

PRACE ORYGINALNE

ORIGINAL PAPERS

Scientific Review – Engineering and Environmental Sciences (2018), 27 (3), 251–259
Sci. Rev. Eng. Env. Sci. (2018), 27 (3)
Przegląd Naukowy – Inżynieria i Kształtowanie Środowiska (2018), 27 (3), 251–259
Prz. Nauk. Inż. Kszt. Środ. (2018), 27 (3)
<http://iks.pn.sggw.pl>
DOI 10.22630/PNIKS.2018.27.3.24

Jolanta HARASYMIUK

Faculty of Geodesy Geospatial and Civil Engineering, University of Warmia and Mazury
in Olsztyn

Analysis of reports on the impact of building investments on Natura 2000 sites in Poland based on own research

Key words: Natura 2000 sites in Poland, undertaking (building investment), report on the impact of a building investment on a Natura 2000 site

Introduction

An environmental report is the type of a specialist expert opinion that can be mandatory in one of the four types of building investment assessments: the impact of a construction project on the environment, re-evaluation of the impact on the environment, transborder assessment of the impact on the environment and an assessment of the impact on a Natura 2000 site. The objective of an assessment of the environmental impact is to recognize the influence that a development project will have on all components of the environment. The aim of re-evaluation of the environmental impact is to transfer the previously made detailed assessment of the impact on nature onto a later stage of the investment

process. The purpose of a transborder assessment of the environmental influence is to recognize possible effects of a given development project outside the state borders and the influences of investments located outside the borders that could appear on the territory of a given state (Pchalek & Behnke, 2009). Finally, the goal of an assessment of the impact on Natura 2000 sites (in the literature referred to as a habitat evaluation) is to recognize the influence of a construction project on a specific site (or sites) within the Natura 2000 network, for the sake of environmental protection or exclusion of any considerable negative influence of such an investment on a Natura 2000 site (Rakoczy & Pchalek, 2010). The various aims of environmental assessments of building development projects necessitate different ranges of data contained in the documentation, including reports, prepared for the execution of a construction project.

Not until the amendments to the Act of 8 November 2008 on providing information about the environment and its protection, public participation in environmental protection and environmental impact assessments came into effect, had there not been any formal requirements regarding authors of environmental reports. The persons who prepared these documents only had to provide their names. Thus, an author of a report may not have fulfilled any criteria concerning their professional background or absence of any connections to the applicant. In fact, a report might have been written by anyone, including – at least theoretically – the investor (Śliwa, 2015). Furthermore, there had been no precise regulations regarding the content of ‘habitat’ reports. A habitat assessment should contain the same components as a report on the impact on the environment, although in the latter case, the report’s author should limit their judgement to the impact of the analysed investment on Natura 2000 sites. The scope of reports had been elaborated in practice by the persons auditing the reports (who were employees of Regional Directorates for Environmental Protection). In line with the Act of 9 February 2016 on providing information about the environment and its protection and the Act of 8 November 2008 on providing information about the environment and its protection, public participation in environmental protection and environmental impact assessments, both before and after being amended, the scope of a report can be only narrowed versus the required content, but is not supposed to contain the information which extends beyond its ‘table of contents’. It is the

matter of one’s own judgement how the required ‘table of contents’ will be interpreted by persons who will evaluate the correctness of the execution of a report.

In the literature, the question of reports on the impact on Natura 2000 sites has not been discussed thoroughly enough (Engel, 2009; Rak, 2014; Gicala & Sobotka 2017; Lai & Zoppi, 2017) even though it is a key issue in attempts to accelerate the preparation stage of an investment with respect to environmental requirements because a well-elaborated report will eliminate the need to request its amending. This article contains an analysis of such reports in respect of their content as demanded by the Acts of 8 November 2008 and 9 February 2016 on providing information about the environment and its protection and by the practice of drawing reports.

Material and methods

The objective of this study has been to make a formal and content-related analysis of reports on the impact of construction projects on the Natura 2000 network sites. To achieve this aim, the author conducted a query in archives and libraries, which covered: the relevant references, legal acts pertaining to habitat assessment and reports on the impact of development investments on the Natura 2000 network that had been deposited with the Regional Directorate for Environmental Protection in Olsztyn in 2015–2017. Eight reports prepared for detached, single-family houses were analysed in greater detail as such types of construction developments prevailed among the reports submitted by inves-

tors. In addition, expert opinions were obtained, in the form of individual in-depth interviews with three office clerks involved in the assessment of habitat reports. These surveys consisted of interviews with respondents based on a semi-structured questionnaire. They served to identify the required scope of reports and the most common mistakes made by investors in this regard.

