

Soundscapes and tourism – towards sustainable tourism

Krajobrazy dźwiękowe a turystyka – w kierunku turystyki zrównoważonej

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Abstract

The paper deals with the relationship between soundscapes and tourism. Its goal is to analyse the impact of tourism on soundscapes and to indicate the opportunities offered by soundscapes for the development of sustainable tourism. A new form of tourism – sound tourism – is based on travelling to places with unique acoustic characteristics or unique soundscapes. The paper demonstrates that sound tourism conforms to the idea of sustainable development. It also highlights the fact that tranquil areas should be protected, given the opportunities they offer for tourism, recreation and sustainable development.

Key words: noise, soundscape, sustainable tourism, quiet areas

Streszczenie

Artykuł dotyczy relacji krajobrazów dźwiękowych i turystyki. Celem artykułu jest analiza wpływu turystyki na krajobrazy dźwiękowe oraz wskazanie potencjału krajobrazów dźwiękowych dla rozwoju turystyki zrównoważonej. Zwrócono uwagę na nową formę turystyki, zwaną turystyką dźwiękową, polegającą na podróżowaniu do miejsc charakteryzujących się wyjątkowością akustyczną lub występowaniem unikalnych krajobrazów dźwiękowych. Turystyka dźwiękowa została ukazana jako zgodna z koncepcją zrównoważonego rozwoju. Ponadto zwrócono uwagę na potrzebę ochrony obszarów cichych z uwagi na ich ogromny potencjał dla turystyki, rekreacji i rozwoju zrównoważonego.

Słowa kluczowe: hałas, krajobraz dźwiękowy, turystyka zrównoważona, obszary ciche

Introduction

Today's world is characterised by extremely fast-paced changes, uncertainty and unpredictability. This is accompanied by a philosophical and ethical crisis in society, increasing the lack of faith, both in the religious and secular dimension, in various spheres of life. Therefore, the reevaluation of our lifestyle is necessary. A *conscious* man should be placed on a new path of development, leading towards quality instead of quantity. The satisfaction of the material needs of individuals should be accompanied by their spiritual growth. This conclusion follows from the concept of sustainable development.

According to Pawłowski (2011), sustainable development has a multidimensional character and should be viewed from various perspectives: ethical, ecological, social, economic, technical, legal, and political. Ethical reflection constitutes the first level that provides the foundation for the other aspects.

The concept of sustainable development envisions a lasting improvement of the quality of life for the contemporary and future generations, which is inextricably linked to improving the condition of the environment. Hence, sustainable development should also consider paying attention to the acoustic and olfactory quality of the air as determinants of the quality of life (Bernat, 2010a).

In modern times, tourism is the fastest developing phenomenon influencing social and economic behaviour. In the light of the new EU policy framework, tourism is one of the branches of economy with the largest potential for generating economic growth and creating jobs (Communication of the Commission...2010). Along with the pressure of mass tourism, environmental hazards are on the rise. The degradation of landscape (Myga-Piątek, 2006) and noise pollution (Lebiedowska, 2010) are among the consequences of uncontrolled development of this form of tourism. Conflicts between the development of tourism on the one hand, and the environment and landscape on the other, are most raised in protected areas, where it is important to consider the permissible scope of human interference (Partyka, 2010).

In view of the above, new forms of tourism are desirable that would conform to the sustainable tourism model; i.e. one that is gentle, environmentally-friendly and associated with tourist activities, that respect the environment and ensure the lasting preservation of natural and cultural values; as well as activities that are fair and acceptable from the economic and social perspective. The main point for the idea of sustainable tourism is to achieve the harmony between the needs of tourists, the natural environment and local communities. The implementation of sustainable development principles in tourism is aimed at minimising the damages and threats associated with the development of this branch of economy, respecting the natural, cultural and social values of the area where tourists are staying, protecting the natural and cultural resources, showing respect for the identity, tradition and lifestyle of local communities while taking advantage of the economic opportunities offered by tourism in terms of the economic growth of the region (Kowalczyk, 2010). According to Zajadacz (2009), tourism can be the most important factor of sustainable development, because the tourism function can be conducive to the protection of the natural environment, bringing numerous benefits in the social and economic sphere as well as inspiring the revitalisation of degraded areas. According to Myga-Piątek (2006), sustainable tourism can be a beneficial factor in shaping varied landscapes, preserving their identity and familiarity. Hence, it is necessary to develop a concept of landscape-friendly tourism development.

