytek class, which is a common part of the land use contour and the classification contour, i.e. a continuous area covering land included in one quality class. Recording EGB Klasouzytek object allows to calculate the area of land uses and classification contours within the boundaries of the parcel. Permissible combinations of the elements making up the denotations of individual ecological land use classes, which are in accordance with Appendix 1a to [21], are presented in Table 2.

The elements OZU and OZK contained in Table 2 relate to, respectively, land use denotations which the quality class (OZU) is associated with, and the quality class denotations (OZK). It is worth mentioning that for land uses other than ecological ones, the rules for creating denotations of land use classes look slightly different.

### 3 Activities leading to the establishment of ecological sites

The provisions on the real estate cadastre do not say much about the establishment of ecological sites. It is therefore necessary to refer to the relevant regulations on nature conservation. Under Article 6 section 1 of the currently binding Nature Conservation Act [24] ecological sites are one of the forms of environmental protection. The definition of an ecological site is set forth in Article 42 of the Act [24]: ecological sites are remains of the ecosystem which are worth protecting due to their importance for the preservation of biodiversity - natural water reservoirs, mid-field and mid-forest ponds, clusters of trees and shrubs, swamps, peat bogs, dunes, patches of unused vegetation, oxbow lakes, rock outcrops, escarpments, gravel-banks, natural habitats and sites of rare or protected species of plants, animals and fungi, their refuges and places of reproduction or seasonal residence.

When establishing ecological sites, first of all, their natural values and economic criteria are taken into account. As the Ministry of the Environment points out, the essence of their establishment is the need to protect valuable natural areas which, due to their small area and the lesser importance of natural values, could not be covered by reserve protection. These areas play an important role in preserving biodiversity, also by facilitating the migration of plant and animal species and the associated gene pool exchange, important for the survival of many endangered species. In addition, according to [12], ecological sites are also established in places where ecological disasters occur followed by plant succession, or based on marginal lands within the area of agricultural production which were converted to nonagricultural use for economic or environmental reasons.

Article 44 section 1 of the Nature Conservation Act [24] specifies the manner of establishing and eliminating forms of nature protection provided for in this Act. As in

the case of a natural monument, documentation site and landscape-nature complex, ecological sites are established only by way of a resolution of the competent commune council. This legal status has been maintained since August 1, 2009, when the amendment [25] to the Nature Conservation Act came into force. Earlier, ecological sites could also be established through the district governor's regulation.

A resolution of the commune council on establishing an ecological site shall necessarily include the name of a given object or area, as well as its location and protection objectives. If required, arrangements for active protection and restrictions specific to the object, area or its part are also essential. A draft resolution of the commune council on establishing an ecological site needs to be agreed with the competent regional director for environmental protection. Failure to present a position by the entitled authority within one month from the date of receipt of the draft resolution is treated as an approval. The elimination of the form of nature protection, including the elimination of an ecological site (as it is also the case with it being established) requires the competent commune council to adopt an appropriate resolution. The procedure is carried out in the event of loss of natural and landscape values for the conservation of which this form of nature protection was established, or if implementation of a public purpose investment is necessary in the absence of alternative solutions. Ecological site can also be eliminated for the purpose of ensuring general safety.

It is important that the resolution of the commune council establishing an ecological site precisely defines its boundaries. This is strictly related to the restrictions in the enforcement of property rights, which in relation to ecological sites must be unambiguous as far as their area is concerned. This issue was pointed out by the Provincial Administrative Court in Olsztyn in their judgment of September 28, 2010 (II SA/Ol 451/10) [26]. At this point, it should be emphasized that an ecological site can also be established without the consent of the property owner, who, however, has the right to know what part of their land will be subject to certain limitations. This issue was also the subject of proceedings before the Supreme Administrative Court, which in the judgment of December 2, 2014 (II OSK 1191/13) [26] annulled the resolution of the commune council regarding the establishment of an ecological site due to the imprecise definition of its boundary. In that case, the boundary of the ecological site was marked with a marker on the map at the scale of 1:5000. The width of the boundary line on the cartographic material constituting an appendix to the resolution of the commune council on the establishment of an ecological site was 1 mm, which translated into 5 meters directly in the field. In the court's opinion, such materials precluded the determination of the extent of the ecological site with sufficient precision. Also for this reason, in the resolutions on the establishment of an ecological site, the extent of this site is more and more often defined by means of flat coordinates expressed in a given coordinate system (e.g. Resolution of the Wiązownica Commune Council No. XXVIII/192/2016 of December 23, 2016 on establishing the ecological site of "Meandry w Onyszkach" located in the Oleszyce Forest District, Wiązownica Commune.

