



Development of a local plan of landscape design with green infrastructure elements in Bauska municipality

SUMMARY

The basis of the thematic plan consists of the rivers within the administrative territory of Bauska town – Mūsa (3,2km), Mēmele (3,8km), the confluence of Lielupe and the territories along its banks. In the thematic plan (1) territory have been divided into three scenery spaces (AT), (2) the significance of scenery spaces have been assessed and (3) characterised, (4) goals of Bauska's rivers' scenery quality have been formulated and (5) applicable actions for each of the goals have been described. Green infrastructure approach has been used for the development of the territory, which allows using the regularities of nature to increase natural capital. The present values and those that can be gained by developing territory are described by values of ecosystem services.

In the scope of the thematic plan, the perspective territories to be developed include maintained green spaces and green spaces of special importance, not excluding territories with different use and respecting their ownership. During landscape ecological studies the ground cover / land usage type is the basic scope for developing the plan where the ground cover is the bio-physical cover of the ground, e.g. the actual ground cover material and the land usage type is how the specific land plot is being used. To identify the landscape ecological description in the planned territory, the thematic plan defines the main types of land usage – anthropo-ecosystems (river structure with interruptions, elements of industry or trade, infrastructure and its associated land plots, sites of extraction of the natural resources, green spaces, sports and recreational buildings and areas) and natural ecosystems (watercourses, natural meadows, soil, groves, natural segments of rivers, geology).

Survey of the river territories and their banks on foot and by car was carried out during the development of the thematic plan. Riverbanks and pedestrian paths on them, swimming spots, fishing spots, recreation areas, park, Dambis street square and the left bank of Mēmele from the side of the Old Town were inspected. River and their banks' infrastructure accessibility was evaluated. During the inspection photographs were taken and information about the arrangement of different objects of infrastructure – walking paths, information stands, recreational area equipment (benches, trash cans), swimming area equipment (plank ways, changing booths), vehicle and foot bridges, stairs, ramps, activity areas (volleyball) and public objects – was gathered.

The rivers and their banks are the main part of the town's green infrastructure that ensure the mobility of species. Line-type and area-type green structures, such as street plantings, green islands, parks, squares and other green zones are important for the town. Private gardens that also provide the living space and ensure mobility of species are also a part of the town's green structures, but they are private, less influential and / or predictable structures. Ecological compatibility is to be viewed in broader scope, outside the town's border, in context of the surrounding natural reserves and micro-reserves. The most important values of the nature park are parts of the banks of rivers Mūsa, Mēmele and Lielupe, the diversity of the river valley scenery, dolomite outcrops, especially protected biotopes, the diversity of flora and fauna, breeding grounds of fish and lampreys.

In the scope of the thematic plan, while working on the scenery of rivers and territories along their banks and the green infrastructure, ecosystem services such as recreation, physical and mental health, tourism, aesthetic inspiration, biological diversity, sustaining of genetic diversity are to experience the biggest impact. There will be indirect effect on the following ecosystem services – climate and the quality of air, prevention of the natural threats, erosion and fertility of soil.

The thematic plan of the Bauska town river scenery and green infrastructure is designed according to the local municipality's level of planning. The thematic plan is of medium level nature that includes proposals for the development of Bauska town's rivers' visual identity and brand, as well as detailed solutions for the design of landscape elements.

Vision of Bauska's river scenery and green infrastructure development is territory with city specific cultural environment and landscape, whereby ensuring natural, social and cultural-historical infrastructure a balance between human and nature, development and creating is maintained. Based on the four parameters of scenery quality – (1) scenery aesthetics, (2) natural functionality of rivers' and its' territories along their bank, (3) scenery multifunctionality and (4) recreation opportunities – scenery quality goals have been identified: (1) to promote the integration of ecosystem services into the spatial structure of green infrastructure and (2) to improve the spatial structure of the blue infrastructure and its natural functionality.

The goals of Bauska's rivers' scenery quality are formulated by studying the tendencies of scenery development, evaluating the effect on the scenery and the influence of the scenery on the quality of life as well as society's demands regarding the qualities of the nearby rivers' scenery. The key qualities of the thematic plan's Bauska's rivers' scenery are scenery aesthetics, functionality of rivers and territories along its banks, scenery multifunctionality and recreation. The qualities of scenery and green infrastructure are characterized by scenery indicators that allow to evaluate the whole of natural conditions and to imagine the visual form of the scenery.