Results and discussion

The data shown in Figure 1 demonstrate that as many as 53% reports on the impact on the Natura 2000 sites submitted during the analysed time period to the Regional Directorate for Environmental Protection concerned detached houses.

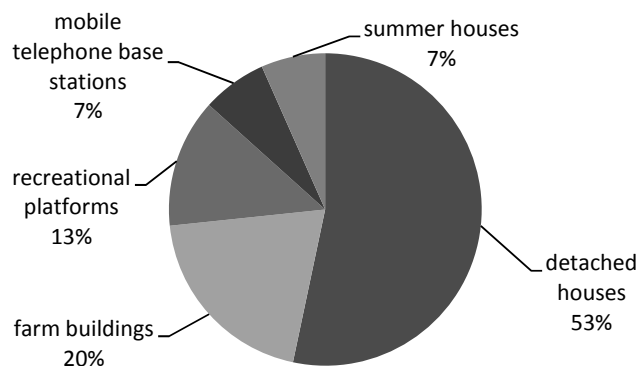


FIGURE 1. Reports on the impact on Natura 2000 sites submitted to the Regional Directorate for Environmental Protection in Olsztyn in 2015–2017, divided into types of building investments

This may arise from the fact that investors have become used to the possible legal regime which regulates the planning of a building development in areas incorporated into the European ecological network and are no longer afraid to subject their investment plans to the pro-

cedure of an assessment of their impact on the Natura 2000 sites.

In decisions issued by the Regional Directorate for Environmental Protection in Olsztyn between 2014 and 2017, which obliged investors to make an assessment of the impact on the Natura 2000 network and present reports accordingly, the following components are distinguished:

1. Characterization of the planned building investment.
2. Characterization of nature components within the predicted impact of the investment, including the environmental protection objects for which Natura 2000 sites have been established.
3. Specification of variant solutions for executing the planned development,

with a description of their effects on the environment.

4. Evaluation of the impact of the planned investment on the condition, protected objects as well as the integrity and cohesion of the Natura 2000 sites.

5. Description of actions aiming at preventing or restraining adverse effects on subjects and objects of environmental protection covered by the Natura 2000 network.
6. Characterization of methods employed in order to foresee the influence of a given investment as well as field research methods.
7. Formal requirements.

The characterization of a planned building investment should include its: purpose, future use, location (the building's location within a Natura 2000 site or the distance from the developed area's limits to the borders of a Natura 2000 site found within the zone of the impact produced by the planned building), the nearest surroundings and characteristic points (distance of the planned building to the edge of a forest, shoreline of a lake, the nearest house or a housing estate, etc.). This part of the report is also expected to specify: basic technical parameters of a building (the area occupied by the building, its useful floorspace, total area of the roof, area of paved surfaces around the building), the way the building will be supplied with water, heat and electricity, determination of expected volumes of emission to the environment at the stage of construction (noise generated by construction works, by vehicles, dust emission, building material waste, exhaust fumes from building machines and vehicles) and at the stage of the building's useful life (noise produced by vehicles and garden equipment, household wastewater and sewage, exhaust fumes and dust from heat generators).

The description of nature components should include all these elements of the natural environment that lie

within the zone of impact produced by the planned development (nature valuable areas, species composition of plant communities in the land plot to be developed, the age and health of plants such as trees, etc.). Above all, the objective is to provide information about each species or habitat for which a specific Natura 2000 site has been set up. In an assessments of the impact of an investment on the Natura 2000 network, it is necessary to prepare a field inventory of plant and/or animal species in order to adequately characterize the species of plants and/or animals occurring on a land plot to be developed and within the predicted development impact zone. This obligation has been expressed by the Regional Directorate for Environmental Protection in respect of reports on the impact on Natura 2000 sites even before the Act of 9 February 2016 on providing information about the environment and its protection came into effect and forced prospective investors to attach an inventory of species to assessment reports. As it is impossible to impose an identical scope of nature inventories, since 1 January 2017 it has been mandatory in each case to present the methodology applied to making an inventory. It is recommended that field observations should cover at least the breeding season and take into account the key periods for the protected species (Zalewska, Komosiński, Krupa, Kołodziej & Szydłowska, 2013).

