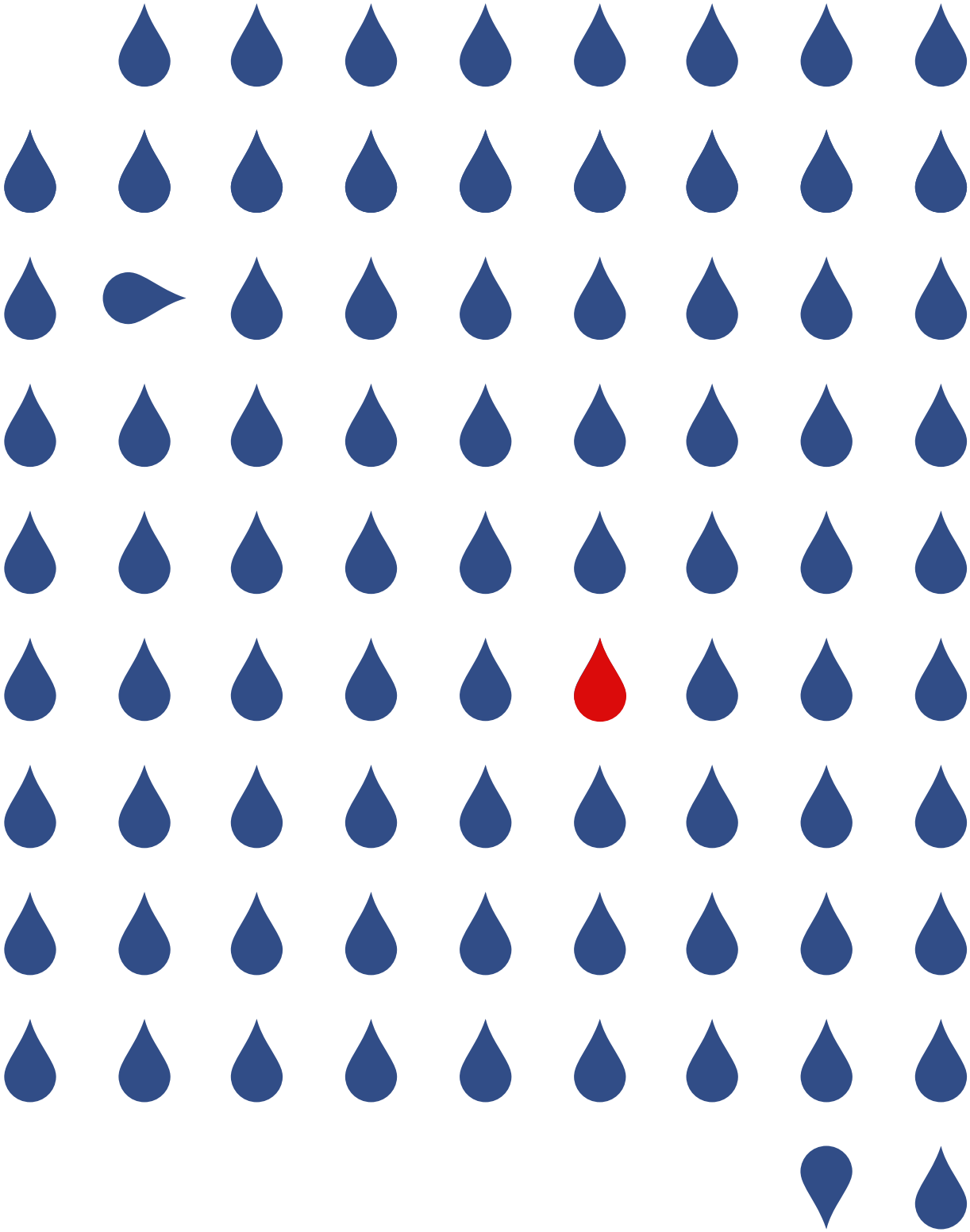


LOCAL ACTORS AND THE BALTIC SEA 1: ATTITUDES TOWARDS WATER PROTECTION AMONG THE POPULATION OF THE BALTIC COUNTRIES

A questionnaire study

Tallinn 2015

IMPRESSUM

This survey was conducted by TNS Emor and is part of the project *CITYWATER – Benchmarking water protection in cities*, partnered by Tallinn University and Cities of Helsinki, Turku and Tallinn. The project is co-funded by the EU Life+ program.

Project number
LIFE11 ENV/FI/000909

Please cite as follows:
Kaal, E., Olesk, A., Tampere, K. (2015) Local actors and the Baltic Sea 1: attitudes towards water protection among the population of the Baltic countries. Tallinn University . Tallinn: Tallinn University & EU Life+ Content.

