Project “Development, promotion and sustainable management of the Baltic Sea Region as a coastal fishing tourism destination (RETROUT).”

(RETROUT Nr. R065)

METHODOLOGY FOR ASSESSMENT OF THE IMPACT OF FISHING TOURISM ON THE REGIONAL ECONOMIC

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ABSTRACT

The Kurzeme region coastline has an export potential within the tourism sector. Coastline is also a territory for recreational activity in Latvia. However the upkeep, management and development of infrastructure as well as the possible investment opportunities are still unanswered questions for local and regional level policy makers. The tourism sector includes a variety of subsectors including, accommodation, catering, transport, as well as leisure activities. Tourism sector also provides an important share of employment possibilities for local inhabitants in the coastline territories – in municipalities which border sea coast or are in the near vicinity. In certain cases it is difficult to draw a line between the sea coastline fishing along with other types of tourism acitivities from those which take place inlands.

The assessment of economic impact of fishing tourism on region is not a standardized method. In case of Latvia the survey of anglers and local entrepreneur, i.e., input-output method is used. It is based mainly, with some minor changes, on Latvian and Finnish experience, analyses of secondary data sources and document contentanalyses. A novelty measurement approach for economic impact on regions assessment is used – the total tourism economic impact on region coefficient. The research shows that anglers' expenditures can significantly impact the regional economy of Kurzeme region.

KEY CONCEPTS, DEFINATIONS AND EXPLANATIONS

This chapter introduces to the concept of tourism, tourist and visitor definitions, the tourism impact on regional development, describes the benefits brought by the fishing tourism visitors in the vicinity of the fishing spots in the sea coastal area.

- Tourism, tourists and visitors

Tourism is connected with the free movement of people from their life and working place (The Hague tourism declaration, 1989). Instantly tourism includes the activities of persons who "travel and stay outside of their original place of origin not for a longer period of time than one year, which they spend on leisure, business or other purposes" (UNWTO, 1991). In addition tourists can be separated based on their place of origin – in local and foreign tourists. As a result the persons, which time of stay is shorter, i.e., than one day are visitors. These people (**visitors)** cannot be excluded from the research study because they use the same tourism infrastructure and musty the same services as tourists which conform their needs during the travel time.

- Tourism as a sector, service.

Tourism is a multispectral branch of economy and a multidisciplinary field of study. Tourism is defined both as an industry and as a process and a phenomenon (Encyclopedia of Tourism, 2000).[1] Tourism is business, which ensures travel, accommodation, catering, leisure and other services (Collin, 2004)[2]. Thus tourism is also a service – a purposeful action for ensuring meeting the interests and needs of the tourists (Tūrisma likums, 1998:1)[3].

- Tourism and recreation

Recreational tourism - a type of tourism, with an aim to renew a person's physical and mental potential, making rational use of natural and artificial recreation and recuperation resources (Tūrisma likums, 1998: 1). Its purpose is the active leisure, ensuring of wellness, recreation of work capabilities, health improvements and restoration. Recreation tourism includes different tourism activities, leisure and sport. These are clearly defined, autonomous entities which are interconnected and strengthen each other thus serving the needs of present

[1] Tourism (2000) In: Jafari J. (eds.) Encyclopedia of Tourism. Routledge, London. 683 p.
[2] Collin, P. H. (2004). Dictionary of Hotels, Tourism and Catering Management (2nd edition)", London: Collin Pub Ltd, p.352.
[3] Tourism law. Adoption: 17.09.1998. Published: Latvijas Vēstnesis, 07.10.1998, Nr.287 (1348). Legal Acts of the Republic of Latvia.

day societies. Based on the recreation tourism genesis for recreational-tourism resources it can be separated into following: (1) natural and recreation tourism resources and (2) antropogenic leisure and tourism resources (Gjorgievski, Kozuharov & Nakovski, 2012)[4]. In the specific settings of the study it is the recreational tourism.

- Recreational fishing tourism

According to the International Council for the Exploration of the Sea (ICES) recreational fishing tourism is described as "fishing of water living resources or fishing attempts mainly for leisure purpose or/and for personal consumption. Also it should be taken into account that Regulation (EC) No 1224/2009 Article 55, second paragraph, states that "selling of the catch acquired during leisure fishing is prohibited " (EP, A8-0191/2018).[5]

In the recreation fishing industry ***Recreational fisheries sector*** consists of full spectrum of players, which are fully or partially involved (for instance, ministries, NGOs, companies in leisure fishing – boat renters, sellers of fishing attributes, catering and accommodation entrepreneurs. Since on an EU level there is no harmony in terms of a clear and consistent definition of leisure fishing, it is very complicated to control the leisure fishing activities and to collect data on leisure fishing as well as to evaluate its impact on fish stocks, environment, and its economic importance.

- Sustainable tourism

Sustainable tourism takes into consideration the current and future economic, social and environmental impact, paying attention to the needs of visitors, industry, environment, and entrepreneurial groups. Sustainability principles apply to tourism development, environment, sociocultural, economic aspects and it has to ensure sufficient balance between the three dimensions in order to guarantee sustainability in the long-term.

Therefore for sustainable tourism is necessary:

1) to ensure optimal use of environment resources, which are the main tourism development element, while ensuring significant ecologic proceses and while helping to secure nature heritage and biological diversity.

[4] Gjorgievski, M., Kozuharov, S. & Nakovski, D. (2013). Typology of recreational-tourism resources as an important element of the tourist offer. Special issue, *UTMS Journal of Economics* 4 (1): 53–60.

[5] EP, Atpūtas zvejas stāvoklis Eiropas Savienībā, State of play of recreational fisheries in the EU. A8-0191/2018. Texts adopted: Tuesday, 12 June 2018 – Strasbourg. Retrieved: http://www.europarl.europa.eu/doceo/document/TA-8-2018-0243_LV.html. Access: 22.06.2019.

2) to follow the socio-cultural authenticity of the entreprenurs, while protecting the existing and living cultural heritage and traditional values, as well as to promote the intercultural understanding and tolerance;

3) to ensure the longetivity of longterm economic activities, employment and income generation capabilities while offering social economic benefits to all involved;.

4) sustainable tourism development requires informed participation of interested parties, political management, constant impact assessment and in case of necessity preventive and/or correction mechanisms (UNEP& UNWTO, 2005)[6].

- Tourism importance and impact

According to the (OECD), the economic activity caused by the tourism is responsible for a significant part of economic activity, because tourism is a large, complex and fragmented industry, which is still difficult to define and measure (OECD, 2010).[7] In practice internationally both different type of tourism (and towards tourism directed) impacts and effects are measured as well as its impact on the economic is assessed. Nonetheless both definitions often are misinterpreted although they are considerably different.

