

## Should the whole Białowieża Forest be a national park?

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**Abstract.** In Poland, the stormy discussion on the future of the Białowieża Forest has been ongoing already for a long time. The disputes are mostly focused on seeking answers to two questions: how to protect these unique forest ecosystems and whether forest management threatens their naturalness. The discussion has grown stronger after the recent, enormous outbreak of *Ips yppographus* in the Forest.

The Białowieża Forest has been managed for years with no significant negative effect. However, antagonists of foresters blame forest management for degradation of the Forest's ecosystems, which is caused by favoring the economic value of timber expected to be harvested in keeping with the management plans of 3 forest districts located in the Białowieża Forest. At any rate, such assumption, has nothing to do with reality. During this discussion the idea to extend the national park for all the Białowieża Forest revived.

In this paper, we reviewed the economic, social and ecological dimensions which should be taken into consideration before making a decision on extending the Białowieża National Park. It should be underlined that the Park's area is already under the strict protection; furthermore, 2/3 of the area of neighboring managed forests are under legal protection (the nature reserves, NATURA 2000, the so-called reference forests, etc.). All things considered, we cannot find any reasonable purpose (ecological, financial or social) for expanding the Park's area from 10 500 ha (present status) to 62 500 ha (after extension). Also, we are convinced that sustainable forest management conducted in managed parts of the Białowieża Forest, which comprises the fulfillment of all forest functions and services, should not be perceived as a significant threat to naturalness of the Forest's ecosystems.

**Keywords:** Białowieża Forest; Białowieża National Park; nature conservation; forest ecosystem conservation; sustainable forest management

### 1. Introduction

For a long time, there has been an ardent discussion in various media about the future of the Białowieża Forest, its protection and its forest management. This is occurring in the context of a lengthy infestation of the European spruce bark beetle, which has been decimating the spruce stands of the Forest. This discussion does not always relate to the merits of the case, but is often emotional, which does not serve the parties of the dispute, i.e. foresters and naturalists or environmentalists, in coming to an agreement. One thing seems certain: the Forest cannot be ruled by both the foresters and their antagonists. On one hand, foresters, the vast majority of whom have completed

higher education in the scientific discipline of forestry ([https://pl.wikipedia.org/wiki/Documentation\\_and\\_in\\_the\\_Public\\_of\\_Polish](https://pl.wikipedia.org/wiki/Documentation_and_in_the_Public_of_Polish)), wish to actively protect this heritage by using scientifically supported methods applied in sustainable forest management. On the other hand, the vast majority of foresters' antagonists, pointing to the absolute necessity of ceasing any human intervention in this unique area, refer only to the negative impact of such activities. So, are foresters who are skilled in using the natural resources of the forest a real threat to them? Is the outcome of this always unequivocally negative? Should areas such as the Białowieża Forest be left alone in the already altered - and still changing - environmental conditions influenced by humans? And finally, should we abandon the achievements of

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forest science in the protection of forest ecosystems with their simultaneous moderate use for the benefit of society as a whole? Examples of positive interactions between “man – nature” (forest) can be extensively quoted. The very fact that foresters recommended the establishment of the Białowieża National Park indicates that it is possible to cooperate in protecting these ecosystems. It is worth remembering that, among others, foresters influenced the shape of today’s forests in Białowieża, and as a result of their activities, Białowieża Forest was listed as a UNESCO World Heritage Site in 2014. Thanks, among others, to their work, the international community can admire a forest that no longer exists in many European countries. Many forest studies, especially long-term ones, describing the dynamics of forest ecosystems found outside of direct human influence, may contain valuable guidelines that can be used to protect forests with unique characteristics (e.g. Andrzejczyk, Brzeziecki 1995, Bernadzki et al. Bielak 2009; Drozdowski et al. 2010; Brzeziecki et al. 2016; Brzeziecki et al. 2017). Some of the foresters’ antagonists are clearly fearful that foresters will start looking at the trees of the Forest through the prism of the raw wood that can be obtained and sold, which would undoubtedly threaten the Forest’s sustainability. Such fears, however, are not confirmed in reality. The forests of Białowieża Forest are not considered “a coveted prize” by foresters in an economic sense. Forest management in this area has been operating for a long time, and the quality of managing this business has been verified, among others, by having the Białowieża Forest placed on the aforementioned UNESCO List of World Heritage Sites.

