

Investigation of Infrastructure and Recreational Potential of Tourist Routes of Rivers

Laura Jankauskaitė-Jurevičienė¹, Aušra Mlinkauskienė²

¹Kaunas University of Technology, Faculty of Civil Engineering and Architecture, Studentu st. 48, LT-51367 Kaunas, Lithuania.

²Kaunas University of Technology, Faculty of Civil Engineering and Architecture, Studentu st. 48, LT-51367 Kaunas, Lithuania.

*Corresponding author: laura.jankauskaite-jureviciene@ktu.lt

crossref <http://dx.doi.org/10.5755/j01.sace.6.1.4925>

Tourism exploring rivers became popular after restoration of independence of Lithuania. During the last decade there were many studies made, related to the development of inner water routes' tourism: many districts created water tourism development strategies, many projects were made concerning development of infrastructure, recreational potential was analysed, the opinion and needs of society were tested. Nevertheless, it did not solve essential problems arising in this subject. Present infrastructure of tourism and the use of recreational resources often do not correspond to the water tourism scale and travelers' needs. Tourism infrastructure of rivers not always is used according to its original mission. Travelers enjoy more those places that are not meant to be used for recreation and tourism. What influences it? From one side – territories planned for recreation and leisure are designed following legal, nature protection and other compulsory requirements that may not correspond to the anthropo-comfort conditions of society needs or the amount of cultural objects of interest. On the other hand, river tourist routes on high season are used most often for sports, and nearby existing attractive cultural heritage objects often are not part of traveling program. This way, cultural cognitive tourism, using water traveling, absolutely loses its interest and sense.

The purpose of the authors of the article is to investigate possibilities of using present infrastructure of river tourist routes and recreational potential, and their adoption for the needs of cultural cognitive tourism.

Keywords: *tourist routes of rivers, landscape of river valleys, infrastructure, recreational potential, cognitive cultural tourism.*

1. Introduction

The length of inland water routes in the Republic of Lithuania is about 930.8 km. Routes of national importance constitute 827.8 km, local water routes make up 68 km, and 35 km are ascribed to perspective water routes. Inland water routes involve rivers acceptable for navigation, lakes and artificial water objects and part of the Curonian lagoon, which contain navigation signs or where pilot maps are marked with pass (*Vl Vīdaus vandens...*, 2008). Many of the Lithuanian rivers suitable for tourism are not listed as inland water route categorized objects.

The wide rivers' net is a good base to develop inland water tourism and recreation, nevertheless national tourism strategy up to 2015 states "undeveloped inland water transport and small harbours/ wharfs infrastructure" as one of weaknesses. Following recommendations of international river tourism, there is a typology having direct influence upon the formation of tourist routes of rivers: hydrological elements, special formation, biological/nature elements, management and tourism supply/demand factors

(*River tourism*, 2009). Additionally to these general factors, antropocomfort conditions, cultural and nature resources, social/cultural conditions also have much importance for the formation of tourism routes.

Object of investigation: Tourism infrastructure and recreational resources (cultural and nature heritage) of Lithuanian tourist routes of rivers (river valleys and approaches) at different types of landscape.

Method of investigation – analysis of archive data, oriented to the legal regulation and analysis of practical examples of inland water tourism infrastructure and tourism potential.

2. Legal regulation and methodic trends of river tourist routes

Tools of legal regulation

Tourism activities on rivers in Lithuania are controlled by laws. Besides main documents, river tourism in Lithuania is being developed in line with general district plans and

special planning documents dedicated to the rivers' tourism, scientific studies of possibilities or even using separate technical projects. The international legal documents which are used with a purpose to develop river tourism activities in Lithuania usually are focused on environmental protection or the general landscape planning and regulation of activities inside territories. The internationally important document, influencing regulation of river approaches, is European Landscape Convention (*European Landscape ...*, 2000).

Legal documents can be grouped into four main groups. These documents are focused on:

- *Organization of tourism activities*,
- *Regulation of use of recreational resources*,
- *To control defense of natural territories*,
- *To define tools of spatial adjusting landscape*.

Organization of tourism activities

The Law on Tourism of the Republic of Lithuania (*Lietuvos Respublikos turizmo ...*, 2002) defines information and accommodation services, describes the use of tourism resources, protection and planning tools. There are the most important *buildings and objects of the infrastructure of tourism services and leisure* distinguished: **the camping** that is described as a territory meant for dwelling in tents, mobile or stationary caravans, and there are conditions to park a vehicle; **the tourism centre** – constructions that are adjusted (meant) for housing and leisure where tourists are accommodated in separate caravans or rooms, and catering, hygiene and other services are provided on a centralized basis at the complex of services; **the tourist campsite** – premises for short-time leisure organization or staying over night at campsites arranged in recreational territories, the land with the purpose of agriculture, forestry or other purpose; **the piers or passenger embarkment or disembarkment points** – objects rendering services and meeting work safety, sanitary, environmental requirements and having the infrastructure that assures the minimal needs of tourists. Inland Waterway Transport Code of the Republic of Lithuania (*Lietuvos Respublikos vidaus ...*, 2008) defines such a concept as **the pier**. It is a stationary or drifting (débarcadère) berth for the entry, parking, loading, unloading, departure, that does not have all the features pertaining to the port. Other specific concepts of tourism infrastructure are defined in the regulations of the preservation of protected areas (confirmed by the orders of the Minister of Environment of the Republic of Lithuania separately for each park, for example: *The Regulations of Dubysa Regional Park Preservation*, 2002). These regulations establish restrictions for recreational activity and define specific objects as related to the recreational activity: **the holiday park** – the territory meant for temporary dwelling without overnight facilities that has recreational installations, a fireplace, WC, small structures of landscape architecture; **the campsite** – the territory meant for leisure with overnight accommodation facilities, adjusted for pitching up tents, having recreational installations, a fireplace, WC, small structures of landscape architecture as well as providing services to satisfy hygienic needs, to collect garbage as well as to organize active leisure time; **the educational trail** is a path not wider than 4 meters meant for pedestrians, users of motorless transport means or riding tourism, established in order to provide conditions to learn (visit) about the objects of nature and/

