LAND SEA ACT

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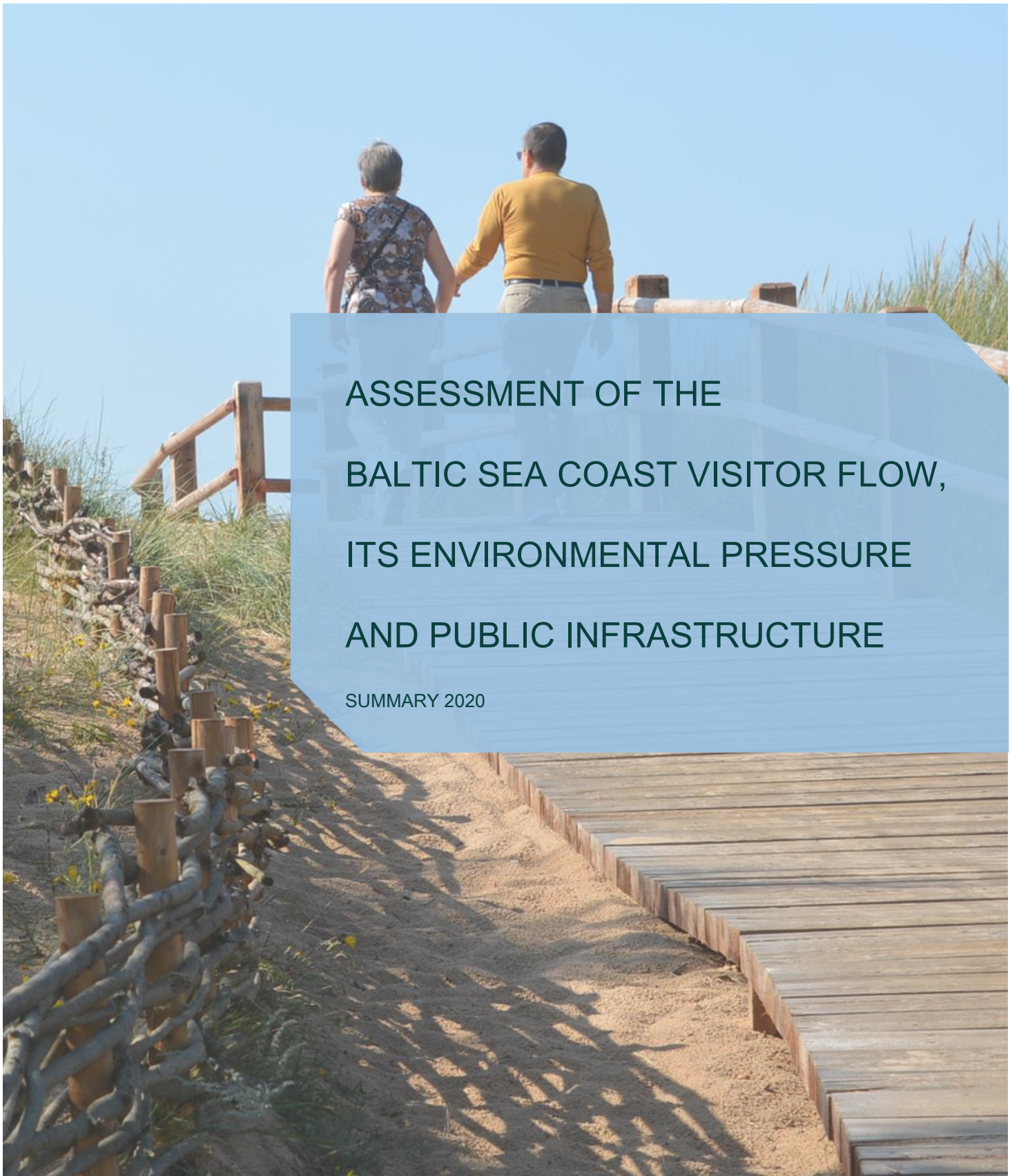

ASSESSMENT OF THE BALTIC SEA COAST VISITOR FLOW, ITS ENVIRONMENTAL PRESSURE AND PUBLIC INFRASTRUCTURE

SUMMARY 2020

This summary is deliverable of procurement by the Ministry of Environmental Protection and Regional Development of the Republic of Latvia - “Assessment of the visitor flow to the Baltic Sea coast and public infrastructure in the context of anthropogenic environmental pressure” (VARAM 2019/19) within the framework of the Interreg Baltic Sea Region Transnational Cooperation Program’s project #R098 “Land-Sea-Act”.

