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Aspects for Evaluation of the Effect of Natural and Artificial Bodies of Water to Protected Areas' Landscape

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The landscape - how a person usually understands it - is the visible surface of the Earth environmental image. This is a reflection of natural processes and a reflection of cultural change, which constantly changes across time and space. It is the foundation of national identity and is a part of life quality. Understanding, protecting, managing and forming landscape's identity and concept as an evolving phenomenon at the same time meeting the economic, social, cultural, ecological and aesthetic needs of the public is one of the top priority goals of the state (Bučas, 2001).

Landscape as a term is associated with art, history, geography, ecology, politics disciplines and planning and design. The landscape can only be created by natural processes - the natural landscape or landscape, which felt human intervention, is called cultural landscape. Cultural landscape has a plethora of man-made objects - buildings, roads, bridges, quarries and other engineering infrastructure.

The novelty of the work: this work extends the knowledge on the Lithuanian state parks' landscape. The paper first describes bodies of water as a natural and urban element that affects protected areas' landscape.

KEYWORDS: aesthetics, landscape, protected areas, water.

Introduction

The natural landscape's main formants are terrain, surface and ground waters, flora and fauna. Natural and cultural landscape is constantly changing under the influence of both natural and social processes (Grecevičius, Godienė, 2013). The result of these changes will depend on the number of symbols and meanings, public cultural diversity and identity that will be integrated into the landscape. Naturally and historically formed landscape, landscape's architecture and its aesthetic value, expression of the terrain and hydro graphic network elements are intensely altered, elements of the urban environment are built, serving the needs of modern man, regardless of environmental conditions.

Existing elements of natural or urban landscapes are formed in an expression which enriches the landscape, shaped by the work and suitable recreational spaces, forms a visually attractive environment. Scientists investigating the environmental attractiveness - aesthetics, emphasizes



the aesthetics of the environment affects our daily activities, and the accelerating urbanization of natural landscape is rapidly changing human lives and the environment, reduces the landscape's aesthetic potential. The main objective of the National Strategy for Sustainable Development regarding the countryside's and biodiversity's conservation and development is preservation and enhancement of the most damaged elements of the landscape, restoration of aesthetic values of the landscape and the traditional rural landscape, its visual pollution (National, 2003).

The article deals with water's as a natural element's of the landscape impact to protected areas' landscape. In the landscape of protected areas, assessing the development by the principles of sustainable development, is regarded so that the water does not become a more significant aesthetic dimension of other landscape elements. The assessment of water facilities should take into account the social, historical and aesthetical, as well as functional considerations. Of course, if it tune in to the surrounding environment, the water facility itself creates aesthetic value, but just aesthetical aspects is not the main point of evaluation. The simplest water facility can serve as just the refreshment point, drinking water source. Commercially thinking, those devices can have pleasure and entertaining force, also water facilities can also serve as an "urban oasis". Water installation can be used as a constant or a temporary representative measure.

Objective. Describe the water as one of the components of the landscape, impact to protected areas' landscape, in aesthetic aspect.

The paper scientific literature is used, as well as the normative documents and other sources' analysis with data on protected areas in Lithuania regarding the landscape protection and development capabilities, their assessment summary; water's aesthetic potential is evaluated in protected areas in the landscape. The study was conducted in accordance with systematic and comparative analysis methods.

The landscape is shaped by natural and anthropogenic factors which satisfy the biological, social, economic, residential, working and leisure environments' requirements. To achieve these objectives, it is necessary to know the landscape and to take into account it's planning, the evolution of the landscape and its features, values, ecological, aesthetic, social and economic functions and local communities and the whole society's expectations.

Lithuania landscape cannot be built without the aesthetics of water, forests, greenery and constructions. Prior to the 20th century, the landscape was dominated by the traditional natural landscape elements, such as fields, meadows, ponds, trees, landscapes were urbanized later by adding man-made elements - farmsteads, roads, structures, dams. A desirable result, when the newly formed landscape components are compatible not only with each other but also fit in with the pre-existing forms. The communications between the components in the landscape is determined by the specific features of the landscape.

Written historical sources about bodies of water in urban areas are dated back from ancient times. Greeks left a great contribution to the development of landscape objects of architecture. They richly planted urban gardens with trees and decorated with fountains and sculptures (Mateckis, 2008). Gardens for gymnasts and philosophers were being developed, which had bodies of water. A water supply and sewerage had also been developed.