The regulations contained in the Nature Conservation Act [24] do not specify what evidence forms the basis for the commune council's adoption of a resolution on the establishment of an ecological site. This proves that the authority has great freedom to issue this act. It is assumed that due to numerous limitations being a consequence of the establishment of an ecological site on a given property, this procedure should be preceded by a number of opinions, expert opinions or inspections, including surveys of the fauna and flora in the area. This is particularly the case when an ecological site is established on private land. There are no obstacles to the activities on the establishment of an ecological site being taken at the request of interested entities either, especially of the owners and perpetual usufructuaries of a given property. The entity requesting the establishment of an ecological site may submit relevant documentation prepared at their own expense, being the substantive justification that the given object meets the statutory definition of a specific form of nature protection. There is no such obligation, though.

The resolution of the commune council on the establishment of an ecological site, after its entry into force, constitutes the basis for entering this ecological site into the Central Register of Nature Conservation Forms kept by the General Director for Environmental Protection, and into the real estate cadastre. The existence of ecological sites should also be included in planning documents, in particular in the local land use plan, which is an act of local law.

# 4 Legal consequences and limitations resulting from establishing an ecological site

Article 45 of the Nature Conservation Act [24] specifies the limitations applying to the areas on which an ecological site was established. The legislator sets out specific restrictions regarding the following:

- destruction, damage or transformation of the object or area:
- performance of earthworks permanently distorting the topographical relief with the exception of the works related to storm or flood protection, or the construction, reconstruction, maintenance, or repair of water facilities;
- 3) soil damage and pollution;
- changes to hydrographic conditions, unless these changes serve nature protection or rational farm, forest, water or fishing economy;
- 5) elimination, backfilling and transformation of natural water reservoirs, oxbow lakes and wetlands;
- pouring slurry, except fertilization of utilized farmland;
- 7) changes in land use;
- 8) extraction of rocks, including peat, and fossils, including fossil remains of plants and animals, as well as minerals and amber for economic purposes;

- deliberate killing of wild animals, destruction of burrows, animal lairs and spawning grounds and spawned fish eggs, with the exception of amateur fishing and activities related to rational farming, forestry, fishing and hunting;
- harvesting, destroying, damaging plants and fungi in areas of ecological sites established to protect sites, habitats or refuges of protected plants and fungi;
- 11) placement of advertising boards.

The presented restrictions become binding only after they are included in the resolution of the commune council on the establishment of a specific form of nature protection in the given area. As it was pointed out by the Supreme Administrative Court in their judgment of July 30, 2010 (II OSK 1053/10) [26], there are no legal grounds to assert that Article 64 section 3 of the Constitution of the Republic of Poland [27] was infringed by limiting the ownership right by an act of local law, and not by the Act of Parliament. The limitation of the ownership right results from Articles 44 and 45 of the Nature Conservation Act [24], and the resolution of the commune council is only a territorial detailing of this limitation.

The restrictions marked with numbers 2, 3 and 7 basically hinder the possibility of carrying out any construction works in the areas recognized as ecological sites. However, the legislator provided for certain exceptional situations which the aforementioned restrictions shall not apply to:

- a. works performed for the purposes of nature conservation, after consultation with the authority establishing a given form of nature protection;
- b. implementation of public purpose investment in the absence of alternative solutions, after consultation with the authority establishing a given form of nature protection;
- national defense tasks in the event of a threat to the security of the state;
- d. elimination of sudden threats to public safety and conducting rescue operations.

