A thesis submitted to the department of Environmental Sciences and Policy of Central European University in part fulfilment of the Degree of Master of Science

Environmental Awareness and Place Attachment in the Coastal Region of Lithuania

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Budapest

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ABSTRACT OF THESIS submitted by:
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This paper analyzes the relation between the degree of place attachment and environmental concern of the residents of the coastal area of Lithuania. This specific research also aimed to study the links between people's marine uses, sociodemographic data, their willingness to move from the area and other issues.

During the research 174 interviews were conducted in four coastal localities in Lithuania – Klaipėda city municipality, Neringa municipality, Klaipėda district municipality and Palanga municipality. Survey data together with field observations supported the research hypothesis that there is a positive relation between respondents' sense of place attachment and environmental concern. However, the secondary research hypothesis that the degree of place attachment is lowest in Klaipėda district municipality due to longest distance from the sea and weak marine uses was partially confirmed (researched revealed that although the degree of place attachment was indeed the lowest in this area, marine uses were not the weakest in Klaipėda district municipality). The research also indicated that people who are related to the Baltic Sea by their activities (either occupation, hobby or recreation) tend to be more attached to the coastal area and more environmentally concerned than those who are not related to the sea at all.

However, the research results also revealed that other demographic features do not play a significant role in terms of people's environmental awareness or their attachment to the coastal area, a finding which differs from other known study results. Nor did people's marine related activities show a direct link with their awareness about major environmental problems of the Baltic Sea, which in general proved to be relatively low.

Keywords: environmental awareness, environmental concern, place attachment, environmental problems, Lithuania, Baltic Sea, coastal area

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INTRODUCTION

Environmental concern can be considered as attitudes people have towards environmental problems and the way they perceive their possible consequences (Hansla 2008). However, the spectrum of environmental attitudes is wide and varies a lot in specific localities, among different age groups, etc. For this reason researchers analysing people's attitudes towards the environment tend increasingly to put more emphasis on contextual variables such as political factors, the presence of environmental organizations, the level of education (Marquart-Pyatt 2012), people's general values (Hansla 2008) or personality types (Hirsh 2010). One more factor that is considered to be playing an important role in the development of environmental concern is one's place attachment, which may be an important indicator of environmental concern in the area (Vorkinn and Riese 2001).

According to researchers of human relations towards the natural environment, the concept of place attachment or place-identity includes "how people see themselves in the context of nature, how people see animate and inanimate aspects of the natural world, and how people relate to each other in the context of larger environmental issues" (Clayton and Opotow 2003). In addition, the way people "see and value the setting" reflects their identity (Cheng *et al.* 2003). This means that one's sense of identity has a significant influence on one's values and behaviour towards the surrounding environment. This research will aim to add to understanding of the relation between place attachment and environmental concern by studying their interaction in the coastal region of Lithuania.

Lithuania is a littoral country, which has a relatively short coastline of 99 km with the port town of Klaipėda and the Curonian Spit, a UNESCO World Heritage Site, being the flagships of the area. Although the country is situated by the coast of the Baltic Sea, the coastal area could not be

considered as having deep marine traditions. The main causes predetermining this relative lack of marine traditions are related to:

- historical circumstances: the seaside region was incorporated into Lithuania only in 1923, and for more than half a century after 1945 the only available maritime activity for the locals was limited recreation at the seaside,

- the social context of the region: the local population of the seaside area is rather "new" with a modest number of multi-generational inhabitants and a majority of residents who moved (or whose families moved) to the area at some point after World War II,

- current political-administrative issues: the responsibility of managing the Lithuanian marine area is divided between several authorities and there is no single authority which would be responsible for the marine area.

In the meantime, a study carried out in nine Baltic countries revealed that environmental concern towards the Baltic Sea is weaker in Lithuania compared to the other Baltic States. According to the results of "BalticSurvey", 62% of Lithuanians do not believe they are influencing the environmental condition of the Baltic Sea and they would not agree to support its improvement financially. Moreover, unlike the respondents in other countries of the region, a majority of the respondents in Lithuania failed to recognise relevant environmental problems of the Baltic Sea – primarily eutrophication and overfishing - and instead of that indicated littering as one of the major environmental threats (Soderqvist *et al.* 2010).

The main aim of the current research is to assess the relation between place attachment and environmental concern towards the Baltic Sea in the coastal area of Lithuania and this aim will be

reached by analyzing the degree of place attachment and environmental concern separately and then evaluating the link between these two variables. It is hypothesised that there is a positive correlation between the degree of place attachment and environmental concern and that measures for both variables will be weaker in areas, which are further from the sea.

First, main theories concerning place attachment and environmental concern will be presented, which will be followed by an introduction to research methods that were used in the project. During the research 174 face-to-face interviews were conducted with residents of four coastal municipalities in Lithuania (71 interviews in Klaipėda city municipality, 42 interviews in Klaipėda district municipality, 23 interviews in Palanga municipality and 32 interviews in Neringa municipality) varying by geographical conditions, urbanization level and sociodemographic data. Respondents were selected using simple random sampling methods. During the interviews, field notes were taken alongside the data gathering process that documented additional comments of the respondents, which sometimes did not reflect in the survey answers. Quantitative data together with field notes gathered during the surveying process represent the sense of place attachment and the level of environmental concern of the general population of these four municipalities.

The conducted research will help to analyze the relation between the degree of environmental concern and place attachment among the residents of the coastal region of Lithuania and contribute to this field of study, which has not yet been researched in the country.

1. THEORETICAL FRAMEWORK

Since the two main variables of this research are place attachment and environmental concern in the coastal areas in Lithuania, this chapter of the research will be focused on the most relevant studies in these fields. Theoretical approaches will be followed by schematic representation of the main concepts and causal relations between them. Since all researchers in this area are discussing the concepts of identity, place and human activities but tend to focus on different bonds between them, a schematic representation attempts to help the reader to compare these ideas more easily.

1.1. Environment, place and identity

The broadest concept that connects natural environment, place and people is human geography. Although human geography explores the relation between people and localities and human activities would be expected to be one of the main variables in this discipline, in the 1950s and 1960s researchers tended to exclude humans as actors from this study field (Holloway and Hubbard 2001). The main emphasis was then placed on other aspects such as migration patterns, economic activities and their location (Holloway and Hubbard 2001). However, the direction of research has shifted and more focus is now placed on humans as agents in this field. Since humans are now considered as important actors whose relation with the natural environment is able to initiate change, the concept of place has also acquired new meanings (Holloway and Hubbard 2001). Localities and their role in influencing mindsets of people now tend to be analysed from a more local rather than global perspective. Places are not categorized according to "large-scale 'grand' theories" and more focus is placed on the context and unique situation of the place" (Holloway and Hubbard 2001). Due to this paradigm shift people and place are not viewed as separate but rather as interconnected variables. Firstly, people can alter the environment directly through various uses of the area, for example extracting resources, using the area for

recreational purposes or limiting human activities in it due to protection of wildlife. Secondly, change in the environment can come about indirectly due to economic situation of the region, social, political or cultural patterns (Holloway and Hubbard 2001).

In the meantime, place and the way people perceive the place plays an important role in forming people's attachment. According to Holloway and Hubbard, everyday life, routines and activities are essential factors influencing people's understanding of place: "routine, regularity and the everyday tend to be associated with attachment and 'at homeness'". Since everyday activities define the sense of place, they are key determinants for people's relation with the place and their place attachment (Holloway and Hubbard 2001). Moreover, the authors suggest that it is not only personal interaction with the place that build one's relation to it, but also a general understanding of what else is happening in that specific locality, i.e. what other activities are present in that place, what is its function, what are its integral parts and physical boundaries (Holloway and Hubbard 2001). However, these perceptions are again highly dependent on types of activities in the place. When thinking about coastal and marine areas, which this research will be focused on, examples influencing the perception of this specific place may be the intensity of fishing in the area, existence of various resource extraction activities or more generally what are the most common uses of the place by local residents. Perception of physical boundaries of the place may also be formed by the way people use the area – it could be implied that if the most common activities are based only on the coast, boundaries of the marine area are consequently constrained to the coast as well.

The concept of human geography, people's relation with place, their perception and attachment of environment is represented in Figure 1:

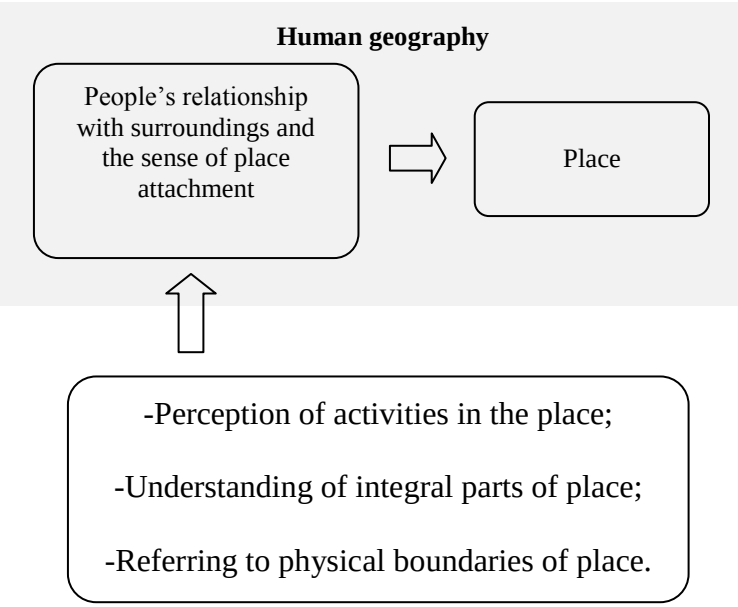

Figure 1: Broadened concept of human geography and the role of people's perception of the place.

Based on Holloway and Hubbard 2001.

The importance of social context in influencing how one perceives the environment is also emphasized by Susan Clayton and Susan Opotow. These authors define the sense of belonging to a specific place as environmental or place identity. In their book "The Psychological Significance of Nature" Clayton and Opotow argue that environmental identity in the broadest sense is the way "how people orient themselves to the natural world". The authors also suggest an elaborate concept of environmental identity. According to them, firstly, environmental identity is defined by the way people see themselves in the natural environment. The way people understand themselves in the context of natural environment is influenced both by personal experiences and information about them received from others (Clayton and Opotow 2003). It means that the information received from external sources plays an important role in the way this perception is shaped. This idea corresponds to the theory of Holloway and Hubbard by stating that not only

personal relation to the environment participates in forming one's understanding of the place but general information about the uses and the role the locality plays in the society. In addition, Clayton and Opotow argue that environmental identity is constructed according to the way people understand the surrounding environment, how they relate themselves to it and the way they see themselves in a larger social context regarding environmental issues. This last variable also highlights the importance of social activities and roles one has in the social context. The range of social categories is wide – from using the surrounding environment as a source of resources to activism or to political decisions (Clayton and Opotow 2003). When thinking about the coastal region of Lithuania, examples of activities and interests in this area include fishing, nature conservation, activities related to the port functioning, developing facilities of renewable energy sources, among others.

According to Clayton and Opotow social activities play an important role in the process of shaping environmental identity. The authors argue that "environmental identities inevitably contain a social component because they depend on and ultimately contribute to social meaning". In other words, there is a feedback loop between environmental identity and social activities (Clayton and Opotow 2003). Also it implies that social activities or social context can indicate the way how society or separate individuals perceive the place. Moreover, the authors state that environmental identity leads to certain action and shapes the way moral consideration is given to the natural environment. It means that environmental identity which people have determines how they value the environment. Following the theory of Clayton and Opotow it could be implied that a place, which receives moderate human participation or their uses related to the place are not intensive, would be valued differently in comparison if numerous activities were conducted in the place or if the locality had an essential meaning to the local society.

However, it is important to highlight that Clayton and Opotow believe that the link between environmental identity and social actions is sometimes difficult to evaluate, because it can depend on the level of social influence. The authors illustrate this argument by an example that it is easier for a person to talk about "the rights of nature, when there is little sense of corresponding responsibilities". In case social interactions are weaker, there might be a threat to underestimate one's influence for the environment and if social influence is strong, the actual concern for nature might be pushed to the background (Clayton and Opotow 2003). According to the authors, social interactions do not always perfectly indicate the way in which a person perceives the environment, since social pressure might be an important factor here as well.