## 2. The “Białowieża Forest” National Park – a realistic way to the protection of a unique cultural heritage?

The postulate of extending the boundaries of the Białowieża National Park to the entire Polish part of the Białowieża Forest resurfaced during the previously mentioned lively discussion of needs, aims and methods of limiting the scope and impact of the European spruce bark beetle *Ips typographus* (L.) infestation in the Białowieża Forest (Wesołowski et al. 2016).

One can undoubtedly state that generally universal agreement prevails about the uniqueness of the Białowieża Forest on a national and European scale despite all the negative emotions. Both forest managers and naturalists emphasize the uniqueness of this area. What differs, however, is the vision of the Białowieża Forest’s future, more precisely, the answer to the question of what kind of the Białowieża Forest do we want to pass on to future generations.

A synthesis of the Forest’s natural richness (biodiversity) was presented in the previous issue of “Forest Research Papers” (Kujawa et al., 2016 and the literature cited therein). In principle, no one questions the need for special protection

of the Białowieża Forest. Differences of opinion arise when discussing how to achieve this. Currently, the Białowieża Forest’s area has various, often overlapping forms of protection, subject to different legal regimes and different decision-makers. The clearest situation is with the Białowieża National Park (about 10,500 ha), because in 2014, the Minister of the Environment established a BNP protection plan (2014 regulation). The entire Polish part of the Białowieża Forest is a Natura 2000 site, from the perspective of both The Birds Directive and The Habitats Directive, which treat it as an integrated area for the special protection of birds and habitats (PLC 2004). The Natura 2000 Environmental Protection Plan was approved by the Regional Director for Environmental Protection in Białystok (Order of 2015).

The entire Białowieża Forest has been a Biosphere Reserve since 2005. From 2014, all of the Białowieża Forest (both within Poland and Belarus) is on UNESCO’s “World Heritage List”. Simultaneously, the Forest has been a Protected Landscape Area since 2005 by Regulation of the Podlaskie Provincial Governor (Regulation of 2005). In 1994, the State Forests National Forest Holding established the Forest Promotional Complex (LKP) (total of 39,500 ha of commercial forests and 12,000 ha of reserves) in the area of three forest districts: Białowieża, Browsk and Hajnówka. The economic and protection program for the LKP is established by the Regional Directorate of State Forests (RDSF 2011). In the area managed by the forest inspectorates, there are currently about 12,000 ha of reserves, where activities ensuring protection are determined by the Regional Directorate for Environmental Protection.

The different competencies of various administrative bodies often cross over each other in the same area, which does not facilitate the effective protection of this unique place.

Recognizing the need to simplify the management of the Polish part of the Białowieża Forest, discussions should be conducted about the argument that having a national park in the entire area does not seem to be, at least for now, the best solution. In our opinion, all aspects must be taken into account, both economic ones (often overlooked by foresters’ antagonists) as well as the social and natural aspects proposed in the solutions of some of the foresters’ antagonists.

## 3. Economic considerations

Nature protection costs a lot of money. The national park, despite its change in status from a budgetary unit to a state legal entity, is still subsidized by the state budget, i.e. the taxes of citizens. The budget for 2016 for all 23 existing national parks was estimated at 86 million PLN. Of this amount, over 5 million PLN was allocated to the Białowieża National Park. Depending on the park, the budget subsidy covers from about 20% to nearly 100% of costs. At present,

national parks have many opportunities to benefit from funding from their national and provincial environmental and water management funds, the Forest Fund (65 million PLN in 2016), regional programs, foreign grants and their own revenue (ticket sales, timber sales, etc.). All these sources of funding (outside of the state budget) are, however, discretionary, incidental and unreliable.

