

## URBAN LANDSCAPE AND GREENERY PROTECTION

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**Abstract.** Human being has the most significant influence on the landscape, especially with laws created by him and for their usage. In Poland, in January 2017, the bill, which allowed nearly unlimited cutting of trees that are not intended for economic activity on private plots of land, came into force. The main argument for discarding high greenery protection, was, above all, giving owners full, unrestricted use of their property. With this line of thinking, it could be assumed that all building restrictions are unnecessary. In short period of time many environmentally valuable, age-old trees ceased to exist, because they were cut down by property owners. In many places this process changed streets and urban landscape. Until the end of 2016, it was mandatory to have a permit from municipality to cut a tree, no matter where it grew. This permit also defined what was needed to be done in exchange for removal of high greenery. In most cases those were either specific amount of money that needed to be paid on municipality account, or suitable number of new trees of native value that needed to be planted. It was a common practice that cutting down one or two trees required planting several new ones. Man-made laws often have irreversible consequences, in this case, several dozen or even several hundred years old trees ceased to exist.

**Key words:** greenery protection, landscape devastation, Natura 2000, role of greenery, trees cutting down.

### 1. Introduction

The investigation was conducted in the form of our own observations, field studies, bibliographical analysis which includes legal acts, and photographic analysis.

From the theoretical perspective the urban landscape is the combination of two factors – nature and human being. In practice it is primarily the man's work. Nature has beautifully shaped our lands, changing from valleys to hills, and from hills to mountains of different heights. The most beautiful views are those where the landscape is variable with having several elements of urban composition. One of the most interesting is a wide foreground, and then a panoramic view consisting of greenery and buildings. The landscape with diverse greenery is sure to be an attractive one, and the one which includes buildings or monumental sculptures has an amazing attraction for the human eye.

The dominant is the recognizable point of the landscape, and it is usually built by people but located in elevations formed by nature. Greenery, especially high greenery, has a significant impact on the landscape composition. In the structure of the urban landscape we differentiate the following most important constituents: the level of land, i.e. the greenery, especially high greenery; and the level of man made objects of different types (understood as buildings and elements of land development) (Switalska A. 2017).

Even people who are well-educated and have the awareness of benefits which nature offer us choose the financial profit instead of making the necessary steps to protect nature. Until the end of 2016, to cut down a tree, regardless its location and property, a permit from municipality was necessary. This permit on cutting down was mostly connected with the financial revenue or the demand to plant new trees of native

species in turn of the removal of high green trees. In most cases it was a fixed amount of money to be put into a municipality account, or a person had to plant a sufficient number of new trees. Cutting down one or several trees has usually resulted in need to plant dozen or so or several dozen of trees. Depending on the species, size of the trunk and the age of a tree, amount of money paid to a municipality could reach even several hundred thousand and even millions of Polish zlotys. There were also situations in which no agreement was reached in cutting trees. (USTAWA, 2004)

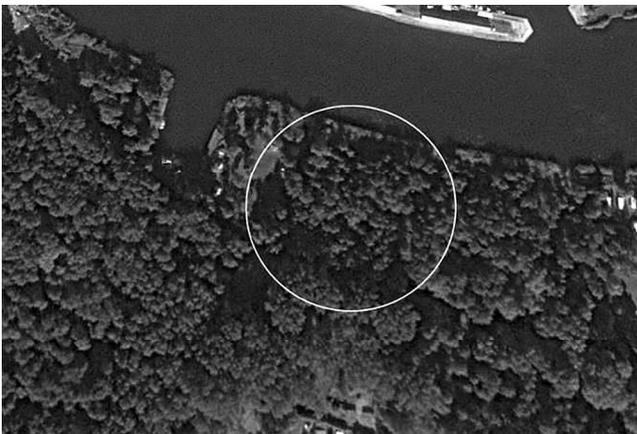


**Fig. 1a.** The illustration shows a foreground with a further panorama, The Joshua Tree National Park, United States.  
Photo by Alicja Świtalska



**Fig. 1b.** The illustration shows foreground with a further panorama, Ukraine.  
Photo by the author

One part of the study covers the selected area (Fig. 2, 3), and it is conducted on the basis of extensive field analysis. It was elaborated over several years and is related to the selected real estate and legal conditions. The basis was the study of the places where the landscape was altered by thoughtless but agreed by the law clearance of trees. The aim of cutting down the high greening was primarily to receive profit, and not the issues of threat to the environment or care for space. This kind of trees clearance would be acceptable in case it concerns safety of people or introduction of any kind of public space, however it was not the case.