Along with the growth of tourism, the desire to experience the beauty of landscape increases as well¹. Tourists are interested in peculiarities of landscapes or architecture features, other than those they encounter on the daily basis (Urry, 2007). The unusual sites and landscapes seen by tourists are then captured and reproduced in photographs and films,

which can be repeatedly played back and admired. Furthermore, tourists in this post-modernist era not only look for beautiful, unusual or interesting places, but also for new ways of experiencing a travel (Wieczorkiewicz, 2008; Urry, 2007). Visual sensations, on which numerous mass tourism undertakings used to rely, seem to be no longer sufficient to attract today's holidaymakers. The ways and methods of sightseeing are multiplying because the treasures of nature and culture can be perceived in a variety of ways. Urry (2007) observes that a tourist's experience not only consists of visual sensations (although they do play the key role), but also combinations of sounds, scents, gustatory sensations and tangibility. The inclusion of themes that involve listening, tasting, smelling and touching adds a new dimension to travelling, suggesting that the experience will be more direct and complete. The distance that usually exists between seeing or watching and the object of observation is eliminated. Tourism based on discovering a multitude of sensations is being promoted, in which tourists are discoverers of experiences and collectors of sensations. MacCannell (2005) refers to tourists as pilgrims who pay homage to numerous sites and attractions. As Kruczek (2011) observes, due to its dynamic growth, contemporary tourism continually requires new attractions and travel destinations for millions of participants, who have already visited well-known sites. A new quality is being established in tourism, namely the focus is on education and learning, entertainment and excitement. The new tourists have different preferences therefore unique attractions are sought after, and when they are no longer sufficient, new ones are created. Based on them, new forms of tourism are developed, which are close to the sustainable tourism model, e.g. geotourism, ecotourism, literary, wine, ethnic, industrial, culinary, golf and adventure tourism (Kowalczyk, 2010). They also include sound tourism, which is based on travelling to places with unique acoustic properties or unique soundscapes². Soundwalks and sound safaris also belong to this category (Nacher, 2010). Bird-watching, that develops dynamically in the USA and Western Europe, is not limited to watching birds but also involves listening to the sounds they make (Janeczko, Anderwald, 2011). There is also a growing interest in a form of contemplative tourism, that involves abandoning one's place of residence and lifestyle; and moving to a new environment in order to recover physical, mental and spiritual energy, regain motivation and search for answers to questions about the human nature (Markowicz, 2008). This form of tourism requires the experience of tranquillity, which thus acquires the status of sought-after tourist product, that

¹ According to the *European Landscape Convention* (2000), landscape is *an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors*.

² Soundscapes constitute a qualitatively varied layer of landscape distinguished based on sounds, characterised by transience and high susceptibility to changes (Bernat, 1999, 2008a).

is capable of competing with other, more sophisticated sensations and experiences (Lebiedowska, 2009). Tourists are also interested in music, which becomes a basic resource in festival, concert and music tourism (Miedzińska, 2008). We can observe an increasing popularity of travels whose highlight is participation in a short, organised event and experiencing something different than the ordinary things. Referred to as event tourism, it is a form of cultural tourism (Buczowska, 2009).

In the light of the EU's new tourism policy framework, it is necessary to increase the attractiveness of European destinations to EU tourists, strengthening the development of sustainable tourism, including its new forms, and promoting responsible attitudes among European tourists (Communication of the Commission...2010).

The objective of this paper is to analyse the relationships between soundscape and tourism, characterise the impact of tourism on soundscapes and indicate the opportunities offered by soundscapes for the development of sustainable tourism.

Soundscapes as an object of research

Landscapes are an object of perception, an active process where one becomes familiar with an object or a phenomenon by using their senses (a sensory and motor level). The information thus obtained is then processed in a way, that is conditioned by one's existing knowledge and emotional resources (a semantic and emotional level) and by a specific situation (Pawłowska 2008). According to Wojciechowski (1994), the perception of landscape, alongside experiencing, is an element of the perception of the environment. The stimuli provided by landscape are a source of information about the structure and functioning of a landscape, as well as a source of aesthetic sensations. The experiencing of landscape impacts tourism and recreation activity, which often develop on the basis of landscapes perceived favourably, considered to be beautiful and of high quality.