or cultural heritage, peculiar views or phenomena, having small structures of landscape architecture of informational purpose; **the recreational equipment** includes forest furniture, shelters, umbrella-tents, sports and leisure equipment (climbing walls, swings, etc.), cloth changing cabins, etc.; **the panorama viewpoint** – the territory meant for watching the panorama where a structure resting on the ground may be constructed, as well as the equipment for watching may be installed (the binoculars, the telescope), small structures of landscape architecture; **the rest spot** – the territory meant for short-time rest without overnight accommodation next to educational trails, in the areas of recreational priority and other places. The concept of **tourist route** as defined by the developers of the special plan of National Water Tourism Routes as well as the National Tourism Department is understood as an object of public tourism and leisure infrastructure that is planned, installed and marked by the route marks (*Dėl nacionalinių vandens ...*, 2009), whereas **water tourism (educational) route** is understood as a movement route with educational purposes in small water pools that has places established for berthing and passenger embarkment-disembarkment of sailing vehicles (*Dėl aplinkos saugų ...*, 2010).

All the reviewed *structures and objects of tourism services and leisure infrastructure*, according to the area they occupy, may be divided into *territorial* and *linear*. The following are ascribed to the territorial ones according to their size and the significance of the territory: *panorama viewpoint, rest spot, holiday park, campsite, tourist campsite, camping, tourism centre*. According to the nature of the water transport infrastructure, *piers* and *ports* are ascribed to territorial objects as well. *Educational trails (pedestrian, cycling), tourist trails (passenger, cycling, water, automobiles)* are ascribed to the linear objects.

The regulation of the usage of recreational resources

The natural environment and objects of cultural heritage, as **recreational resources**, are regulated by the Laws on Environmental Protection of the Republic of Lithuania, the Protected Territories and Immovable Cultural Values of the Republic of Lithuania and the law on tourism of the Republic of Lithuania. The recreational resources include: **natural resources** – forests, green spaces of residential territories, water pools and their quays, suitable or possible to be adopted for recreation and leisure of people, mineral water and healing mud pools; **nature heritage objects; objects of immovable cultural heritage**. The new revision of the *Law on Protection of Immovable Cultural Heritage Objects of the Republic of Lithuania* (*Lietuvos Respublikos nekilnojamojo ...*, 2008) has been complemented by such concepts as restoration, fundamental scientific research, survey, regulative works of heritage and construction, etc. that determine the usage and protection means of objects adopted for a new function – recreation or tourism. *The Law of the Amendment of the Law on Protected Territories of the Republic of Lithuania* – passed in 2001 (*Lietuvos Respublikos saugomų ...*, 2000) is especially important for the recreational activities. It established social relations linked to protected territories and territorial protection of the immovable cultural heritage.

According to the existing laws in Lithuania, the objects of immovable cultural heritage in line with their composition

are divided into: *separate, complexes* and *areas*. According to the valuable features determining their importance as well as significance for the cognitive cultural water tourism, the objects of cultural heritage can be divided into: *urban, architectural, sacral, archeological, engineering*. The objects of natural heritage include separate elements of landscape or elements in groups that, because of their value, are subject to special environment and usage mode as established by legal acts.

Regulation of protection of natural territories

The activity at river basins is determined by the Laws of Water of the Republic of Lithuania and Environmental Protection of the Republic of Lithuania. These documents define the rights and duties of water users as well as environment protection principles performing the recreational function at water pools and their vicinities. The order of the Minister of Environment of the Republic of Lithuania "Regarding the Protection Zones of Surface Water and the Confirmation of the Rules of the Establishment of the Quay Protection Belts (2007) sets **the surface water pool protection zone** – the territory next to the surface water pool where economic and other activity is allowed only under the usage of special (agronomic, engineering, etc.) measures protecting the water pool and its environment from degradation. The part of the zone by the water pool is the quay protection belt. The width of protection zones depends upon the width of water pools, the sloping degree of the quays and the type of environment.

The protection of natural territories in Lithuania is related to the network of protected territories. *Conservation protection measures* are applied for especially valuable natural objects and territories, and the natural reservations are established in these territories, and economic activities are strictly restricted or prohibited at all in these territories. Other territories that are attractive from the natural perspective, but they are less valuable natural territories, are adjusted for *recreational activity*.