AUTHORS:

Esta Kaal holds a Master of Arts degree in Media and Communication. She has been working in marketing consultation and research business since 1991. Currently she works as lecturer and scientific project manager at the Tallinn University Institute of Communication. Her main research interests include social marketing and communication.

Arko Olesk holds a Masters of Science degree in Science Communication from Imperial College London. He has worked as a science journalist and is since 2012 the head of Science and Innovation Communication Centre at Tallinn University Institute of Communication.

Kaja Tampere is the Professor of Communication at Tallinn University. She is an academic expert and practitioner who is devoted to international public relations and integrated communication management in a different type of organizations from the viewpoint of stakeholders' relation, and in the frame of innovation of the strategic communication.

Lay-out and graphs design: Karl-Kristjan Videvik, OÜ Art Dessert

2015
Tallinn University

Contents

Preface

How do individuals see their role in protecting the water bodies and improving water quality? This report investigates the knowledge and attitudes of citizens of the three Baltic countries about water protection, especially on the local level. The results will contribute to improving the public communication of different stakeholders about their water protection activities and also highlight ways in which it is possible to encourage individuals to act for the water bodies.

The report presents the results from the questionnaire survey conducted in 2014 among the 1,500 respondents in Estonia, Latvia and Lithuania. The main questions of the survey, as indicated by the chapters of this report, dealt with the knowledge, attitudes and actions of the citizen regarding water protection, especially on the local and individual level. The citizen survey was accompanied by a similar survey among the representatives of municipalities. The results of this survey will be presented in an upcoming report.

The surveys were conducted as part of the European Union Life+ program co-funded project *CITYWATER – Benchmarking water protection in cities*. The project aims to implement and facilitate water protection measures in the Baltic Sea region. The project partners are the City of Helsinki (coordinating beneficiary), City of Turku, City of Tallinn and Tallinn University. The project also closely collaborates with the initiative called the Baltic Sea Challenge, launched by the mayors of Turku and Helsinki in 2007.

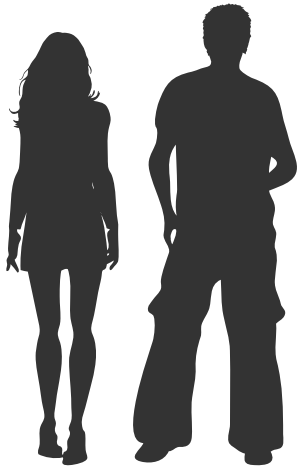
Short summary of main findings

The survey was conducted at the beginning of 2014 among the adult population (18-74) of the three Baltic countries. A representative sample of a total of 1,500 people was interviewed with 40 questions, covering topics such as the knowledge, attitudes and behaviour of citizens regarding water protection issues, both concerning the Baltic and Sea and inland water bodies. The results show that people attach great importance to clean water systems and express interest and concern for the state of water bodies, including the Baltic Sea. They are most interested in issues where the water systems relate to their health or well-being.

The study identifies the segment of society – **27%** of Baltic citizens – for whom the cleanliness of the Baltic Sea is extremely important. This group tends to be better educated, more aware, more interested and more involved in water protection activities. The water protection behaviour of Baltic citizens can rather be characterized as passive. **86%** of people have not participated in any water protection related activity in recent years. Only **23%** of people say they plan to be more active in the future. The activities they are most likely to participate in include notifying other institutions above the more active forms of personal involvement.

People tend to be pessimistic in the belief in their capabilities. They showed little interest in information about civic initiatives to protect the Baltic Sea, the lowest level of interest among the 15 topics. They believe that they are not able to do anything and also lack knowledge about possible ways an individual is able to improve water quality. People consider local level actors, including municipalities and citizen less powerful in water protection than state governments, EU and industry. Also, the topic of environment is often perceived to be on the losing side when various other interests are involved. Around two-thirds of the respondents report not being aware of any water protection activities by their local municipality. The ones they are aware of mostly deal with drinking water. People consider pollution risk from shipping to be the problem that needs most attention regarding the Baltic Sea, followed by problems such as agriculture and waste water treatment that impact the level of eutrophication. The state of the Baltic Sea, other water bodies and drinking water are rated mostly satisfactory or good. Roughly one out of six respondents think the state of the Baltic Sea or their local inland water body is bad or very bad. Despite few people are aware of specific water protection activities, the overall work of their local municipality in water protection is most commonly rated as satisfactory or good: the average score was above 3 (on a 5-point-scale) in all aspects.