The perception of landscape is usually multisensory, although visual perception predominates³. However, under certain conditions, it can be dominated by another sense, e.g. hearing (in the case of high noise levels) or smell (in the case of an unpleasant smell). According to one of the supplementary reports to the *European Landscape Convention*, sound and smell, and even touch and taste, contribute to the apprecia-

tion or rejection of landscapes (Landscapes and individual..., 2003). In the Polish literature, the role of multisensory perception of landscapes in tourism and recreation was noted by Kowalczyk (1992), Kożuchowski (2005), Miedzińska (2010), Piechota (2006), Pietrzak (2008), Richling and Solon (2011), as well as other authors. The idea of multisensory landscape has been applied in the description and planning of tourism and recreational areas in the sub-urban zone of Bydgoszcz (Kowalczyk, 1992).

Based on the diverse stimuli, Kowalczyk and Wiatkin (1998) distinguished the following:

- stimuli-rich landscapes characterised by high quantitative and qualitative diversity of information perceived by the majority of senses; these are landscapes with high relative elevations, transitional zones, landscapes rich in plant and animal species, densely built-up and industrial areas, transport zones with a high intensity of traffic;
- stimuli-rich landscapes with numerous and temporally varying or temporarily disappearing signals; these are undulating and hilly landscapes, featuring short hillsides, large plant associations, arable fields enriched with woodlots and small valleys, streams flowing across fields, small water bodies, lakes covering less than 1 ha, dispersed architecture, local transport zones;
- stimuli-poor landscapes with single signals, or signals showing little variety and low intensity; these are flatland or very gently undulating landscapes, featuring long hillsides, arable fields, cultivated grasslands, economically utilised forests, wet forests and wetlands.

Beside visual stimuli, acoustic stimuli play an important role in the perception of landscape (Carles et al., 1999; Piechota, 2006). Sound is a significant landscape feature and functions with other landscape components, supplementing its image with new content (Bernat, 1999, 2008a). Music (the art of thinking with sounds), noise (undesirable sound) and tranquillity, defined as the audibility of the subtle sounds of nature, represent unique forms of sound. Sound helps one to understand a particular place and find one's way. What is more, it enlivens a particular space, fosters relaxation, and strengthens or reduces aesthetic sensations. Sound impacts the quality of landscape and shapes its character. A number of varied sound fields, each of which has its individual source, overlap and permeate each other and thus form a soundscape⁴, perceived as a sound event that

³ Polish geographers use the concept of *multisensory landscape* to describe the objectively existing structural and territorial reality, perceived by various senses (Bartkowski, 1985; Kowalczyk, 1992).

⁴ The term *soundscape* was coined by the Canadian composer and music educator R.M. Schafer who, in the 1960s, noticed the need for a change in how we consider noise abatement and suggested a positive approach to the sounds around us. It is essential to recognize which sounds we

wish to preserve, develop, and multiply in order to isolate harmful and wearisome sounds that must be eliminated (Schafer, 1976). The invasion of all-pervading noise can be countered by developing auditory sensitivity and improving the aesthetic quality of the acoustic environment through the soundscape design. It is important to restore order in the soundscape, to improve, modify and eliminate undesirable sounds or to move them to other sites, and to preserve the sounds of the past. In 1970, at Simon Fraser

stands out from the background and was described by Schafer (1976) as a keynote sound. Sound events are analysed according to their source (e.g. nature, human beings), function and social context, as well as associations and symbolism. Certain sound events can constitute a sound signal, i.e. a sound that attracts particular attention. A sound that is unique, or possesses qualities, which make it specially regarded or noticed by people in a local community, is referred to as a soundmark.

Soundscapes are an important element of natural and cultural heritage, particularly sensitive to changes associated with the development of civilisation. They can also be a significant distinguishing feature of places and regions. Sounds that are unique or possess a particular value to a local community occur in nearly every environment. Soundscapes are carriers of content, associations and symbolism. Evoked by remembered sounds, particularly sequences of sounds (a tune, a piece of music), such associations bind a perceived scenery with the information that one has about a given region (Bernat, 1999). The knowledge of sounds leads to understanding of various aspects of life that often cannot be directly observed in other sources (Bernat, 2011a). Plit (2011) regards soundscape studies as part of the geography of cultural landscapes. He stresses, that sound is an actual entity and, in a sense, material phenomenon (particle displacement through a medium), although it is perceived by a sense other than sight. According to Bernat (2011a), soundscapes should be treated as intangible cultural heritage worthy of protection and restoration. Soundwalks are one of methods of studying soundscapes (Bernat, 2002). Furthermore, soundscapes can stimulate the growth of tourism. Discovering soundscapes is becoming a new challenge to contemporary culture (Bernat, 2012). The need for the ecology of tranquillity as a subdivision of general ecology is recognised (Sztumski, 2010). The ecology of space also calls for the preservation of a soundscape. Specialists from various countries collaborate on interdisciplinary scientific projects. Numerous projects emphasise the relationship between soundscapes and sustainable development