**Fig. 2.** Discussed areas are circled. On the left the illustration shows the area in 2013, and on the right, it is the same area in 2017. Source: <https://earth.google.com/web/> edited by the author

## 2. The illustration of disturbed/altered panorama

One of many examples of the devastation of greenery and at the same time landscape in Poland after January 1, 2017, is an area protected by the *Natura 2000*.

*Natura 2000* is a network of core breeding and resting sites for rare and threatened species, and some rare natural habitat types which are protected in their own right. It stretches across all 28 EU countries, both on land and at sea. The aim of the network is to ensure the long-term survival of Europe's most valuable and threatened species and habitats, listed under both the *Birds Directive* and the *Habitats Directive* (Natura, 2000).

European Union efforts to protect plants and animals on a wide scale are commendable because they affect sustainable development. The positive influence which it will have for future generations is the protected greenery, and trees in particular, which can serve for many years ahead.

*We aim to protect all animal and plant species facing particular threats in Europe. The world's largest network of protected areas, it offers a haven to Europe's most valuable and threatened species and habitats (Natura, 2000).*

An example of the landscape devastation caused by cutting down trees which also led to bird habitats liquidation, was possible by adopting a bill which enables such actions. It has become possible because of putting forward a corresponding amendment to the Nature Conservation Act and the Forest Act, on 16 December 2016, which states that the trees or shrubs which grow on a private property owned by natural persons and are removed on non-business purposes can be removed without a permit (USTAWA, 2016). In many private plots trees were cut down, and later these spots were transform into business places. The main reason for cutting down trees in the private plots is to adjust this land to the commercial purposes.

The area shown in Fig. 3 is the example of devastation of high greenery, caused by the adoption of irresponsible law. How the area looked in 2013 shows the top picture of Fig. 3. After the clearance of trees that took place in 2017, the view is shown in Fig. 3 below. The trees formed a harmonic landscape which influenced the microclimate and gave the survival of bird habitats.



**Fig. 3.** The panorama of the *Natura 2000* protected area. The top photo shows the 2011 look, the bottom illustration shows the 2017 image after the trees are cut. The square indicates where the landscape has changed. Source: the author

The law that should protect nature in fact has destroyed it. Landscape devastation, especially in the tourist town, is incorrect and unsound as might highly affect the reception of tourists in this place.

New legal regulations have aroused the number of tree cuttings especially in areas where it was not allowed, as soon as people who had been trying to get permit to cut trees for years learned about the new regulation came into force, they immediately started to clear the trees. Only few of them asked whether the trees on their plots could be removed or if there are other legal acts which limit or ban such removal. There are so many legal regulations that people do not know their force. However, there are institutions where everyone can apply for information and find out whether it is allowed to cut down a tree on their plot. Mass media reports that it is allowed to cut down trees on private plots without any kind of permit has caused an extensive destruction of trees in Poland since January, 2017. The institution called *General Directorate for Environmental Protection* provides information about the legal details and all regulations in cutting down the trees. We found

out there that in this area there is a forest (the law does not apply to forests) and the same area is covered by the programme *Natura 2000*. In the opinion of *General Directorate for Environmental Protection* the area where the spot is located the destroyed trees grew in the forest, and the forest clearance may potentially have significantly negative impact on the environment. Thus, it was necessary to obtain a permit for removal of trees (Kamieskie.info, 2017).

The adopted law allows to cut down the trees on a private property, and has led to its thoughtless increase as people do not check whether the area has a local plan of spatial development, which prohibits the removal of trees or is protected by *Natura 2000*. It should be developed in the inspection of land use conditions and directions of municipality.



Fig. 4. The studied area in which the trees were cut down. Source: the author

### 3. Role of greenery in a city (Czekiel-Świtalska E., 2010)

Apart of shaping the landscape and typical nature values, greenery has many other useful functions. The social function of greenery is explained in terms of rest, active and passive recreation. Walking, jogging and cycling done in green areas improves health and overall well-being of a person. Playgrounds which are designed together with the sets of green plantings also promote social integration among children and parents. The important role of greenery is in its educational and ecological function. Dendrological parks, extent monuments of nature and variety of green species helps to enforce those roles. At a time when a large number of various institutions is trying to improve the health of people, greenery has an immense factor which promotes it.

The aesthetics role of greenery in urban areas has to be highly appreciate as well. It enriches the landscape, adds charm to the streets and city squares, shapes walking trails and resting places. Certain species of plants, properly planted or shaped form beautiful compositions. The changing colours of greenery at different seasons of the year affect the diverse perception of the urban space.