Therefore, it can be concluded that public administration authorities were protected (to a certain extent) against the total restriction on the implementation of investments in nature conservation areas.

If an ecological site was established on forest land, it may be necessary to introduce changes in its management, including forest development plans and simplified forest development plans. Various forms of active protection of an ecological site should also be taken into account, such as the removal of self-seeding trees and limiting invasive vegetation, especially of non-indigenous species.

In terms of legal consequences resulting from the creation of an ecological site, especially on private land, reference should be made to the Act on environmental protection [28]. Pursuant to Articles 130 and 131 [28], the establishment of an ecological site on a real property may be treated as a limitation on the manner of its use. Then, at the request of the aggrieved party, i.e. the owner, perpetual usufructuary or a person who is entitled to the right in rem to the property, the competent district governor determines, by way of a decision, the amount of

compensation. This decision is non-appealable in administrative mode. A party dissatisfied with the awarded compensation may bring an action to the common court within 30 days from the date of the receipt of the decision. The aggrieved party will also be entitled to bring a court action if the competent authority fails to issue a decision within 3 months from the date of the request being made by this party. In cases of restricted manner of use of the property associated with the establishment of a specific form of nature protection, the party may also demand that the authorities purchase this real estate. However, only the owner and perpetual usufructuary are entitled to this claim. Then, the rules and procedure set forth in the Real Estate Management Act of 21 August 1997 [29] shall apply. The amount of compensation and the purchase price for the real estate is determined upon obtaining the opinion of a certified property valuer. If the restriction on the manner of use of the real property occurred as a result of the local law passed by the local self-government body, then the appropriate local self-government unit is required to pay compensation or purchase the property. The aggrieved party may both file a claim for payment of compensation and apply for the purchase of the whole real property or its part, within 2 years from the date of entry into force of the local law limiting the use of the property.

This means that the establishment of an ecological site on private land by the commune council without the owner's consent, although legally permissible, is associated with an increased risk of incurring additional costs for the payment of compensation or the purchase of a real property or part of it. Therefore, it is in the best interest of the initiator of establishing an ecological site to obtain acceptance for the project. It is also worth mentioning that pursuant to the Agricultural Tax Act [30], ecological sites are exempt from agricultural tax. Additionally, taking into account expenditures incurred for the active protection of a given area, the establishment of an ecological site may ultimately prove to be an expensive solution for the budget of the local commune.

## 5 Selected statistical data on ecological sites in Poland

According to data of the Central Statistical Office, the area of ecological sites in Poland has increased from 44.9 thousand hectares (in 2000) to over 53 thousand hectares (in 2017). Table 3 presents changes in the total area of ecological sites over the last five years in individual provinces. The green color indicates the years in which the areas of ecological sites in individual provinces have increased in relation to the previous year. On the other hand, the years in which the areas of ecological sites in individual provinces have decreased in relation to the previous year, have been marked in red. The years, where no changes in the areas of ecological sites have been recorded, are marked in black.

The statistical data point to a general increasing trend in areas of ecological sites in recent years. Nevertheless, there are also cases where the area of ecological sites decreased, even two years in a row, for example in Lubelskie and Podkarpackie provinces in 2013 and 2014. In addition, in the case of Podkarpackie province, the decrease in the area of ecological sites in 2014 reached almost 1800 hectares. For this reason, the year 2014 was the only of the analyzed periods with a decrease in the total area of ecological sites throughout the country. Only in Pomorskie, Wielkopolskie and Zachodniopomorskie provinces we have witnessed a constant increase in the areas of ecological sites over the last five years. The largest increase in the total area of ecological sites in years 2013-2017 was recorded in Wielkopolskie province.