The analysed variants should include: the variant where the planned development is not implemented (known as a zero variant), the most environmentally beneficial variant, the variant preferred by the investor and an alternative rational variant. The variant development

plans presented in a report on the impact on Natura 2000 sites should differ in the way the planned building is to affect the environment. The basic role of the variants is to indicate alternative solutions which will help to protect valuable natural areas to the highest extent possible.

An assessment of the impact of a detached house designed for a family, presented in the report, should refer to the objectives of protecting the Natura 2000 site it will affect, its integrity and cohesion. A Natura 2000 site can be protected to sustain/achieve an adequate number of the objects it protects, e.g. a proper size and density of a population of protected bird species per area unit. Each protected species and habitat in the standard data form (SDF) developed for a given Natura 2000 site is assigned to the category A, B or C (species and habitats which score a D note are not protected in practice, same as species and habitats which are not mentioned in the SDF). Pursuant to the Act of 16 April 2004 on nature conservation, the integrity of a Natura 2000 site should be understood as the cohesion of its structural and functional components which enable the attainment/sustenance of the proper protection of habitats and/or species.

Decisions passed by the European Court of Justice indicate that the term 'integrity' should be treated very broadly. In principle, integrity encompasses all features, factors and processes connected with a given area which may have an influence on the objectives of its being designed a status of a protected area. In an impact assessment, therefore, it is recommended to determine the persistence and reversibility of impacts. The term 'cohesion' also refers to relationships be-

tween Natura 2000 sites, including ecological corridors which ensure the spatial continuity of this system.

Cumulative impacts of planned buildings with effects produced by dispersed buildings, either existing or planned, are a specific type of impacts to be assessed (Wärnbäck & Hilding-Rydevik, 2009; Gerlée & Kaim, 2011). Impacts of detached, single-family residential houses in Natura 2000 areas which can typically accumulate arise from the development of land for construction and consequent depletion of species dwelling or foraging areas. Thus, in particular, such impact should be subjected to an analysis of the accumulation of environmental impacts (which does not exclude the possibility of accumulation of other impacts).

Reports on the impact on Natura 2000 sites are prepared prior to the execution of an investment project, which is why the report authors must make predictions about impacts on nature. It is required from them to describe the methods applied to foresee cumulative impacts, to make ornithological observations, to carry out chiropterological surveys etc.

For protection and conservation of valuable natural areas, it is essential to eliminate or else to minimize the risk of negative impacts of planned buildings, and this question must be discussed in habitat reports.

A report should also conform to formal requirements. It is required to submit three copies of a report, two print-outs and one electronic version, and the contents of the report must comply with the requirements formulated in the Acts of 8 November 2008 and of 9 February 2016 on providing information about the

environment and its protection and the determined scope. More stringent requirements regarding authors of reports on the impact on Natura 2000 sites became effective on 1 January 2017. Now, impact reports can be produced by persons with adequate education and experience (Journal of Laws 2016 item 353, as amended). If a report is drawn by a team, the qualifications specified in the Act of 9 February 2016 on providing information about the environment and its protection should be possessed by at least the team leader. Another required document to be attached to an impact report is the author's statement (or the statement by the team leader if the report is elaborated by a team) confirming that they satisfy the legal requirements concerning the qualifications. This statement must be made under penalty of perjury.

All buildings which are the subject of the reports on the impact on Natura 2000 sites, analysed in this paper, have been planned to be raised in undeveloped land, as detached, one- or two-storey buildings, using technologies which are traditionally used in Poland. The houses differed in the area they covered (from 90 to 150 m²), water supply, heat energy supply and greywater and sewage

discharge systems, as well as detailed location (Fig. 2).

Half of the buildings which were required to have a report on the impact on Natura 2000 sites had been planned by investors to be constructed in a complex of undeveloped land plots, situated within the limits of a Special Protection Area (SPA) for birds, called Lake Dobskie PLB280012 and a Site of Community Importance (SCI), called Północnomazurska Refuge PLH280045. The latter are particularly important for the preservation of the bird species lesser spotted eagle, which forages over vast meadows, pastures and fields in the agricultural landscape.