The proposal to increase the area of Białowieża National Park from the current 10,500 to 62,500 ha would mean an increase in the budget subsidy from the current 5 million to 30 million PLN, which is one-third of the funds allocated to all national parks in Poland (the amount is an indicative value, calculated by multiplying the current subsidy by the 6-scale Park expansion). The state budget does not have such funds, and will probably not have them in the foreseeable future.

In 2016, the State Forests allocated about 22.5 million PLN to finance the activities of the three forest divisions in the Białowieża Forest from its Forest Fund, which consists of contributions from the profits of forest districts from all over Poland. The amount of payments from the Forest Fund has steadily increased in recent years. If the national park were to expand, this vast stream of resources designed to nature protection will certainly become limited. Just placing a sign saying “National Park” will not solve this problem.

The average wage of national park employees is about half the average wage of foresters in the State Forests National Forest Holding. Given this situation, it is difficult to expect enthusiasm among local foresters (Niedziałkowski 2016) who would become employees of the national park should an application for extending the BNP to the entire area of the Białowieża Forest receive positive consideration. No one should- blame them for this.

#### 4. Social considerations

In the case of such a valuable natural resource as the Białowieża Forest, decisions cannot be guided solely on the opinions of local governments. Article 10 § 2 of the Act on Nature Conservation explicitly states that a project for the enlargement of a national park must secure the agreement of the governing body of local government. Knowing the attitude of the local population to the proposal of enlarging the park, it is fairly certain that under the present legal status quo, this would be impossible.

About 45,000 people live in Hajnówka County, half of them are rural residents, to a large extent with livelihoods related to the forest and forestry sector. The naturalists planning to include the entire Białowieża Forest in the national park, unfortunately, do not often take into account the problems of the local community. It is very difficult to overcome the bad opinion about the Białowieża National Park of the local

population developed between 1947–1996, when virtually all of it was under strict protection. A stereotype was formed in the consciousness of the inhabitants – that the national park was something closed, fenced off, protected by armed guards who imposed fines for attempts to enter the area, etc. Expanding the Białowieża National Park to 10,502 ha in 1996 was possible, among others, under the condition of lifting some of the bans imposed at other national parks. Despite the 20 years that have passed since the park was expanded, local people are still afraid that their use of the forest will be more strictly restricted should it be enlarged. The managed forests are more accessible to the public than the forests located in the national park, where tourist traffic is strictly channeled (hiking trails). Attempts to reach compromise solutions are included the proposed law of 2006, prepared by the the chancellery of President Lech Kaczyński (proposals of laws of 2006).

#### 5. Considerations related to nature conservation

The synthesis of modern views on nature conservation is a consequence of the Convention on Biodiversity, adopted at the 1992 Earth Summit in Rio de Janeiro and ratified by Poland in 1995. Everyone is convinced that we need to protect biodiversity. No one has determined, however, how this should be done. The discussion on this topic is still ongoing and it is difficult to expect that it will conclude with a clear indication of how to proceed. Nature cannot be described with a single mathematical equation. In the lively (emotional) discussion about how (the methods) to protect the Białowieża Forest, one often forgets that it is a living organism, growing under changing environmental conditions, under the influence of direct (forest management) and indirect (environmental pollution) anthropogenic pressure.

In the area of the Białowieża Forest outside of the National Park, there are numerous constraints to its use, leading to the exclusion of 2/3 of its area to forest management. Nearly 12,000 ha are nature reserves formally located in the State Forests National Forest Holding. All protective activities carried out must be approved by the Regional Directorate for Environmental Protection. In 2016, the Director General of the State Forests ordered the establishment of a reference area of over 5,500 ha. Nearly 12,000 ha of over 100-year-old tree stands were excluded from logging according to the so-called “Wesołowski’s criterion”, unknown in forest science and uncritically imposed on foresters. According to this definition, a 100-year-old forest is a forest where 10% of trees are 100 years of age or older. Adopting such a definition by the governing minister of the environment resulted in the exclusion of about 70% of the area from the so-called “actively protected” area, replaced by the so-called ecological processes of passive protection (conservation). About 3,000

ha are protection zones around the nesting sites of birds. Additionally, forest stands on wetland and moist habitats were excluded from forest management. An economic and protection program has been developed (RDSF 2011) for all of this area, comprising the Forest Promotional Complex.