(The Global Sustainable..., 2012; Soundscape of European..., 2012). Some of these projects analyse the relationship between soundscape and tourism. The scientific literature (e.g. Adams et al., 2006) uses the term *sustainable soundscapes*. Strategic documents recognise the design of soundscapes and protection of tranquil areas as a condition of the sustainable development of cities (Designing Soundscape..., 2011; Quietening open spaces..., 2010; City of London..., 2012). Since 2010, creative solutions in the field of noise prevention are awarded the European Soundscape Award⁵. *The Careggi Landscape Declaration on Soundscape*, soundscape-related activities implemented in the *European Capitals of Culture* (e.g. Linz, Turku, Tallin) and *European Green Capitals* (e.g. Stockholm, Vitoria Gasteiz), as well as other initiatives, prove that the role of soundscapes in the modern world is highly appreciated.

Noise threat

The development of civilisation is accompanied by significant changes in the acoustic layer of a landscape, particularly in the urban landscape. In modern times, the acoustic layer shows little variety, as the omnipresent traffic noise, while various sounds intermingle as part of monotonous white noise. Throughout the European Union, noise poses a serious environmental challenge⁶ and estimated economic and social costs it incurs⁷ amount to EUR 40 billion (Report of the Commission..., 2011). According to the European Environmental Agency, nearly 70 million EU citizens are exposed to noise exceeding mean road noise levels (>55dB), while 44% of the inhabitants of large cities are exposed in their sleep to noise levels that may be detrimental (>50 dB). Therefore, issues associated with noise have to be taken into account in all political processes and initiatives, particularly with regard to environmental protection, healthcare, sustainable transport, regional development and spatial management. Moreover, new noise prevention solutions should be implemented. Attention should also be

University, R. Murray Schafer founded his own research group, the *World Soundscape Project*, guided by the idea to thoroughly examine the soundscape in all its aspects, giving particular consideration to its determinants associated with human beings. The Project sought to build a scientific foundation for acoustic design, a discipline proposing ecological solutions for improving the aesthetics of the sonic environment. As part of the Project, studies were initially conducted in Vancouver (*Vancouver Soundscape*) and five European villages (*Five Village Soundscapes*). Schafer's initiative has led to the development of an international acoustic ecology movement, whose activity includes soundscape studies conducted in many countries, as well as collaboration within the *World Forum for Acoustic Ecology*.

⁵ So far, Stockholm (2010), the Gerderland province (2011) and the city of Berlin (2012) have won the award.

⁶ The problem of assessing and managing noise levels is mentioned in the *Environmental Noise Directive* (2002/49/EC). Among other goals, the Directive seeks to make sure that Member States adopt actions plans to preserve the environmental noise level in areas, where its quality is good (protection of tranquil areas in open countryside). In the light of the *Report of the Commission* (2011), the *Environmental Noise Directive* was a step forward in the development of the EU's noise policy.

⁷ The economic costs of noise threats include lower real estate prices, lower efficiency at work due to effects on health, whereas the social costs include premature death, circulatory system diseases, mental disorders, hearing impairment and tiredness (Report of the Commission..., 2011).

paid to tranquil areas⁸, which exert a beneficial influence on public health. The need to protect tranquil areas has been recognised in the strategy paper entitled *Research for a Quieter Europe in 2020*, which highlights the need to establish indicators helping to identify such areas, both in cities and rural areas.

Noise pollution and emphasis on visual cognition in the world today make it difficult to recognise the quality of sound or compare one place with another (Bernat, 2008b). According to Lebidowska (2010), the progressing noise pollution may become an effective obstacle to the development of tourism in the future, not only in urban centres but also in the neighbouring recreational areas.