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Extended assessment reports also on methodology will be available in Latvian at https://land-sea.eu/results/

Cover photo: A. Klepers, 2019

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Introduction

In Latvia the importance of the Baltic Sea coast for tourism is increasing and also locals are using sea coast for various recreational purposes more. The seaside is a symbolic landscape space and a desirable location for a real estate. The seashore is an important natural ecosystem that is inextricably linked to the overall processes of the Baltic Sea basin, including changes of important coastal habitats for many flora and fauna species. The economic potential of the coast is being exploited to a greater extent and as the number of visits increases yearly, the growth of the anthropogenic environmental pressure is evident as vegetation degradation and marine litter. The amount of marine litter on the beach hasn't reduced yet and more flexible solutions are needed to manage it, both in terms of waste sorting, recycling and regularity of garbage disposal, as well as raising environmental awareness of visitors. In places where well-developed coastal access infrastructure has been established in recent years, the negative impact of the anthropogenic pressure has been diminished. Critical assessment however applies to the degradation of some coastal sites, where the number and intensity of visitors is large but infrastructure is insufficiently developed. There are problematic sites where existing facilities need to be renovated or adequate infrastructure maintenance need to be provided. Inadequate behaviour of some individuals in the coastal dune protection zone and the predominance of personal interests over the public interest also create conflict situations.

Elaboration of the national long-term thematic plan for the development of public infrastructure of the Baltic Sea coast (hereinafter - the Coastal Plan) was a task defined in the Coastal spatial development guidelines 2011-2017 and one of the steps of Latvia's sustainable development strategy *Latvia 2030*, where **coastal space** is defined from the premises of national interests as "**one of the greatest values of Latvia, where the preservation of the natural and cultural heritage must be balanced with the promotion of sustainable economic development**".

The information obtained in the assessment of the Baltic Sea coast visitor flow, its environmental pressure and public infrastructure has been used for the development of the Coastal plan interim evaluation (2016-2019) and for the development of

recommendations within the Land-Sea-Act[1] project funded by INTERREG Baltic Sea Region Transnational Cooperation Program 2014-2020. Accurate data gives knowledge for better planning of future development of the Latvian coastal area and justifies investment needs in the respective area. The resulting assessment data are comparable with baseline information on the coastal visitor count, its environmental pressures and public infrastructure assessment made in 2015, which was obtained using a similar research methodology. Two synthesis reports of the assessment include clearly structured information about:

1) coastal development tendencies and interrelations of environmental pressure in the municipalities and priority development areas determined by them;
2) an assessment of the visitor flow spatial-temporal mobility, volume & structure;
3) long-term marine litter load and its dynamics on the Latvian beaches;
4) anthropogenic impact on vegetation in the coastal dune protection zone;
5) evaluation of public infrastructure (capacity and quality);
6) access to the sea of emergency services.

In addition, detailed cartographic material has been produced and the coastal geodatabase information has been updated including pedestrian pathways and access roads to the sea, public car parks, assessing their capacity and quality, tourist accommodation and their capacities, and other features. Over the entire length of the Latvian coastline (~495 km) intensity of coastal visits, marine litter load and anthropogenic impact on vegetation are specified for every 100m segment of sea shore. A survey among 1199 coastal visitors was conducted.

Visits of Baltic Sea Coast

One million people could relax on the coast of the Baltic Sea in the territory of Latvia at the same time.[2] However, this would not be sustainable, given the sensitivity, condition and well-being of dune habitats and the interest of local communities to keep beaches unoccupied. In general visits to the Latvian sea coast are very unevenly distributed throughout the year, polarizing between *Mediterranean* type of beaches full of services and amenities and *Scandinavian* type of beaches that are as natural as possible with minimal infrastructure and smaller visitor count. However, deficiencies in public

[1] Land-sea interactions advancing Blue Growth in Baltic Sea coastal areas (Land-Sea-Act)
[2] According to the standard practise in Mediterranean beaches 5–10 m^2 of beach area per visitor

infrastructure and uncontrolled anthropogenic pressures have been identified in both types of beaches.

The number of visits to the coast is growing, **reaching 8 million in Latvian coast in 2019**. Tourism demand is concentrated along the entire coast from the village of Nida on the south west to the town of Ainaži on the north, creating a linear regional destination that is relatively homogeneous in terms of characteristics and motivation to visit. This points to a possible alternative to the management of **regional tourism destinations** (focusing on foreign markets), without dividing them by cultural-historical regions, but on the basis of three distinct areas functionally linked in terms of demand and space: **the capital, the coast and the hinterland of Latvia**.