The authors present the view that an essential condition for safely performing forest management activities is to have forests excluded from direct human intervention. In the event of the adverse effects of management, errors can be corrected based on natural models. Currently, in the case of the Białowieża Forest, this condition is maintained.

In the “managed” part of the Białowieża Forest, there are examples of very carefully conducted forest management, with an awareness of the uniqueness of this area. It should also be remembered that not every part of Białowieża Forest deserves the same form of protection as promoted by the antagonists of the foresters. There are fragments that require some human intervention to restore their original character. Is it wrong for foresters to use the achievements of forest science to influence the development of the forest to ensure its sustainability as well as its biodiversity? It is not without reason that silviculture, one of the basic forest science, is referred to as “applied forest ecology” (Smith et al. 1997; O’Hara 2016).

Szwagrzyk (2010) points out that two stages can be distinguished in nature conservation: the first consists of protecting an object from destruction or extinction, and the second is aimed at consolidating the success of the first stage, and thus ensuring the sustainability of the protected object. Success in the first stage does not mean success in the second stage. There are many examples (e.g. strict reserves to protect heliophilous oak forests *Potentillo albae* – *Quercetum* or numerous rookeries) when the protected object has ceased to exist for various reasons, which also occurs because the activities leading to the second stage have been abandoned. Ensuring success in this second stage is a critical issue, among others, for protected forest areas, which most often consist of small areas. In the case of Białowieża Forest, the first stage of nature protection was fulfilled. However, achieving success in the second stage is problematic. This success seems particularly difficult to achieve under conditions of ongoing environmental changes due to the impact of human activities, which to a large extent are indirect (pollution, climate change, reduction of natural disturbances, etc.).

## 6. Conclusion

The ongoing dispute over the future of Białowieża Forest has all the hallmarks of a conflict of values. When asked why it should be protected, the most frequent answer is - for people, to make it possible to experience wild nature, for future generations, so that we can marvel at a natural forest

or one with the features of a natural forest. These are very common anthropocentric sentiments, which situate people at the center, to whom the entire environment is subordinated. The UN Agenda XXI and the Polish Nature Conservation Act were both prepared from this anthropocentric position. An answer to the same question could also be that the Białowieża Forest should be protected against humans, that humans and their activities are nature’s greatest threats. This is an expression of so-called ecocentrism or biocentrism (Skolimowski 1991, 1993). Among the answers could also be that the Białowieża Forest is protected because it exists, for its own self, as an innate, autotelic value. This is an expression of the so-called „deep ecology” (Naess 1992; Devall, Sessions 1994).

The outlined approaches to protecting the Białowieża Forest, or more broadly, to protect nature, are very difficult to reconcile. As a rule, one of them dominates for a period, and the others contest it, but the situation could change at any moment.

It seems that, in terms of forest ecosystems, the idea of maximizing (although never fully) the postulates of these three approaches is the concept of multifunctional, sustainable and balanced forest management based on the foundation of ecology. Observations to date of the impact of this type of management on forest ecosystems indicate that it adequately protects biodiversity, and that this is also the goal of contemporary nature conservation. This is evidenced by, among others, having the managed forests of Białowieża Forest included as both a Biosphere Reserve and on the “UNESCO World Heritage List” in 2014.

The authors express the opinion that at present, there are no legal, economic or social conditions, nor are there justifications relating to nature, to have the entire Białowieża Forest be included in the national park.

## Conflicts of interest

The authors declare no potential conflicts of interest.