Elaborate concept of environmental identity by Clayton and Opotow is represented in Figure 2:

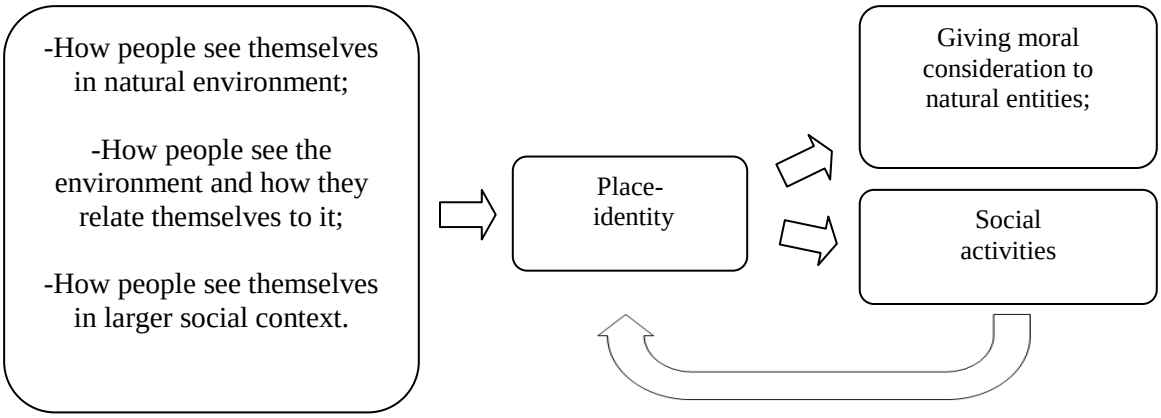

Figure 2: Social context and place identity.

Based on Clayton and Opotow 2003.

As well one's understanding of the locality, place is also not considered as a given entity but is constructed by assigning meanings to it (Cheng *et al.* 2003). According to Cheng *et al.*, it is constructed both by biophysical characteristics and processes, social and political processes and social and cultural meanings. Again social context, social activities play an important role here.

However, places are also "imbued with socially constructed expectations of appropriate behaviour" (Cheng *et al.* 2003). Therefore, the same object in a park or in a museum would influence different behaviour. This argument recalls the ideas of Clayton and Opotow by emphasizing the role of social context and activities. Cheng *et al.* also argue that a *place* is a construct, which is always reshaped when new meanings are assigned to it by political and social processes. These processes can range from familial relations to political processes (Cheng *et al.* 2003).

Moreover, Cheng *et al.* believe that concept of place determines place-identity, since perception of the locality depends on one's interactions with it. The authors argue that places determine who a person is and how he/she acts. In addition, behaviour, values and perception of a geographical location reflect a person's identity (Cheng *et al.* 2003).

Cheng *et al.* analyse the concept of place and the factors that influence it and state that the concern about a place is more dependent on identities people have regarding the place than the place itself. It means that the concern about environmental issues is influenced by the way people orient themselves in the place. In brief, Cheng *et al.* in their theory highlight the relation between the concept of place which is constructed by giving various meanings to it, people's perception of the place and their concern towards it. However, properties of the locality are considered to play a role in forming one's sense of place attachment (Burley *et al.* 2007).

Construction of the concept of place is represented in Figure 3:

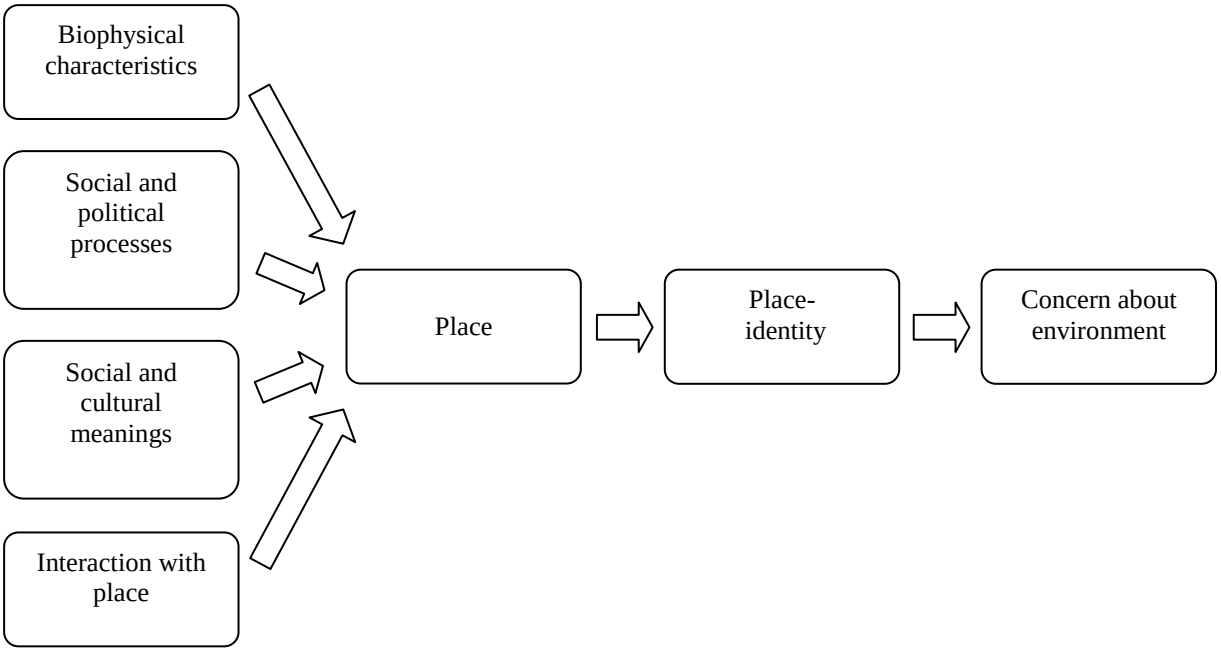

Figure 3: Relation between place, place identity and environmental concern.

Based on Cheng *et al.* 2000 and Burley *et al.* 2007.

According to theories of place attachment, "emotional connections to particular environmental aspects of places people have lived – rocky terrain, harsh winters, or the ocean shore – serve to shape individuals' identities" (Altman and Low 1992). However, the meanings that are given to a place vary even when the biophysical characteristics of the environment are the same (Cheng *et al.* 2003), therefore it depends on the meaning given to the place, which is formed by various interactions with it.

All overviewed theories analysing the concept of place, people's perception of the locality and their environmental concerns focus on the relation between these variables and their interconnectedness. Place is considered to possess a specific meaning according not only to its biophysical characteristics but also social context and uses taking place in it. Place with its unique meaning influences people's perception of the locality and in the meantime the meaning of place is formed by people's understanding of it. One's perception of the place in overviewed

theories is described as place-identity, environmental identity or place attachment. In this research the term of place attachment will be used which will refer to person's perception of the specific place and the sense of belonging to it. In addition, place attachment develops one's concern about the place and its environment. This theoretical framework is presented in Figure 4:

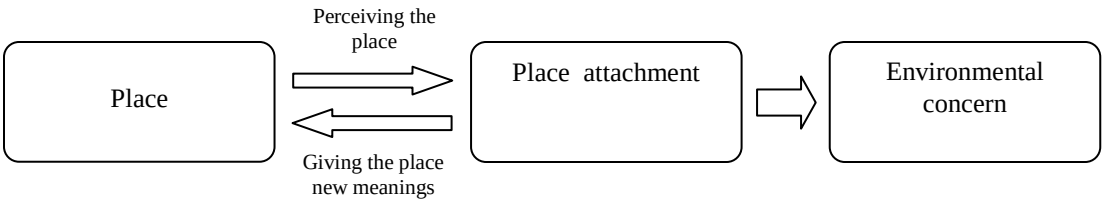

Figure 4: Theoretical framework of the research: place, place attachment, environmental concern.

1.2. Environmental awareness

The quantity of research concerning environmental awareness has been growing since the 1960s when the first study focusing on environmental concern of the public was carried out [in 1969] (Smrekar 2011). Ever since then, the field of environmental awareness has gained increasing interest from environmental and political scientists, sociologists and researchers of psychology.

Environmental awareness is described as an "evaluation of, or an attitude towards facts, one's own behaviour, or others' behaviour with consequences for the environment" (Takala 1991). The concept of environmental awareness encompasses three different dimensions – attitudes, intentions and behaviour (Fransson and Garling 1999). These categories reflect the degree of peoples' awareness about environmental issues, reveal their willingness to support issue solving and show whether they are themselves ready to take action in solving environmental problems (Dunlap and Jones 2002). In addition, environmental concern can be expressed towards a

concrete problem or topic and can express a more general attitude regarding environmental issues (Fransson and Garling 1999).

Theories analysing the concept of environmental awareness indicate that the level of environmental concern tends to change regarding historical processes, biophysical characteristics of the locality and the society itself (Smrekar 2011). What is more, according to researchers of environmental awareness, this concept does not directly depend on specific environmental problems but rather "on the social relationship to the environment and its natural components" (Smrekar 2011). In other words, according to Smrekar (2011) there is no direct link between specific environmental problems and people's concern about them. Environmental awareness depends on people's attitudes towards the place itself.

Regarding the region of this research – the coastal area of Lithuania – studies analysing the level of environmental awareness have been carried out. In 2010, research regarding the way people use the Baltic Sea and their environmental awareness concerning it was initiated by the Swedish Environmental Protection Agency and was carried out with the cooperation of twelve organizations in the Baltic region. The main method of this research was quantitative interviews that were conducted in nine littoral countries in the Baltic region – Sweden, Denmark, Germany, Russia, Poland, Lithuania, Latvia, Estonia and Finland. It was the first study concerning marine uses and environmental awareness in the area (Soderqvist *et al.* 2010).

According to the Baltic Sea Action Plan prepared by the Baltic Marine Environment Protection Commission (HELCOM) the biggest threats to Baltic Sea are eutrophication and overfishing (HELCOM 2007). However, not many respondents in Lithuania recognized these threats and considered littering as the biggest threat to the Baltic Sea (Soderqvist *et al.* 2010). In addition, 62

percent of the respondents in Lithuania do not believe their activities influence the environmental condition of the sea and they "do not agree with the idea that they can play a role in improving it" (Soderqvist *et al.* 2010).

The "BalticSurvey" study conducted in Baltic countries will not only provide the background and indicate the direction for the this research but will also provide the framework for the analysis of the level of environmental awareness in the coastal area of Lithuania.

1.3. Link between place attachment and environmental concern

In 2001 research analyzing the link between place-identity and environmental concern was carried out in Skjåk municipality in Norway. The study attempted to find out whether place attachment would predict environmental concern among the residents of the region (Vorkinn and Riese 2001). Variables of this research were people's environmental attitudes towards plans to build a major hydropower plant in Skjåk, the degree of place attachment of the residents of the area and their sociodemographic data. Analysis of the data received from 305 questionnaires showed that place attachment was a significant predictor of people's concern about the plans to build a hydropower plant, thus supporting the idea that when environmental concern is analysed greater focus should be put on contextual variables such as people's understanding of the place and attachment to it (Vorkinn and Riese 2001).

The research conducted in Skjåk municipality provided the basis for exploring the relation of place attachment and environmental awareness in the coastal area of Lithuania and it helped to develop a questionnaire for gathering data during the research.

1.4. Research hypotheses

According to the reviewed theories and research regarding the concept of place, place attachment and environmental awareness, the main hypothesis of the research is the following – there is a positive correlation between the degree of place attachment and the level of environmental concern in the coastal regional of Lithuania.

In addition, the degree of place attachment should be higher in those areas where the use of the place is more intense (Vorkinn and Riese 2001). The second hypothesis of the research is therefore that the degree of place attachment will be higher in Neringa municipality, Palanga municipality and Klaipėda city municipality than in Klaipėda district municipality, because although Klaipėda district municipality is biggest in terms of territorial area, it has the shortest sea coast and its capital is situated far from it (so it can be anticipated that the use of the Baltic sea is less intense).

2. METHODOLOGY OF THE RESEARCH

In this chapter, research methods will be introduced, which will help to reach the aim of the research – to evaluate the relation between place attachment and environmental awareness in the coastal area of Lithuania and to test the main research hypothesis that there is a correlation between the degree of environmental identity and environmental awareness in the area, and the secondary hypothesis concerning subvariations within the various coastal communities.

Research methods of the project were quantitative interviews with the residents of four municipalities, which have access to the coast of the Baltic Sea (only four municipalities have access to the sea in the country). In total 174 quantitative interviews were conducted in the capitals of coastal municipalities: 71 interviews in Klaipėda city (Klaipėda city municipality), 42 interviews in Gargždai (Klaipėda district municipality), 23 interviews in Palanga (Palanga municipality) and 32 interviews in Nida (Neringa municipality).