**Table 3.** Areas of ecological sites [ha] in recent years in individual provinces

Province	2013	2014	2015	2016	2017
Dolnośląskie	5201.6	5201.7	5201.7	5201.7	5218.3
Kujawsko-pomorskie	5360.3	5384.7	5385.1	5398.0	5394.8
Lubelskie	6909.4	6840.5	7025.8	7027.8	7027.8
Lubuskie	3282.6	3257.4	3306.9	3555.7	3561.8
Łódzkie	1648.8	1643.1	1653.6	1653.9	1656.1
Małopolskie	1150.5	1152.6	1180.6	1173.8	1181.0
Mazowieckie	1827.6	1828.7	1836.6	1836.6	1868.9
Opolskie	709.5	709.5	709.5	709.6	710.7
Podkarpackie	3857.2	2074.7	2217.7	2229.1	2276.2
Podlaskie	2184.4	2172.2	2172.2	2182.1	2185.4
Pomorskie	4123.8	4127.3	4441.4	4447.0	4454.4
Śląskie	795.9	834.1	834.1	830.9	1128.3
Świętokrzyskie	545.2	554.6	555.7	555.7	556.3
Warmińsko-mazurskie	5256.5	5264.6	5262.1	5285.0	5331.5
Wielkopolskie	2813.2	2978.6	3479.0	3567.9	3606.3
Zachodniopomorskie	6520.8	6573.1	6581.9	6685.6	6890.7
Total	52187.3	50597.4	51843.9	52340.4	53048.5

An additional explanation is required by the fact that the information presented in Table 3 has been prepared based on the statistical data "Legally protected objects and areas with special natural values". The data on ecological sites from the real estate cadastre, which are included in "Geodetic surface area of the country according to the directions of land use and provinces", are significantly different. According to this statement, the area of ecological sites throughout country in 2017 was smaller by about 10,000 hectares compared to the area included in Table 3. Unfortunately, it was not possible to determine the reasons for such significant discrepancies in statistical data, published by the same unit, but derived from different sources. Due to the fact that the information presented in Table 3 was closer to the reports generated from the Central Register of Nature Conservation Forms, it was considered more reliable.

Table 4 illustrates the statistical data on the number of ecological sites in individual provinces in years 2013-2017. Also in this case, the statement "Legally protected objects and areas with special natural values" was used. The changes occurring in subsequent years were presented in the way the same as in Table 3.

Table 4. Number of ecological sites in recent years in individual
provinces

Province	2013	2014	2015	2016	2017
Dolnośląskie	153	153	153	153	153
Kujawsko-pomorskie	1536	1551	1553	1564	1557
Lubelskie	267	265	267	268	269
Lubuskie	361	363	380	384	391
Łódzkie	483	499	505	508	528
Małopolskie	39	44	46	45	46
Mazowieckie	740	740	763	765	767
Opolskie	96	96	96	96	97
Podkarpackie	426	431	438	442	449
Podlaskie	272	271	271	272	273
Pomorskie	857	864	761	767	773
Śląskie	74	75	75	78	79
Świętokrzyskie	79	83	86	86	103
Warmińsko-mazurskie	293	294	283	287	298
Wielkopolskie	185	187	245	247	251
Zachodniopomorskie	1171	1174	1107	1168	1171
Total	7032	7090	7029	7130	7205

It turns out that the change in the areas of ecological sites (Table 3) does not always go hand in hand with changes in their number (Table 4), as exemplified e.g. by Dolnoślaskie and Opolskie provinces. This is due to the fact that, in addition to the right to establish an ecological site, the commune council can also make changes to the existing ones. Of course, there were also cases of individual ecological sites being eliminated and the new ones, with different areas, being established in their place. Interestingly, in 2015, despite the increase in the areas of ecological sites throughout the country by about 1,250 hectares compared to the previous year, the number of ecological sites decreased by 61. An opposite situation occurred in the previous year, when there was an increase in the number of ecological sites and a decrease in their total area. It is worth noting that in Podkarpackie province, where in 2014 the largest decrease in the area of ecological sites was recorded in the analyzed time interval, the number of ecological sites increased by 5, compared to the previous year. Therefore, the situation is changing dynamically from year to year, which in turn proves that ecological sites are a form of nature protection which is actively used by self-government authorities.