Establishment of spatial regulation means

International *landscape spatial regulation means* stated in the European Landscape Convention that is undersigned by the members of the Council of Europe and consolidates such essential terms, as **landscape** that is perceived as an area, the nature of which was determined by the action and interaction of natural and human factors; **landscape protection** – is understood as a set of actions that aim at preservation and retention of features that are important and pertain to landscape, justifying its heritage value arising from the formed landscape and (or) human activity; **landscape regulation** means activity, with regards to sustainable development perspective, that aims to assure the constant maintenance of landscape in order to be able to direct and coordinate changes that are aroused by social, economic and environmental development processes; **landscape planning** is activity clearly oriented to the future that seeks to improve, restore or create landscape, etc. In determining and evaluating landscape, Lithuania undertakes to analyse landscape characteristics and factors changing them and to pay attention to specific landscape formation means, such as distinguishing and evaluating different

types of landscape, formation of qualitative landscape, etc. The methodological measures of the spatial regulation of landscape of Lithuania (*Lietuvos turizmo potencialo ..., 2011*) established the following criteria of the selection of measures of the spatial attraction of the area and its administration:

- tourism objects and environment, recreational resources;
- territories and objects of rest and overnight services;
- other objects of services: information, catering, trade (in souvenirs), crafts workshops, art, rental institutions, etc.;
- transport means and service objects (water transport means, rental points);
- general infrastructure (road network, energy supply, public utilities, etc.).

The tourist attraction of an area consists of: *tourism resources* (natural, cultural, social/human) and *infrastructure*; *the composite parts of tourism service rendering* (accommodation, catering, transportation, entertainment, information, management, travel organization, education services); *the flow of tourists*; *the status of the area* (for example, resort, protected by the Lithuanian or UNESCO global heritage, etc.); *landscape* (natural, anthropogenized anthropogenic); *activity of agents interested in tourism*.

3. Examples of development of river tourism routes' infrastructure

Recently, there have been many tourism studies carried out and projects prepared in Lithuania:

- Studies of tourism development possibilities of various regions;
- Research and studies of development possibilities of separate tourism branches (water, auto-transport, cycling, pedestrian);
- Special plans.

The articles analyses the studies of development possibilities related to inland water tourism.

Studies of tourism development possibilities

The study of possibilities of the Nemunas tourist route (zone) development. The study was prepared in 2002. The study was prepared by Kaunas Region Development Agency, the Lithuanian Regional Research Institute, Vytautas Magnus University (*Nemuno turistinės ..., 2002*). The study introduces the present situation, evaluating tourism needs with respect to tourists and business, transport infrastructure, the present tourist routes of water transport, automobiles and bicycles, the potential of tourism resources, the present projects and etc. The study analyses municipalities located in the limits of the Nemunas tourist zone, gives the review of cultural values classified according to their significance for tourism: *international, national, local*. The study notices that there are not yet tourism routes uniting water transport, bicycles or automobiles in the territory under discussion. Having evaluated the water tourist routes, it was noticed that the network of stationary piers in the Nemunas for steamboats is too sparse; the network of

small (or temporary) piers (for instance, débarcadère) in the further tributaries of the Nemunas (the Nevėžis, the Jūra, the Minija, the Šyša) is too scarce; there is a lack of campsites for water tourists on the quays; there are no informational marks for those who travel on water about the objects of interest on the shore; there is a lack of navigation signs in the tributaries of the Nemunas. The study presents routes of various tourism types, but it is noticed that most of the routes are short-termed, of local importance, and also the supply is not big. The study proposes to develop tourism in the Nemunas zone in the following directions: *healing, recreational (view-entertainment, entertainment in line with the interests, educational, professional-business and eco-tourism)*. The tourism forms proposed: *local and incoming tourism* that may be: *of ordinary day, weekend and holiday*. Several planned directions of development as set in the proposal means prepared in the study are related to water tourism: *motorized water tourism; water tourist routes*.

The study of the development and feasibility of the potential of the Nemunas zone as a cultural tourist zone.

This study was carried out in 2007 by the Public Enterprise Institute of Baltic Recreational Systems' Development. The aim of the work of the study is to evaluate the influence of the Nemunas zone upon the cultural tourism development of Lithuania (*Nemuno zonos ...*, 2007). The study notices that cultural tourism was important in all times, that the development of cultural tourism of Lithuania is encouraged (development of cultural tourism is set as a priority in legal acts of different levels), but at the same time it is restricted by other legal acts (for example, that of Cultural Heritage Protection). Evaluating the cultural tourism development in Lithuania, the study followed the classification of tourism attractions as proposed by the ECTARC (*European Centre for Training and Regional Co-operation*, 2013): *museums, archeological areas; architecture (cities, well-known structures, the ruins); art, crafts, galleries, festivals, etc; music and dancing (classical, folklore); theatres, cinema, and etc.; language, literature and other studies, educational trips, various educational events (seminars, study-visits, etc.); religious festivals, pilgrimage; all cultures and subcultures*. In the opinion of the compilers of the study, the Nemunas zone is not perceived as an integral separate object, and often it includes separate territories in municipalities as well as separate tourism products. The aim presented in the study of development and possibilities under discussion is to create the multi-component product of cultural tourism of the Nemunas zone that would be attractive for all groups of tourists. Several of prioritized measures are related to water tourism: *creation of water tourism routes of the Nemunas zone (cruise and small sailing vehicles); administration and development of water tourism infrastructure; administration and installation of approaches to the Nemunas river and berths*. **Research and studies of the possibilities of water tourism development**

Studies of possibilities of development of tourism in Southern and Eastern Lithuania. In 2003, Gediminas Technical University of Vilnius, the Scientific Institute of Territorial Planning (hereinafter referred to as the VGTU

TPMI) carried out the studies of the possibilities of water tourism development in Southern and Eastern Lithuania.