There is a significantly higher concentration of visitors in coastal cities and at the main tourist mobility hubs (near the international ports and airports, at border crossings in Rucava and Ainaži, next to international highways) and in places with popular tourist attractions (cape Kolka, *Positivus* music festival, etc.). However more than two thirds of Latvia's Baltic Sea coast are little visited (see Figure 1), but compared to 2015, the **intensity of visits in recent years has increased**. 11,6 km (~2,2 %) of beaches are intensively visited, but very high number of visits has been registered in 20,7 km (4,2 %).

Coastal visits are **highly seasonal**, influenced by the optimal climate for the beach vacations - in Latvian situation temperature above 20^{o}C, moderate wind below 10 m/s and no rain with water temperature balancing between 18-22^{o}C. The seasonality effect is also reflected in the occupancy rate of tourist accommodation - on average only 10,7 % a year in coastal municipalities outside the cities. However, the demand for recreation during the main bathing season is growing and is so high that the **capacity of tourist accommodation on the coast has increased by 26 % in less than five years**, reaching 1109 tourist accommodations in 2019. The fastest growth has been in the supply of guest apartments and holiday homes due to largest influence from the sharing economy and the operation of major global booking service platforms (e.g. *Booking.com* and *AirBnB*). The proportion of **tourism export (foreign tourist) is over 30%** of all overnight stays on the sea coast, making it one of the most competitive tourist destinations in Latvia. On average, one foreigner spent 2,3 nights on the coast in tourist accommodation, which is longer than in inland regions. Most visitors come from the immediate neighbourhood and the Baltic Sea region (Russia, Lithuania, Belarus, Germany, Estonia, etc.) as well as tourists from the Netherlands.

Tourists overnighting in the commercial accommodation of the coast are ~15 % from all the seashore visitors. The other large part **(~30 %) are same-day visitors** who do not spend the night near the sea, but come to relax for a few hours, among them Lithuanians and (less) Estonians near the borders. But the **vast majority of all the visits are made up of local visitors** - residents of the coastal municipalities, including the owners of the summer houses, second homes or their visiting relatives and friends. Just slightly over the half of the same-day visitors have not chosen the closest access to the sea, either because of better services or amenities, or due to personal motivation to visit a particular further location because of its advantages. In general, leisure activities by the sea have diversified and the number of visits outside the summer warm weather has increased. Visitors are mainly motivated by better services, facilities or personal reasons to visit a particular place due to its benefits and fitness for the chosen type of recreation. In general, leisure activities by the sea have diversified and the number of visits outside the warm summer weather has increased.

Although the **sea and the beach are the main attraction of visitors** and the average length of stay on the beach has slightly increased, alternative for visitors are other tourist attractions nearby which should be accessible by efficient public infrastructure network.

Significant increase in demand and the promise in the marketing content made by destination promoters (e.g. “clean white sandy beach”, “dreaming in a wild environment”, “opportunity to enjoy the sea privately”) face **challenges of overtourism in certain areas**. This leads to increased crowding in small areas, volume of marine litter and depletion of natural habitats. This emphasizes the need for sustainable public infrastructure management and better segmentation of coastal areas seeking common solutions for administratively fragmented space consisting of 17 different municipalities.

Figure 1. *Main visitor flows to the Baltic Sea coast and intensity[3] of beach visits in 2019*

Source: Nocticus, Jāņa Sēta, 2020

[3] Beach visit intensity was assessed during the summer period in 2019. According to methodology, intensity of beach visits consists of visits in one day in 1 km, within five classes - Intensively visited (>5000); Highly visited (1000-5000); Averagely visited (300-1000); Little visited (100-300); Insignificantly visited (<100). Methodology in Latvian available here.

Accessibility of Baltic Sea Coast

The main mode of transport, which brings almost half of the non-locals – travelers to the coast, is the private car. Jūrmala city is the only coastal municipality that has introduced city entrance fee for cars already since 1996. Passage charge aims to limit transit traffic in the resort area and to promote the use of environment friendly means of transportation, furthermore the charge is source for tourism and resort development. The large number of cars creates a **need for parking near the sea,** so there was a total of 18 000 parking places[4] for visitor cars in 2019 not including roadsides and street parking in the cities. The capacity of parking lots is larger in the cities, but the number of parking spaces between the Eastern and Western coast of the Gulf of Riga and the open sea is evenly distributed: there are approximately six thousand parking spaces in each of these sections. About 20% of the existing parking lots are with insufficient capacity. Only **39% of parking lots on the Latvian Baltic Sea coast are in the good condition** of quality and with adequate capacity of parking spaces.