Significance is a statistical term (Reeves, 2002)[8], which can be measured with qualitative and quantitative description of a problem, phenomena, resource or action in a certain moment of time. (ABRC, 2010)[9].

Meanwhile the ***impact*** is an action, process and a result (Bāliņa u.c., 2006)[10]. Impact is a dynamic term, which assumes that certain causal-relationships exist (LLC Analitical research and strategy laboratory, 2007)[11]. This means that the impact can be measured towards certain

[6] UNEP&UNWTO (2005). Making Tourism More Sustainable - A Guide for Policy Makers, Paris CEDEX 15, p.11-12

[7] OECD (Organization for Economic Co- operation and Development) (2010).Economic Impact of Tourism. OECD Tourism Trends and Policies 2010. Retrieved: https://sete.gr/_fileuploads/entries/Online%20library/GR/OECD%20TourismTrends&Policies2010_pdf.pdf Access: 12.06.2019.

[8] Reeves, M. (2002). Measuring the economic and social impact of the arts:
a review. Retrieved: https://is.muni.cz/el/1456/jaro2009/PVEKMAA/um/Impacts_of_art_Michelle_Reeves.pdf Access: 15.06.2019.

[9] ABRC (America's Byways Resource Center) (2010).Vocabulary for Byways. Economic Impact. Retrieved: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5310034.pdf Access: 15.06.2019.

[10] Bāliņa, R., Ēdelmane, I., Grase, I. u.c. (2006). Latviešu valodas vārdnīca. 30 000 pamatvārdu un to skaidrojumu. Rīga: Jumava, 879. lpp.

[11]SIA Analītisko pētījumu un stratēģiju laboratorija (2007). Pētījums par kultūras sektora ekonomisko nozīmi Latvijā. Retrieved: https://culturelablv.files.wordpress.com/2009/04/kulturas-ekonomiskas-ietekmes-izvertejums-lavija-2007.pdf Access: 12.06.2019.

object or bundle that is affected by the impact of certain interaction of a thing or a group of objects (IAIA, 2010)[12].

- Economic impact

Economic impact both on the income and employability is caused by decisions on, activities, actions or policies (Businessdictionary.com, 2010). The total economic impact is compromised of: (1) direct or primary impact; (2) indirect (secondary) impact. The direct economic impact is the revenue, which the companies acquire and use for the purchase of products and services.

The indirect impact is caused when the expenses within economic sectors are spent on the necessary goods and services, salaries. Within the indirect impact the finances are directed for both the purchase of raw products and raw materials by the companies which offer the end product as well as for buying of ready products and services, as well as for paying the employees salaries. The total impact on economic in respect to the direct impact is called the **income multiplier effect**.

This shows a direct connection between the industry and the economy of the rest of the territory (incl. region or state), but does not show the causes – only identifies the connection ties between the companies or the circulation of the spent money (see example Fig. 1) (Analitīsko pētījumu un stratēģiju laboratorija SIA, 2007).

For the detection of the tourism multiplier, incl. income multiplier, fundamental three base models are used:

(1) base;
(2) Keynesian;
(3) input/output models.

The base model calculations use the traveler expenses in external and internal market, while the input/output model is based on the data of the timestep dynamic. Most common is the use of Keynesian model which is based on income and employment volumes derived from tourism in a certain territory and its flow as a part of a closed cycle. The only drawback of this model is related to the limited possibility of the geometrical progression, because in each cycle leakage of funds take place (Barselona Field Studies Centre, 2018)[13].

[12] IAIA (International Association for Impact Assessment.(2010). The Interorganozational Committee on Principles and Quidelines for Social Impact Assessment. Retrieved: http://www.socialimpactassessment.com/documents/IAIA%202015%20Social%20Impact%20Assessment%20guidance%20document.pdf Access: 14.06.2019.

[13] Barselona Field Studies Centre (2018). Tourism Multiplier Effect. Retrieved: https://geographyfieldwork.com/TouristMultiplier.htm Access: 26.06.2019.

Leakage of funds – the potential reducation of demand in economy, whch takes place if goods and services are imported or the money is invested in savings. The tourism companies tend to import extensively for the needs of foreign tourists, therefore tourism is believed to be an industry which causes leakage of money funds (Database AkadTerm, 2019)[14]. The definition is not precise, because not always this leakage within the field of tourism services causes reduction in demand. Also an opposite effect can take place when, for instance, tourism services which use imported goods can increase the quality of services or to offer lower price, if any of the raw materials is not offered in the local market. Such an approach can increase the economic demand in tourism. The precision of the definition is debatable both in terms of the definition itself and in terms of economic development aspects.

The common economic impact is dependant on the economic activity, which is anaoutcome of activity within the industry in any of the four sectors of industry: (1) primary (raw material); (2) secondary (recycling and processing of raw materials); (3) tertiary (services) and (4) quaternary (high-technologies and scientific research) (Business Dictionary, n.d.)[15]. Tourism industry is tertiary sector which development includes costs which are derived from state, business structures' and third person activity (Stynes, b.g.)[16].

- Coastal territory

Eurostat defines the coastal area as municipality, which has a surface area of at least 50% of territory in the 10 km vicinity to the shoreline (Eurostat 2017)[17].

[14] Datubāze AkadTerm (2019). Definīcija noplūde. leakage Retrieved: http://termini.lza.lv/term.php?term=nopl%C5%ABde&list=nopl%C5%ABde&lang=LV Access: 26.06.2019.

[15] Business Dictionary n.d.Defination. Economic sector. Retrieved: http://www.businessdictionary.com/definition/economic-sector.html Access: 12.06.2019.

[16] Stynes, D.J. (n.d.). Economic Impacts of Tourism. Retrieved: https://msu.edu/course/prr/840/econimpact/pdf/ecimpvol1.pdf Access: 14.06.2019.

[17] Eurostat (2017). Costal region definition. Retrieved: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Coastal_area Access: 14.06.2019.

METHODS OF ECONOMIC IMPACT ASSESSMENT

In order to support the tourism decisions, different economic evaluation methods are used. The same methods can be used for every policy or action, however in this research we will define it in tourism context.