Greenery also performs functions of flood protection, fire protection and wind protection. Thanks to the orderly greenery, the city has its own character. People living in such cities have daily contact with nature and its positive influence. The benefits of maintaining, cultivating and planting greenery result in the increase of cities attractiveness, both for residents and tourists.

Greenery in the city also performs other important functions as helps to improve living conditions. Trees protect human organisms from overheating on hot days. Greenery can affect the sense of security by isolating the sidewalks from the window view of the apartments.

*It has been believed for over a millennium in Europe and Asia that greenery has a positive influence on health and health-recovery (...). Presently, scientific evidence supports the inclusion of greenery (...), which assists in the relieving of stress, the calming (...) and generally providing a welcome escape from the monotony (...) environment (...) improve (...) physical and mental conditions (Switalska A. 2014).*

Greenery performs the health care function as the air is purified from dust, noise suppression, exhaust and oxygen replenishment. Further, the green colour of leaves has a positive effect on the eyesight and relaxation. In addition to this, lots of plants emit essential oils which have medical properties; numerous species of trees produce aerosol compounds.

*One of the main components of a city, which play a huge role in its microclimate, are the city's green spaces. The author of this paper suggests an increase of green areas, a re-building of a city through the use of greenery on the walls of buildings. Various methods are suggested, such as the more traditional ivy/vine-like plants, as well as the so-called 'live walls' and vertical gardens. Advantages and certain disadvantages of such green spaces and solutions have been investigated. Additionally, various functions with the focus on the aesthetic and psychological effects of green areas on the residents and their well-being are presented in the paper (Bartnicka M. et.al. 2009, p. 17).*

The biologically active areas, and in particular those enriched with trees, decrease the level of flooding and the threat of flooding the buildings. In case of heavy rainfalls or quick/rapid snow melting, the sewage systems are often unable to collect large amounts of water. Areas with pervious surface and trees in large amount absorb water excess, which prevents buildings from flooding. The flooding of buildings might often cause dampness of the dwelling.



**Fot. 5.** The top picture illustrates how lots of areas look in Poland after the law has come into force. Source: the author. The bottom picture shows how the same place looked before the trees were cut down. Source: Google Earth Pro

#### 4. Conclusions

The article is underpinned by the thorough analysis of selected publications, legal acts and observation of space. The study has also used individual observation regarding the effects of the law coming into force, the task of which should be to protect nature but instead it allows its devastation.

In defense of this legal solutions, it is declared that about 90–95 % (Ministerstwo Środowiska, 2017) of permits for cutting down a tree (these data are not covered by the study, it is only announced by the Ministry of the Environment) was favorably considered. However, it does not mention that some of the applicants having had to pay a lot, resigned from cutting down a tree or trees. Consequently, it does not trace the number of trees which should have been planted instead of the cut ones. The number of them could have reach an enormous figure. In previous times, a significant part of destroyed trees was compensated by new putting plantings, usually there were much more new trees planted than the number of trees being removed.

The argument which has aroused is that an owner should have the right to change his area of ground freely. It is similar to the thought that anyone could build on their own property want they want and in the way they want – in that case it could be called freedom for their own property without any care of the public space which might look like a great chaos.

The protection of nature and hence the landscape in many countries begins at the governmental level, and continues at the educational and social level. The process of combined efforts results in broadening the consciousness of various social and age groups.

The irresponsible approach to the protection of nature in Poland in 2017 has led to the removal of thousands of trees, which have a positive impact on human functioning, enrich and even create a landscape. The government actions on the “protection” of the environment has led to the destruction of a forest which is added the UNESCO heritage list, namely Białowieża Forest. Organizations and scientists from Poland and other countries seek the ways how to protect this invaluable natural habitat, but have not found the solution yet. The forest clearance in this wilderness area has not been stopped.

The reason for this devastation is the attack of the European spruce bark beetle and that is why even the old trees in that location need to be cut down. This situation concerns a significant part of the unique terrain. Some established scientists question the need of the artificially reduction of the gradation of the European spruce bark beetle, and also stress that the actions taken in the Białowieża Forest will not stop its invasion but will harm the biodiversity of the Forest and the sustainability of its natural processes. The management of such a unique and complex ecosystem as the Białowieża Forest should consider the main fundamental facts of natural sciences (Bącela-Spychalska K. et.al. 2017).

*The greenery (...) has decorative, insulation, atmosphere purification, recreational, protective, noise preventing, aesthetic, educational, healthy and sport functions. It plays a significant role in urban layout of the city and positively influences its landscape (Czekiel-Świtalska E. 2010, p. 165).*

People behaviour, especially of authorities, must be balanced and geared towards preserving the nature heritage, not destroying, for example, centuries-old trees. Destruction is very straightforward and it can be done quickly, however regeneration takes many years, even hundreds of years, and often it is impossible to achieve previous condition of natural area.