Klaipėda city municipality has a population of around 160 thousand and is comprised of Klaipėda city, which is the main harbour in the country, and two small elderships. Although Klaipėda district municipality is biggest in terms of territorial size, the population of it is relatively small – around 46 thousand. The town of Gargždai is the capital of this municipality and is situated farthest from the coast (20 kilometres) compared to other territories where surveying was carried out. Neringa municipality is located in the Curonian Spit and is washed by the Baltic Sea from the western side and Curonian Lagoon from the eastern. This municipality, which at its widest point is just around 4 kilometres, is one of the most remote regions in Lithuania. In addition, it is one of the most popular resorts in the country due to this unique geographical location and its pristine nature. Palanga municipality is a resort area for active entertainment and attracts a high

number of young visitors in summer. These four municipalities together with the towns, where the surveying was carried out is presented in Figure 5:

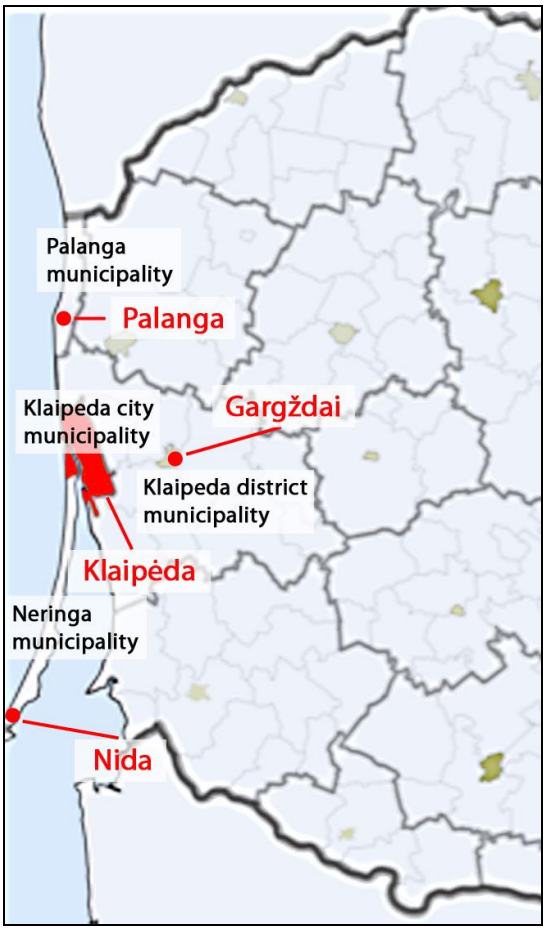

Figure 5: Four coastal municipalities of Lithuania and their capitals.

Respondents were selected using random sampling methods: interviewees were selected randomly in parks, market halls and squares in Klaipėda city municipality, Klaipėda district municipality and Palanga municipality. However, in Neringa municipality interviewing was carried out mostly in respondents' private gardens, since people in parks and squares of this resort town proved to be not local residents. Interviews were face-to-face and answers in the questionnaire were marked according to the respondent's choice by the interviewer. In addition,

field notes were taken during the research process in order to document respondent's comments to questions, which later on helped to indicate common opinions of respondents and differences of attitudes towards research topics in each municipality.

This quantitative survey attempted to analyze whether and to what degree the residents of these four municipalities are attached to their locality, which is situated on the coast of the Baltic Sea. Additionally, the research aimed to evaluate whether the environmental condition of the sea is an important component of the sense of environmental concern of the local residents in these municipalities.

The variable of place attachment was measured by four survey questions. These questions were developed referring to the research carried out by Vorkinn and Riese (2001). Although the authors of this research used two measures of place attachment – towards the municipality and towards general locality with a focus on the natural environment – the study revealed that place attachment towards the municipality had lower significance than the place attachment towards the general locality in terms of environmental attitudes (Vorkinn and Riese 2001). Therefore, only questions referring to place attachment towards the general area were used in the survey.

Concerning the degree of place attachment, distance and activities are thought to play an important role (Vorkinn and Riese 2001). A question regarding respondents' marine uses was included in the survey also due to the fact that for almost 50 years marine activities were limited to recreation at the seaside for residents in the coastal area and in order to find out whether recreation at the beach remains the major marine activity in Lithuania and the sea is still associated only with it (Zaromskis 2011).

Questions concerning place attachment were as follows (full questionnaire in English and Lithuanian can be found in Appendix I):

No. 2: “How important is it for you to live in the coastal area?”

No. 3: “If you could maintain your lifestyle (current income, housing, hobbies) in another area away from the coast, how likely would you be considering to move?”

No. 4: “To what extent do you agree with this statement:

’I care a lot about the Baltic Sea’?”

No. 5: “What are your marine uses?”

Environmental awareness was measured by four questions as well. These questions were developed according to the “BalticSurvey” study. However, this study was conducted in the whole country and not just the coastal area. Results of the study indicated traits of various environmental identities existing in Lithuania. It was revealed in the “BalticSurvey” study that residents of Lithuania do not recognize the main environmental problems of the Baltic Sea, do not agree that they are contributing to the problems of the sea and would not agree to contribute financially to improvement of the environmental condition of the sea (Soderqvist *et al.* 2010). In the light of this information indicated by “BalticSurvey” results, questions concerning these issues were included in the questionnaire. With the help of the questionnaire, information about environmental awareness of the residents in the coastal area was gathered and analyzed.

Questions concerning environmental concern were:

No. 6: “How important is the protection of the environment for you?”

No. 7: “What are the biggest environmental problems in the Baltic Sea, according to you?”

No. 8: “To what extent do you agree with this statement:

‘Residents of the coastal area contribute to environmental problems of the Baltic Sea’? ”

No. 9: “Do you think that you can personally contribute to protection of environment in the coastal area, and if so how?”

Previous studies analyzing the degree of environmental awareness have showed a correlation between the respondent’s age and the degree of environmental concern (Deng *et al.* 2006; Vorkinn and Riese 2001). Therefore, the questionnaire also included questions asking respondents to indicate sociodemographic information such as their age, education and gender.

Questions concerning sociodemographic information:

No. 1: “How long have you been living in the coastal area?”

No. 10: “Please indicate your age”

No. 11: “Please indicate your highest level of education”

No. 12: “What is the approximate distance between the place you live and the sea?”

No. 13: “What is your gender?”

After gathering quantitative data cross tabulation between pairs of answers was carried out and correlation between them was evaluated using a statistical test – the Pearson Product Moment Correlation Coefficient, which is a “measure of the degree of linear relationship between two variables” and the strength of relationship between two variables is presented by *r* (Stockburger 2010).

Interpretation of correlation coefficient is presented in Table 1.

Table 1: “Interpretation of correlation coefficients”:

Correlation Coefficient	**Interpretation**
0.0	No correlation
0.01 – 0.09	Trivial relationship

0.10 – 0.29	Low to moderate relationship
0.30 – 0.49	Moderate to substantial relationship
0.50 – 0.69	Substantial to very strong relationship
0.70 – 0.89	Very strong relationship
0.90 +	Near perfect relationship

Source: Healey 1996

Limitations of the research: The sample of the research (n=174) was relatively small, therefore, in order to have bigger samples for cross tabulation, answers had to be combined into groups. Small samples and grouping of answers might have influenced the results of cross tabulation, therefore the results must be considered somewhat tentative.

3. RESULTS OF THE RESEARCH

In this chapter results of the research will be introduced together with additional comments respondents sometimes made during the surveying process (these comments were documented by taking field notes in every location). A general overview of the most significant results of the research and their interpretation will be presented in the following (discussion) chapter.

3. 1. Degree of place attachment in four coastal municipalities

Survey questions 2 to 5 were constructed to indicate respondents' degree of attachment to the coastal area. However, the surveying process revealed that these questions reflect the sense of place attachment in different ways. Among questions 2 to 5, question 5 asked people to indicate their marine uses and later on results of this question were used to compare with their place attachment and environmental awareness level. In addition, answers and additional comments to question 3, which asked whether people would agree to move from the coastal area, suggested that results of this question might have different meanings than had been anticipated. During face-to-face interviews some respondents in the research area who indicated that they would not be willing to move from the coastal region added that they are simply used to living in that particular location. Comments like this implied that answers to this question should be interpreted cautiously because they might be reflecting not only the respondent's attachment to the coast but general unwillingness to have changes in their life. Consequently answers to question 3 might not be the perfect indicators of the degree of place attachment of the respondent.

Therefore, question 2 ("How important is it for you to live in the coastal area?") and question 4 ("To what extent do you agree with this statement: 'I care a lot about the Baltic Sea'?") were considered to be the core questions testing this variable, which best indicate the degree of place attachment of the respondent.

Firstly, results of the correlation between answers to question 2 to 5 will be presented and afterwards the relation between these questions and questions related to environmental awareness and sociodemographic information will be discussed. Interpretation of correlation coefficients are presented in Table 1.

Distribution of respondents' answers to questions 2 and 4, which were the main questions indicating the degree of respondent's attachment to the coastal area are presented in Figure 6 and Figure 7.

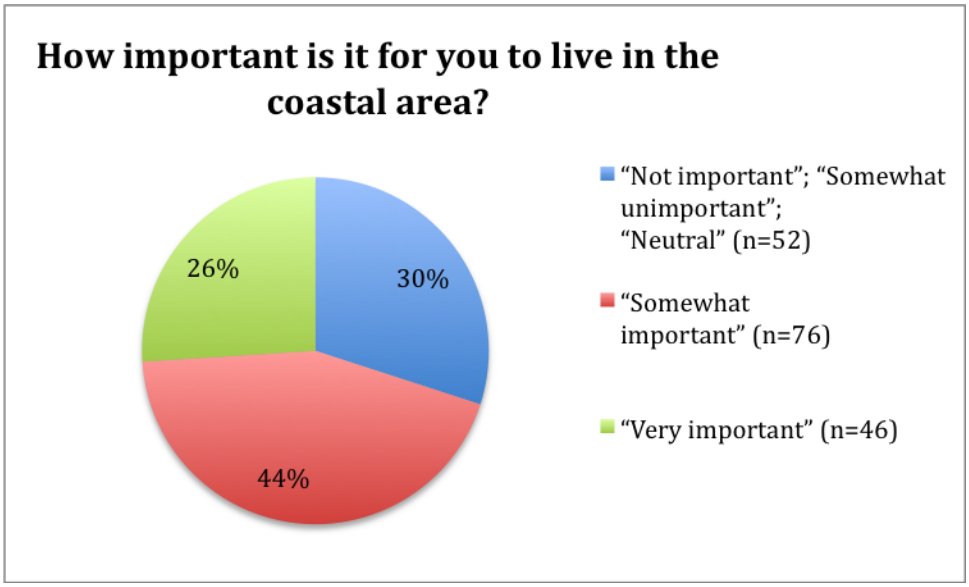

Figure 6: "Importance to live in the coastal area".

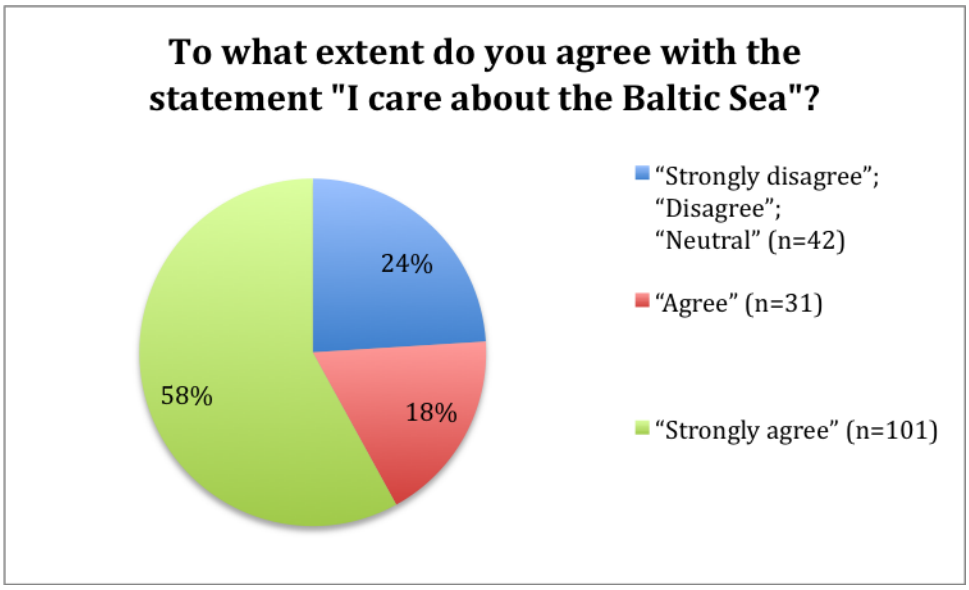

Figure 7: "Level of care for the Baltic Sea".

Table 2 presents the relationship between answers to questions 2 and 4.

Table 2: "Relation between living in the coastal area and caring about the Baltic Sea":

Count of Respondent	Q. 4: "To what extent do you agree with the statement ‚I care about the Baltic Sea'?" *(combined answers)*			
Q. 2: "How important is it for you to live in the coastal area?" *(combined answers)*	"Strongly disagree"; "Disagree"; "Neutral" (24%)	"Agree" (18%)	"Strongly agree" (58%)	Grand Total
"Not important"; "Somewhat unimportant"; "Neutral" (n=52)	52%	19%	29%	100%
"Somewhat important" (n=76)	17%	22%	61%	100%
"Very important" (n=46)	4%	9%	**87%**	100%
Moderate to substantial relationship [1] Respondents who find it more important to live in the coastal area tend to care more about the Baltic Sea.				