Descriptive Research Method) (DRM))	➢	Method offers general overview and description of the primary and secondary data sources (Babbie, 1992). It can be used to underline the economic value and problems which ought to be resolved.
Inputs and Outputs Method (IO)	➢	Method ensures the possibility to define the cash flow in-between the companies, organizations, consumers. It is oriented towards defining of the common and different sociologic groups and assertion of their quantity, etc. (Gordon, et al., 2006).
Contingent Valuation Method (CVM)	➢	Method can be used for evaluation of the surrounding nature and the tourism value. With the CVM method it is possible to determine the consumers' willingnes to pay for products and services (Lindsey, Knaap 1999; Navrud, 2002; Bateman et al., 2006).
Choice Modeling Method (CMM)	➢	Method can be applied for evaluation of the good and price of the surrounding. The CMM method can help assert how a particular person would react in a given situation (Harrison, 2006; Thiene et al., 2009).
Willingness to Pay Method (WTP)	➢	Method is primarily used when researching into tourism resources and it includes survey methods in order to gather information on the choice or the willingness to pay, which can be further used to define the tourism resource economical value (Santagata et al., 2002; Willis, 2002).
Travel Cost Method (TCM)	➢	The method is applied for the evaluation of environmental products, taking into concern the travel costs and road expenditures. The TCM is based on the assumption that the individual total costs when visiting an entertainment venue, defines the person's willingness to pay for the visit (Clawson, 1959, 1966; Haab, 2002).
Shareholder Value Analysis Metho (SVAM)	➢	SVA method is used mostly whne evaluating the companies. The method can be used for evaluation of the tourism value of intensively used objects (Paul *et al.,* 2002; Parks Agency, 2006; Harnik *et al.,* 2009)
Value Transfer Method (VTM)	➢	Value transfer method is used for evaluation of the so called environmental products. There is a possibility for service value transfer. (Navrud, 2004; Navrud, Ready, 2007).

It is common for demand analysis of project activities to be included in the economic activity research. In other cases offer is believed to be exogenic while the analysis only defines its impact, if the certain amount of visitors is attached to the territory.

In a comprehensive impact assesment it is necessary to verify the fiscal impact, as well as the social and environmental impact. It should be made aware that the economic impact analysis itself is a narrow and often onesided overview of the tourism impact. On the one hand it is positive that within the researches on the economic impact of tourism the benefits of tourism are underlined. On the other hand the environmental, social, cultural and fiscal impact research is more directed towards the negative impact of tourism. This is situation when on the one hand there is a negative tourism impact on economy (manifesting, for instance, in seasonality and lower salaries) and on the other hand – in many cases there is a positive impact on the environment and social sphere, for instance, terms of environmental and culture resource protection as well as in terms of tourist and local inhabitant education.

Economic Impact Assessment (EIA) indicates towards changes in economic activity which are caused by external actions. EIA determine which sectors of economic gain benefits from tourism and assess the created changes in income and employment in the certain region. The economic impact assessment procedures do not estimate the economic effect. Depending on the necessary problem solution economic impact assessment analysis is carried out. The EIA answers the question: What outcomes the tourism bringsto the regional economics? EIA indicates towards tasks which are connected to tourism in order to define the offer, income, tax, employment changes due to changes in tourism flows. The main methods are assessment of tourist and visitor expenses, respectively, primary data, their analysis, secondary data – statistics of national economy, economic base models, and input–output models.

Data gathering method – surveys, interviews, secondary statistics surveys, and document contentanalysis (Stynes, b.g.; Jegere, b.g.)[18]. The methodological principles can be used in the research, because they include the most significant specific indicators which values can be determined by carrying out interviews of tourists and visitors in Kurzeme region and secondary statistics analysis within the RETROUT research. Methodological approaches from different,

[18] Jegere, S. (b.g.). Kultūras pasākumu centru ekonomiskās ietekmes novērtējuma metožu un modeļu analīze un izvēle. Pieejams: http://www.turiba.lv/komunikacijas_2009/pages/Jegere_lv.html Access: 14.06.2017.

researches in Latvia (Berzina&Grizane, 2011[19]; Bērziņa, 2012[20]; Bērziņa, Grizāne&Jurgelāne, 2014[21]) and foreign countries, for example, Finland or The Carribeans (Martinique and The Bahamas) can be adapted, where recreational fisheries for EIA research context has significant importance (Kauppila & Karjalainen, 2012[22]; FAO, 2016).[23]

In most cases for assessment of EIA direct impact the average daily expenses per visitor/tourist are determinated, which is then multiplied by the total number of visitors per year. For assessment of the indirect and direct impact the necessary data on the entrepreneurial activity and employment in tourism industry is collected (Vogelsong & Graefe, 2001)[24]. The finnish researchers until 2010 used the derived version of the input-output analyses i.e. the *Nordic Model* methodology, when according to the assessment results the total number of visitors and demographics, visitor expenditures, structure and impact on the territorial employment and income levels are analysed (Huhtala, Kajala & Vatanen, 2010[25]; Stynes, n.d.).

For the specific research the Stynes approach for tourism economic impact assessment would be most successful by following the certain steps and their modifications *:

(1) to identify research area;
(2) to identify research problems;
(3) to define research goals;
(4) to define research questions:
    (4.1) How much money is spent by the anglers while vistiing the given territory;
    (4.2) What are the expenditure positions of the anglers according to the economic sectors;

[19] Berzina, I., Grizane, T. (2011). *Economic Impact of Tourism in Ķemeri National Park.* In: Economic Science for Rural Development: Proceedings of the International Scientific Conference: Resources and Education, No 25, Jelgava: LUA, pp.75-80.
[20] Bērziņa, I. (2012). *Tūrisma ekonomiskā nozīmīguma novērtēšana Latvijas nacionālo parku reģionos*. Promocijas darbs. Jelgava, LLU. 186 lpp.
[21] Bērziņa I., Grizāne T., Jurgelāne, I. (2014). The Tourism Service Consumption Model for the Sustainability of the Special Protection Areas. In: ICTE in Regional Development 2014, December 2014, Vol.43, Valmiera, Latvia, Elsevier: *Procedia Computer Science*, pp.62-68.
[22] Kauppila, P., Karjalainen, T. (2012). A process model to assess the regional economic impacts of fishing tourism: A case study in northern Finland. *Fisheries Research,* Vol.127-128, pp.88-97.
[23] FAO (Food and Agriculture Organozation of the United nations) (2016). Recreational fisheries ecinomic Impact Assessment manual and application in two Study cases in the Carriben: Martinique and Bahamas.Bridgetown: Barbados, 118 p.
[24] Vogelsong, H., Graefe, A.R. (2001). Economic Impact Analysis: A Look at Useful Methods. *Parks & Recreation* (Ashburn) Vol.36, No.3, pp.28-36.
[25] Huhtala, M., Kajala, L., Vatanen, E. (2010). Local economic impacts of national park visitors' spending in Finland: The development process of an Estimation. Retrieved: http://www.metla.fi/julkaisut/workingpapers/2010/mwp149.pdf Access: 14.06.2017.
*in more detaile these modifications can be observed in the methodological step-by-step guide

(4.3) How many FTE workplaces does the fishing tourism ensures within the territory;

(4.4) How large taxes does the tourism generates;

(5) data acquisition through surveys, interviews, and other sources;

(6) calculations of demand for fishing tourism;

(7) calculations of regional economic impact;

(8) analysis, interpretation and presentation of research results (Stynes, b.g.).