Mass tourism can also be a source of noise pollution, which is confirmed, for example, by the observations of Kapuściński (2002):

Crowds of the Japanese everywhere... They travel in coaches, always in groups. They listen closely to what the guide is saying. They watch her hand pointing at monuments and palaces. You cannot tell from their faces whether they are interested, or bored by it. Everyone takes pictures of everything. And everyone (i.e. everyone who happens to be near the Japanese)... The clicking cameras sound as if a swarm of bees was hovering above the Japanese group.

Capri. Boat after boat is coming into the harbour. Groups of tourists disembark one after another. A crowd forms, like a procession. It sets off from the pier and flows along the narrow streets of the town. The island, quiet in the morning, quickly becomes noisy now. But not because the tourists talk to each other, oh no! It's getting noise because as soon as they set foot on the island, the tourists take their mobile phones from their pockets, bags, briefcases and backpacks, and start talking to Lisbon and Geneva, Philadelphia and Melbourne, gleefully announcing that they have just landed on Capri, they are in Capri, they can see houses, mountains and rocks, gardens and plantations, the sun and the sea, they feel fantastic, they are going to have lunch soon (or, in the afternoon, they have just had lunch), they have bought a T-shirt saying 'Capri', they are leaving Capri in three hours (two hours, one hour, in fifteen minutes, in a minute), and so on and so forth. This waffle, this unrestrained chatter, the yapping and excitement are going on for hours, flooding the streets, and nooks of the island with a chaotic, annoying, multilingual din.

Recently, in Poland it has also been observed that some seaside resorts are overcrowded with noisy conditions. The problem of noise pollution also affects health resorts, e.g. Świnoujście and Nałęczów. The Świnoujście city council passed a resolution in

2007 restricting the use of PA systems in beer gardens in the summer season (June to September) between 10 pm and 10 am. The resolution was a response to the convalescents' complaints about loud music and was based on acoustic measurements indicating, that the permissible noise levels were exceeded, which could lead to the city losing its healthy status (Miszczyk, 2011). Nałęczów faced a similar threat in 2009, due to the noise caused by the intensive traffic and lack of a ring-road around the town (Kozłowski, 2012). The municipal authorities undertook to implement remedial measures, i.e. divert transit traffic from the town centre; thus the health resort status was prolonged conditionally to the year 2019. Unfortunately, the issue of a ring-roads has not been solved yet. Due to the lack of funds, its construction has been postponed to an unspecified time in the future (Mikrut, 2013).

Environmentally valuable areas, particularly the national parks, which are considered sanctuaries of tranquillity and harmony, with which people associate the sounds of nature, are preferred as places of recreation, regeneration of man's physical and mental energy. Hence, they are subject to the intensive pressure of tourism. The effects of human impact include noise intrusions, that are detrimental to the functioning of nature (e.g. Barber et al., 2011) and aesthetic experiences of tourists. The values represented by these areas can only be preserved by ensuring tranquillity, defined as the audibility of the sounds of nature. This challenge has been recognised in e.g. the US national parks, where one can listen to the sounds of nature, uninterrupted by human sounds no longer than five minutes (Hempton, Grossman, 2009). Therefore, a programme for the protection of soundscapes has been launched, tranquil zones are established, the assessment of human impact on soundscapes is carried out, tourists' expectations are surveyed, noise levels are monitored and educational campaigns are conducted (Natural Sounds, 2013). These measures are linked with the tourist traffic and transport management programme.

The Polish Inspection for Environmental Protection has observed the ongoing deterioration of acoustic conditions within routes, that go across protected areas as well as the slow process of degradation of tranquil areas (Stan klimatu..., 2006). According to research conducted by Bernat (2011b), each of Poland's 23 national parks is characterised by the diversity and uniqueness of soundscapes. However, they are subjected to transport and tourism pressure, that gives rise to the noise threat. Alongside motorised transport, noisy groups of tourists are the chief factor that disrupts the perception of landscape. New threats have also been observed: individuals, or

⁸According to Article 3 of the *Environmental Noise Directive*, quiet area in an agglomeration shall mean an area (...) which is not exposed to a value of L_{den} or of another appropriate noise indicator greater than a certain value set by the Member State, from any noise source, whereas quiet

area in open country shall mean an area (...) that is undisturbed by noise from traffic, industry or recreational activities. In the light of the *Report of the Commission* (2011), few countries indicated such areas in open country.