The study of possibilities of water tourism development of Southern Lithuania (Pietų Lietuvos ..., 2003) states that there are many water pools in this region that are suitable for tourism, but most often the rivers of Merkys and Ūla are used and they are overcrowded by the number of tourists in the course of high season. The analysis of water tourism situation in the region as described in the study presents possible tourist routes, gives an overview of the landscape and mentions possible objects of interest. The analysis of the most popular routes was performed: *according to the type of water pools (routes by rivers as well as by rivers and lakes); according to the length of the route (1, 2, 3 days); according to the type of tourists (the routes are most popular among people of 16–45 years of age); according to purpose (recreational-natural, recreational-tourist, recreational-fishing); according to complexity*. The provided analysis of routes notices that its popularity is determined by *the preparation of the water pool, the quality of campsites, the maintenance of environment*. The factors that are the most important for the installation of campsites as provided in the proposals of the study are as follows: *the natural factor; the climate factor; the structure of the area*. With regards to the aforementioned criteria as well as the forecast capacity, there are three types of campsites distinguished: *the minimal level of the 1st type, the average level of the 2nd type; the high level of the 3rd type*.

The study of the possibilities of water tourism development in Eastern Lithuania (Rytų Lietuvos ..., 2003) carried out the analysis of routes according to: *type of water pools (apart from the routes mentioned in the earlier study, the routes by lakes are distinguished); the length of the route; the type of tourists; purposefulness; complexity*. This study, just like the study mentioned earlier, defines the present and possible routes of water tourism, gives the examples of marking of tourist routes (following the example of Poland) and three types of campsites are distinguished. Both of the studies under discussion provide the analysis of water entertainment, the interaction of rural tourism and water tourism development as well as the SWOT analysis water tourism. The proposals of the development of water tourism infrastructure in the studies under discussion are based on the questionnaires of providers of sailing equipment of water tourism and the employees of the tourist information centre of the region under discussion, however, a more specific division of the infrastructures of tourist routes with regards to *the type of the landscape, the habitat of clusters of the cultural heritage as well as anthro-comfort conditions* is missing.

The possibilities of water tourism development in the lower Minija river and the Curonian Sea. This study was oriented towards the *evaluation and improvement of the infrastructure of rivers; the administration of cultural heritage*. The planned solutions are necessary in order to encourage water tourism in the lower Minija as well as the Curonian Sea (*Vandens turizmo plėtros ...*, 2012).

The study of the infrastructure of seaside water tourism and possibilities of leisure development. This study analyses

the natural and cultural resources in the Seaside zone: *water resources of the region* – the Curonian Sea, the Nemunas mouth, the Baltic sea; *the protected territories* – national and regional parks – the National Park of the Curonian spit, the regional parks of the Seaside and the Nemunas delta, the reservoirs; *objects of cultural heritage* for visitors – cities and towns. The studies give a review of the supply of tourism services: accommodation institutions; catering institutions; transport; information services; tourism agencies. The analysis of the potential of water tourism is divided into two parts in the study: inland water and marine. The tourist routes analysed in the study are as followed: the Nemunas (Kaunas–Nida) (possibilities of the water tourism in the Nemunas are analysed in the prepared study of the possibilities of “Nemuno turistinės trasos”, thus are not further on discussed in this study); the Miniija (Žarėnai–Mingė); Klaipėda–Nida; Klaipėda channel–Miniija–Atmata; the Nemunas delta RP; Nida–Mingė; the Pakalnė river. In the opinion of the preparers of the study, the channel of the King Vilhelm is not sufficiently adjusted for water tourism. According to the preparers, the network of campsites is fully developed, as more than ten campsites are established along the main water tourism and cycling tourism routes. The study specifies water tourism infrastructure: *the port, the pier*. But there is a problem that the most of the established piers do not meet the necessary requirements, they are not prepared for safe water tourism service, they do not satisfy the needs of tourism and most of them are not legally registered. As the studies mentioned before, this study also evaluates the water entertainment possibilities, water tourism coordination with other types of tourism and the performed SWOT analysis.