Our results indicate that for the protection of the Baltic Sea, the role of communication is to subvert the prevailing beliefs that individual action have little impact or that initiatives mostly abate in the conflict with economic interests or bureaucratic indifference. More positive examples about successful citizen engagement for water protection are needed to empower citizens and the understanding about the interrelations between individual actions, water quality and human life quality need to be enhanced.



40
questions

1500
respondents aged 18-74

86%
have not participated in any water protection related activity in recent years

23%
say they plan to be more active in the future

27%
say the cleanliness of the sea is extremely important

Introduction and background

Water surrounds us in many different forms – we go for a swim on a hot summer day, enjoy our morning shower or barely notice the stream that crosses our home street. While we value each of these in their own context, it might not be easy for an ordinary person to perceive the water system as a whole, i.e. how the state of different water bodies interrelate, what is the human impact to them and their impact to us. During the last decades the crucial role of the water systems in sustaining our quality of life has become acknowledged. With the help of the concept of ecosystem services we can express the multitude of ways in which water systems provide vital support to our societies. There range from from the direct use of water, for example for drinking or irrigating, to providing us fish for food, allowing large-scale transport with ships, preventing floods or erosion, and allowing us a nice holiday at the sea- or lakeside.

The most important water body in our region is the Baltic Sea. Over 84 million people from 14 countries live in its catchment area (HELCOM, 2011), all using the common sea and benefiting from it more or less. All of them are also contributing to its problems, the biggest of which is eutrophication. This process has a negative impact on the ecosystem by decreasing habitat provision, diversity and even resilience of the sea. This means reduced ecosystem services, among others decreased food supply and recreational opportunities (SEPA, 2008).

Preventing those negative impacts or restoring the quality of water systems is an effort that requires the input of many different actors. Many of the problems that harm the water systems do not have one single source but are created by the cumulation of the actions of many of us. Eutrophication is a good example. It is driven by a surplus of the nutrients and the sources of nutrients include agricultural run-off to the rivers and direct waterborne discharges to the sea either from coastal point sources like municipal sewage treatment plants, run-off from diffuse sources in coastal areas and discharges from ships (HELCOM, 2014). This means the responsibility and ability to reduce eutrophication is significant also on the local level, influenced by the behaviour and activities of local municipalities, companies and individuals.

'Green behaviour' has become a central keyword of the European Union (EU) environmental policy. Green behaviour is the shared responsibility of individuals, public authorities and industry. Policies can provide a framework within which business and citizens can operate with less detriment to the environment (Future brief: Green behaviour, 2012). To achieve this we need common principles and policies that combine different levels of management and measures. These should include legal and economic measures, informing people and guiding their behaviour, including consumption behaviour.

The involvement of public and stakeholders has been acknowledged in the HELCOM Baltic Sea Action plan as an effective contribution to the successful implementation of the plan. The document recommends engaging the public and stakeholders in activities promoting a healthy Baltic Sea and to actively promote public participation in decision making (HELCOM, 2007).

Therefore, the active role of individuals is an integral part of the success any environmental activity and the understanding of the factors contributing to the awareness and sustainable practices of citizen is crucial in achieving the aims of any environmental program. The role of citizen behaviour cannot be underestimated in the case of the Baltic Sea which is one of the most affected seas by human activities. How can we change the behaviour of individuals to be more environmentally friendly?

Previous research has identified many factors that influence an individual's pro-environmental behaviour. These include factors related to the individual such as values, concerns, habits, and response to dominant moral and social norms of the society (Steg & Vlek, 2009). Another major group of factors are contextual forces. These include, among others, interpersonal influences, advertising, government regulations, monetary incentives and costs, capabilities and constraints provided by technology and the built environment and various other features of the broad social, economic, and political context (Stern, 2000). According to Koskinen (2010, cited from Kiviluoto,

The Baltic Sea region:

over 84 million people

14 countries

Komulainen, Kunnasvirta, 2013) willingness to act for the environment is built by a complex process that is influenced by person's experiences, appreciations, capabilities and knowledge offered by the operational environment, such as the society, workplace, school or home.

Stern (2000) emphasizes that different causal variables appear to work in different ways in influencing behaviour. Therefore, a systematic approach is needed to understand the relevant factors and their interrelations. Only then we are able to design efficient methods of encouraging pro-environmental behaviour. This study will focus on the individual attitudes and previous behaviours relating to water systems and will study them in the context of local municipality.