larger numbers of people, attending company events ride quads and cross-country motorbikes and violate all kinds of regulations. The results include the destruction of young forests, forest undergrowth, forest lanes as well as gullies and sand dunes, which is tantamount to the destruction of the breeding grounds and habitats of birds, amphibians and reptiles. The roar of these vehicles causes panic among hikers, scares the animals away and disrupts peace. Consequently, places that should be used for recreation close to nature, lose their environmental and aesthetic values, while health and life of people is at risk. The mass media report on the latest incidents (illegal cross-country rallies) and their harmful impact, but they also highlight how difficult it is to mitigate this threat. According to the national park services, it is possible to identify areas in parks, where noise is a particular nuisance as well as areas with particularly attractive soundscapes. The former are areas with considerable motor traffic and high concentration of tourists. The least attractive soundscapes (though not without any value) occur in the most visually attractive parks (in the mountains) and those are subjected to the most intensive tourist traffic (Tatrzański and Karkonoski national parks).⁹ The most attractive soundscapes are characteristic of parks that are unaffected by intensive tourist pressure and located far from transport routes, namely wetlands and forests (e.g. Ujście Warty; Poleski, Narwiański and Białowieski national parks, Bernat 2011b).

The soundscapes of environmentally valuable areas are also exposed to threats associated with road construction, particularly in countries like Poland, where the network of motorways and expressways is still under construction. The designed roads often cut across protected areas, thus disrupting their tranquillity. Even remote sounds of heavy vehicles can be regarded as a nuisance and intolerable disruption in the perception of landscape. This was the argument for considering the impact of noise on the perception of landscape as part of the environmental impact assessment carried out for the Augustów Ring Road (Raport o oddziaływaniu..., 2009) that was originally designed to cross the environmentally valuable valley of the Rospuda river (a tranquil zone extending to 300 m from the river bank), which led to the protests of environmentalists. The *Rospuda Conflict* has been extensively covered by the media and has drawn tourists' attention to this small, but valuable river valley; the route of Augustów ring road has been changed too. It is worth noting here, that the construction of noise barriers along roads not only reduces the noise levels but may also cause the degradation of the visual values of landscape. In order to prevent the excessive use of noise barriers, the

Polish Ministry of the Environment increased the admissible noise levels in September 2012 (Stop hałasowi..., 2013). Therefore, the threats to soundscapes in environmentally valuable areas can be expected to increase in connection to road construction projects.

Protection of tranquil areas

Gordon Hempton, an American acoustic ecologist, seeks silence in different parts of the world. He found a symbolic bit of silence in e.g. the Hoh Rain Forest in the centre of the Olympic National Park (Hempton, Grossman, 2009). Silence lasts there for long hours, undisturbed by any anthropogenic sounds, or even by the sound of a flowing river or blowing wind. Hempton called that place *One square inch of silence*. The effect of his investigation is also a catalogue of the quietest places in the world (The World's Quietest Places, 2012). At the initiative of a British acoustic engineer, Trevor Cox, a guide to the world's most attractive places in terms of acoustics has been created (Sound Tourism..., 2013). One of them is *Silence Path* on the Italian island of San Giulio (The *Sacro Monte* hill on the island is on the UNESCO World Heritage List). Marked with signs informing about the value of silence, the path is a place where you can hear silence and experience the sacred.

In response to the provisions of the *Environmental Noise Directive*, in several EU countries tranquil areas have been designated, both in cities and in countryside. Since 2012 an international scientific project has been carried out, focussed on developing coherent methods of assessing and managing tranquil areas in cities (Weber, 2012).

The protection of tranquil areas is consistently implemented in London as part of noise strategy (City of London, 2012). Additionally, attention is paid to the acoustic design of public spaces, e.g. highlighting iconic sounds.

In Great Britain, a campaign to protect and map tranquillity is implemented. Tranquillity is understood as beauty, peace and quiet, balance, diversity, and audibility of the sounds of nature: the singing of birds, the sound of water (Campaign to Protect..., 2013). This approach follows from the belief in the numerous benefits associated with tranquillity from the perspective of health, economy and recreation. Tranquillity is a useful indicator of the quality of rural areas as it determines the character of landscape. The high quality of rural areas is determined by the presence of natural landscapes with forest areas, occurrence and visibility of rivers, open spaces, wild nature (birds), absence of noise hazards and landscape deformations (infrastructure, urbanization). Tranquil areas (of high, medium or low quality) are areas

comparison, Narwiański NP is visited by about ten thousand people).