Special plans

The special plan of national water tourism routes. The special plan of national water tourism routes, prepared by the VGTU TPMI, was confirmed in 2009 by the order No. 4-67 by the Minister of Economy of the Republic of Lithuania. This plan specifies 8 water tourism routes of national importance, the Merkys and the Ūla, the National Park of Aukštaitija and the rivers of Žeimena, Neris, Miniija, Jūra, Šventoji, Nemunas, Dubysa, the length of which is 1858 km (*Nacionalinių vandens turizmo ...*, 2009). The special plan provides for tourist water routes as well as public tourism infrastructure at the distance of 1 km from the shore line. The influence zone of the infrastructure was chosen according to the approachability on foot from the route. The plan presents cultural and natural objects of interest, as well as accommodation and catering institutions located in the zone of influence. Also, the mileage of routes and the marking of tourist objects are provided. The solutions of the special plan consist of objects that exist, are reconstructed and are being planned in the territories under discussion. The infrastructure meant for the recreation of water tourist routes consists of: *panorama viewpoints, rest places; campsites of the minimum level – 4 places, campsites of the average level – 8 places, campsites of the high level – 14–20 places; camping*. The infrastructure meant for the stopping of tourists consists of: *piers; mobile piers; stationary piers*. The places of the infrastructure of routes in the special plan

are developed on the basis of: *the plan of the management of the regional park, the places of the beginning and the end of the formed tourist routes, at the request of land owners*. Definitions of the infrastructure of tourist routes as used in the special plan rest upon several legal documents analysed in the previous chapter of this article. The variants of the distribution plan of campsites as provided in the special plan are based on the project material of the Joint Stock company UAB Rekreacinė statyba (*Lietuvos Respublikos Ūkio ...*, 2009).

4. Differentiation of infrastructure and recreational objects in river tourism

In general, tourism is classified: *according to tourism forms* (local, incoming, outgoing); *according to the categories of tourism* (internal, national, international); *according to the type of tourism* (in line with the activity level, the main purpose, dependence upon transport, the nature of the travel organization, length, intensity of flows, age of tourists, type of transport) (*Grecevicus P., Armaitienė A. ...*, 2002). Speaking about tourism in terms of different means of transport, it is noted that the general tourism classification should be specified after the evaluation of different factors. River tourism in Lithuania is mostly used on the internal level, according to tourism categories – it is mostly internal and national tourism. Assessing the river tourism in line with types, it can be noticed that it is the type of tourism of different levels of activity, age, transport dependence or the nature of travel organization. In the general case, tourism is further on broken down into *short-term* (2–4 days), *average length* (from 5 days up to a month) and *long-term* (over a month). River tourism in Lithuania includes routes that would be classified as short-term in line with these terms. Having evaluated tourist routes of Lithuanian rivers as well as their potential, they can be classified into: *short-term* – from several hours up to 1 day, *of the average length* – 2–3 days, *long-term* – about a week. Following the established environment protection conditions for sailing in water pools as well as evaluating according to the type of transport, river tourist routes should be classified into: *routes with a possibility to service flows of tourists as well as motorized transport means; routes with a possibility to service a small number of tourists and non-motorized transport means*.

The analysis of legal documents, prepared scientific studies and special plans shows that the most important infrastructure objects are: panorama sites or viewpoints, rest places, recreation sites, campsites, tourist camps, camping spots, tourism centres, piers, educational trails (pedestrian, cycling), tourist routes. Infrastructure objects in tourist routes should be allocated with regards to the peculiarity, significance, dislocation of tourist routes according to the type of landscape and the possible tourist service field. The authors of the article propose to classify all the infrastructure objects according to these particular features: the type of the occupied area, the type of landscape, infrastructure elements and significance of landscape with regards to the tourist route and service field (*Table 1*).

Table 1. Categories of the objects of infrastructure of River tourism routes

No.	Infrastructure objects				
	According to the area of the occupied plot	According to the type of infrastructure elements	According to the landscape type	According to significance	According to the service rendering field
1.	Territorial	Viewpoint	Natural landscape	Local significance	Up to 0,5 km
		Rest place			
		Holiday park	Anthropodenized landscape	Important, of local importance	1–1,4 km
		Campsite			
		Tourist campsite	Anthropogenized landscape	Tourist tracks are of great importance	Up to 5 km
		Camping			
		Tourism centre			
Pier	Natural, anthropogenized and anthropogenic landscape				
2.	Linear	Educational trail	Natural, anthropogenized and anthropogenic landscape	Important, of local importance and very important in respect to the entire route	X
		Tourist route			

Methodological measures of the formation of infrastructure of river tourist routes

As it was discussed in the previous chapter, all the objects of tourism services and recreation infrastructure can be divided into territorial (*panorama site (viewpoint), recreation place, holiday park, campsite, tourist camp, camping, tourism centre, piers and ports*) and linear (*educational trails (pedestrian, cycling), water tourist routes*). The territorial service objects are differentiated according to their *significance* and influence upon the development of river tourist routes as well as the *type of the occupied area of the territory*. The linear service and recreation objects: *educational trails, entertainment tourist routes*, are greatly affected by natural and cultural factors. The latter objects should be planned in such places where there are many natural and cultural heritage objects or already established attractive recreation sites.

Carrying out the cultural recreational tourism by rivers, it is important to distinguish the influence zones of service objects and recreational resources. The approaches of rivers, according to the significance, approachability and recreational resources of service objects, can be classified into the following territories:

- The 1st – *natural-recreational zone*, with planned recreation places, and the main recreational resources are distributed next to parking places and reached on foot. The width of such a zone should not exceed the distance of 0.5 km on one side on the river, and places for having a short rest should be established every 5 km. It is the influence zone that is the closest to the river tourist route where the main objects for recreation and hygiene are established (Fig. 1).