Objectives of the study

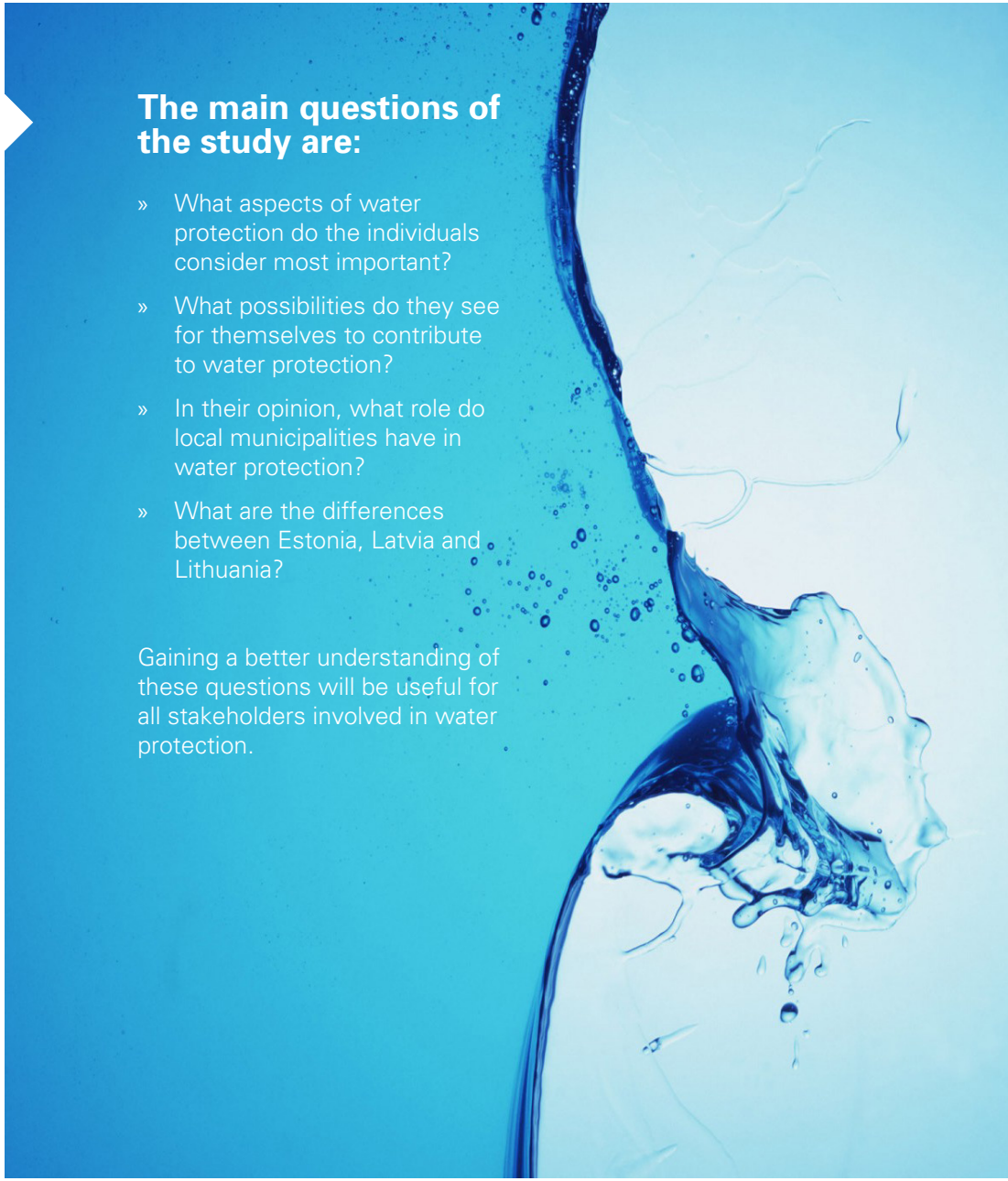
Several previous projects of the EU Interreg and Life+ funding programs have been dealing with the different aspects of the water protection issue, whether focussing on business sector, general public and/or developing water protection infrastructure. The unique focus of this report is on the collaborative role of municipalities and citizens in protecting the Baltic Sea. Also, we concentrate on the Baltic countries whose historical background might shape the municipality-citizen relationship to have unique features compared to other Baltic Sea countries.

As the role of individuals and local municipalites is increasingly recognized as a vital part of water protection, we need to better understand the barriers and incentives for actions that occur at this level. One of our aims was to position how the respondents perceive the role of the local municipalities in the framework of all the other relevant actors (such as European Union, national governments, NGOs, companies) in the protection of the Baltic Sea. When we have mapped the attitudes and behaviour of individuals, the water protection activities of local municipalities and the current practices of engaging citizen, we are able to suggest improved ways of communication, empowerment and engagement that allow for better protection of water bodies.