Regarding question 2, asking respondents whether it is important for them to live in the coastal area, interviewees in Klaipėda district municipality added comments while providing their

[1] r = 0.47

answers as well. A number of respondents in this municipality doubted that they actually live in the coastal area (the town where the survey was conducted in this location is the capital of the municipality and is 20 km from the coast).

Since questions 2 and 4 were considered to be the best indicators of one's degree of place attachment, answers to these questions were turned into scores and combined into two categories ("weaker sense of place attachment" – scores from 1 to 7 and "stronger sense of place attachment" – scores from 8 to 10) and a variable reflecting respondents' sense of place attachment was developed out of them. These combined answers were used to compare the degree of place attachment with the variable of environmental awareness, sociodemographic data and answers to separate questions of the questionnaire as well.

Average scores for the variable of place attachment (combined from answers to questions 2 and 4) in each municipality are presented in Table 3. Range of scores indicating the degree of place attachment was from 4 to 10.

Table 3: "Degree of place attachment in coastal municipalities in Lithuania":

Municipality / Place attachment	Klaipėda city municipality	Neringa municipality	Klaipėda district municipality	Palanga municipality
Average scores	8.31	**9.91**	7.90	8.18

Although answers to question 3 might have a slightly different meaning and might indicate not just attachment to the coastal area but general unwillingness of the respondent to have changes in his/her life, strong relation was observed between this question and questions 2 and 4 (combined answers). Results of cross tabulation and correlation of answers to these questions are presented in Table 4.

Table 4: "Relation between place attachment (combined answers to questions 2 and 4) and willingness to move":

Count of Respondent	Q. 3: "If you could maintain your lifestyle in another area away from the coast, how likely would you be willing to move *(combined answers)*?"			
Q. 2 and 4: degree of place attachment *(combined answers)*	"Very likely"; "Somewhat likely"; "Neutral" (28%)	"Somewhat unlikely" (14%)	"Very unlikely" (58%)	Grand Total
Weaker sense of place attachment (n=50)	**64%**	16%	20%	100%
Stronger sense of place attachment (n=124)	14%	13%	**73%**	100%
Substantial to very strong relationship [2]. Respondents having a stronger sense of place attachment would be less willing to move from the coastal area.				

It is important to highlight that moderate to substantial relationship [3] exists between answers to separate questions 2 and 3 as well. Relation between answers to these questions indicate that people to whom it is more important to live in the coastal area are less willing to move from it. Substantial to very strong relationship [4] between answers to question 4 and 3 show that respondents who care more about the Baltic Sea are also less willing to move from the coastal area.

Speaking about the relation between answers to questions 2 and 3 in separate municipalities, respondents' willingness to move from the coastal area indicated strongest relation with their attachment to the area in Palanga municipality, and is lowest in Klaipėda municipality. Comparison of correlation of answers to these questions in four coastal municipalities are presented in Table 5.

[2] r = 0.58
[3] r = 0.44
[4] r = 0.54

Table 5: “Relation between importance to live in the coastal area and respondents’ willingness to move in four coastal municipalities”:

Municipality / Correlation	Klaipėda city municipality	Neringa municipality	Klaipėda district municipality	Palanga municipality
Relation between answers to questions 2 and 3	r = 0.30	r = 0.46	r = 0.52	r = 0.81

Answers to question 5 provide an overview of the existing marine uses in the coastal region of Lithuania. In this question respondents were asked to indicate their marine uses and they were able to choose one or more answers to this question. Answers to question 5 were divided into four categories – marine activities related to hobby, leisure, occupation and activities not related to the sea. It is interesting to highlight that 46 % of the respondent answers indicated that they are related to the sea due to recreational purposes. In addition, 25 % of the respondent answers indicated that they are not related to the sea at all. Together these two answers account for 71 % of all answers. In general, the answers revealed that recreation at the sea remains the most common marine activity. Answers to question 5 (not divided into groups) are presented in Figure 8.

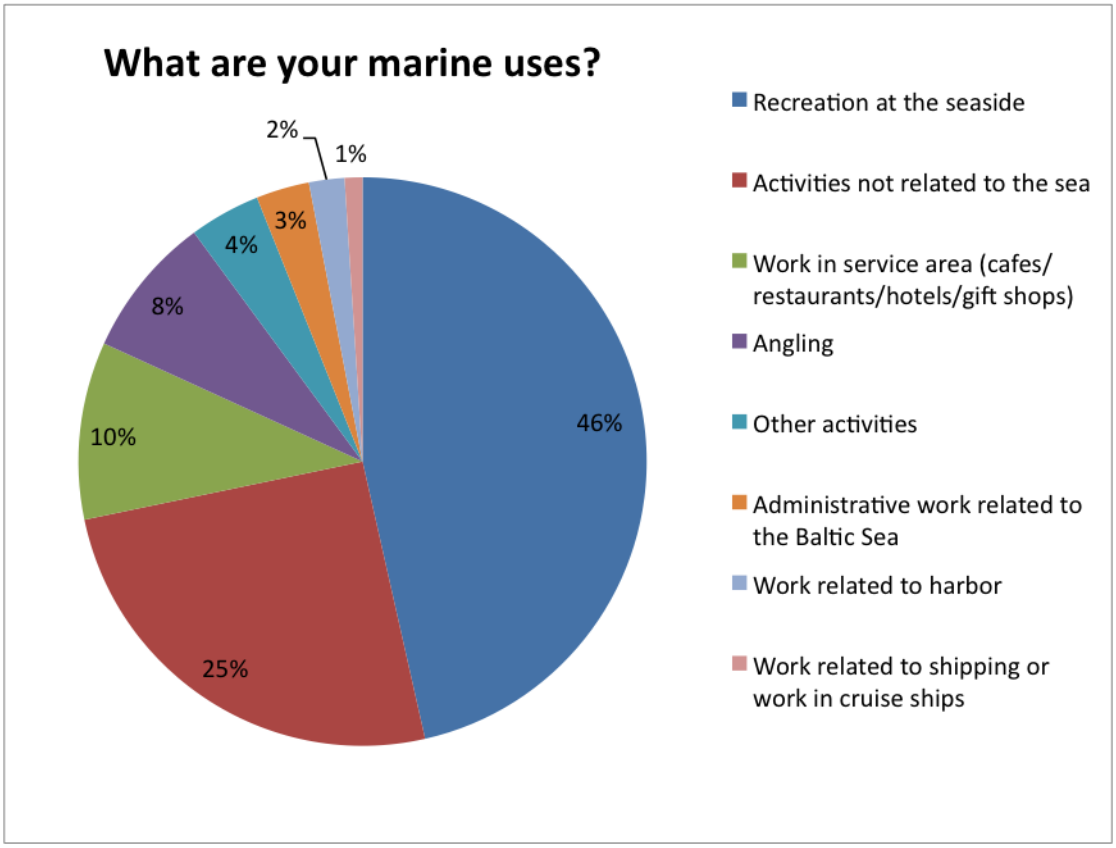

Figure 8: "Marine uses in the coastal area of Lithuania".

It was noticed during the survey process in Palanga municipality that when respondents were asked to indicated their marine uses (question 5), a number of them immediately indicated "living in the coastal area" as their marine use and only after reading the possible answers to this question, chose one of them.

It is important to highlight that distribution of the answers to this question varies greatly between the four municipalities (Figure 9). Recreation as a marine use was the most common answer in Klaipėda city and Klaipėda district municipalities (59 % and 49 % of the answers respectively). Occupation as the way in which respondents are related to the sea was the most common answer in Neringa municipality and accounted for 41 % of all answers. In this location interviewees mostly indicated working in gift shops (selling amber souvenirs and linen), renting rooms or

apartments for tourists or selling smoked fish. Graphical representation of the answers to question 5 in four coastal municipalities can be seen in Figure 9.

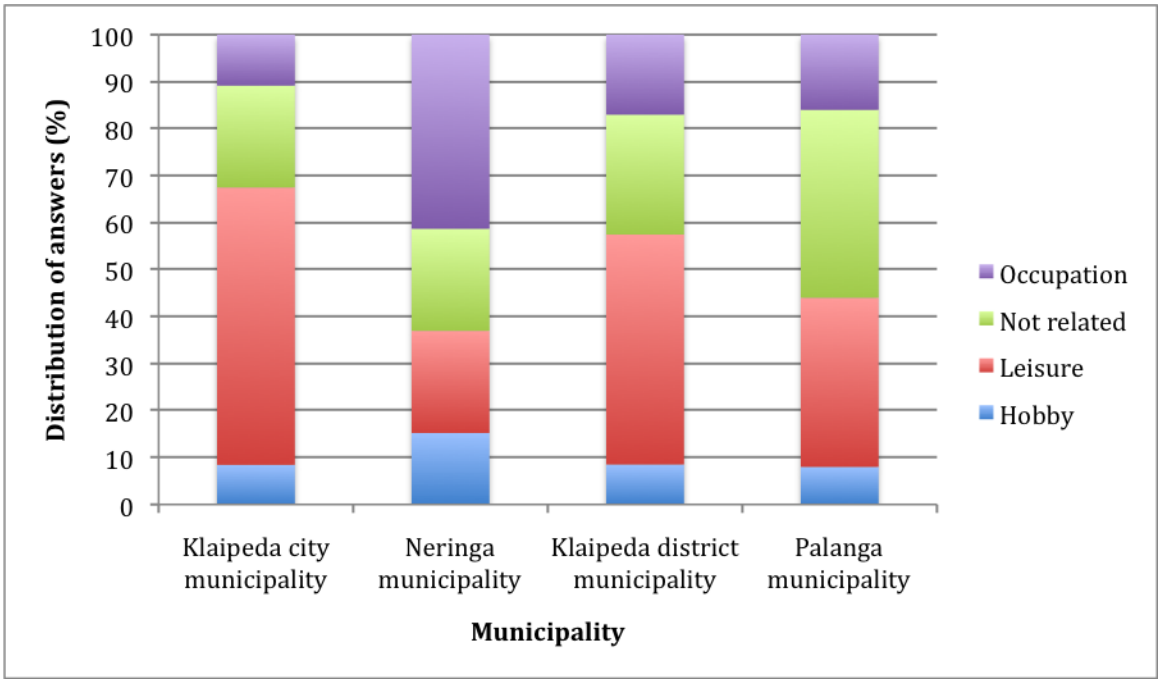

Figure 9: "Marine related activities in Klaipėda city, Neringa, Klaipėda district and Palanga municipality".

Answers to question 5 show a relation to answers to questions 2 and 4 (combined) and is presented in Table 6.

Table 6: "Relation between place attachment (combined answers to questions 2 and 4) and marine uses":

Count of Respondent	Q. 5: "What are your marine uses? " *(combined answers)*				
Q. 2 and 4: degree of place attachment *(combined answers)*	Hobby (10%)	Leisure (42%)	Not related (29%)	Occupation (20%)	Grand Total
Weaker sense of place attachment (n=50)	8%	28%	**56%**	8%	100%
Stronger sense of	10%	48%	18%	24%	100%

place attachment (n=124)					
Moderate to substantial relationship [5]. Respondents not related to the sea tend to have a weaker sense of place attachment, respondents stating that they are related to the sea due to occupation or recreation tend to have a stronger sense of place attachment.					

Regarding question 5, which was asking respondents to indicate their marine uses, moderate to substantial correlation exists between answers to this question and answers to question 2 (not in combination with answers to question 4), which was asking respondents to indicate how important it is for them to live in the coastal area. Cross tabulation and correlation results of these two questions are presented in Table 7.

Table 7: "Relation between importance to live in the coastal area and marine uses":

Count of Respondent	Q. 5: "What are your marine uses? " *(combined answers)*				
Q. 2: "How important is it for you to live in the coastal area?" *(combined answers)*	Hobby (8%)	Leisure (42%)	Not related (29%)	Occupation (20%)	Grand Total
"Not important"; "Somewhat unimportant"; "Neutral" (n=52)	4%	37%	**50%**	10%	100%
"Somewhat important" (n=76)	9%	47%	26%	17%	100%
"Very important" (n=46)	17%	**39%**	9%	**35%**	100%
Moderate to substantial relationship [6]. Respondents not related to the sea tend to indicate that it is less important for them to live in the coastal area. Respondents stating that they are related to the sea due to their occupation or recreation tend to indicate that it is more important for them to live in the coastal area.					

[5] r = 0.37
[6] r = 0.32

Answers to question 5 also correlate with answers to question 4 (not combined with answers to question 2) asking interviewees to indicate, whether they care about the Baltic Sea. Results are presented in Table 8.

Table 8: "Relation between caring about the Baltic Sea and one's marine uses":

Count of Respondent	Q. 5: "What are your marine uses? " *(combined answers)*				
Q. 4: "To what extent do you agree with the statement ‚I care about the Baltic Sea'?" *(combined answers)*	Hobby (10%)	Leisure (42%)	Not related (29%)	Occupation (20%)	Grand Total
"Strongly disagree"; "Disagree"; "Neutral" (n=42)	10%	29%	**55%**	7%	100%
"Agree" (n=31)	13%	35%	26%	26%	100%
"Strongly agree" (n=101)	9%	**50%**	19%	23%	100%
Moderate to substantial correlation [7]. Respondents not related to the sea tend to care less about the Baltic Sea. Respondents stating that they are related to the sea due to recreation tend to care more about the Baltic Sea.					