The main indicators for estimation of economic impact of tourism:

(1) demand activity for fishing tourism (number of anglers, length of stay, quantity of sales, etc.);

(2) quantity and structure of anglers expenses;

(3) offer (type and quantity of entrepreneurial activity, tax expenses, financial fund leakage through personal income tax) (Wells, 1997[26]; Stynes, b.g.; Determining the Local..., 2011[27]; Mayer, N. & Mayer, D, 2015[28]).

[26] Wells, M.P.(1997). Economic Perspectives on Nature Tourism: Conservation and Development. The World Bank. Retrieved: http://documents.worldbank.org/curated/en/478461468741359434/Economic-perspectives-on-nature-tourism-conservation-and-development Access: 14.06.2019.

[27] Determining the Local Economic Impact of Tourism [tiešsaiste]: VisitBritain un Tourism Together kopīga mājas lapa. Retrieved: https://www.visitbritain.org/sites/default/files/vb-corporate/Documents-Library/documents/England-documents/2_eco_impact.pdf act+of+Tourism#Why%20measure%20economic%20impact%20at%20local%20level Access: 24.06.2019.

[28] Mayer, N. & Mayer, D. (2015). The role and impact of tourism on local economic development: A comparative study. *African Journal for Physical Health Education, Recreation and Dance*, Vol.21(1), pp.197-214.

CHAPTER 1: PROJECT REQUIREMENTS

Taking into concern that the creation of methodology is closely related to the project “Baltic Sea Region as a fishing tourism destination and its development, promotion and sustainable management” under INTERREG programme the following is underlined in this chapter: the main objectives, the objectives sequence, time periods, teritoral coveriālais pārklājums, ka arī metodoloģijas pasūtītāja uzdevumi.

1.1. Aims and objectives

The aim of the project under INTERREG programme “Project “Development, promotion and sustainable management of the Baltic Sea Region as a coastal fishing tourism destination” or RETROUT (No. R065) is:

- to develope and to popularize the Baltic Sea Region as a fishing tourism destination in the coastal area;
- to focus on the sea trout as a coastal fishing product;
- to develop sustainable and effective methods for management of sea trout population;
- to strengthen the fishing tourism management framework in the Baltic Sea Region.

1.2. Research area

The work task includes the following research area (Fig.1): Within the Kurzeme region it spreads through the Baltic Sea coastal area from Pape to the Irbe river entry into sea, while inlands it spreads till Pape, Liepāja, Durbe, TāšI and Usma lakes.

1.att. ***Research area within the Kurzeme region***

1.3 Structure of research RETROUT

The RETROUT research framework indicates the sequence of tasks and corresponding time periods.

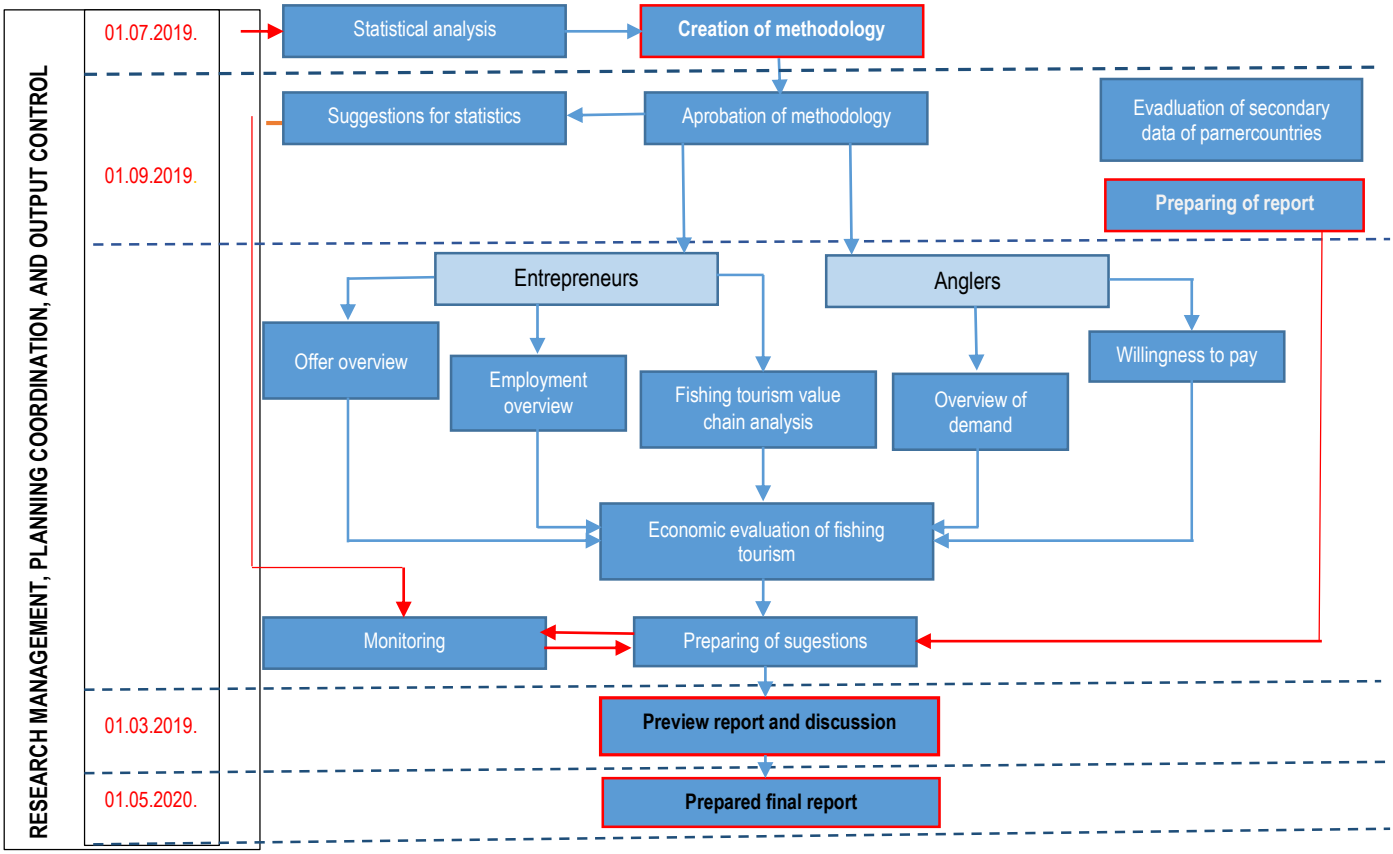

Fig. 2 ***Framework of the research 'Impact of Fishing Tourism on the Regional Economy'***