Train traffic is strategically important in terms of public transport. It is the most convenient way to get to the seashore of Jūrmala and Saulkrasti or Carnikava from the capital. For example, the number of passengers served at Jūrmala railway stations in the summer months' increases by ~33 % comparing to the average of the rest of the year, which in numerical terms is ~250 000 passenger journeys, which are mainly considered to be leisure travellers. In March 2020 between Rīga and Liepāja there are two train connections per week, while there are 26 public bus services per day. The inability to ensure regular train traffic between Riga and Liepāja is critical issue, as public train traffic is faster than bus traffic and actually the only mode allowing transporting a bicycle. There is also a **lack of well-coordinated multimodal public transport solutions** that could be combined with other types of mobility. The potential for the development of systematic sea access infrastructure from the train line Rīga-Skulte is also not fully used.

Currently in Latvia, the infrastructure of the ***EuroVelo*** *10* and ***EuroVelo*** *13* - **international cycling routes[5]**, is developed mainly in urban areas and rest is very underdeveloped.

[4] Parking place number calculations were made dividing total area of parking lot with area necessary for one car – 25 m^2

[5] EuroVelo 10 - Baltic Sea Cycle Route and EuroVelo 13 - Iron Curtain Trail

A similar situation applies to the access to the sea by foot - designated pathways and boardwalks, as **most of the access ways are devoid of any infrastructure**. They exist as trails, lines between forest blocks, forest roads, as well as paths from coastal houses or street extensions in villages and towns. The number of such linear objects by the sea on the Latvian coast exceeds 2 500, although not all are publicly accessible. In approximately 30% of the coastal area the vegetation in the dune area is greatly affected mainly by beach visitors, partly due to the building density or port extensions. However, ~200 affected sites have been identified along the coast where the existence of appropriate infrastructure could reduce anthropogenic impact on vegetation. 13 % of the access ways to the sea with existing public infrastructure are not of sufficient capacity, but ~70% are in poor or satisfactory condition with need to be improved. In many places, poor maintenance of existing infrastructure creates even greater anthropogenic pressure, as these are often places with a greater visitor flow.

The coastal tourism offers lacks functionally convenient and thematically solid solutions. In this respect as a positive impetus, which covers the entire Latvian coast, is ***Jūrtaka*** or *Baltic Coastal Hiking*[6] initiative that is establishing unified system for the E9 part of the **long-distance hiking route** of European significance along the Baltic Sea coast. The route is divided into sections for hiking days and levels of difficulty and is linked to commercial services that could be even more harmonized in the future.

Beach Visitor Pressure on Coastal Vegetation

About **30% of the coastal vegetation in the dune area suffers from the impact of visitors** and is strongly or even very strongly affected. Coastal habitats outside populated areas with a lower pressure from visitors are in a better condition generally, furthermore specific habitat improvement targets are defined for *Natura 2000* areas.

Critical anthropogenic pressure on vegetation caused by visitors is clearly observed in several specific, but also systematically reoccurring situations:

1) in places with a regular flow of visitors, but insufficient and/or inappropriate infrastructure or ignorant type of management, based on assumptions that given place should not be organised with infrastructure;

[6] https://coastalhiking.eu/en

2) in places where the number of visitors is too large and the anthropogenic pressure exceeds the limit of the sustainable existence capacity of the natural vegetation, even if it has a seasonal load outside the vegetation season the natural base is not able to recover;
3) due to arbitrary and irresponsible actions of individual visitors who openly ignore already existing regulations and interests of the society;
4) in construction and/or land transformation areas, where other priority objectives for the society prevail, for example building of recreational infrastructure, which at the same time reduce the natural environment.

Half of the Baltic Sea coast in Latvia is covered by the specially protected natural areas[7], where the anthropogenic pressure on vegetation is increased by the increased visiting due to the concentration of outstanding landscape values, greater biodiversity and often better infrastructure developed by the Nature Conservation Agency.

Assessment of Coastal Public Infrastructure

The provision of coastal public infrastructure performs three main functions:

- strengthens the attractiveness of the site and facilitates site visits, thus investing in infrastructure development creates a competitive advantage for the place;
- concentrates and directs the flow of visitors, reducing the impact of anthropogenic pressure on the environment, what is of importance when considering that almost half of Latvia's coastline length and 30% of the coast's 5 km wide strip of land are occupied by specially protected natural areas with habitats of European significance;
- setting of elements of the public environment improves the quality of life for local communities by promoting qualitative ecosystem services daily and in the long-term.