It is important to note that answers to questions about respondents' place attachment do not correlate with answers to any of the questions about respondents' age, education, gender, distance to the sea from their place of residence or how long they have been living in the area. Only answers to question 1 (the duration which the respondent has lived in the coastal area) revealed relation with answers to question 3 (respondent's willingness to move from the area). Answers to question 1 were divided into four categories – duration up to 5 years, 5 to 10 years, 11 to 20 years, 21 and more years. Analysis of the results showed that the longer respondent has lived in the coastal region, the less willing he/she is to move from the area. However, this result might also be indicating social factors other than attachment to the coastal area, e.g. respondent's

[7] r = 0.32

attachment to the community or willingness to lead a stable life without having any changes at all. Relation between answers to these two questions is presented in Table 9.

Table 9: "Relation between duration of living in the coastal area and willingness to move":

Count of Respondent	Q. 3: "If you could maintain your lifestyle in another area away from the coast, how likely would you be willing to move *(combined answers)*?"			
Q. 1: "How long have you been living in the coastal area?"	"Very likely"; "Somewhat likely"; "Neutral" (28%)	"Somewhat unlikely" (14%)	"Very unlikely" (58%)	Grand Total
Up to 5 years (n=17)	**59%**	6%	35%	100%
5 to 10 years (n=9)	22%	22%	**56%**	100%
11 to 20 years (n=26)	31%	8%	**62%**	100%
21 and more years (n=122)	24%	16%	**61%**	100%
Low to moderate correlation [8]. Respondents living in the coastal region longer tend to be less willing to move from this area.				

Answers to other questions asking respondents to indicate sociodemographic information show some correlation with questions related to environmental concern of respondents. These results will be presented at the end of this chapter.

3. 2. Degree of environmental concern among residents of the coastal area

Speaking about environmental awareness, which is the second major variable of the research, the core question for it was question 6, which represented the level of environmental concern of the respondent. Respondents' answers to this question are presented in Figure 10.

[8] r = 0.18

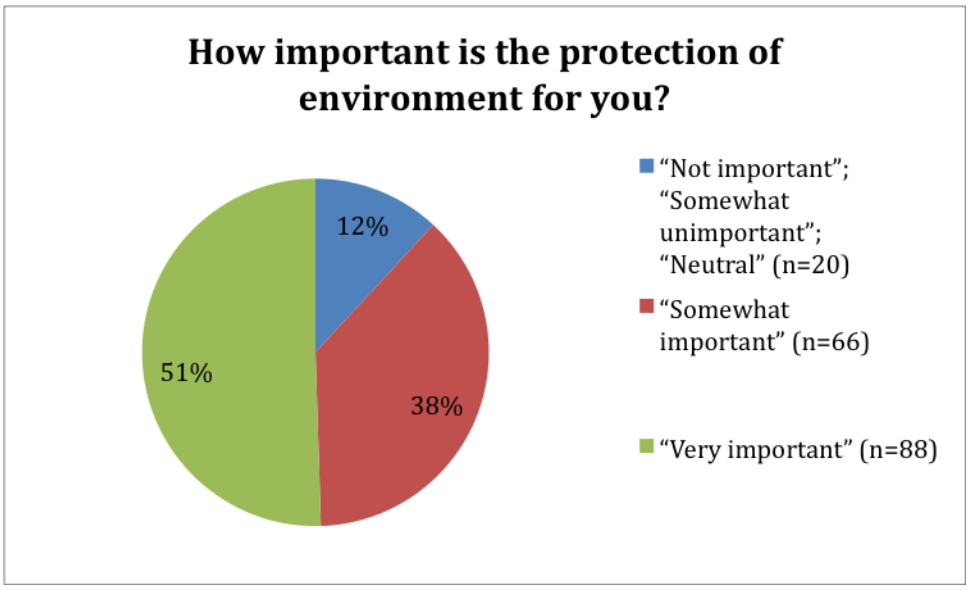

Figure 10: "Importance of protection of the environment".

In order to evaluate the correlation between place attachment and environmental awareness and check the main hypothesis of the research, answers to question 6 were compared to combined answers to questions 2 and 4 using statistical tests. In fact, analysis of the results indicated that answers to these questions (questions 2 and 4 (combined answers) and question 6 had the strongest correlation compared to any other two questions of the survey. Results of cross tabulation and correlation are presented in Table 10.

Table 10: "Relation between place attachment (combined answers to questions 2 and 4) and importance of protection of the environment":

Count of Respondent	Q. 6: "How important is the protection of environment for you?" *(combined answers)*			
Q. 2 and 4: degree of place attachment *(combined answers)*	"Not important"; "Somewhat unimportant"; "Neutral" (11%)	"Somewhat important" (38%)	"Very important" (51%)	Grand Total
Weaker sense of place attachment (n=50)	38%	46%	16%	100%
Stronger sense of place attachment (n=124)	1%	35%	**65%**	100%

Substantial to very strong relationship [9]. Respondents having a stronger sense of place attachment tend to have a stronger concern towards the environment.

Answers "Not important", "Somewhat important" and "Neutral" of question 6 ("How important is the protection of environment for you?") were combined into one group because surveying process revealed that majority of the respondents tend to choose answers "Very important" and "Somewhat important" when answering this question. It can be implied that the phrasing of this question was not neutral and respondents in this way were unintentionally given a direction for their answers. Therefore, answers to question 6 were divided into three categories ranging from a stronger concern towards the environment to a weaker one.

It is important to highlight that correlation exists between answers to separate questions 2 and 6 as well. Relation between answers to these questions showed moderate to substantial relationship [10] and indicated that respondents who find it more important to live in the coastal area tend to care more about the environment. The strongest correlation between answers to questions 2 and 6 were observed among the responses from Neringa municipality.

The second hypothesis of the research was that in localities with a higher number and intensity of marine activities the degree of attachment to the coastal area should be higher as well. Therefore, it was expected that place attachment in Klaipėda district municipality will be lower than in other municipalities. However, analysis of the gathered data indicated a slightly different scenario. Firstly, answers to question 5 in Klaipėda district municipality do not stand out from answers to this question in other municipalities. In fact, results of the survey showed that the number and intensity of marine activities in Palanga municipality (which is situated on the coast of the sea and is the most popular destination for recreation at the seaside in summer) are the lowest among

[9] r = 0.59
[10] r = 0.42

all four municipalities (Figure 9). However, as mentioned before, the level of occupation (especially renting accommodation for tourists) related to marine uses is assumed to be higher than indicated by results of the survey in Palanga and Neringa municipalities. Although intensity and number of marine activities were not the lowest in Klaipėda district municipality, the degree of attachment to the coastal area was on the other hand lower in Klaipėda district municipality as was expected. And the degree of place attachment in Neringa municipality was the highest among all municipalities. In this municipality there were also more respondents who indicated that they are related to the sea due to their occupation.

Regarding the observed relation between place attachment and concern about the environment (Table 10) in all municipalities, it is also interesting to look at the relation between these two variables in four coastal municipalities separately. Table 11 indicates that correlation between these two variables is again strongest in Neringa municipality and indicates very strong relation between combined answers to questions 2 and 4 and 6. Meanwhile, the relation between these questions was weakest in Klaipėda city municipality.

Table 11: "Relation between place attachment (combined answers to questions 2 and 4) and caring about environmental protection in four coastal municipalities":

Municipality / Correlation	Klaipėda city municipality	Neringa municipality	Klaipėda district municipality	Palanga municipality
Relation between answers to questions 2 and 4 (combined) and 6	r = 0.31	r = 0.84	r = 0.62	r = 0.67

In addition, the strongest correlation between answers to questions 6 and 4 (respondents' concern about the environment and whether they care about the Baltic Sea) can also be observed among the responses from Neringa municipality.

The relation between respondents' concern about the environment (question 6) and their willingness to move from the coastal area (question 3) was again strongest in Neringa municipality and weakest in Klaipėda city municipality. A positive relation between answers to these questions indicate that people who are less willing to move from the coastal area care more about the environment. Relationships between answers to question 3 and question 6 are represented in Table 12 and comparison of correlations between these answers in all four municipalities is presented in Table 13.

Table 12: "Relation between one's willingness to move and importance of the protection of environment":

Count of Respondent	Q. 6: "How important is the protection of environment for you?" *(combined answers)*			
Q. 3: "If you could maintain your lifestyle in another area away from the coast, how likely would you be willing to move *(combined answers)*?"	"Not important"; "Somewhat unimportant"; "Neutral" (11%)	"Somewhat important" (38%)	"Very important" (51%)	Grand Total
"Very likely"; "Somewhat likely"; "Neutral" (n=49)	29%	45%	27%	100%
"Somewhat unlikely" (n=24)	21%	42%	38%	100%
"Very unlikely" (n=101)	1%	34%	65%	100%
Moderate to substantial relationship [11]. Respondents who are less likely to move from the coastal area, tend to have a stronger concern about the environment.				

Table 13: "Relation between importance of environmental protection and willingness to move in four coastal municipalities":

Municipality / Correlation	Klaipėda city municipality	Neringa municipality	Klaipėda district municipality	Palanga municipality
Relation between answers to questions 6 and 3	r = 0.30	r = 0.67	r = 0.62	r = 0.38

[11] r = 0.43

It is interesting to highlight that concern about the environment also seems to have a relation with one's marine uses (question 5). Respondents who said they were not related to the sea by any kind of marine activities tended to indicate that they care less about the environment as well. People having a marine related hobby or occupation on the other hand expressed stronger concern about the environment. Table 14 represents answers to questions 6 and 5. Answers to question 6 were grouped into two categories – "weaker concern about environment" ("Not important", "Somewhat unimportant", "Neutral", "Somewhat important") and "stronger concern about environment" ("Very important") - in order to have bigger samples for comparison of these two questions.

Table 14: "Relation between respondents' marine uses and importance of environmental protection":

Count of Respondent	Q. 6: "How important is the protection of environment for you?" *(combined answers)*		
Q. 5: "What are your marine uses? " *(combined answers)*	Weaker concern about environment (49%)	Stronger concern about environment (51%)	Grand Total
Hobby (n=17)	35%	65%	100%
Leisure (n=73)	44%	56%	100%
Not related (n=50)	**70%**	30%	100%
Occupation (n=34)	38%	62%	100%
Low to moderate relationship [12]. Respondents not related to the sea by marine uses tend to have a weaker sense of environmental concern.			

Question 8 was asking respondents, whether they agree that residents of the coastal area contribute to the environmental problems of the Baltic Sea. Distribution of interviewees' answers to this question is presented in Figure 11.

[12] r = 0.25

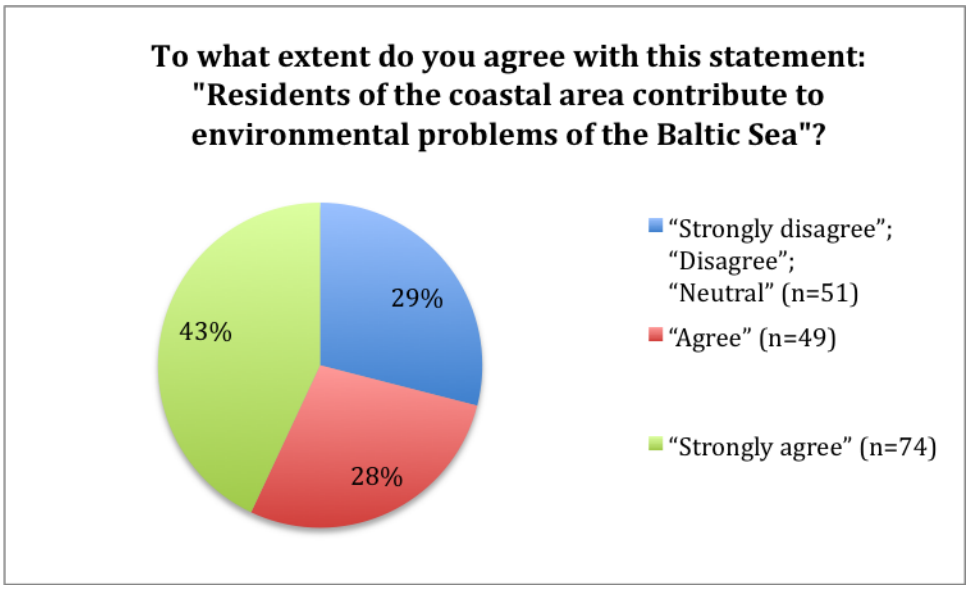

Figure 11: "Contribution to environmental problems by the residents of the coastal area".