1.4 Research RETROUT ***'Impact of Fishing Tourism on the Regional Economy'*** methodology tasks

- **Tasks by the contracting entity:**

1. To assess the overall economic impact of fishing tourism in the given research area;
2. To assess the industries which have a potential to be included within the fishing tourism activities;
3. To give suggestions on how to promote the industries' participation in fishing tourism activities;

4. To determine the actual employment in the fishing tourism within Kurzeme region;
5. To carry out value chain analysis of the fishing tourism;
6. To develop suggestions for improving of contribution of fishing tourism to the regional economy.

CHAPTER 2: METHODOLOGY STEPS FOR ASSESSMENT OF FISHING TOURISM IMPACT ON THE REGIONAL ECONOMY

In order to assess the impact of fishing tourism on the Kurzeme region similarly to suggestions of Stynes (n.d.) research was structured in multiple stages. The description of the chapter includes steps for assessment of the fishing tourism area, fishing tourism subject – angler determination, defining of both direct/ indirect tourism service sectors, investments in tourism, expenses for tourism administration and for reaching of the main goal of the research task – determination of the fishing tourism impact on the Kurzeme region.

Contracting entity's Task 1 – to assess the total economic impact of the fishing tourism in the given research area

Step 1 – **TO DEFINE THE RESEARCH AREA**

The research area according to the work tasks within the Kurzeme region (see Fig. 1) is significantly large, and thus for detailing of the research area it was split into eight (Fig. 3) territorial quadrants.During the methodology approbation stage, it was recognized that the area covered by given research quadrants should be flexible. According to the selected areal split, research area describtion has to be carried out.

Fig 3 ***Research area split into quadrants***

In this research the term ‘region’ mostly describes the subregional level which is according to the defined area. However the connection links of the tourism cluster extends outside of research area and the acquired data gives the opportunity to carry out provisional calculation for the whole region.

Step 2 – **ASSESS THE MAIN SUBJECT OF THE FISHING TOURISM – THE ANGLERS**

In order to reach the endgoal of the given task it is necessary to carry out a versatile analysis of the affiliation of the anglers to a certain group, demographic data, expenses for fishing tourism equipment, and habits. At the same time it is necessary to define the available tourism service offer, anglers’ wishes and willingness to pay for services (Fig. 2).

Primarily it is necessary:

- **To define the target group**

The research target group includes all anglers:

1) Which are/are not residents;
2) Which are freshwater anglers;
3) Which are saltwater anglers;
4) Which are freshwater and saltwater anglers.

A survey of anglers allow to determine the fishing tourism demographical data: gender, age, place of origin, approximate amount of annual household income. It is beneficial to clarify the profession. In cases when it is not possible to determine the annual household income, there is a possibility to use the secondary data – the average salary data in given industries according to employment.

- **To define groups of expenses for the anglers:**

1) travel expenses

Expenses for hotel, catering in restaurants/cafes, food products from grocery stores, travel expenses (public transport tickets, airtickets, car rental costs, fuel costs, etc.), fishing guidebooks, boat and fishing equipment rental costs and similar fishing related costs, covering expenses related to traveling inbetween the starting point and target destination, services in the destination area. Travel costs include souvenires and other objects purchased during the travel period in the region of fishing destination. By acquiring the given data it would be possible to determine the type of transport used for traveling.

2) equipment and expenses which are not related to traveling

These include expenses for fishing equipment, boat, trailer, clothes, boat maintenance costs, and other products which are not purchased and directly connected with a given fishing trip in the research area.

The fishing tourism expense categories can be seen in Table 1. While carrying out the research on the fishing tourism in the research area in the Kurzeme region, it is possible to adjust the resident and non-resident fishing costs categories.

The total costs of anglers can be calculated according to the following (1.) formula:

$$TAEX = NA \times Average\ FishDay \times Average\ EUR/day \quad (1.)$$

where:

TAEX– Total anglers expenditures

NA – Number of anglers*

Average FishDay – Average day fishing for anglers

Average EUR/day– Average euro spent on a day of fishing

*each target group is calculated independently and the average value is calculated

The necessary secondary data can be acquired from external source, for instance, LR Ministry of Economics, statistical information sources, e.g., Central Statistical Bureu and other sources. In order to substitute or to supplement the primary data a similar approach is possible.

Table 1

Total Angler Expenditures

Expenditure category	Resident anglers Total expenditures per category (per year) EUR	Non-resident anglers Total expenditures per category (per year) EUR	Average expenditure (per day ore trip*) EUR
Rental car, bus, shuttle vans, (Not including fuel)			
Fuel			
Boat rental			
Accomodation			
Catering			
Groceries, food & liquor (bought in stores, not restaurants)			
Entertainment			
Fishing tackle related expenses (ackle, ice, bait, etc.			
Fishing guide payment			
Clothing			
Personal items (sunscreen, toiletries, etc.)			
Vehicles purchased (not rented)			
Real estate			
Total expenditure:			

- **To determine the anglers' angling habits:**

1) Frequency of visits in year;
2) Days fished per trip;
3) Preferred fishing mode;
4) Influence of fishing success rate on future visits
5) Preferred fish of target by anglers;
6) Main purpose of visit (fishing or other).

The aim of this part is to determine the main target data of the fishing tourist/visitor survey in order to gather background on what information would be important in the future for entrepreneurial purposes. Taking into concern the main goals of the RETROUT project (see page 13), that fishing tourism has to be sustainable and that Kurzeme coastline may not focus on ly on sea trout as the main coastal fishing tourism product, because the existing resources are not sufficient, it is important to estimate where, what and in what quantities is caught by the anglers, tourists/visitors. Therefore the survey should include questions on the caught fish species, (for instance flounder, herring, smelt, etc.) and the amount caught (quantity or wight in kolos). This would help assess the impact of fishing tourism on the regional economic. In the meantime the identification of the fishing place would help to protect the area form overfishing and other threats, as well as to improve services which hold significant importance for a successful development of the fishing tourism in a given region.