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## МІСЬКИЙ ЛАНДШАФТ ТА ОХОРОНА ЗЕЛЕНИХ НАСАДЖЕНЬ

**Анотація.** Статтю присвячено дослідженню законодавства у сфері охорони природного ландшафту і, зокрема озеленення, в Польщі. Описуються реалії та наслідки прийнятих рішень стосовно збереження та відновлення історичних зелених насаджень у містах.

Досвід Польщі показує, що людина найбільше впливає на ландшафт, особливо завдяки створеним законам та їх використанню. У січні 2017 року в Польщі набув чинності закон, який дозволив практично необмежене вирізання дерев на приватних ділянках, не призначених для господарської діяльності. Головним аргументом відмови від охорони високих зелених насаджень було, перш за все, надання власникам повного, необмеженого використання їхньої власності. За короткий проміжок часу багато екологічно цінних, вікових дерев перестали існувати, оскільки їх знищили власники майна. У багатьох місцях цей процес змінив вулиці та міський ландшафт. До кінця 2016 року, щоб вирізати дерево, незалежно від того, де воно вирросло, було обов'язковим мати дозвіл від муніципалітету. Цей дозвіл також визначав, що потрібно було б зробити в обмін на вилучення високої зелені. Здебільшого падків це були або певна сума грошей, яку необхідно було виплатити на рахунок муніципалітету, або відповідна кількість нових дерев аналогічної вартості, які необхідно було посадити. Було звичайно прийнятим, що вирізання одного-двох дерев потребувало посадки декількох нових.

Дослідження охоплювали вибрані території, де було застосовано т. зв. польові аналізи. Згаданий аналіз проводився протягом кількох років і пов'язаний з обраними ділянками нерухомості та правовими умовами. Основою було вивчення місць, де ландшафт був змінений бездумним, але законним очищенням від дерев. Метою руйнування високого озеленення був, перш за все, прибуток, а не, наприклад, загроза або догляд за простором. Цей вид очищення від дерев буде зрозумілим у разі безпеки людей або появи громадського простору, але не в цьому випадку.

Аргумент, що власник повинен мати можливість вільно розпоряджатися своєю нерухомістю, надає свободу використання власної власності, тоді як публічний простір виглядатиме як великий хаос.

Охорона природи і, отже, ландшафту у багатьох країнах починається в уряді, і вона повинна закінчуватися освітою та розширювати свідомість різних соціальних та вікових груп.

Безвідповідальний підхід до охорони природи в Польщі в 2017 році привів до вилучення тисяч дерев, які позитивно впливають на функціонування людини, збагачують і навіть створюють ландшафт. Інші заходи уряду щодо захисту навколишнього середовища призвели до знищення глобально цінного Біловезького лісу, що належав до цінної всесвітньої спадщини. Організації та вчені з Польщі та інших країн хотіли захистити ці цінні природні місця, але це не допомогло. Лісозаготівля в цьому районі дикої природи не була зупинена.

Приводом для цього руйнування стало те, що на дерева напали личинки європейського жука-короїда, і тому навіть старі дерева з цього місця світового рівня повинні бути знищені. Видатні вчені ставлять під сумнів необхідність штучного зменшення поширення європейського жука-короїда, а також вважають, що дії, взяті в лісі Біловезьжя, не припиняють його вторгнення, але завдають шкоди біорізноманітності лісу та безперервності її природних процесів. Керування такою унікальною та складною екосистемою, як Біловезький ліс, повинна враховувати переважно фундаментальні факти природничих наук.

Озеленення має декоративну, ізоляційну, очищувальну, рекреаційну, шумозахисну, естетичну, освітню, оздоровчу та спортивну функції. Він відіграє значну роль у міському плануванні міста та позитивно впливає на його ландшафт. Людська поведінка, особливо влада, повинна бути збалансованою і спрямована на збереження природної спадщини, не руйнуючи, наприклад, багатовікових дерев. Знищення є дуже простим, і це можна зробити швидко, однак регенерація триває багато років, навіть сотні років, і часто неможливо досягти попереднього стану природної території. Людські закони часто мають незворотні наслідки, в цьому випадку кілька десятків або навіть кількості дерев перестали існувати.

**Ключові слова:** охорона зелених насаджень, руйнування красвиду, Natura 2000, значення зелені, зрізання дерев.