Respondents' answers to question 8 also showed correlation with answers about their marine uses (question 5). The most interesting finding was that interviewees who have an occupation which is related to the sea tend not to consider the residential sector as the source of environmental problems.

Comparison of the answers to questions 5 and 8 are presented in Table 15.

Table 15: "Relation between contribution to environmental problems by local residents and respondents' marine uses":

Count of Respondent	Q. 5: "What are your marine uses?" *(combined answers)*				
Q. 8: "To what extent do you agree with this statement: ‚Residents of the coastal area contribute to environmental problems of the Baltic Sea'?" *(combined answers)*	Hobby (10%)	Leisure (42%)	Not related (29%)	Occupation (20%)	Grand Total
"Strongly disagree"; "Disagree"; "Neutral" (n=51)	14%	31%	12%	43%	100%
"Agree" (n=49)	6%	45%	39%	10%	100%
"Strongly agree" (n=74)	9%	47%	34%	**9%**	100%

Low to moderate relationship [13]. Respondents who are related to the sea due to their occupation tend to think that residents play smaller role in contributing to environmental problems of the Baltic Sea.

Question about residents' contribution to environmental problems of the Baltic Sea was followed by question 9, which asked people whether they could contribute to protection of the Baltic Sea themselves. Answers to this question showed correlation with answers to questions 2 and 5 indicating the degree of place attachment among the respondents.

When respondents were asked whether they could personally contribute to protection of environment in the coastal area, only 10 % indicated that they could not make any kind of contribution. 90 % of the respondents indicated that they could contribute to it and specified ways in which they might do so. Interviewees could choose one or more answers to this question. For further analysis, answers to question 9 were divided into two groups:

1. Individual measures for contributing to protection of environment – answers indicating choices of "not littering" and "using environmentally friendly household chemicals and cosmetics";
2. Social/political measures for contributing to protection of environment – "joining environmental organizations/initiatives", "supporting political parties which put more focus on environmental protection", "participating in public cleaning campaigns".

Figure 12 represents answers of respondents in four coastal municipalities to question 9.

[13] r = 0.27

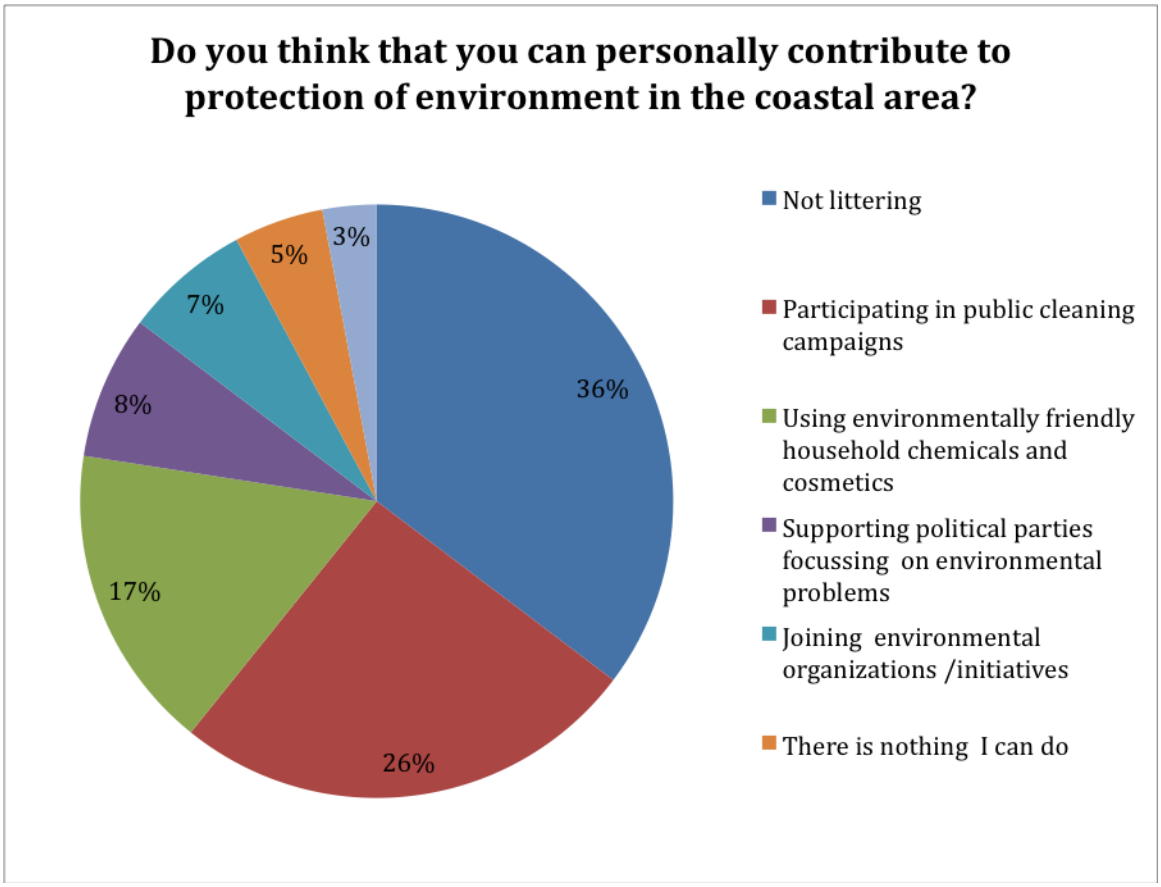

Figure 12: "Respondents' opinion about their personal contribution to environmental protection".

Answers to question 9 show a relation with answers to question 2 asking people how important it is for them to live in the coastal area. Answers to these questions are compared in Table 16.

Table 16: "Relation between personal contribution for the protection of environment and importance of living in the coastal area":

Count of Respondent	Q. 2: "How important is it for you to live in the coastal area?" *(combined answers)*			
Q. 9: "Do you think that you can personally contribute to protection of environment in the coastal area?" *(combined answers)*	"Not important"; "Somewhat unimportant"; "Neutral" (29%)	"Somewhat important" (44%)	"Very important" (26%)	Grand Total
Individual measures (n=72)	**44%**	39%	17%	100%
Social/political measures (n=14)	21%	50%	29%	100%
Individual and social/political measures (n=88)	19%	47%	34%	100%

Low to moderate relationship [14]. Living in coastal area is less important to respondents who indicated individual measures for protecting the environment.

Contribution to environmental protection (question 9) also has a relation with respondents' marine uses (question 5). Comparison of answers to these questions is presented in Table 17.

Table 17: "Relation between personal contribution for the protection of environment and respondents' marine uses":

Count of Respndent	Q. 5: "What are your marine uses?" *(combined answers)*				
Q. 9: "Do you think that you can personally contribute to protection of environment in the coastal area?" *(combined answers)*	Not related (29%)	Hobby (10%)	Leisure (42%)	Occupation (20%)	Grand Total
Individual measures (n=72)	**38%**	8%	43%	11%	100%
Social/political measures (n=14)	29%	14%	36%	21%	100%
Individual and social/political measures (n=88)	22%	10%	42%	26%	100%
Low to moderate correlation [15]. Respondents not related to the sea tend to indicate individual measures for question 9. Respondents related to the sea due to recreational activities tend to indicate both individual and social/political measures for protection of the environment.					

In addition, personal contribution to environmental protection (question 9) showed relation with one's concern about the environment (question 6). Results of the comparison are presented in Table 18.

Table 18: "Relation between personal contribution for the protection of environment and importance of environmental protection":

[14] r = 0.27
[15] r = 0.19

Count of Respndent	Q. 6: "How important is the protection of environment for you?" *(combined answers)*			
Q. 9: "Do you think that you can personally contribute to protection of environment in the coastal area?" *(combined answers)*	"Not important"; "Somewhat unimportant"; "Neutral" (11%)	"Somewhat important" (38%)	"Very important" (51%)	Grand Total
Individual measures (n=72)	**25%**	**40%**	35%	100%
Social/political measures (n=14)	0%	50%	50%	100%
Individual and social/political measures (n=88)	2%	34%	64%	100%
Moderate to substantial relationship [16]. Respondents who indicated individual measures for protecting the environment tend to have weaker sense of environmental concern.				

A question asking respondents to name the biggest environmental problems of the Baltic Sea was also included in the survey (question 7) referring to the results of the "BalticSurvey" study. A majority of the respondents then indicated littering as the main environmental problem of the Baltic Sea (Soderqvist *et al.* 2010). Respondents answering this question of the study were then asked to what extent he/she sees the listed items as threats to the Baltic Sea. Main environmental problems of the sea, according to the respondents, were "possibility of a major oil spill" (90 % of respondents in Lithuania stated that it was a very big or rather big problem; concern about major oil spills was highest in Lithuania among other Baltic countries), "littering" (86 % of respondents indicated it as very big or rather big problem; littering was considered even a bigger problem only in the Russian Federation) and "unexploded mines and chemical weapons lying at the sea bottom" (86 % of respondents thought it was very big or rather big problem; again concern about this threat was highest in Lithuania among other countries) (Soderqvist *et al.* 2010). Overfishing

[16] r = 0.36

in the mean time was considered the least threatening problem of the Baltic Sea in Lithuania (58 % or respondents thought that it is not a problem, rather small problem or neutral activity; only respondents in Finland were even less concerned about overfishing) (Soderqvist *et al.* 2010).

Although results of this study revealed that people in Lithuania recognize oil spills, which is one of the bigger problems of the Baltic Sea, they tend to be more concerned about problems which are not considered to be the most relevant environmental threats of the Baltic Sea (mines and chemical weapons at the bottom of the sea or littering) than respondents in other Baltic countries. As mentioned before, "BalticSurvey" was conducted in the whole country, therefore results for this question prompted its inclusion in the questionnaire of this research to find out whether residents of the coastal area are (more) aware of the major environmental problems of the sea. However, in a variation from the questionnaire in "BalticSurvey", a simplified list of answers was provided to this question in the research (question 7).

Answers to question 7 were divided into two categories for the purpose of further analysis:

1. Stronger environmental awareness: answers indicating eutrophication and/or overfishing and not more than two other possible answers;
2. Weaker environmental awareness: answers not indicating eutrophication or overfishing or indicating more than two additional answers;

As could be expected, environmental problems of the Baltic Sea indicated by the respondents corresponded to the ones indicated in the "BalticSurvey" study. The three major environmental threats were considered to be oil spills (23 % of answers), pollution with hazardous substances (22 % of answers) and littering (21% of answers). Least important problems, according to respondents, are eutrophication (8 % of answers), overfishing (5 % of answers) and offshore

wind power plants (3 % of answers). Distribution of answers to question 7 is presented in Figure 13.

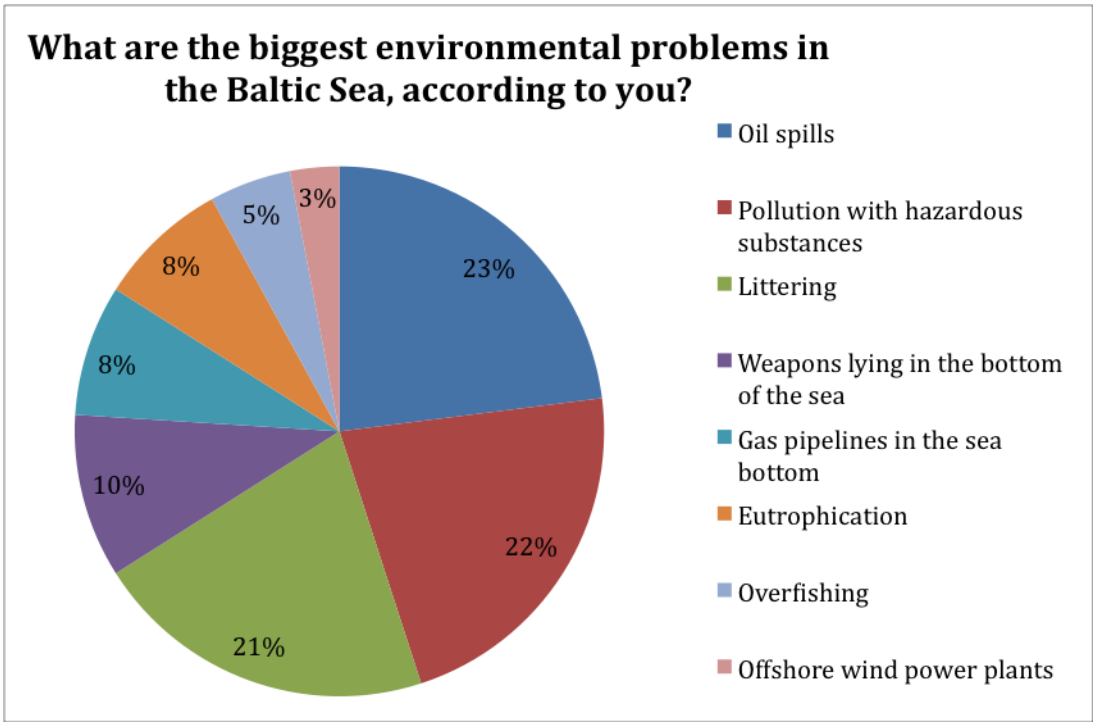

Figure 13: "Division of answers regarding biggest environmental problems in all municipalities".