- 2nd – *recreational zone in anthropogenized territories*. Both natural and cultural values prevail in this zone, and objects of recreational infrastructure of the higher level – holiday parks, campsites – are established in scarcely urbanized rural settlements or the vicinities of individual farmsteads in the countryside. The width of such a zone, calculating from the axle of the river to one direction, should not exceed 1.4 km, and the most important objects of recreational resources are reached on foot in 15–20 minutes. The optimal distance between established holiday parks or campsites is 10km (Fig. 2).
- 3rd – *recreational zone in anthropogenic territories*. This zone is meant for the establishment of the infrastructural objects of the highest level: *camping places, tourism centres, piers*. The influential limit of this zone is up to the width of 5 kilometers, where the most important objects of infrastructure and recreation are reached by bikes or motorized transport means. It is the optimal limit that can be reached by bike in 15–20 minutes, by automobile – in 10–15 minutes. The recreational resources are important in this zone, i.e. the objects of cultural heritage, the clusters of which are in urban territories, prevail here. The most optimal distance between the established campings or tourism centres is 30 km (Fig. 3).

The provided recommendations of the distribution of objects of *tourist routes' infrastructure* are oriented towards those rivers where recreational activity by non-motorized transport means is allowed.

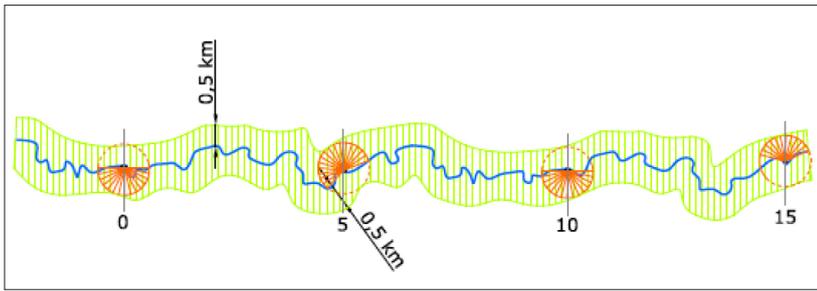


Fig. 1. Distribution of recreational infrastructure in the natural landscape

CONVENTIONAL MARKING	
	STOPPING-PLACE OF THE 1ST TYPE: REST PLACE
	INFLUENCE FIELD OF THE STOPPING-PLACE OF THE 1ST TYPE IN THE NATURAL ENVIRONMENT
	WIDTH OF THE INFLUENCE ZONE OF THE STOPPING-PLACE (0.3-0.5 KM)
	DISTANCES BETWEEN OBJECTS (KM)
	RIVER

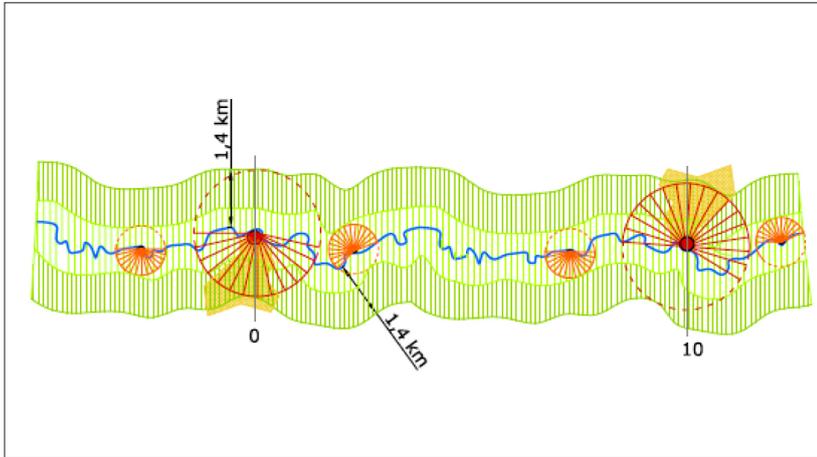


Fig. 2. Distribution of recreational infrastructure in the anthropogenized landscape

CONVENTIONAL MARKING	
	STOPPING-PLACE OF THE 1ST TYPE: REST PLACE
	STOPPING-PLACE OF THE 2ND TYPE: HOLIDAY PARK/CAMP SITE
	INFLUENCE FIELD OF THE STOPPING-PLACE OF THE 1ST TYPE IN THE NATURAL ENVIRONMENT
	INFLUENCE FIELD OF THE STOPPING-PLACE OF THE 2ND TYPE IN THE ANTHROPOGENIZED ENVIRONMENT
	WIDTH OF THE INFLUENCE ZONE OF THE STOPPING-PLACE (0.3-0.5 KM)
	WIDTH OF THE STOPPING-PLACE INFLUENCE ZONE (1-1.4 KM)
	RURAL SETTLEMENT
	DISTANCES BETWEEN OBJECTS (KM)
	RIVER