Six reports on the impact of residential buildings on Natura 200 sites contained a rather brief description of the buildings. What was lacking, for example, was the specification of the monthly water demand or the heating system to be installed in these houses (it was presumed that the houses would have customized sources of heat energy based on proecological solutions), which made it difficult for the report authors to estimate aggregated emission of gases and dusts to the atmosphere. When a report dealt with more than one building, the posi-

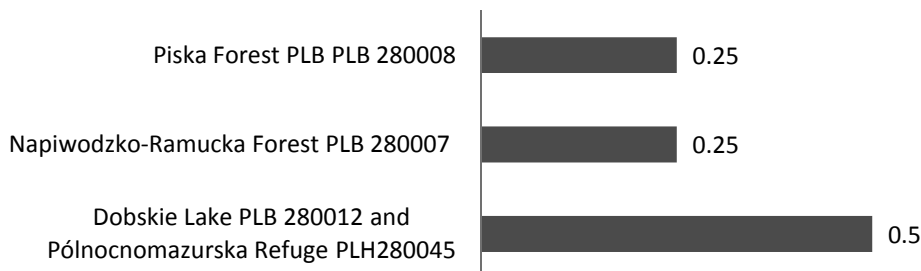


FIGURE 2. Location of the investments – detached residential single-family houses, according to the reports on the impact on Natura 2000 sites, submitted to the Regional Directorate for Environmental Protection in 2015–2017

tioning of all houses on the land plot to be developed, including the information about the plant cover which would be removed or preserved, was not always specified.

Suggested development variants included various sources of water supply (own intake or piped water from a local waterworks system), as well as different grey water and sewage discharge (to a local sewerage system, septic tank, on-site treatment facility). In two of the eight reports, only two variants were described: preferred by the investor and 'zero' one.

Characterization of the protected areas of nature affected by a planned building investment, including the characteristics of protected species (nesting and foraging birds, bats) was the most diligently prepared part of the analysed reports on the impact on Natura 2000 sites. The second most significant element, such as an assessment of predicted impacts of an investment on a specific Natura 2000 site, in seven out of eight cases, only included selected impacts (most often short- and long-term ones, excluding others, i.e. indirect, secondary, constant, transient). Accumulated impacts were this part that the analysed reports dealt with most poorly. In no more than five reports, the prognosis of such impacts was preceded by making a review of issued building decisions or existing spatial plans in neighbouring municipalities.

None of the reports made reference to a specific type of methodology applied to predicting impacts of planned detached residential houses on Natura 2000 sites. Only the applied methods of field research were described. None of the reports showed a significant influence of the planned houses on local envi-

ronmental conditions either, even though five reports contained very extensive lists of actions recommended to minimize the identified weak impacts.

The factor which decides about the quality of an environmental report is an adequately composed team of experts. As many as 37.5% of reports were written by self-employed sole traders, which sets very high requirements to report authors in terms of their knowledge and expertise.

Conclusions

Elaboration of a report on the impact of a planned construction projects on a Natura 2000 site may be mandatory when the building to be erected is suspected of a significant impact on the Natura 2000 network. By being the only document that can analyse all possible impacts of a given investment on Natura 2000 sites, an impact assessment report should written by trustworthy experts with profound knowledge and experience.

The article organizes the scope of reports on the impact of a building investments on the Natura 2000 sites, which has not been precisely defined in the regulations. Reports concerning the construction of single-family residential buildings in the areas of remarkable natural values in the Province of Warmia and Mazury were analyzed in terms of their appropriateness (covering their own key issues and impacts), their adequacy (a substantive analysis of potential impacts) and applicability (providing information necessary for the decision-making process).

None of the analysed reports characterized exhaustively all elements defined in its expected scope of coverage. None was sufficiently detailed to achieve the quality of a scientific report. The assessment of the significance of predicted impacts by residential houses was not based on a solid subject-matter foundation. Rather than implementing specific methodology, descriptions of selected impacts were produced.

An assessment of cumulative effects is an obligatory element of habitat assessment for building investments. The way of making the assessment was characterized by insufficient methodology, and it is the sum of effects from various sources that can determine the nature of changes in the environment. Making the assessment on available methods for their usability in assessment of the impact on the Natura 2000 site is deliberate.

As many as 37.5% of the reports had some missing data, which the authors were requested to supply, and this delayed the issuing of a permit to execute the building investment in question. It seems advisable to improve the quality of reports on the impact on Natura 2000 sites. It would be helpful, too, to work out a checklist for such reports as a tool to assist the verification of submitted documents.