- **To determine the anglers' habits in connection with other activities:**

1) Rest and Relax;
2) Enjoy Beaches;
3) Go Birdwatching;
4) Waterjets
5) Sauna sessions;
6) Diferent events;
7) Horse rides;
8) Nature tracks;
9) Spa procedures;
10) Sailing with a windsail or kiteboarding
11) Paintball.

In many cases it is difficult to separate the magnitude and extent of tourism activities taking place within the Baltic Sea coastal area and the rest of the Kurzeme region and is not dependant on the sea and coastal environment, because the second type of tourism is not taking place only in the sea but also on the coast and other environments Nonetheless the fishing tourism is dependant on the situation in the sea, which is not as important for rest of the tourism acitivities, which take place on the coast. Thus it is possible to promote anglers' participation in different activities offered by tourism and other industry sectors in the research area.

- **To determine the accommodation habits of the anglers:**

1) Cempings;
2) Guest house;

3) Weekend house;
4) Recreation centre;
5) Youth hostel;
6) Camper;
7) Hostel;
8) Hotel;
9) Tents.

- **To determine the anglers' catering habits**

It is necessary to determine whether the anglers opt for any of the following catering options and settings:

1) Self-service;
2) Restaurants;
3) Cafes;
4) Fisherman villages.

The survey questions should determine angler satisfaction with the existing catering options. Further on it would be necessary to determine their future wishes.

- **To determine the anglers' needs and willingness to pay for services**

This task includes both the defined and non-defined services, which the participants of fishing tourism would wish to receive.

Step 3 – **TO EVALUATE THE DIRECT AND INDIRECT SECTORS OF THE FISHING TOURISM**

The analysis should cover two aspects: the sides of service provision or offer and employment.

- On behalf of service provision

While carrying out the assessment of the research area within the Kurzeme region according to the methodology and quadrants fishing tourism service providers are evaluated according to the economic sectors (antd NACE codes): (1) accommodation (I 55) (2) catering (I 56) (3) transport services (H 49; H 50); (4) tourism activities (izklaide) (R 93); (5) retail (T 47). If a different tourism activity is identified, it should be clearly noted during the survey and included within corresponding calculations according to the NACE codes.

Codes of individual sectors (NACE), which could be useful within a given research can be seen in Table 2.

Table 2.

Classification codes of economical activity sectors within the European Community, NACE klasifikator (2.red.)[29]

Economic sector	NACE code
Accomodation	I 55
Catering	I 56
Transport services	H 50
Sea and coastal area passenger water transport	H 51
Passanger transport within in-land waters	H 50.3
Other passenger land transport	H 49.3
Urban and suburban passenger land transport	H 49.31
Taxi service	H 49.32
Rental service of cars and other light category vehicles	H 77.11
Rental service of water vehicles	H 77.34
Services and events offered by travel agencies, tour operators	R 79
Security services and investigation	R 80
Sport activities, leisure and recreation events	R 93
Advertising services	T 73.1
Retail	T 47
Fuel and retail in gas stations	T 47.3
Retail in non-specialized stores which mainly sell groceries, drinks and tobacco.	T 47.11
Retail of grocery, drinks and tobacco in stands and markets	T 47.81

Tourist expenses within sectors should be calculated and based on as in table (Table 3.)

Table 3.

Tourist expenses according to sectors

Nozare	NACE code	EUR	%
Accomodation	I 55		
Catering	I		
Transport Services	H		
Tourism activities	R		
Retail	T		

[29] Economic activity statistical classificationin European Community, NACE clasificator (2.red.) Retrieved: http://transfertcenas.lv/nace-klasifikators-2-red/ Access: 22.06.2019.

- Based on aspects of employment

Within the research area tourism companies entrepreneur survey is carried out with a goal of determining the number of employed persons per company (according to sectors, see. Table 2.) both during the tourism season and non-season. The entrepreneurs are surveyed on the employee salaries, while the lack of information is covered with information from the state statistical bureu on the national average salary in the given sector. The calculations take into consideration the actual citizen income tax, which is calculated and payed for the employees by the employer.

The acquired data is calculated and fixed within the given data tables (Table 4.; Table 5.) The data on the indirect workplaces, respectively, employee positions in tourism sector, are included in a similar fashion (Table 3; Table 4.).

Table 4

Registration of workforce in tourism or related fields

Position or sector		NACE code	Work place	Annual bruto salary EUR	Tax income EUR
Direct workplace	Accomodation	I 55			
	Catering	I			
	Transport Services	H			
	Tourism activities	R			
	Retail	T			
Total:					

Table 5

Registration of direct workforce

Position or sector	Work-place	Avg. bruto salary EUR	Annual bruto salary EUR	Personal income tax (PIT)	Tax revenue from PIT annualy EUR	Annual neto salary EUR
Accomodation						
Catering						
Transport Services						
Tourism activities						
Retail						

All of the mentioned actions first take place in certain quadrants of the research area (sk. 3.att.) and then they arte calculated for the specific region.

Step 4 – **TO ASSESS THE INVESTMENTS CONCERNING THE FISHING TOURISM**

Investments in tourism or other actions facilitating it (within the scope of a year), according to the international practice are believed to be income and are accounted to the direct economic impact. The calculations should include the expenses concerning the investments in leisure, culture, sports, etc., which are available within municipal public reports or other documents. The acquired information should be included and calculated within the given table (Table 6).

Table 6

Municipal investments accountign concerning fishing tourism

Investments	Sponsor or projects	EUR
Event organisation Creation of a nature trail Purchase of CCTV cameras for observation of wild animals		
Organisation of fishing contests		
Planning of tourism and cooperation promotion, purchase of tourist counters		
Improvements to the tourist trails		
Other related expenses		
In total:		

Step 5 – **TO ASSESS EXPENSES FOR ADMINISTRATION OF FISHING TOURISM**

The incomes related to the administration of fishing tourism also the following atributes are analyzed: salaries of tourism specialists, expenditure for upkeep of tourism infrastructure, and expenses related to marketing of fishing tourism. Iegūto informāciju aizpilda un aprēķina pēc tabulu paraugiem (Table 7; Table 8; Table 9).