Certainly, Romans had advanced even further in who focused on urban water supply and sewage disposal. Roman cities were much more decorated than the Greek cities, so they had more numerous and diverse fountains and outdoor pools, and the consul Agrippa built 700 pools and 500 fountains in Rome. Nevertheless, it should be noted that during the Roman republic establishment period, as compared to the Greek cities, there were not many landscape architectural objects and

Methods

Results

Water in historical perspective

their abundance emerged only in the imperial period. At that time the sacred groves had been cherished, near which water sources had been constructed. Urban public gardens had been constructed, in which fountains and running water pools for bathing were built. The townspeople who installed small gardens in their homes, did not forget to leave some space for a small pool or a fountain (Mateckis, 2008). H.V. Morton (Morton, 1966), while researching Roman fountains, also discusses all the ancient water facilities' development and mentions that the water technologies Greeks most likely took over from Persia. Yet they not only took it over, but perfected.

Samalavičius explores the important values of sacred water, emphasizing that the symbolism reveals its extraordinary value (Samalavičius, 2000). However, he notes that in aesthetic aspect antique Greek cities far surpassed Roman cities, but from an engineering point of view, the latter ones have gone further.

The significance of water's destructive power is well known. Maggie Toy (Maggie, 1995) while discussing this issue, identifies the relation between water and architecture as inevitably resulting in structural problems that a great deal of effort had been devoted to keeping the water out of the building (to protect from the rain, mold, etc.) and no less, or even more so they need to let the water in at the same time, inevitably constructing weak points.

From historical times until now there are two approaches to water and its aesthetics. In one case, water is seen only as a functional element, it is avoided, and urban plans designed so that the river and bodies of water are in the outskirts of urban settlements. Another trend is the reverse: the objective is to add the bodies of water into the human living environment and integrate into the public space, not only as a functional element, but also as an important ecological, aesthetic, and psychological factor.

Modern times of technology-using public are given a chance of potential activities in natural environment, natural bodies of water, and according to Samalavičius, have become a target of advanced engineering developers (Samalavičius, 2000). How they will adapt to modern needs and how it will integrate into the natural environment is an important task for developers.

Water's forms of expression in the landscapes of sea and lagoon in state parks

In order to preserve the natural and cultural heritage of territorial complexes and objects, landscape and biodiversity, then ecological balance in the landscape, natural resources, sustainable use and restoration must be ensured (Protected ..., 2002), protected areas, national parks are to be established also. The most valuable aspect of state parks is its unchanged or minimally changed landscape. Lithuanian Constitution states that the Republic of Lithuania's rights include: underground, as well as nationally significant internal waters, forests, parks, roads, historical, archaeological and cultural objects. In addition, the Constitution prohibits citizens the destruction of land and the underground and pollution of water and air (the Constitution of the Republic of Lithuania, 1992).

Critical areas are national parks. They are characterized by historical, architectural, cultural, scientific, aesthetic, ecological and dendrological values (Greenery, 2007).

Coastal and seaside silhouette shapes the national parks in these areas: the Curonian Spit National Park and Seaside Regional Park and the Nemunas Delta Regional Park. The bodies of water in these parks are used for aesthetic and recreational purposes (e.g. Fig. 1, Fig. 2.).



Fig. 1

The water is inseparable from the aesthetic and cultural upbringing of people. Seaside Regional Park

The Curonian Spit National Park (e.g. Fig. 3) as a UNESCO World Heritage Site, has a historical, architectural, cultural, aesthetic value.

The picturesque strip of land between the lagoon and the Baltic Sea is a universally valued landscape. And with an increasing number of contemporary works of architecture, reflecting the characteristically formed architecture, their shape, volume, color and decorative elements –fascinating and attractive new coastal and seaside coastal compositional element. In this context, it is necessary to mention Minge village (e.g. Fig. 4) with natural surroundings as atypical example of human activity. This village located in the lowlands is sometimes called the Lithuanian Venice. Indeed, in Lithuanian culture it is not common to have a major part of economic and social activities of the people to revolve around a river. Although the region (western Lithuania, Nemunas lowlands) due to long flooding has homes with higher foundations and boats - a widespread phenomenon (Butkus, 2009).