The thematic plan proposes scenarios for the development of river scenery and green infrastructure in the scopes of the town, the outskirts and the activity centres. Each of the development scenario scopes studies and illustrates the proposed vision, scenery aesthetics, functional connectivity, natural functionality of the rivers and territories along its banks and recreation. The planning instruments of scenery in the scope of the town's scenario look at development proposals both inside the Bauska town's municipality and in the outskirts of the town, including the scope of all-inclusive planning grid. It is possible to predict the development of the town's green infrastructure in accord with the nature of urban development, functions, services and to identify gains and values. The scenery planning instruments in the scope of the outskirt's scenario plan the development proposals for the most impulsive spots of the town and the rivers. The main nodes of the outskirts are of strategic importance both in the scope of the town and outside of it. The existing nodes of the outskirts are planned as the main nodes of Mūsa, Mēmele and their confluence and their interactions will stimulate an enhanced bond between the ecosystem and society's gain. The existing and planned elements and processes will enable multiple functions that will become the basis for a new range of services. The scenery planning instruments in the scope of the activity centre plan the proposals for the development of Mūsa, Mēmele and their confluence in the administrative territory of Bauska town's municipality. The green infrastructure proposals provide the Bauska town with an effective design which is a forward-looking instrument for planned development. The proposals for the development of the green infrastructure in the scope of activity centre envision increasing the natural capital, economic and social wellbeing, regenerate the link between the existing natural territories and increasing the general ecological quality of the urban space. The proposals of river scenery and green infrastructure entail preservation of the existing ecosystems so that they could continue providing valuable services to the society.

The thematic plan gives suggestions for the brand image of the river scenery that highlights the importance of rivers in the Bauska town and integrates river scenery as recreational territories in the town's public exterior space because nowadays it is hard to imagine a successful locality without a strong brand image to compete with existing local, regional and international objects. According to proposals for development the river scenery brand image is to be developed in all the base territory and outside of it, to create a unified brand identity network. The brand image is based on four processes that shape the Bauska rivers' identity – face, personality, culture and relationships. The brand defines its target audience, personality, represented principles and creates a brand image recognizable to the society.

In the scope of the thematic plan proposals for the development of the scenery and green infrastructure have been created where scenery space have been chosen as the unit of scenery planning. Scenery spaces of local scale identify, characterize and evaluate the development of Bauska town's river scenery and green infrastructure in the planning territory. By distinguishing the scenery spaces during the planning process they help with identifying and planning of unified scenery space by tying together different scenery elements and base the planning not only on separate objects but also applies it to the scenery space as a whole. Distinguishing and characterization of scenery spaces gives the territories an identity that is based on specific properties and values that have been strengthened and changed during the planning process. In the scope of the thematic plan Bauska town's river territories have been divided into three scenery spaces, based on the character, natural base, cultural-historical heritage and their location within the context of the town: zone AT1 along the banks of Mūsa river, zone AT2 around the confluence of rivers Mūsa and Mēmele, zone AT3 along the banks of Mēmele river. Each scenery space is further classified into three interconnected scenery space segments – AT1-a, AT1-b, AT1-c, AT2-a, AT2-b, AT2-c, AT3-a, AT3-b, AT3-c.

The scenery space segments are distinguished by their functional plan and name which, according to the plan, is thematically related to properties of water. The functional solution assigns the function of development to the scenery space in question, the thematic solution gives the functional scenery space segment its activity properties. The characteristics and evaluation of the scenery spaces for the development of Bauska town's river scenery and green infrastructure proposed by the thematic plan mark further growth in the area. The scenery space AT1 characterizes the banks of the Mūsa river. Its character and mood are governed by the existing profile of the Mūsa river valley which is wide and accessible. The thematic plan divides the scenery space into segments by function and thematic name – AT1a: Festival-Whirlpool, AT1-b: Health-Refreshment, AT1-c: Recreation in nature-Waves. Scenery space AT2 characterizes the confluence of rivers Mūsa and Mēmele. The character and mood of the space is governed the Bauska castle, its park and the nature park "Bauska". The existing profile of the Mūsa and Mēmele rivers is both wide and narrow, hard to oversee and partially accessible. The thematic plan divides the scenery space into segments by function and thematic name – At2-a: Front of Bauska castle-Rapids, AT2-b: Bauska castle and park-Reflection of 15th and 16th centuries, AT2- c: Islands-Sunset.