⁹ According to the *Environmental Protection Yearbook* (2012), the number of tourists visiting the Tatrzański and Karkonoski national parks exceeds two million per year (in

comprising places, that are far enough from the visual and acoustic intrusions caused by economic activity and transport (the criterion of distance from roads, cities, airports, petrol stations and population centres, low population density, minimum noise level). The role of tranquillity in shaping the character of a region was recognised in the Rural White Paper for England (Rural White Paper..., 2000) which indicated the necessity to improve the system for planning, management and protection of tranquil areas.

Programmes for the development of high quality tranquil areas are implemented in the Netherlands¹⁰, where tranquil areas currently cover a total of 650 ha (Wolfert, 2013). These include nature reserves, green areas in urban and rural landscape, and tranquil areas in developed parts of the cities (e.g. yards, squares). Due to their beneficial effect on the quality of life, tranquil areas are also designated in Amsterdam (Booi, Berg, 2012).

In Greece 765 potential tranquil areas have been designated, which constitutes ca. 45% of the country's area (Preserving natural quiet..., 2012; Votsi et al., 2012). It should be noted that environmental noise has been an element of tourist city planning in Greece since 1990s (Vogiatzis et al., 2001). It was also at that time that *Sustainability Reference Values* (SRVs) for noise in tourist places were proposed and the need to protect typical soundscapes was observed.

In the Finnish region of Satakunta, as part of the regional planning process for recreation and environmental protection purposes, several categories of the so-called oasis of silence have been distinguished (9 natural, 13 rural and 4 special ones, Karvinen, Savola, 2004). Natural tranquil areas are the areas where the sounds of nature are predominant while anthropogenic sounds are rare and indistinct; and the mean sound level is below 30-35 dB. These areas constitute protected areas, forests or recreation areas situated far from developed areas. Rural tranquil areas are the areas whose soundscape mainly consists of the sounds of nature, the sounds of culture are sporadic and mostly connected with agriculture, forestry and fishery; distant sounds of transportation and industry can occur and the sound level is 35-40 dB. Special tranquil areas are the areas where the sounds of nature and culture occur and the mean sound level is below 45 dB. These areas are connected with world heritage areas and places that are particularly attractive to tourists. Furthermore, tranquil urban areas have also been distinguished where the sounds of nature are audible and clearly recognised in the

soundscape, the sounds of human activity do not mask the sounds of nature, and the mean sound level is below 45 dB.

The agricultural region of Flanders is located between the Dender and Mark river valleys. They are characterized by unique acoustic properties. What is more, there is the *Dender-Mark Silence Area Project* that has been developed (Portaal van de Stilte..., 2013). Supported by the local authorities, the project is aimed at creating a special policy for preserving and restoring the natural and landscape values of that area (extending across several administrative units). The Department of Environment in Flanders prepared guidelines for the local authorities, entitled *Silence Areas in Flanders* and containing information, examples and recommendations for the creation of other *silence areas*. In order to promote *silence, tranquillity and landscape*, the Waerbeke Centre was established in the Dender-Mark Silence Area. Its main objective is to support the pilot project of the Dender-Mark Silence Area and promote the idea of *silence areas* in Flanders and outside the region. The Centre coordinates activities aimed at protecting the environment, landscape and cultural heritage, preparing publications, exhibitions, cultural programs, seminars and training courses for children, youngsters and adults. The inhabitants are involved in all these activities as local consultants and collaborators. Furthermore, the Centre is tasked with preparing the methodology of *cultural heritage and silence management* in Flanders as well as finding practical solutions and technologies which may be implemented in this area.

In Poland, Warszawa, Gdynia and Szczecin are the only cities where efforts are taken to establish tranquil areas, and the failure to do so in other cities should be regarded as a wasted opportunity (Bernat, 2010b). In Opole, a draft civic resolution entitled *The Green Lungs of Opole* was submitted, proposing the establishment of tranquil areas (Janowski, 2012). It is worth appreciating, that an improvement in the quality of public space is taking place in connection with the revitalisation¹¹ efforts carried out in Polish cities. Pedestrian zones and water facilities are designed, which improve the aesthetic value and the acoustic quality of public space, adding in such way the tourist attractiveness of the cities. Bugle calls (iconic sounds) are played from representative buildings, while music and the sound of water can often be heard in the squares and pedestrian zones. The public space in cities becomes polyphonic. The acoustic uniqueness of some cities and regions is recognised in numerous artistic projects (e.g. *Sounds of*

¹⁰ The report of the Dutch Ministry of Health, Welfare and Sports, entitled *Quiet Areas and Health* (2006), suggests that besides noise indicators (45-50 dB in the daytime), it is necessary to specify the level of noise acceptable by the society, the relations between natural sounds and noise, the significance of sound, the sources of noise, etc.