Although littering was identified as one of the major threats to the Baltic Sea in all four municipalities, many respondents in Palanga and Neringa municipalities commented that tourists, not local residents are actually responsible for this problem. This view can be easily explained – Palanga and Neringa municipalities are the most popular destinations for summer vacations in the country and attract a high number of visitors in summer season. When interviewees were asked if they personally could contribute to the protection of the environment, among other answers some respondents in these municipalities also added that they are already cleaning the seaside themselves.

Answers to question 7 moderately correlate with answers to question 6 asking whether respondents care about the environment. Results of cross tabulation of these two questions can be seen in Table 19.

Table 19: "Relation between indicating biggest environmental problems of the sea and importance of environmental protection":

Count of Respndent	Q. 6: "How important is the protection of environment for you?" *(combined answers)*			
Q. 7: "What are the biggest environmental problems in the Baltic Sea, according to you? "	"Not important"; "Somewhat unimportant"; "Neutral" (11%)	"Somewhat important" (38%)	"Very important" (51%)	Grand Total
Weaker environmental awareness (not indicating eutrophication or overfishing or indicating more than two additional answers) (n=37)	0%	32%	68%	100%
Stronger environmental awareness (indicating eutrophication and/or overfishing and not more than two other possible answers) (n=137)	15%	**39%**	**46%**	100%
Low to moderate correlation [17]. Respondents who are more environmentally aware answered that they care less about the protection of environment.				

There is also relation between answers to question 7 and questions 2 and 4. Answers to these questions are presented in Tables 20 and 21.

Table 20: "Relation between indicating biggest environmental problems of the sea and importance of living in the coastal area":

Count of Respndent	Q. 2: "How important is it for you to live in the coastal area?" *(combined answers)*			
Q. 7: "What are the biggest environmental problems in the Baltic Sea, according to you? "	"Not important"; "Somewhat unimportant";	"Somewhat important" (44%)	"Very important" (26%)	Grand Total

[17] r = -0.22

	"Neutral" (30%)			
Weaker environmental awareness (not indicating eutrophication or overfishing or indicating more than two additional answers) (n=37)	14%	46%	41%	100%
Stronger environmental awareness (indicating eutrophication and/or overfishing and not more than two other possible answers) (n=137)	**34%**	43%	23%	100%
Low to moderate correlation [18]. Respondents who are more environmentally aware indicated that it is less important for them to live in the coastal area.				

Table 21: "Relation between indicating biggest environmental problems of the sea and caring about the Baltic Sea":

Count of Respndent	Q. 4: "To what extent do you agree with the statement ‚I care about the Baltic Sea'?" *(combined answers)*			
Q. 7: "What are the biggest environmental problems in the Baltic Sea, according to you? "	"Strongly disagree"; "Disagree"; "Neutral" (24%)	"Agree" (18%)	"Strongly agree" (58%)	Grand Total
Weaker environmental awareness (not indicating eutrophication or overfishing or indicating more than two additional answers) (n=37)	5%	22%	73%	100%
Stronger environmental awareness (indicating eutrophication and/or overfishing and not more than two other possible answers) (n=137)	**29%**	17%	54%	100%
Low to moderate correlation [19]. Respondents indicating eutrophication and/or overfishing and not more than two additional environmental problems tend to care less about the Baltic Sea than those who indicated eutrophication and/or overfishing and more than two additional answers or other answers.				

[18] r = -0.21
[19] r = -0.21

Surprisingly these answers reveal that respondents who recognized relevant environmental problems to the Baltic Sea tend to be less attached to the coastal area and tend to care less about the environment. These results automatically suggested looking at other possible relations between answers to question 7 and other questions, e.g. education, age or distance to the sea from the place respondent lives. This would assume that younger respondents or respondents having a higher education degree might be more aware about relevant environmental problems of the Baltic Sea but they might have a weaker sense of place attachment. However, after checking relation between the mentioned questions with statistical tests, results revealed that there is no substantial correlation between them. In fact, answers to questions asking to indicate sociodemographic information like respondent's age, education, gender, distance to the sea from the place he/she lives and how long the respondent has lived in the coastal area generally did not show correlation with answers to other questions with only a few exceptions.

3. 3. Relation between sociodemographic data and other variables of the research

Apart from the relation between answers to question 1 (how long the interviewee has lived in the coastal area) and question 3 (respondent's willingness to move from the coastal area), which was presented previously in this chapter, analysis of the results revealed moderate correlation between answers to question 6 and question 12. Question 6 asked respondents whether they care about the environment and question 12 asked them to indicate the distance to the sea from their place of residence. Table 22 presents cross tabulation and correlation of answers to questions 12 and 6. In this table answers to question 12 were divided into two categories:

- distance up to 5 kilometres to the sea from respondent's place of residence;
- more than 5 kilometres to the sea from respondent's place of residence.

Since three out of four municipalities (Klaipėda city municipality; Neringa municipality and Palanga municipality) are located closest to the coast, the majority of respondents indicated that they live 0.5 – 5 kilometres from the sea (102 respondents). Klaipėda district municipality and some districts of Klaipėda city municipality are located further from the coast (here respondents mostly indicated distances of more than 5 kilometres).

Table 22: "Relation between the distance to the sea from respondents' place of residence and importance of environmental protection":

Count of Respondent	Q. 6: "How important is the protection of environment for you?" *(combined answers)*			
Q. 12: "What is the approximate distance between the place you live and the sea?"	"Not important"; "Somewhat unimportant"; "Neutral" (11%)	"Somewhat important" (38%)	"Very important" (51%)	Grand Total
Up to 5 kilometres (n=102)	12%	32%	56%	100%
More than 5 kilometres (n=72)	11%	46%	43%	100%
Low to moderate correlation [20]. Respondents living further than 5 kilometres from the coastal area tend to care less about the environment than the ones who live closer than 5 kilometres.				

Regarding other question asking to indicate respondent's sociodemographic information, relation was also observed between combined answers to questions 2 and 4, which best indicate the degree of place attachment of the respondents, and answers to question 11, which asked respondents to indicate their highest level of education. Answers to question 11 were divided into two categories:

- Lower level of education – primary school, compulsory education, high school, vocational education;

[20] r = -0.24

- Higher level of education – college, uncompleted university education, university.

Cross tabulation and correlation results of answers to questions 11 and 2 and 4 (combined) are presented in Table 23.

Table 23: "Relation between place attachment (combined answers to questions 2 and 4) and respondents' education":

Count of Respondent	Q. 11: Please indicate your highest level of education.		
Q. 2 and 4: degree of place attachment *(combined answers)*	Lower level of education (38%)	Higher level of education (62%)	Grand Total
Weaker sense of place attachment (n=50)	52%	48%	100%
Stronger sense of place attachment (n=124)	32%	**68%**	100%
Low to moderate correlation [21]. Respondents with higher education degree tend to be slightly more attached to the coastal area.			

3. 4. Overview of other results of the research

It is interesting that no correlation was observed between answers to question 7 asking respondents to indicate the main environmental problems of the Baltic Sea and questions 10 or 11 asking respondents to indicate their age and education. It could be assumed that respondents having a higher education degree but who acquired it not during the recent years might not be familiar with relevant environmental problems of the Baltic Sea. This might be not only due to the fact that these environmental issues were not so relevant 20 or more years ago but environmental impact of marine activities, agriculture and industrial processes were not a part of the discourse in the region as well. In order to check whether environmental awareness about the most relevant environmental problems is higher among younger respondents having a higher education degree, a new variable was developed from combined answers to questions 10 and 11.

[21] r = 0.17

However, combination of answers from younger respondents having higher education degree did not show any correlation with answers to question 7 or answers to any other questions.

In addition, analysis of the data revealed that the duration that respondents have lived in the coastal area does not have any substantial relation with answers to questions about attachment to the coastal area (questions 2, 4 and combined answers to questions 2 and 4).

When it comes to peoples' opinion about contribution to environmental problems by residents of coastal area (question 8), it could be assumed that concern about environment (question 6) might play a role in shaping one's opinion about who is the source of environmental problems. However, results of questions 6 and 8 did not show any correlation. Responses of interviewees who answered that they cared a lot about the environment were evenly distributed between the answers to question 8.

What is more, respondents' opinion about whether residents of the coastal area contribute to environmental problems of the Baltic Sea (question 8) did not show any relation to their opinion about the main environmental problems of the sea (question 7). Also independently from what interviewees thought about the role of residential sector in causing environmental problems, it did not reflect in their opinion about what they could personally do to protect the environment (question 9).

4. DISCUSSION OF THE FINDINGS

In this chapter interpretation of the main results will be presented, referring to the research hypotheses and main theories discussed in chapter 1.

4. 1. Main findings of the research and research hypothesis

The main hypothesis of the research was that the degree of place attachment should positively correlate with the degree of environmental concern in four coastal municipalities in Lithuania. The degree of place attachment was described in the research primarily through the combined answers to questions 2 and 4, while the degree of environmental concern was best described by answers to question 6. Analysis of quantitative data gathered in Klaipėda city municipality, Neringa municipality, Klaipėda district municipality and Palanga municipality revealed that there is substantial to very strong correlation [22] between these two variables. Therefore, it can be concluded that the main hypothesis of the research is confirmed.

A second hypothesis of the research was that the degree of place attachment will be weaker in Klaipėda district municipality compared to other municipalities due to the fact that this municipality has the shortest coast line, its capital is situated quite far from the sea and it was assumed that therefore the number and intensity of marine uses will be lowest there. Analysis of the results showed that although sea related activities are not the weakest in Klaipėda district municipality, the degree of place attachment was indeed lowest in this municipality. However, since the results of this variable did not differ substantially from the results in Klaipėda city and Palanga municipalities (while the degree of place attachment was considerably higher in Neringa municipality), the second hypothesis of the research was only partially confirmed. Results that the residents of Klaipėda district municipality are the least attached to the coastal area comparing

[22] r = 0.59

to residents of other municipalities might be explained referring to the comments of residents of Klaipėda district municipality. Many interviewees did not consider themselves to be living in the coastal area at all due to the relatively long distance to the sea (approximately 20 kilometres). Therefore, if the residents of this municipality do not identify their locality with the coastal region, it is understandable that their attachment to the sea is consequently weaker.

4.2. Interpretation of other relevant research findings

Willingness to move from the coastal area: Beside the strong relation between attachment to the coastal area and environmental concern that was revealed during the research, both variables showed strong correlation with respondents' willingness to move from the area. Analysis of the data indicated that interviewees who are less likely to move from the coastal area have a stronger sense of attachment to this locality. However, since comments to this question by respondents suggested that answers to this question might have additional meanings, direct link between the degree of place attachment and respondent's unwillingness to move could not be made.

Municipalities: Talking about differences among four coastal municipalities in terms of survey results, the most interesting findings of the research were that residents of Neringa municipality have the strongest sense of place attachment; here the link between environmental awareness and attachment to the coastal area is the strongest as well as the relation between their environmental concern and unwillingness to leave the region. These results might be explained with reference to the geographical and physical properties and remoteness of this location. This result corresponds with the theoretical framework of Cheng *et al.* (2000), where biophysical properties of the environment play an important role in developing one's sense of place attachment as well as environmental concern.

Social activities, place attachment and environmental concern: According to reviewed theories, the concept of place, place attachment and environmental awareness very much depend on social activities and the meaning that is given to the place through them (Cheng *et al.* 2003; Clayton and Opotow 2003; Smrekar 2011). The research revealed that marine uses of respondents are indeed related to their sense of place attachment and environmental concern.

First, residents of the coastal area who are related to the sea by any kind of marine uses (occupation, recreation at the seaside or hobby) tend to be more attached to the coastal area than those residents who are not related to the sea at all. The same applies to people's environmental concern – residents who are not related to the sea tend to be less environmentally aware.

Research indicated that the main marine uses of the residents of the coastal area still remain recreation at the beach (referring to the fact that for more than 50 years the only possible marine uses for the residents was recreation). What is more, a fairly high proportion of residents of this region (29%) are not related to the sea by any marine activities. These results corresponded with the results of "BalticSurvey" (2010), which also indicated recreational activities as the most popular marine uses in Lithuania.

Hobby related to the sea was the least common answer in all municipalities. Here it is again interesting to look at the answers to a question about marine uses in "BalticSurvey" study. Activities like boating, angling and using water-based transportation for recreation were least popular answers among Lithuanians and revealed different patterns of marine activities compared to other research countries (Soderqvist *et al.* 2010). Therefore, results of question 5 of the survey correspond to the results of questions about marine uses in "BalticSurvey" as well.