The scenery space AT3 characterizes the banks of the river Mēmele. Its character and mood is governed by the buildings of the Old Town on the left bank of the river Mēmele. The existing profile of the Mēmele river is narrow, easy to oversee and inaccessible. The thematic plan divides the scenery space into segments by function and thematic name – AT3-a: Old Town-

Reflection of 16th and 17th centuries, AT3-b: The promenade of Mēmele-Flow, AT3-c: The arch of Mēmele-Sunrise. The scenery space segments in the scope of the thematic plan identify the functional and thematic plan and activities. The functional plan includes the characterization of the infrastructure to be developed – infrastructures of accessibility, facilities, information, lighting, plantings and construction. Each of the planned infrastructures provide guidelines for design which indicate the planned location, name, constructive solutions, technical parameters and special rules for the facility. One of the most important factors of success in the development of the river scenery and green infrastructure is identifying and engaging in the development of the area the largest possible number of entrepreneurs, partners and concerned people. Engaging the citizens, popularization of the cultural-historical heritage is one of the main goals of the whole development process. In the case of positive development of the river scenery and green infrastructure the activity level of citizens and users will have risen and awareness and knowledge about the diversity of nature and cultural historical values around them will be increased. The inhabitants and users of the riverbanks will be able to identify themselves with the area along the rivers of Bauska and will be the ambassadors of their activity centre.

The development of open-to-innovations and competitive business environment is closely connected to the overall economic situation but it cannot be denied that the guarantee of success lies within creativity and long-term planning as well as in the motivation of the public and private sectors to think and act creatively. The cooperation principle of public partners can become the main driving force towards successful economic growth. In the scenario of a positive territory development the area among the banks of Bauska's rivers has the

potential to become an incubator for creative entrepreneurship and a modern and internationally known tourism product.

The available resources and correctly and flexibly created partnership principle are important for creating, preserving, protecting and regeneration of environment for spending a healthy life, work and leisure time, but it is equally important to understand what in the river scenery is redundant, valuable and preservable and what should be developed or created anew. In the scenario of positive development of the territory when the buildings of Mēmele's scenery space's historical centre would be reconstructed it will be possible to continue the development of the rest of the territory by acknowledging the inclusion of modern architecture in the urban space that will respect the spirit and scale of the space and will blend in harmonically with the cultural-historical space. The construction of new buildings or the development of public outdoor spaces in places of lost constructions would be a healthy stimulus for the economic growth of the territory and the town. Development dimension for social diversity will guarantee not only safe environment and territorial sustainability, but will maintain natural diversity, cultural and social quality of multifaceted and add identity and sense of local belonging. In case of positive development, the territory will have all generations equally represented and included, but activation of tourists and visitors will restore and make the town vital. Suggested development proposals, based on set scenery quality objectives from different perspectives, namely, analysing scenery aesthetics and natural diversity, functional qualities and making proposals for scenery space thematic plan could become a specific scenery space development model where planning structure is used as a development scenario rivers' scenery and green infrastructure model in other in towns, regionally and country-wide.

Management of the town's rivers' scenery and green infrastructure on the mid-level is ensured by municipality, social organizations or separate enthusiasts, implementing different activities for maintenance of scenery on the both – public and private territories and construct legal framework by the means of behaviours that influence the scenery (Guidelines for landscape politics for years 2013-2019). Local town rivers' scenery and green infrastructures management is built on three levels, which points to planned operation implementations. According to scenery and green infrastructure development proposals, management system has priorities from 1 to 3, where they state successive operational transparency and planned realization. Priorities have defined management instruments so they could reach stated scenery and green infrastructure goals – aesthetics of the scenery, natural diversity, functional quality recreational possibilities. Each one of activities is characterized by indicators that point to joint planning coordination.

Management priorities and quality criteria solutions were provided according to scenery and green infrastructure development proposals. Management work to be done states development proposals for planned infrastructures for scenery space thematic activities. According to scenery and green infrastructure proposal management solutions, there are set planning periods – short-term period (3 years), mid-term period (5 years), long-term period (10 years). There are presented proposals for successive implementing which results in tendencies, right directions and performances. Guidelines for town's rivers' scenery and green infrastructure management include measures for maintenance of nature and cultural values, rivers' natural ecosystem restoration and sustainable development for public exterior space. The scope of thematic plan includes annual priority of works for general development of rivers' scenery and green infrastructure as well as for development for each infrastructure separately, indicating recommended frequency (times per year). Rivers' scenery maintenance works are targeted at improvement of rivers' ecological status with regular works to help rivers to get back to their natural state as it was before pollution. Essential element of development planning process is the creation of monitoring regulations, which can be used to evaluate territorial development, results and direct consequences of thematic plan implementation as well as evaluate influence of results on longer period. Bauska town municipality is responsible for implementation of thematic plan, including other Bauska regional municipality departments, institutions and authorities. On the thematic plan there are defined constructions and priorities of works for a 10-year period. There are four types of evaluation defined for the process of thematic plan monitoring – annual evaluation, evaluation once every three years (short planning period), evaluation once every five years (medium-term planning), evaluation once every ten years (long-term planning).