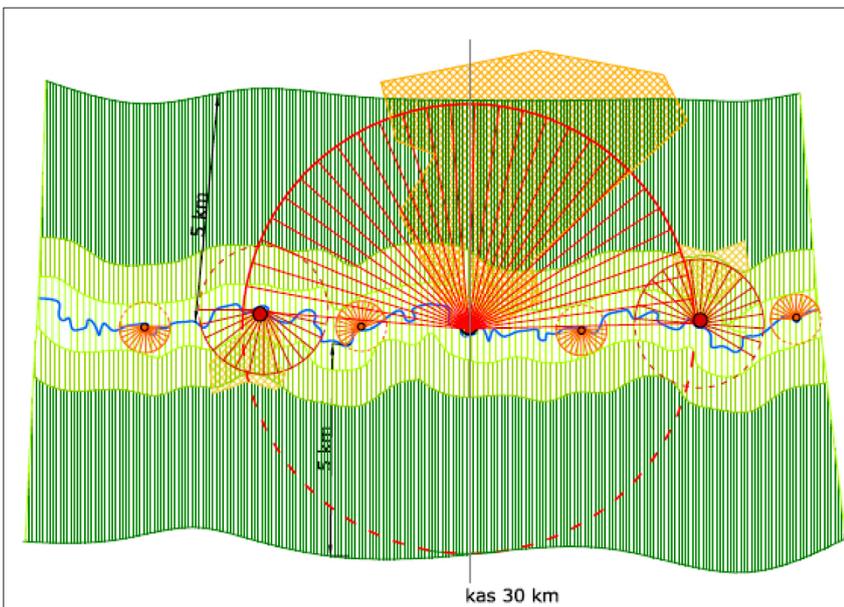


Fig. 3. Distribution of recreational infrastructure in the anthropogenic landscape

CONVENTIONAL MARKING	
	STOPPING-PLACE OF THE 1ST TYPE: REST PLACE
	STOPPING-PLACE OF THE 2ND TYPE: HOLIDAY PARK/CAMP SITE
	III TIPO SUSTOJIMO VIETA:STOVYKLA VIETĒ/KEMPINGAS/TURIZMO CENTRAS
	INFLUENCE FIELD OF THE STOPPING-PLACE OF THE 1ST TYPE IN THE NATURAL ENVIRONMENT
	INFLUENCE FIELD OF THE STOPPING-PLACE OF THE 2ND TYPE IN THE ANTHROPOGENIZED ENVIRONMENT
	INFLUENCE FIELD OF THE STOPPING-PLACE OF THE 3RD TYPE IN THE ANTHROPOGENIC ENVIRONMENT
	WIDTH OF THE INFLUENCE ZONE OF THE STOPPING-PLACE (0.3-0.5 KM)
	WIDTH OF THE STOPPING-PLACE INFLUENCE ZONE (1-1.4 KM)
	WIDTH OF THE STOPPING-PLACE INFLUENCE ZONE (5 KM)
	RURAL SETTLEMENT
	TOWN
	DISTANCES BETWEEN OBJECTS (KM)
	RIVER

5. Conclusions

1. The analysis of legal documents showed that the main laws as valid in Lithuania can be classified according to the nature of legal regulation: *organization of tourism activity, regulation of the usage of recreational resources, regulation of protection of natural territories, establishment of landscape spatial regulation measures*. Besides, the laws define the essential concepts related to water tourism and regulate the behaviour on the banks of rivers in the limits of protected areas, the territories of cultural heritage.
2. Having analysed various studies of water tourism development, the special plan of national water tourist routes, as well as other literature, it was noticed that the recreational places on water tourist routes are planned with regards to the needs of tourists or interests of private owners of land bordering the tourist route, the existing (present) situation, climate conditions, the structure of the place. But the need for infrastructure or the type of objects are not based on the typology of the landscape, and there are links between the tourist routes' infrastructure and habitats of cultural heritage missing.
3. In order to optimize the dislocation of the objects of infrastructure of tourist routes of rivers, it is necessary to classify the infrastructure objects according to the features pertaining to them: the type of the occupied area, the type of landscape, the significance of infrastructure elements and landscape with regards to the tourist route, as well as define their service field, and the river tourist routes should be classified in the following way: *routes with a possibility to provide service for huge flows of tourists as well as motorized transport means; routes with a possibility to provide service for a small number of tourists and non-motorized transport means*.
4. Carrying out the cultural recreational tourism by rivers, it is important to distinguish the influence zones of service objects and recreational resources, and it is purposeful to classify the approaches of rivers in line with the significance of service objects, approachability and recreational resources, into such territories: 1st – *natural-recreational zone*, 2nd – *recreational zone in anthropogenized territories*, 3rd – *recreational zone in anthropogenic territory*.

References

ECTARC (European Centre for Training and Regional -operation), 2013, Available at: <http://www.ectarc.com/>

European Landscape Convention, Florence, 20.X.2000. Ratifikuota Lietuvoje 2002 (Žin., 2002-10-31, Nr. 104-4621), Vilnius;

Grecevičius P., Armaitienė A., Junevičienė O., Turizmas, Vadovėlis, Kaunas: Kauno kolegijos leidybos centras, 2002;

Lietuvos Respublikos aplinkos apsaugos įstatymas (Žin., 2005, Nr. I-2223), Vilnius;

Lietuvos Respublikos Aplinkos ministro įsakymas Dėl aplinkosaugos sąlygų plaukiojimo vandens telkiniuose plaukiojimo priemonėmis ir vandens telkinių, kuriuose

plaukiojimas tam tikromis plaukiojimo priemonėmis draudžiamas ar ribojamas, sąrašo patvirtinimo, (Žin., 2010-03-23, Nr. 33-1584), Vilnius;