Table 7

Salary expenses of tourism specialists 2014-2018, annualy, EUR

Position	Year				
	2014	2015	2016	2017	2018
Tourism coordinator					
Head of municipal tourism department					
Ranger working on tourism related issues					
Senior environment protection specialist					
In total:					

The acquired information (Table 7) would allow for determination of annual specialist expenses based on the following formula (Rinne 1999)[30]:

Example:

Average salary 600*12=7200/301 *working days* = 7200*+ technic (10% no 7200=720)=7920 (EUR)

Table 8

Expenses for upkeep of tourism infrastructure 2014-2018, annualy, EUR

Object	Year				
	2014	2015	2016	2017	2018
White sand dune					
Tourism information centre					
Green track					
Bird watching tower					
Lake track					
Bicycle track					
In total:					

Table 9

Expenses for marketing of fishing tourism 2014-2018, annualy, EUR

Expenditure position	Year				
	2014	2015	2016	2017	2018
Creation of publication - leaflet, poster and crochuredesign					
Layou design and printing of publications					
Maps (5 000 ex.)					
Green track					
Expenses for advertisements in TV					
Adverts in radio					
Participation in exhibitions					
In total:					

When summing together tourism specialist salary, tourism infrastructure upkeep expenses and expenses linked to marketing of fishing tourism, it is possible to calculate the expenditure related to fishing tourism.

[30] Rinne, P. (1999) Luontomatkailun aluetaloudelliset vaikutukset Kuhmossa. Research Notes 93. University of Joensuu. Faculty of Forestry. 107 p.

Step 6 – **TO ASSESS THE ECONOMIC IMPACT OF FISHING TOURISM ON KURZEME REGION**

In order to assess the overall tourism economic impact (TotalEI), the following stages should be calculated:

(1) Calculation of direct economic impact (DEI);

(2) Calculation of induced economic impact (InduEI)

(3) Calculation of indirect economic impact (IndirEI);

(4) Calculation of the total economic impact (TotalEI)

(1) ***Direct economic impact*** **(DEI)** is compromised of expenses of tourists/visitors, salaries of those primarly employed in tourism and municipal investments in tourism, which can be considered as revenue drivers because of their feedback loop nature – they are driving travelers' expenses. When summing these indicators, it is possible to calculate the direct impact amount expressed in monetary way (euro).

The direct impact is calculated for each and every expenditure category, by multiplying the average expenses per tourist/visitor for each target group, times the total number in the given target group. This would allow calculating the regional[31] bruto income. In order to calculate the turnout increase, the valude added tax is deducted. This is carried out for every sector because there are different VAT rates for different sectors in Latvia.

To calculate the results and to include them in the following table (Table 10).

Table 10

Calculation of the direct economic impact, EUR

Direct economic impact (DEI) indicator	EUR
Expenses for the anglers (income for the municipality within territory)	
Direct employment in the tourism sector	
Investments in the tourism	
In total:	

(2) ***Induced economic impact*** **(InduE**I) is the common type of tourists/visitors expenses and the related services within the territories in Kurzeme region as defined under the research scope. InduEI is induced when the concerned income are further spent by the receiving

[31] *based on the territorial quandrants

companies for purchase of necessary goods and services, employees' salaries, which further drive the consumption. The ***cash outflow of funds*** **(COF)** is very significant for calculations of InduEI, which is caused by import of goods and services (or the money is invested in stocks of goods).

Tourism companies tend to purchase a large amount of goods and services from other territorial districts or to import from abroad. Taking into account that the amount of COF within the tourism field has not been calculated, the calculations can be based on the experience gathered within tourism research cases by Finnish tourism experts. The calculations are carried out based on triangulation approach – the following COF research values (according to the sectors) are applicable:

(1) accomodation – 25%;

(2) catering – 45%;

(3) transport services – 19%;

(4) tourism services programmes – 20%;

(5) retail – 75% (Huhtala, 2006[32]; Rinne, 1999[33]).

InduEI can be calculated when deducting from the tourists/visitors' expenses (according to sectors) the value added tax (VAT) rate in euro and the COF values (according to sectors). The results or the income which is left in the inspected territory is summed according to the sectors. The summed value portrays the InduEI calculation results (Huhtala, 2006; Rinne, 1999). For instance in 2019 in Latvia the VAT rate, which is one of the SEI calculation variables, was 21% (LR FM, 2019[34]).

To calculate the results and to include them in the following table (Table 11)

[32] Huhtala, M. (2006). Pallas-Ounastunturin kansallispuiston kävijöiden rahankäyttö ja sen paikallistaloudelliset vaikutukset. Metlan työraportteja 35. Retrieved: http:// www.metla.fi/julkaisut/workingpapers/2006/mwp035.htm (In Finnish) Access: 14.06.2019.

[33] Rinne, P. *Luontomatkailun aluetaloudelliset vaikutukset Kuhmossa. Research 93*. Finland, University of Joensuu. Faculty of Forestry, 1999.

[34] LR FM (Latvijas Republikas Finašu ministrija) (2018). PVN likmes. https://www.fm.gov.lv/lv/sadalas/nodoklu_politika/nodoklu_un_nodevu_sistema_latvija/pievienotas_vertibas_nodoklis/pvn_likmes/57359-pvn-likmes

Table 11

Calculations of cash outflow based on sectors, EUR

Sector	Cash outflow of funds (COF) %	Left funds (100-COF) %	Expenditure acc to sectors,EUR	Expenditure acc to sectors without COF, EUR
Accomodation	25	75		
Catering	45	55		
Transport Services	19	81		
Tourism activities	20	80		
Retail	75	25		

The InduEI can be calculated if from the overall tourists/visitors expenses the amount portraying the value added tax (VAT) amount is subtracted in EUR and COF subtraction according to sectors is taking place. The calculated results / the income which are left within the area are summed within the scope of sectors. The sum describes the InduEI calculation results (Huhtala, 2006; Rinne, 1999). For instance in 2019 in Latvia the VAT rate, which is one of the SEI calculation variables, was 21% (LR FM, 2019[35]).

The calculated results are to be included in the given table (Table 12)

Table 12

Calculation of induced economic impact according to sectors

Sector	Traveler expenses EUR	VAT (%)	VAT EUR	Leakage (%)	Sum of money which stays within the territory EUR
Accomodation					
Catering					
Transport Services					
Tourism activities					
Retail					
In total:					

[35] LR FM (Latvijas Republikas Finašu ministrija) (2018). PVN likmes. https://www.fm.gov.lv/lv/sadalas/nodoklu_politika/nodoklu_un_nodevu_sistema_latvija/pievienotas_vertibas_nodoklis/pvn_likmes/57359-pvn-likmes

The indirect economic impact (IndirEI) is connected with the direct economic impact DEI and the induced economic impact (InduEI). IndirEI describes the changes in sale, incomes, and employment within those companies which deliver products and services for tourism organisations and companies. It can be calculated according to the (2.) formula:

$$IndirEI = DEI + InduEI \times 0.1 \quad (2.)$$

where:

IndirEI – indirect economic impact

DEI – direct economic impact

InduEI – induced economic impact

0.1 (10%) – the marginal propensity to consume[36] (MPC) (Rinne, 1999; Huhtala, 2006).