At the end, a graph was presented, illustrating the areas of ecological sites in individual provinces, which was prepared based on the most current data from the second quarter of 2018, captured thanks to the reports generated from the Central Register of Nature Conservation Forms. The smallest area of ecological sites is found in Świętokrzyskie province and the largest in Zachodniopomorskie province. According to the data presented in Table 3, in 2017, Lubelskie province had the largest area of ecological sites. According to the Central Register of Nature Conservation Forms, the total area of ecological sites throughout the country in the second

quarter of 2018 reached 53,611.5 ha. For comparison, the total area of national parks in Poland is over 6 times larger and amounts to 329,378.2 ha.

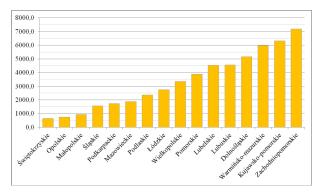


Fig. 1. Areas of ecological sites [ha] in recent years in individual provinces in the second quarter of 2018 according to data from Central Register of Nature Conservation Forms

### **6 Conclusions**

The undertaken research allowed to formulate the following conclusions:

- Ecological site is one of the forms of nature protection, actively used throughout the country.
- Data on ecological sites are entered, inter alia, into the real estate cadastre. In accordance with the requirements of the Regulation on the register of land and buildings, the resolution of the commune council on the establishment of an ecological site forms the basis for these sites to be entered.
- To establish an ecological site, it is required to prepare appropriate documentation including expert reports and opinions which confirm the grounds for covering a given area with this form of nature protection. There are no contraindications that the procedure for the establishment of an ecological site should be initiated at the request of interested entities, especially owners and perpetual usufructuaries of the real property on which this ecological site would be established.
- For an efficient establishment of an ecological site, it is necessary to unambiguously define the boundaries of this site.
- The establishment of an ecological site brings extensive legal and economic consequences. All limitations in the enforcement of ownership rights in the area covered by an ecological site must be specified in the resolution of the commune council on the establishment of an ecological site. Otherwise, they will not be binding.
- The commune council may establish an ecological site on private land without the consent of the owner, who may apply for compensation or purchase of the real estate, or part of it, by the authorities. Also, the perpetual usufructuary and the person possessing the right in rem to this real property are entitled to the right to compensation for the establishment of an ecological site. Besides the owner, only the perpetual usufructuary may request the purchase of the property.

- Ecological sites are subject to exemption from the agricultural tax. Considering additional expenditures for the preparation of the necessary documentation as well as costs of active protection, the establishment of an ecological site proves to be an expensive undertaking for the budget of the local commune.
- In recent years, both the area and the number of ecological sites in individual provinces have changed to a smaller or greater extent. An increase in the number of ecological sites did not always cause an increase in their total area in the province, which was related to the changes or elimination of the already existing ecological sites. On the national scale, however, there is an overall tendency of increasing both the area and the number of ecological sites.

### Acknowledgment

Publication supported by the Polish Ministry of Science and Higher Education as a part of the program of activities disseminating science from the project "Organization of the First International Science Conference – Ecological and Environmental Engineering", 26-29 June 2018, Kraków.

### References

- 1. The Act of 17 May 1989 Geodetic and Cartographic Law (Official Journal 2017, No. 0, item 2101 consolidated text, as amended).
- 2. Konieczna, J. Infrastruktura i Ekologia Terenów Wiejskich, 1/II/2012, pp. 197-206. (2012).
- 3. Jasińska, E. Land use efficiency on example of the transformation of rural properties. *In the 10th International Conference "Environmental Engineering": selected papers.* Vilnius Gediminas Technical University, Lithuania, April 27–28, 2017. (2017).
- 4. Leń, P. The ranking destination areas for land consolidation works, due to the size checkerboard land on the example of Białaczów. *In the 10th International Conference "Environmental Engineering": selected papers.* Vilnius Gediminas Technical University, Lithuania, April 27–28, 2017. (2017).
- 5. Stręk, Ż. Engineering for rural development analysis of demand for land consolidation in Milejów commune, Łęczna district. *Engineering for Rural Development*, Jelgava, 24-26.05.2017, pp. 593-599. (2017).
- 6. Gałuszka, Z., Hanus, P. Acta Scientifica Academiae Ostroviensis, **35**, pp. 12-19. (2011).
- 7. Bielecka, E., Całka, B. Infrastruktura i Ekologia Terenów Wiejskich, **2/III**/2012, pp. 163-173. (2012).
- 8. Wolańska-Kamińska, A., Ratajczyk, N. Woda-Środowisko-Obszary Wiejskie, **14**, pp. 129-142. (2014).
- 9. Benduch, P., Pęska, A. Infrastruktura i Ekologia Terenów Wiejskich, III/1/2016, pp. 787-800. (2016).