¹¹ As defined by the Polish association *Forum Rewitalizacji*, revitalisation is a process of spatial, social and economic changes in degraded urban areas, aimed at improving the inhabitants' quality of life, restoring spatial order, achieving economic recovery and rebuilding social ties.

Małopolska, Sound cards from the Benedictine Abbey at Tyniec, Tonopolis, Soundwalks, Sound cards from Bytom). Soundscapes connected both with nature and human activities, including industrial activity, are discovered. Besides the interactive website with the sounds of the Małopolska region, the project entitled *Sounds of Małopolska* also encompasses exhibitions of *earphones*, i.e. human-sized ears with speakers emitting sounds of the region arranged thematically. As part of the *Soundwalking* project, especially addressed to young and older children from small towns in the Kuyavia region, the sounds of specific places, related to everyday life of the local community, are recorded. The results of the young explorers' efforts are presented at exhibitions and in the Internet. Based on the research, a sound map of the Kuyavia-Pomerania Province is being prepared. Besides the aforementioned projects, sensory gardens and interactive museums are established. They appeal to all senses, thus providing a highly realistic illusion of travel in time and space (e.g. Bernat, 2008b; Pawłowska, 2012). The role of soundscape as an element of tourist attractiveness is increasing. There is a growing recognition of noise hazards connected with the development of mass tourism, as well as increasing appreciation of the values of soundscape in sustainable tourism.

Final remarks

Sound is an integral part of landscape and a very important component of the identity of a place as well as of natural and cultural heritage. The acoustic layer of a landscape can be threatened by tourism. The example of national parks in Poland shows that, next to motorised transport, tourist traffic is a key factor disrupting the perception of a landscape. The interest in the relationship between soundscapes and tourism originates from the awareness of noise threats, as well as from the increasing demand for new tourist attractions and high quality of life. A soundscape constitutes an enormous potential for the development of sustainable tourism and can increase the attractiveness of both environmentally valuable and culturally unique areas, which is particularly important given the uneven distribution of tourist traffic. Highlighting soundscapes as a part of the resources of these areas can help raise the public awareness of the beauty of tranquillity (the subtle sounds of nature), which is necessary to preserve the values represented by these environmentally valuable areas. Tranquil areas should be protected due to the opportunities they offer for tourism, recreation and sustainable development.

Sound tourism relying on soundscapes as the basic component of tourist attractiveness is consistent with the sustainable development concept because discovering the acoustic diversity of landscape can not only contribute to the protection of the natural envi-

ronment against noise, but also bring numerous benefits in the social and economic sphere. Moreover, education and a comprehensive approach to nature and culture play important roles in sound tourism.

In order to meet the sustainable development criteria, sound tourism requires planning preceded by learning the preferences of tourists, the analysis of acoustic threats and the identification of places that are attractive or unattractive in terms of acoustics. Proper planning should take into account the need to preserve unique soundscapes, which requires the elimination of factors disrupting the perception of landscape so that high acoustic quality is maintained (valuable and desirable sounds have to be discernible). For instance, it is advisable to restrict tourist traffic, constantly monitor tourist trails, introduce environmentally friendly transport and implement zoning (designation of tranquil areas); which will help minimise damages and threats associated with the development of this branch of economy.

Sound tourism is a new form of tourism which is addressed not only to the visually impaired people or acoustic ecologists. It is important to encourage more people to listen to the sounds of landscape more closely and more consciously.

It is worth noting that tourists can be interested not only in soundscapes but also in smellscapes that form the basis of olfactory tourism (Dann, Jacobsen, 2003). Taking note of soundscapes and smellscapes allows one to appreciate the extraordinary aspects of ordinary, everyday phenomena, and to discover new wonderful worlds. All that is needed is to be willing to set off on this exceptional journey and to listen closely in order to hear and admire the abundance of sounds.

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