The total tourism economic impact (DEI) can be calculated according to the following (3.) formula (Huhtala, 2006):

$$TotalEI = DEI + InduEI + IndirEI \quad (3.)$$

where:

TotalEI – total economic impact;

DEI – direct economic impact;

InduEI – induced economic impact.

IndirEI – indirect economic impact

Step 7 – **ASSESSMENT OF THE REGIONAL IMPACT OF THE FISHING TOURISM ON KURZEME REGION WITH AN ALTERNATIVE METHOD**

For calculation of the economic impact of the fishing tourism on the Kurzeme region the coefficient of the total tourism economic impact on the region can be calculated. ***Coefficient of the total tourism economic impact on the region*** The given coefficient portrays the relationship inbetween the total economic impact versus the municipal investments.

In the research the coefficient of the total economic impact on the region is calculated based on the followign (4.) formula:

[36] 0.1 or 10% - rate acquired by the author, based on Finnish experience, because in Latvia there has been no similar research.

$$T = TotalEI / Inv \quad (4.)$$

where:

T – the coefficient of the total impact of tourism on the region

TotalEI – total economic impact of tourism

Inv – municipal investments

The coefficient is estimated as ‘great’ if it is equal or greater than 1, because then the result shows that the local municipality would be able to recover some of the investments through tax income, while if the oefficient is less than 1 the vice versa applies. This indicator is a good tool for monitoring, which allows for following the track record of recovering of invested funds and for remedy of possible flaws in the way to do so, by ensuring in-depth analyses.

CHAPTER 3: TASKS

This chapter includes an overview for the research lead team on the tasks which are to be carried out during the research period. It is important to create a time-table which is tailored to the specific needs of the research in order to offer the research authors with an overview of the most current tasks to perform it in the most constructive way. The following table (see Table 13) includes the most important tasks.

Table 13

Time-table of the tasks to be conducted within the research

No	Task	Deadline
1.	Preperation stage	July
2	Development of the survey	July
3.	Surveyors hiring and training	July
4.	Survey approbation and surveying	July – August
5.	Analysis of recorded survey entries	August – September
6.	Collecting of data and information from other primary and secondary sources	August – October
7.	Preparing report on the role of fishing tourism on the economy in the project partner countries (SE, FIN, PL, LT, LV, EE)	July –August term 01.09.2019
8.	Preparing results and presentation for the interim-report	October – April term 01.03.2020
9.	Preparing results for the final report	April – May term 01.05.2020

The time-table portrays the tasks to be conducted and their breakdown form the moment when the methodology has been created. The main tasks and steps within each research stage are described in the following section.

THE RECCOMENDED STEPS FOR CONDUCTING THE RESEARCH

1.Preparation stage

The organizators should ensure proper preparation works in order to be able to analyse the collected data. Persons conducting the research should aim to collect as large quantity of data as possible with the aim of further conducting a statistical comparison and to analyse tendencies.

2. Development of the survey

The organizators of the research should develop the survey in two parts: first aimed at anglers, second aimed at entrepreneurs who are exposed to the fishing tourism.

3. Surveyors hiring and training

Organizators should hire surveyors at least a week in advance before beginning of the surveying, in order to give them time for training. It would be beneficial to contract persons with previous experience in conducting surveys.

4. Survey approbation and surveying

Before surveying it is necessary to perform survey approbation. Following this tasks the organizators make corrections to the survey sheets and hand them to the contracted surveyors. Surveyors conduct survey rounds of both the anglers and the enrepreneurs. The organizators provide the surveyors with the necessary background information in order for them to be able to successfully conduct their task. Surveys should be conducted during the days, when the conditions are good for fishing (according to weather, time of the day conditions) and it is possible to find the largest quantity of anglers in their fishing spots.

5. Analysis of the recorded survey entries

The survey conductors gather the collected data and conduct data analyses.

6. Collecting of data and information from other primary and secondary sources

Datu un informāciju sagādi veic pētījuma organizētāji (vai kādas citas personas atrunātas pētījuma uzdevumā).

7. Preparing report on the role of fishing tourism on the economy in the project partner countries (SE, FIN, PL, LT, LV, EE)

The organizators conduct secondary data in-depth analysis and report preparationaccording to the set deadlines.

8. Preparing results and presentation for the interim-report

Preparing of results for us in the interim-report (Table 13) is the task of the organizators of the survey.

9. Preparing results for the final report

The research results are prepared for the report, including the overview of fishing tourism in the tourism sector statistics, suggestions for creation of a monitoring system for assessing the impact of fishing tourism on the regional development, creation of a improved methodology, analyses of the impact of fishing tourism on the Kurzeme region, informative overview on the employment in relation to the fishing tourism and on the available tourism activities. Also it should include information on the means for further improvements with the aim of increasing

the total economic impact of fishing tourism to the regional economic, as well as sugestions for closer linking of the fishing tourism with other sectors of general economic.

CONCLUSIONS AND SUGGESTIONS

- The methodology and criteria created within this survey ensures sufficient amount of information to be gathered for further evaluation of the economic impact of fishing tourism on the regional development.
- The research will determine the total number of fishing tourism participants (tourists/visitors), their catch (species, number, amount), enterprises and economic sectors which support fishing tourism and could support it in the future, employment, service demand and offer, and the total economic impact in the research area – Kurzeme region.
- Suggested improvement – coefficient for calculating the total economic impact on the region – allows for more full-fledged assessment of the total economic impact of fishing tourism on the region, if it is possible to monitor the relation between the fishing tourism economic impacts in relation to the municipal investments.
- Increase in the visiting trends of fishing touristsvisitors would increase the activity of the entrepreneurs in the field of tourism services and thus would positively enable the economic activity in Kurzeme region.
- Methodology has been created according to the tasks and is adjusted for the specific case of Latvia. The possible improvements to the methodology is still an open question, since only after approbation certain adjustment can be made. When conducting the research the partner-countries should may face different national specifics which may influence the research details, thus there are possibilities for further improvements to the methodology for the economic assessment of the fishing tourism on the regional economy, which should be encouraged.