In year 2019 according to the expert assessment about **37,29% of the public infrastructure on the Latvian marine coast is in good condition** (see Figure 2). This considers safety and convenience of access to the sea, recreation facilities, parking lots and multimodal transport solutions. However, also the category “good condition” includes certain critical elements, the elimination of which is in the interest of stakeholders and responsibility respective management - for example, ~ 95% of dry toilets located on the

[7] https://www.daba.gov.lv/public/eng/protected_areas/

coast during the hottest bathing season do not meet basic sanitary norms. 44,22% of the assessed public infrastructure is considered satisfactory, but can be improved. **18,65% of the coastal public infrastructure is in unsatisfactory condition**. The **77,2 km along the shore** (14.6% of the total coastline) with moderate, high or intensive visitor flows and moderately, strongly or very strongly affected vegetation has **insufficient public access infrastructure**.

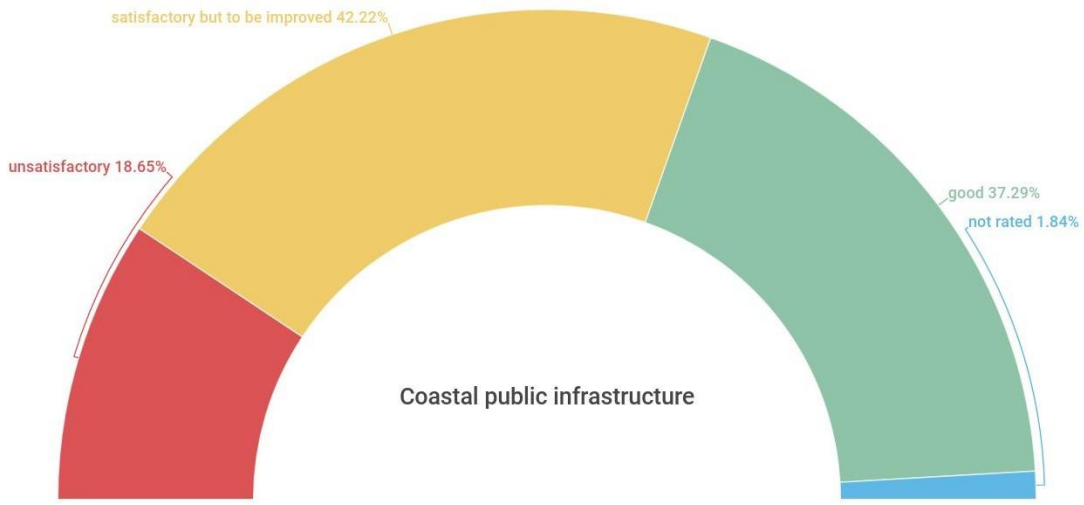

Figure 2. *Assessment of the condition of coastal public infrastructure in 2019*

Source: Nocticus, 2019

As mentioned previously the **infrastructure of international cycle routes *EuroVelo 10*** and ***EuroVelo 13*** **is very underdeveloped**. Further development of these routes including safe and well-maintained cycling opportunities along the entire route are very important for the development of the coast.

The **situation with public infrastructure is better on the long-distance coastal hiking route E9,** locally named ***Jūrtaka***. Unlike in Estonia in Latvia this hiking trail goes thru the beaches in most of its sections, furthermore systematically placed signs on the beach provide otherwise visually inaccessible information about inland services in the vicinity. However, technology and the ever-improving capabilities of navigation and geolocation services on smartphones also address this issue.

Coastal visitors in general have reconciled with the current state of public infrastructure and access to the sea. The majority (60.5%) of the surveyed visitors to the Latvian coast of the Baltic Sea believe that the public infrastructure meets the requirements of their leisure time. The rest of the surveyed visitors opposed and expressed dissatisfaction by naming a number of infrastructure deficiencies, negligent management or missing services. Interesting that foreigners' value coastal amenities higher than locals. Visitors' perception of desired quality of coastal areas is polarized from more service-oriented with nuanced facilities and amenities for holidaymakers, to places with the most natural environment and minimal facilities for access.

Access to the sea of the operational services for the rescue and emergency agencies is still problematic. Primarily and according to the Coastal plan, all roads ensuring access to the sea in coastal priority development areas with the large number of visitors should be improved.