## References

- Andrzejczyk T., Brzeziecki B. 1995. The structure and dynamics of old-growth *Pinus sylvestris* (L.) stands in the Wigry National Park, north-eastern Poland. *Vegetatio* 117: 81–94. DOI 10.1007/BF00033261.
- Bernadzki E., Bolibok L., Brzeziecki B., Zajączkowski J., Żybura H. 1998. Compositional dynamics of natural forests in the Białowieża National Park, northeastern Poland. *Journal of Vegetation Science* 9: 229–238. DOI 10.2307/3237122.
- Blicharska M., Bobiec A., Bohdan A., Buchholz L., Chylarecki P., Engel J., Falkowski M., Gutowski J.M., Jaroszewicz B., Kepel A., Kujawa A., Latałowa M., Mikusiński G., Mysłajek R.W., Nowak S., Orczewska A., Skubała P., Stepaniuk M., Walan-

- kiewicz W., Wesołowski T., Zub K. 2016. Spór o przyszłość Puszczy Białowieskiej. *Las Polski* 11: 8–9.
- Brzeziecki B., Pommerening A., Miścicki S., Drozdowski S., Żybura H. 2016. A common lack of the demographic equilibrium among tree species in Białowieża National Park (NE Poland): evidence from long-term plots. *Journal of Vegetation Science* 27: 460–469. DOI 10/1111/jvs.12369.
- Brzeziecki B., Drozdowski S., Żybura H., Bolibok L., Bielak K., Zajączkowski J. 2017. Managing for naturalness alone is not an effective way to preserve all valuable natural features of the Białowieża Forest – a reply to Jaroszewicz et. al. *Journal of Vegetation Science* 28: 223–231. DOI 10.1111/jvs.12504.
- BULiGL 2015. Ekspertyza na potrzeby aneksu do Planu Urządzenia Lasu Nadleśnictwa Białowieża zawierająca ocenę stanu lasu oraz określająca zakres niezbędnych działań gospodarczo-ochronnych dla zachowania drzewostanów świerkowych. Biuro Urządzania Lasu i Geodezji Leśnej Oddział w Białymstoku.
- Devall B., Sessions B. 1995. Ekologia głęboka. Żyć w przekonaniu, iż Natura coś znaczy. Wydawnictwo Pusty Obłok. Warszawa. ISBN 83-85041-58-3.
- Drozdowski S., Brzeziecki B., Żybura H., Żybura B., Gawron L., Buraczyk W., Zajączkowski J., Bolibok L., Szeligowski H., Bielak K., Widawska Z. 2012. Wieloletnia dynamika starodrzewów w zagospodarowanej części Puszczy Białowieskiej: gatunki ekspansywne i ustępujące. *Sylwan* 156(9): 663–671.
- Gutowski J.M., Jaroszewicz B. (red.). 2001. Katalog fauny Puszczy Białowieskiej. Instytut Badawczy Leśnictwa, Warszawa, 403 s. ISBN 83-87647-22-5.
- Kujawa A., Orczewska A., Falkowski M., Blicharska M., Bohdan A., Buchholz L., Chylarecki P., Gutowski J.M., Latałowa M., Mysłajek R.W., Nowak S., Walankiewicz W., Zalewska A. 2016. Puszcza Białowieska – obiekt światowego dziedzictwa UNESCO – priorytety ochronne. *Leśne Prace Badawcze* 77(4): 302–323. DOI 10.1515/frp-2016-0032.
- Naess A. 1992. Rozmowy. Zeszyty Edukacji Ekologicznej „Pracownicy na rzecz Wszystkich Istot”, zeszyt 2. Bielsko-Biała.