For originality, uniqueness, coastal and seaside urban landscape has been formed, based on local circumstances. State Parks' silhouette is shaped by traditional construction imitating the red-tiled gable or reed roofs, coastal lifestyle characterizing a marina, fishing or recreational boats, nets (e.g. Fig. 5-6).

Nemunas delta Regional Park from the Curonian Spit National Park is combined, but is also divided by the lagoon. The Curonian Spit, because of the ever changing landscape of sandy landscape, the people living here lived under special conditions. The Curonian Spit landscape reflects the centuries of people living in extreme conditions created by the history, nature, architecture and urbanism and intangible heritage (Piekiene, 2013). It is the tangible and intangible heritage that



Fig. 2

Water as a natural resource for recreation. Nemunas delta Regional Park



Fig. 3

The Curonian Spit National Park – a peninsula between the lagoon and the Baltic Sea



Fig. 4

The river in Minge village – a means of transport and entertainment venue



Fig. 5-6

Seaside Regional Park, representing the harmony of old and new architecture

provides the Curonian Spit landscape its distinctiveness, which in the year 2000 was evaluated by the UNESCO General Conference and the World Heritage List and now is an outstanding universally valued as a cultural landscape (Bučas, 2007). The water in the Curonian Spit formed the nature, culture and architecture. It is safe to say that water influenced the seaside and coastal towns, villages and settlements in their appearance.

Water as a public space

In the twenty-first century a popular leisure time is in nature, an ecologically clean environment. This results in a growing number of people, increasing use of land resources and increasing human alienation from nature. Not often a person can go out of the city, so the nature “comes” to the cities, by the installation of public spaces with natural elements. The most common public spaces that provide refreshment and psychological comfort are formed by water (Stančius, 2015). The purpose of urban public spaces in the urban landscape is its multifunctional application. Multifunctionality or mixed use is understood as a complementary mix of features in a given area (Bučys, 2009).

Water as one of the most important natural elements in the urban environment in towns of Lithuania are poorly evaluated: the quay concreted, built next to a busy highway, the inner blocks of space are isolated from water, active pedestrian zones concentrated in the more remote areas from the water (Čereškevičius, 2013). In addition, many cities and towns face territorial development planning and designing problems: land configuration, the lack of public spaces, modern architecture invasion in historic environments and so on.

The ratio of public spaces that are dominated by water and protected areas, particularly in the context of urban conservation areas, are regarded ambiguously. The visual spaces of landscape in state parks are not attractive as a single, unique state park which facilities include significant cultural monuments that are protected by the State or other objects of cultural heritage, but also the intangible elements of the environment, as a local identity, its cultural character, influence the quality of the landscape. Some state parks' value can be related not only to the amount of space, quality of recreational resources, but also with those elements of connection with the siege in adjacent objects, territories (Piekienė, 2015). Bodies of water form a public space in Seaside Regional Park of the Nemunas Delta Regional Park and the Curonian Spit National Park. Water creates the marinistic image of these parks, the public spaces in contact with water fully exploit and expand their recreational potential. It is important to note that the Giruliai slopes to the sea in Seaside Regional Park and Neringa dune relief of the Curonian Spit National Park are strictly protected in Lithuania (Stauskas, 2007) and all economic activities are defined by law.

Since water is a constantly changing, but also static element of the landscape, it aids in forming architectural and aesthetic landscape view. In addition, the water in the landscape is not only a decorative element, but it creates a microclimate, forms recreational space. According to an architect V. Stauskas, bodies of water affect architectural decisions and the results in three aspects: physical, physiological, and aesthetic (Stauskas, 2000).

Conclusions

1 Water influence to Lithuania's landscape of protected areas has not yet been analyzed in detail, because there is not enough data on the interaction of water with other natural and urban elements. To assess the sustainable development approach of natural and urban landscape elements first all elements' complexity is analyzed so that the water does not become a more significant aesthetic dimension than other landscape elements.

2 The analysis of water's impact on the landscape in Lithuanian and foreign literature revealed that water, as the formant of landscape's aesthetic, is known since classical antiquity. Written sources mention the huge contribution of the ancient Greek landscape architecture object creation using the water.

3 The national parks of landscape evaluation found that the picturesque meadow from the lagoon and the Baltic Sea with the authentic architectural objects all are a valuable characteristic of the complex, making their conservation techniques and principles to be implementing in spatial planning and design, in order to increase the quality of environment and economic value while maintaining the visual and ecological harmony of the natural and urban environment.

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