Lietuvos Respublikos Aplinkos ministro įsakymas Dėl Dubysos regioninio parko apsaugos reglamento patvirtinimo, 2002 m. rugpjūčio 10 d. Nr. 414, Vilnius;

Lietuvos Respublikos nekilnojamojo kultūros paveldo apsaugos įstatymas (Nr. X-1244, 2007-06-28, Žin., 2007, Nr. 80-3218 (2007-07-19), [Republic of Lithuania Law on protection immovable cultural heritage (As last amended on 8 May 2008 – No X-1531)], Vilnius;

Lietuvos Respublikos saugomų teritorijų įstatymo pakeitimo įstatymas. Nr. IX-628 (Žin., 1993, Nr. 63-1188; 1995, Nr. 60-1502; 2000, Nr. 58-1703), Vilnius;

Lietuvos Respublikos teritorijų planavimo įstatymo pakeitimo įstatymas. Nr. IX-1962 (Žin., 2003, Nr. 42-1916), Vilnius;

Lietuvos Respublikos turizmo įstatymo pakeitimo įstatymas (Žin., 2002-12-24, Nr. 123-5507), [Republic of Lithuania Law on Tourism (March 19, 1998 No. VIII - 667); Parliamentary record, 1999-01-01, Nr. 1], Vilnius;

Lietuvos Respublikos Ūkio ministro įsakymas Dėl nacionalinių vandens turizmo trasų specialiojo plano patvirtinimo 2009 m. vasario 23 d. Nr. 4-67, Vilnius;

Lietuvos Respublikos Ūkio ministro įsakymas Dėl nacionalinių vandens turizmo trasų specialiojo plano patvirtinimo 2009 m. vasario 23 d. Nr. 4-67, Vilnius;

Lietuvos Respublikos vandens įstatymas (Žin., 2009-12-17, Nr. VIII-474), [Republic of Lithuania Law on Water (October 21, 1999, No. VIII-474); Amended by July 5, 2000 No. VIII – 1807], Vilnius.

Lietuvos Respublikos vidaus vandenų transporto kodeksas (Žin., 2008-11-06, Nr. I-1534), Vilnius;

Lietuvos turizmo potencialo įvertinimo, nustatant didžiausias turistinės traukos vietas ir jų panaudojimo prioritetus, studija (2011), VšĮ Turizmo plėtros institutas, Vilnius;

Nacionalinių vandens turizmo trasų specialusis planas, 2009. Available at: http://www.ukmin.lt/web/lt/nacionaliniu_vandens_turizmo_trasu_specialusis_planas

Nemuno turistinės trasos (zonos) išvystymo galimybių studija, 2002. Available at: http://www.lrti.lt/naujienos/sem_NemTurZon.html

Nemuno zonos kaip kultūrinės–turistinės zonos potencialo plėtros ir galimybių studija (2007), VšĮ Baltijos rekreacinių sistemų modeliavimo institutas, Palanga;

Pajūrio vandens turizmo infrastruktūros ir pramogų plėtros galimybių studija (2007), mokslinis tiriamasis darbas, UAB „Eurointegracijos projektai“, Vilnius;

Pietų Lietuvos vandens turizmo plėtros galimybių studija (2003), aut.: R. Tamošaitis, M. Burinskienė, VGTU, Vilnius;

Respublikos Aplinkos ministro įsakymas Dėl paviršinio vandens telkinių apsaugos zonų ir pakrančių apsaugos juostų nustatymo taisyklių patvirtinimo (Žin., 2007-02-22, Nr. 23-892), Vilnius;

River tourism (2009), edited by Bruce Prideaux and Malcolm Cooper, London, UK;

Rytų Lietuvos vandens turizmo plėtros galimybių studija (2003), aut.: R. Tamošaitis, M. Burinskienė, VGTU, Vilnius;

Valstybinio turizmo departamento prie Lietuvos Respublikos Ūkio ministerijos direktoriaus įsakymas „Dėl vandens turizmo paslaugų teikimo reikalavimų patvirtinimo“ (Žin., 2003-03-27, Nr. 29-V), Vilnius;

Vandens turizmo plėtros galimybės Minijos žemupyje, 2012.
Available at: http://www.elibrary.lt/resursai/Konferencijos/VLVK_051028/4%20sekcija/Skurvydas%20A,%20Grecevicius%20P%20ir%20Olsauskaite%20R%20-%20Vandens%20turizmas%20Minijos%20zemupyje2.pdf

VĮ Vidaus vandens kelių direkcija, 2008. Available at: <http://www.liwa.lt/lt/menu/about>

Received 2013 08 08
Accepted after revision 2013 12 05

Laura JANKAUSKAITĖ-JUREVIČIENĖ – lector, researcher, Kaunas University of Technology, Department of Architecture and Urbanism. Main research area: research in cultural heritage, cultural landscape, transport systems.
Address: Studentų st. 48, Kaunas, Lithuania.
Tel.: (8 37) 451 546
E-mail: laura.jankauskaite-jureviciene@ktu.lt

Aušra MLINKAUSKIENĖ – lector, researcher, Kaunas University of Technology, Department of Architecture and Urbanism. Main research area: research in cultural heritage, protected areas, cultural landscape.
Address: Studentų st. 48, Kaunas, Lithuania.
Tel.: (8 37) 451 546
E-mail: ausra.mlinkauskiene@ktu.lt