According to the results of the bathing season of 2019, published by the international *Blue Flag*[8] programme, Latvia, compared to the other Baltic states, invests more in sustainable coastal management and reducing the negative impact of tourism. In 2019 according to the *Blue Flag* criteria, 3 beaches were certified in Estonia, 5 in Lithuania and 12 in Latvia.

Marine Litter Problems

In Latvia during the period of 2012-2019, the average amount of marine litter on the coast already reached 197 waste units per 100 meters of the beach. This is 51% higher than the norm set in the "Programme of measures to achieve good environmental status in 2016-2020"[9] as the achievable environmental quality goal in this position. In addition, the average **amount of marine litter on the Latvian coast in recent three years has increased by 19% in comparison with the period of 2012-2015**. Among the marine litter found on the Latvian coast, the largest amount (57%) is made up of plastic and artificial polymer waste (plastic and foam units, paper and cardboard waste). There are many problems with waste management, but in last six years there has been an improvement in both awareness and action to ensure proper waste management, which could reduce the amount of marine polluting waste in the future.

[8] https://www.blueflag.global/
[9] Available in Latvian: http://polsis.mk.gov.lv/documents/5625

Proposals for Action

There is a **need for new infrastructure development** in intensively visited places with large anthropogenic pressure to the vegetation, but even bigger need is filling the gaps in the existing infrastructure elements and in improvement of the maintenance.

Promoting positive change on the seashore is not just about boosting economic growth, but there is a need to continue discussions on the aspects of sustainable development, including **taking action to mitigate the effects of global climate change by proper adaptation measures**.

Not only the issues of **tourism development** are important, but also **quality of life of local communities**. For example, in the villages of Nida and Pape the number of permanent local residents is many times smaller than the number of visitors. Furthermore, some ambiguous situations reoccur, for example in Rucava municipality, which borders Lithuania, where some Lithuanian citizens provide hospitality services bypassing formal procedures and eventually tax paying, at the same time this situation provokes demand for high-quality public infrastructure.

There is a **need to diversify of maintenance resources of public infrastructure** for accessing the sea and adjacent nature areas. For example, similarly to systems in many cultural heritage sites where part of the co-payment is covered by end-users within entrance fees, parking fees, flexible donations, smartphone payment services etc. At the same time opportunities and importance of voluntary work is growing. Hence best practice transfer could be possible especially as pilot projects in national park or specially protected nature park areas at the Baltic Sea coast.

A **set of regular monitoring system with the measurement of key performance indicators**, in line with the criteria developed by the European Tourism Indicator System for sustainable destination management[10], is essential for the further coastal development. There is a need for deployment of smart solutions for better energy efficiency, greenhouse gases emissions reduction and new mobility solutions. However, the condition of public infrastructure is still far from satisfactory and the lack of solutions

[10] https://ec.europa.eu/growth/sectors/tourism/offer/sustainable/indicators_en

in some places has an irreversible effect on anthropogenic pressures, especially with regard to sensitive dune habitats.

Positive example in the field of nature protection is the establishment of a restricted zone during bird nesting period on the beach in the Ovīši nature reserve. That points to the possibilities of not devoting entire sea coast to the interests of human recreation only.

It is noteworthy that infrastructure is not the only solution to reduce the anthropogenic pressure, for example, some individuals do quad biking in coastal areas which leaves great influence on vegetation. In such situation most **crucial is environmental information, education and awareness of biodiversity conservation**.

Beaches located in populated areas that are greatly promoted and visited, must be recognized as official bathing areas and strive to meet *Blue Flag* or similar quality standards. Implementation of standard requirements include care about environment and visitor safety – prerequisite for responsible tourist destination management.

Safety and rescue access to the sea should be set up in cooperation with the responsible operational services, especially the State Fire and Rescue Service, at places where local access to the sea is more difficult. Especially in coastal development sites where access options to the seashore for operational services assessed as unsatisfactory - Jūrkalne, Užava, Miķeļtornis, Kolka, Apšuciems & Ragaciems, Jūrmala near Lielupe harbour, Mangaļsala, Lilaste and Ainaži, as well as in Roja and Saulkrasti, where specific shortcomings of existing access infrastructure need to be addressed.

Connectedness of the sea coast activities like cycling, hiking, nature trails or cultural heritage sites should be ensured, as they are not only suitable as an alternative in case of bad weather, but also provide an opportunity to spend time meaningfully and stay in the place longer and eventually creating bigger economic impact. Ultimately tourist attraction development must be in line with the quality and capacity of coastal public infrastructure.

Our project homepage: www.land-sea.eu

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