- 10. Benduch, P. Problematic aspects of determining the surface area of grounds, buildings and premises for cadastre and real estate taxation purposes. In the 10th International Conference "Environmental Engineering": selected papers. Vilnius Gediminas Technical University, Lithuania, April 27–28, 2017. (2017).
- 11. The Act of 16 October 1991 on nature protection (Official Journal 1991, No. 114, item 492 Act repealed).
- 12. Koreleski, K. Infrastruktura i Ekologia Terenów Wiejskich, 1/2005, pp. 15-26. (2005)
- 13. Dawid, L., Deska, K. Infrastruktura i Ekologia Terenów Wiejskich, **II/2**/2014, pp. 389 398. (2014).
- 14. Dawid, L., Deska, K. Infrastruktura i Ekologia Terenów Wiejskich, **II/2**/2014, pp. 453-465. (2014).
- 15. Mika, M., Leń, P. Inżynieria Ekologiczna, vol. **50**, pp. 121–131. (2016).
- 16. Kil, J. Przegląd Geodezyjny, **78(08)**, pp. 7-10. (2006).
- 17. Colding, J. Landscape and urban planning, **81(1-2)**, pp. 46-55. (2007).
- 18. Yu, K. J., Qiao, Q., Li, D. H., Yuan, H., Wang, S. S. Ying yong sheng tai xue bao = The journal of applied ecology, **20(8)**, pp. 1932-1939. (2009).
- Zhiyun, O., Xiaoma, L., Weihua, X. Acta Ecologica Sinica, 35(11), pp. 3778-3787. (2015).
- 20. Banyś, T. Użytek ekologiczny a wolność gospodarcza z punktu widzenia działalności dewelopera. Chapter in book Prawo ochrony przyrody a wolność gospodarcza. Wyd. PZITS (2011).
- 21. Regulation of the Minister of Regional Development and Construction of 29 March 2001 on the register of land and buildings (Official Journal 2016, No. 0, item 1034 consolidated text, as amended).
- 22. Benduch, P. Infrastruktura i Ekologia Terenów Wiejskich, III/1/2017, pp. 999–1015. (2017).
- 23. Hanus, P., Hycner, R., Kwartnik-Pruc, A. Magazyn Geoinformacyjny Geodeta, **10**, pp. 26–31. (2013).
- 24. The Act of 16 April 2004 on nature protection (Official Journal 2018, No. 0, item 142 consolidated text, as amended).
- 25. The Act of 23 January 2009 on amendments to some acts in connection with changes in organization and tasks division of public administration in province (Official Journal 2009, No. 92, item 753).
- 26. Central Database of Administrative Courts Judgments: <a href="http://orzeczenia.nsa.gov.pl">http://orzeczenia.nsa.gov.pl</a> (15-06-2018).
- 27. The Constitution of the Republic of Poland of April 2, 1997 (Official Journal 1997, No. 78, item 483, as amended).
- 28. The Act of 27 April 2001 Environmental Protection Law (Official Journal 2018, No. 0, item 799 consolidated text).
- 29. The Act of 21 August 1997 on real estate management (Official Journal 2018, No. 0, item 121 consolidated text, as amended).

30. The Act of 15 November 1984 on agricultural tax (Official Journal 2017, No. 0, item 1892 - consolidated text).