This ongoing tendency of relating the sea only with recreation might depend on a number of issues. First, the time period during which a full spectrum of marine activities became

permissible is still too short to develop a tradition of a wide range of marine uses at the coast. However, it also might depend on a lack of incentives to develop proper infrastructure at the coast in order to host a variety of marine activities. Having in mind that most of the other marine activities (boating, diving, shipping for educational purposes, etc.) require considerable levels of investment, the financial situation of the residents in the coastal area might also be restricting them from using the marine area for different purposes. In general, it could be implied that the overall degree of environmental awareness could be raised through promotion of various marine activities, since the research showed that using the sea is positively related both with a person's environmental concern and the degree of place attachment.

Recreation at the seaside is followed by occupation related to the sea. Answers of respondents in Neringa and Palanga municipalities revealed an interesting trend regarding their marine uses as well. It is important to note that renting apartments to tourists in Neringa and Palanga municipalities seems to be the most common occupation related to the sea in these municipalities. However, the number of respondents who indicated renting accommodation was still surprisingly low, although it is widely known that this activity in these two locations is the main source of income to the residents during summer season (Ziabkus 2008). However, respondents' unwillingness to indicate this activity while answering question 5 might be explained by the fact that it is estimated that many residents in Neringa and Palanga municipalities are renting accommodation without having an official permit (it is estimated that only every tenth person renting accommodation in Palanga municipality is doing it legally) (Ziabkus 2008). Otherwise, it is assumed that the percentage of interviewees indicating occupation as their marine source would be even greater in Neringa and Palanga municipalities.

Environmental knowledge: Research also revealed that environmental awareness towards the sea is still quite low in the whole coastal region. Just as in the "BalticSurvey" study, respondents tend to underestimate the importance of the major environmental problems of the Baltic Sea – eutrophication and overfishing. Although they do recognize oil spills as one of the bigger problems of the sea, they tend to pay more attention to less serious issues like littering as well.

In terms of the relation between recognizing relevant environmental problems of the Baltic Sea and other questions, research showed that respondents who indicated major environmental threats of the sea tend to care more about the environment.

Living in the coastal area is also more important to respondents who are more aware of these problems than to residents who are not.

Authors of the research conducted in Skjåk municipality in Norway, concluded that the degree of environmental concern was higher in places that would be directly affected by the development of hydropower plant than in other areas of Skjåk. Referring to these results, it could be implied that environmental concern of the respondents in the coastal municipalities of Lithuania would be even greater, if the research was focussed on a potential environmental threat as well (e.g. an oil drilling platform in the marine area, 20 kilometres away from Neringa municipality).

Sociodemographich data: information about respondents' age, education, gender, etc. did not show any substantial relation with most of the questions. Only distance from one's place of residence to the sea showed moderate correlation with the degree of respondents' environmental concern and interviewee's level of education indicated moderate relation with one's place attachment. However, answers to these questions showed quite weak correlations, therefore it would be difficult to make a direct link between sociodemographic data and respondent's sense of place attachment or environmental concern. This relative absence of relations between

sociodemographic data and answers to other questions differs from the findings of the research conducted in Skjåk municipality in Norway, which revealed that younger respondents are more environmentally concerned (Vorkinn and Riese 2001). Since environmental consciousness has received increasing attention during the recent decade in Lithuania, it would be expected that younger residents of the coastal area would be more environmentally concerned. However, since age did not show relation with one's degree of environmental concern, it could be implied that environmental problems are still not part of a wider discourse in Lithuania even among the young.

Some results of the research were quite surprising too. Although showing only moderate correlation, analysis of results revealed that importance of living in the coastal area and identifying relevant environmental problems of the Baltic Sea are related negatively. However, these results could have been affected by a relatively small sample size.

4. 3. Implications for further research

Although this research provided information about several factors related to the sea in the coastal area of Lithuania, studies in other regions (situated further from the coast) of the country focusing on the environmental awareness and place attachment would provide additional information for completing the 'map' of the relation between these two variables in Lithuania. In addition, research could be expanded to other coastal areas in the Baltic countries and comparison of results would provide the opportunity to identify the main differences in people's attitudes towards the sea in the broader region. This information would then be helpful in policy processes and would indicate the direction for raising environmental awareness levels in Lithuania.

5. CONCLUSIONS

This research attempted to analyze the relation between environmental awareness and the sense of place attachment in the coastal region of Lithuania. During the research 174 interviews were conducted which helped to confirm the first research hypothesis that there is a positive correlation between these two variables. However, the second hypothesis of the research that the degree of place attachment will be higher in Neringa municipality, Palanga municipality and Klaipėda city municipality than in Klaipėda district municipality, was only partially confirmed.

Results of the interviews and field observations done during the surveying process also provided additional information about environmental attitudes, marine uses of the residents of this area, opinions about personal contribution to the protection of environment and other factors.

There still seems to be a narrow range of marine uses in the coastal area of Lithuania with recreation at the seaside remaining the most popular marine related activity. In addition, the number of residents who are not related to the sea at all is high as well. In terms of awareness about the environmental problems in the coastal area, major environmental issues are still not recognized and less relevant issues seem to be overestimated, confirming the findings of previous research.

In general, the research revealed that the more residents are related to the sea, the more attached to the place and the more environmentally concerned they are. Creating incentives for taking up marine related activities, therefore, might become a good path towards higher environmental awareness in the region.

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APPENDICES

Appendix I

1) Full survey in English:

Attitudes and environmental awareness towards the Baltic Sea of the residents of coastal areas of Lithuania

This survey aims to find out more about environmental awareness and personal relation towards the Baltic Sea of the residents of Klaipėda city municipality, Klaipėda district municipality, Palanga municipality and Neringa municipality.

This survey is anonymous, the results of it will be used only for academic purposes.

1. How long have you been living in the coastal area?
*(please fill in)*_____

2. How important is it for you to live in the coastal area *(indicate the appropriate answer)*

Very important	Somewhat important	Neutral	Somewhat unimportant	Not important
☐	☐	☐	☐	☐

3. If you could maintain your lifestyle (current income, housing, hobbies) in another area away from the coast, how likely would you be considering to move? *(indicate the appropriate answer in the scale from 1 to 5 when 1 mean "Very likely" and 5 –"Very unlikely")*

Very likely	Somewhat likely	Neutral	Somewhat unlikely	Very unlikely
☐	☐	☐	☐	☐

4. To what extent do you agree with this statement:
"I care a lot about the Baltic Sea"

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
☐	☐	☐	☐	☐

5. What are you marine uses?

- ☐ angling
- ☐ recreation at the seaside
- ☐ work related to harbor
- ☐ work related to shipping or work in cruise ships
- ☐ administrative work related to the Baltic Sea
- ☐ work in the service area (cafes/restaurants/hotels/gift shops)
- ☐ other activities *(please fill in)*_____

☐ activities not related with the Baltic Sea

6. How important is environmental protection for you? *(indicate the appropriate answer)*

Very important	Somewhat important	Neutral	Somewhat unimportant	Not important
☐	☐	☐	☐	☐

7. What are the biggest environmental problems in the Baltic Sea, according to you *(please choose one or more items from the list provided)***:**

- ☐ littering
- ☐ gas pipelines in the sea bottom
- ☐ pollution with hazardous substances
- ☐ offshore wind power plants
- ☐ weapons lying in the bottom of the sea
- ☐ oil spils
- ☐ overfishing
- ☐ algal blooms (eutrophication)
- ☐ other *(please fill in)*_____

8. To what extent do you agree with this statement:
Residents of the coastal area contribute to environmental problems of the Baltic Sea

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
☐	☐	☐	☐	☐

9. Do you think that you can personally contribute to protection of environment in the coastal area?

○ - **Yes** *(if you chose " Yes" please indicate one or more measures from the list provided):*

- ☐ joining environmental organizations/initiatives
- ☐ participating in public cleaning up campaigns
- ☐ not littering
- ☐ contributing financialy
- ☐ using environmentaly friendly household chemicals and cosmetics
- ☐ supporting political parties which put more focus on environmental protection
- ☐ other *(please fill in)*_____

○ - **No**

10. Please indicate your age:

- ☐ 18-28
- ☐ 29-38
- ☐ 39-48
- ☐ 49-58

☐ 59 – 68
☐ 69-78
☐ 79 – more

11. Please indicate your highest level of education:
☐ primary school
☐ compulsory school
☐ high school
☐ vocational education
☐ college
☐ uncompleted university education
☐ university

12. What is the approximate distance between the place you live and the sea:
*(please fill in)*_____

13. What is your gender:
☐ Female
☐ Male

2) Full questionnaire in Lithuanian:

Lietuvos pajūrio gyventojų požiūris į Baltijos jūros aplinkosaugos problemas

Šia anketa siekiama sužinoti daugiau apie Klaipėdos miesto, Klaipėdos rajono, Neringos miesto bei Palangos miesto savivaldybių gyventojų aplinkosauginį sąmoningumą bei jų santykį su Baltijos jūra.

Apklausa yra anoniminė, jos rezultatai viešai nepublikuojami.

1. Kiek laiko gyvenate netoli jūros? *(įrašykite)*_____

2. Ar Jums svarbu gyventi pajūrio teritorijoje? *(pažymėkite tinkamą variantą)*

Labai svarbu	Svarbu	Nei svarbu, nei nesvarbu	Nesvarbu	Visai nesvarbu
☐	☐	☐	☐	☐

3. Jei galėtumėte išlaikyti savo dabartinį gyvenimo būdą (esamas pajamas, būstą, laisvalaikį) kituose Lietuvos rajonuose, ar kraustytumėtės iš pajūrio teritorijos? *(pažymėkite tinkamą variantą skalėje nuo 1 iki 5, kai 1 reiškia sutikimą, o 5 – nesutikimą)*

1-Taip	*2*	*3-Galbūt*	*4*	*5- Ne*
☐	☐	☐	☐	☐

4. Ar sutinkate su šiuo teiginiu:

"Man labai svarbi Baltijos jūra"

Sutinku	Šiek tiek sutinku	Nei sutinku, nei nesutinku	Šiek tiek nesutinku	Nesutinku
☐	☐	☐	☐	☐

5. Ar Jūsų veikla susijusi su jūra?

○ **Taip** *(pasirinkite vieną arba kelis pateiktus variantus):*
- ☐ mėgėjiška žūklė
- ☐ poilsiavimas prie jūros
- ☐ darbas uoste
- ☐ darbas laivuose/keltuose
- ☐ administracinis darbas susijęs su jūra
- ☐ darbas pajūrio zonos kavinėse/restoranuose/viešbučiuose
- ☐ kiti būdai (įrašykite)_____

○ **Ne**

6. Ar Jums svarbu saugoti aplinką?

Labai svarbu	Svarbu	Nei svarbu, nei nesvarbu	Nesvarbu	Visai nesvarbu
☐	☐	☐	☐	☐

7. Kokia, Jūsų manymu, didžiausia aplinkosaugos problema Baltijos jūroje? *(pasirinkite vieną arba kelis pateiktus variantus):*
- ☐ šiukšlinimas
- ☐ dujotiekis jūros dugne
- ☐ tarša pavojingomis cheminėmis medžiagomis
- ☐ vėjo jėgainių parkai
- ☐ jūros dugne nuskendusi ginkluotė
- ☐ naftos produktų patekimas į jūrą
- ☐ pernelyg intensyvi žvejyba
- ☐ eutrofikacija (ryškiausias požymis – vandens "žydėjimas")
- ☐ kita (įrašykite)_____

8. Ar sutinkate su šiuo teiginiu:
"Pajūrio teritorijos gyventojai (fiziniai asmenys) prisideda prie Baltijos jūros aplinkosaugos problemų atsiradimo"

Sutinku	Šiek tiek sutinku	Nei sutinku, nei nesutinku	Šiek tiek nesutinku	Nesutinku
☐	☐	☐	☐	☐

9. Ar manote, kad Jūs asmeniškai galite prisidėti prie Baltijos jūros apsaugos?

○**Taip** *(pasirinkite vieną arba kelias nurodytas priemones):*

- ☐ prisijungti prie visuomeninių organizacijų
- ☐ dalyvauti tvarkymosi talkose
- ☐ nešiukšlinti
- ☐ prisidėti finansiškai
- ☐ naudoti aplinkai nekenkiančią buitinę chemiją ir kosmetiką
- ☐ palaikyti politines partijas, kurios didesnį dėmesį skiria aplinkos apsaugai
- ☐ kita (įrašykite)_____

○**Ne**

10. Jūsų amžius:

- ☐ 18-28
- ☐ 29-38
- ☐ 39-48
- ☐ 49-58
- ☐ 59-68
- ☐ 69-78
- ☐ 79 – daugiau

11. Jūsų išsilavinimas:

☐ pradinis
☐ pagrindinis
☐ vidurinis
☐ profesinis
☐ aukštasis neuniversitetinis
☐ nebaigtas aukštasis
☐ aukštasis

12. Apytikslis atstumas nuo Jūsų gyvenamosios vietos iki jūros: *(įrašykite)*_____

13. Jūsų lytis:

☐ Moteris
☐ Vyras