- Niedziałkowski K. 2016. Dlaczego leśnicy nie chcą rozszerzenia Białowieskiego Parku Narodowego? Motywacja pracowników Państwowego Gospodarstwa Leśnego Lasy Państwowe w perspektywie aktorów społecznych zaangażowanych w dyskusję wokół Puszczy Białowieskiej. *Leśne Prace Badawcze* 77 (4): 358-370. DOI: 10.1515/frp-2016-0037
- O'Hara K.L. 2016. What is close-to-nature silviculture in a changing world. *Forestry* 89: 1–6. DOI 10.1093/forestry/cpv043.
- Paluch R., Bielak K. 2009. Przebudowa drzewostanów z wykorzystaniem naturalnych procesów sukcesyjnych w Puszczy Białowieskiej. *Leśne Prace Badawcze* 70: 339–354. DOI 10.2478/v10111-009-0032-z.
- Projekty ustaw 2006. Puszcza Białowieska. Dziedzictwo przyrodnicze i kulturowe. Projekty ustaw. [https://www.mos.gov.pl/fileadmin/user\\_upload/mos/Puszcza\\_Bialowieska/Program\\_dzialan\\_na\\_rzecz\\_Puszczy\\_Bialowieskiej/USTAWA\\_BPN\\_projekt\\_prezydencki.pdf](https://www.mos.gov.pl/fileadmin/user_upload/mos/Puszcza_Bialowieska/Program_dzialan_na_rzecz_Puszczy_Bialowieskiej/USTAWA_BPN_projekt_prezydencki.pdf). [25.05.2016].
- RDLP 2011. Program gospodarczo-ochronny Leśnego Kompleksu Promocyjnego „Puszcza Białowieska” na lata 2012–2021. Regionalna Dyrekcja Lasów Państwowych, Białystok.
- Rozporządzenie 2005. Rozporządzenie Wojewody Podlaskiego Nr 7/05 z dnia 25 lutego 2005r. w sprawie Obszaru Chronionego Krajobrazu „Puszcza Białowieska”. Dz.U. Województwa Podlaskiego 54, poz. 720.
- Rozporządzenie 2014b. Rozporządzenie Ministra Środowiska z dnia 7 listopada 2014 r. w sprawie ustanowienia planu ochrony dla Białowieskiego Parku Narodowego. Dz.U. 2014, poz. 1735.
- Skolimowski H. 1991. Ocalić Ziemię. Wydawnictwo Krzysztofa Staszewskiego. Warszawa. ISBN 83-900403-0-1.
- Skolimowski H. 1992. Filozofia żyjąca. Eko-filozofia jako drzewo życia. Wydawnictwo Pusty Obłok. Warszawa. ISBN 83-85041-42-7.
- Smith D.M., Larson B.C., Kelty M.J., Ashton A.M.S. 1997. Practice of silviculture. Applied forest ecology. Wiley & Sons, 560 s. ISBN 978-0471109419.
- Szwagrzyk J. 2010. Dylematy ochrony ekosystemów leśnych w krajobrazie przekształconym przez człowieka. *Prace i Materiały Muzeum im. Prof. Władysława Szafera* 20: 75–84.
- Wesołowski T., Kujawa A., Bobiec A., Bohdan A., Buchholz L., Chylarecki P., Engel J., Falkowski M., Gutowski J.M., Jaroszewicz B., Nowak S., Orczewska A., Mysłajek R.W., Walankiewicz W. 2016. Spór o przyszłość Puszczy Białowieskiej: mity i fakty. Głos w dyskusji. *Chrońmy Przyrodę Ojczystą* 72(2): 83–99.
- Zarządzenie 1994. Zarządzenie nr 30 Dyrektora Generalnego Lasów Państwowych z dnia 19 grudnia 1994 r. w sprawie Leśnych Kompleksów Promocyjnych (LKP). ZO-72-15/94.
- Zarządzenie 2015. Zarządzenie Regionalnego Dyrektora Ochrony Środowiska w Białymstoku z dnia 6 listopada 2015 r. sprawie ustanowienia planu zadań ochronnych dla obszaru Natura 2000 Puszcza Białowieska PL C200004. Dziennik Urzędowy Województwa Podlaskiego, poz. 3600, Białystok.

## Authors' contributions

J.Z., J.Sz. – concept of the paper and writing of the text.