References

- Act of 6 April 2004 on nature conservation (Journal of Laws 2017, item 142).
- Act of 8 November 2008 on providing information about the environment and its protection, public participation in environmental protection and environmental impact assessments (Journal of Laws 2008, No 199, item 1227).
- Act of 9 February 2016 on the publication of a single text of the Act on providing information about the environment and its protection, public participation in environmental protection and environmental impact assessments (Journal of Laws 2016, item 353, as amended).
- Engel, J. (2009). *Natura 2000 w ocenach oddziaływania przedsięwzięć na środowisko* [in Polish]. Warszawa: Ministerstwo Środowiska.
- Gerlée, A. & Kaim, K. (2011). Metody oceny oddziaływań skumulowanych w procedurze OOS – wybrane zagadnienia [in Polish]. *Czasopismo Techniczne Politechniki Krakowskiej*, 17(108), 107-111.
- Gicala, M. & Sobotka, A. (2017). Analiza rozwiązań konstrukcyjno-materiałowych budynków z uwzględnieniem wymogów zrównoważonego rozwoju [in Polish]. *Scientific Review – Engineering and Environmental Sciences*, 26(2), 159-170. doi: 10.22630/PNIKS.2017.26.2.14
- Lai, S. & Zoppi, C. (2017). The Influence of Natura 2000 Sites on Land-Taking Processes at the Regional Level: An Empirical Analysis Concerning Sardinia (Italy). *Sustainability*, 9(2), 259-285. doi: 10.3390/su9020259
- Pchalek, M. & Behnke, M., (2009). *Postępowanie w sprawie oceny oddziaływania na środowisko w prawie polskim i UE* [in Polish]. Warszawa: Wydawnictwo C.H. Beck.
- Rak, A. (2014). *Budowlane przedsięwzięcia inwestycyjne. Środowiskowe uwarunkowania przygotowania i realizacji* [in Polish]. Warszawa: Wydawnictwo Naukowe PWN.
- Rakoczy, B. & Pchalek, M. (2010). *Wybrane problemy prawa ochrony środowiska* [in Polish]. Warszawa: Wydawnictwo Wolters Kluwer Business.
- Śliwa, J. (2015). Raport oddziaływania na środowisko jako dowód w postępowaniu w sprawie oceny oddziaływania na środowisko [in Polish]. *Samorząd Terytorialny*, 9, 23-41.
- Wärnbäck, A. & Hilding-Rydevik, T. (2009). Cumulative effects in Swedish EIA practice – difficulties and obstacles. *Environmental Impact Assessment Review*, 29, 107-115.
- Zalewska, A., Komosiński, K., Krupa, R., Kołodziej, P. & Szydłowska, J. (2013). *Metody wykonywania waloryzacji przyrodniczych. Podręcznik metodyczny i przewodnik do zajęć terenowych* [in Polish]. Olsztyn: Uniwersytet Warmińsko-Mazurski w Olsztynie.

Summary

Analysis of reports on the impact of building investments on Natura 2000 sites in Poland based on own research. The paper presents the results of several analyses of reports on the impact of SFRs on Natura 2000 sites. The reports enumerated are documents which are the basis for the assessment of an undertaking (building project) on valuable natural areas. Legal regulations determine fairly precisely the scope of a report on the impact of an undertaking on the environment, although they are imprecise in regards to how the impact on Natura 2000 sites should be evaluated. The reports are prepared at the request of investors, who are not interested in demonstrating a significant impact of construction works and planned building structures on the condition that the protected features and the integrity of Natura 2000 sites. An incomplete report may foster neglect of environmental threats and be contradictory to the basic aim of the assessment, which is to exclude a possible occurrence of a significant impact of a building on

the Natura 2000 network. The present paper shows analyses of reports in the context of the content required by the Act of 23 November 2008 on the release of information about environment and its protection, participation of the public in the environment, and protection and assessments of the environmental impact. The analysis presented in this article has shown that the reports did not have the characteristics of an expert environmental examination, which is commonplace with respect reports on the environmental impact required in a classical impact assessment. Some reports were incomplete, and the predicted impact on Natura 2000 sites was not based on actual data.

Author's address:

Jolanta Harasymiuk
Uniwersytet Warmińsko-Mazurski w Olsztynie
Wydział Geodezji Inżynierii Przestrzennej
i Budownictwa
Instytut Budownictwa
ul. Jana Heweliusza 4, 10-724 Olsztyn
Poland
e-mail: jolanta.harasymiuk@uwm.edu.pl