The role of this survey is to investigate the knowledge, attitudes and behaviour of individuals regarding water protection.

We especially aim this report to local municipalities, providing them with better tools to fulfil the aims of water protection programs, especially concerning the aspect of engagement.

The results of this survey will further be supported by other publications from the same project (see page 49). We also interviewed a number of environmental specialists of Estonian, Latvian, Lithuanian and Finnish municipalities. The conclusions from the both surveys are further be developed into a communication strategy and a tool to be presented in a new toolbox for water protection.



The main questions of the study are:

- What aspects of water protection do the individuals consider most important?
- What possibilities do they see for themselves to contribute to water protection?
- In their opinion, what role do local municipalities have in water protection?
- What are the differences between Estonia, Latvia and Lithuania?

Gaining a better understanding of these questions will be useful for all stakeholders involved in water protection.

About the survey

The citizens' survey was conducted at the beginning of 2014 among the adult population (18-74) of the three Baltic countries. A representative sample of a total of 1,500 people were interviewed in computer-aided personal interviews (for more detailed information about the method, please see *Annex* 1). The 40 questions of the survey covered topics such as the knowledge, attitudes and behaviour of citizens regarding water protection issues, both regarding the Baltic Sea and inland water bodies.
All results highlighted in the report were statistically significant. Taking account the number of respondents the confidence interval for all results do not exceed ±4,5 on case of country level and not more than ±2,5 on Baltic's average.

Previous surveys

We identified four previous citizens' surveys that have been conducted in the past five years, include the three Baltic countries and include questions about awareness and attitudes regarding environment, water protection or specifically the Baltic Sea. Comparisons with the previous survey results will be made in the Results chapters of this report, in the appropriate sections.

Three of the previous surveys were commissioned by the European Commission and conducted in all EU member states in the framework of the Eurobarometer surveys which consist of approximately 1000 face-to-face interviews per country. The *Attitudes of European citizens towards the environment survey* (in 2011 and 2014), focused on Europeans' perceptions of the concept of the environment, touching on many areas which are central to citizens' lives, including the economy, energy, policy, quality of life, safety, resources and the media. This survey offers contextual information about citizens' attitudes towards environmental topics and gives an overview about the use and perceived trustworthiness of different types of environmental information sources. Similarly to our study, they looked at the openness of people to environmental information and measured interest for different aspects of environmental protection. The Citywater survey, however, puts more focus on the issues of water protection.
The last *Attitudes of Europeans towards water-related issues* survey (in May 2012) expands on these themes to provide greater insight, and tries to establish whether awareness of water issues has improved over time (compared to similar survey on 2009). For example, it surveys the level of knowledge about water-related problems, their seriousness and perceived changes in the quality of groundwater, rivers, lakes and coastal waters.

Similarly to our study, the Eurobarometer surveys looked at people's awareness, risk perception and perception of the impact of various sectors and activities on the status of water, the main threats to the water environment and attitudes towards individual and other actions to reduce water-related problems. However, the Eurobarometer surveys focussed on the aspects of the quality and quantity of freshwater and groundwater available in Europe.

A wide range of relevant questions about awareness and attitudes of people regarding the protection of the Baltic Sea were included in the 2010 BalticSurvey study (Söderqvist et al. 2010) that was funded by the Swedish Environmental Protection Agency. This study surveyed a total of 9,000 people from nine Baltic Sea countries and had a unique focus on

people's connection to the Baltic Sea in their work or holiday related activities. It also asked about attitudes towards different ways of financing Baltic Sea protection (e.g. direct and indirect taxation). The BalticSurvey study also included questions about knowledge of and attitudes towards Baltic Sea protection but the goal of Citywater survey is not to directly compare results with earlier surveys.

The latest citizen survey about Baltic Sea protection was conducted in 2013 as part of the BalticSeaNow.info project in Finland and interviewed 39 people from different networks involved in Baltic Sea protection (Österlund 2014). That is, all the interviewees were already actively engaged in such activities. The similar aspects covered both by the BalticSeaNow.info study and the 2010 BalticSurvey were the perception of the state of the Baltic Sea, questions about individual capabilities of affecting this state and questions about environmental engagement in general. Since the number of respondents in the BalticSeaNow.info was small and quite specific (active Finnish citizens), the results are not directly associable to the Citywater citizen survey.

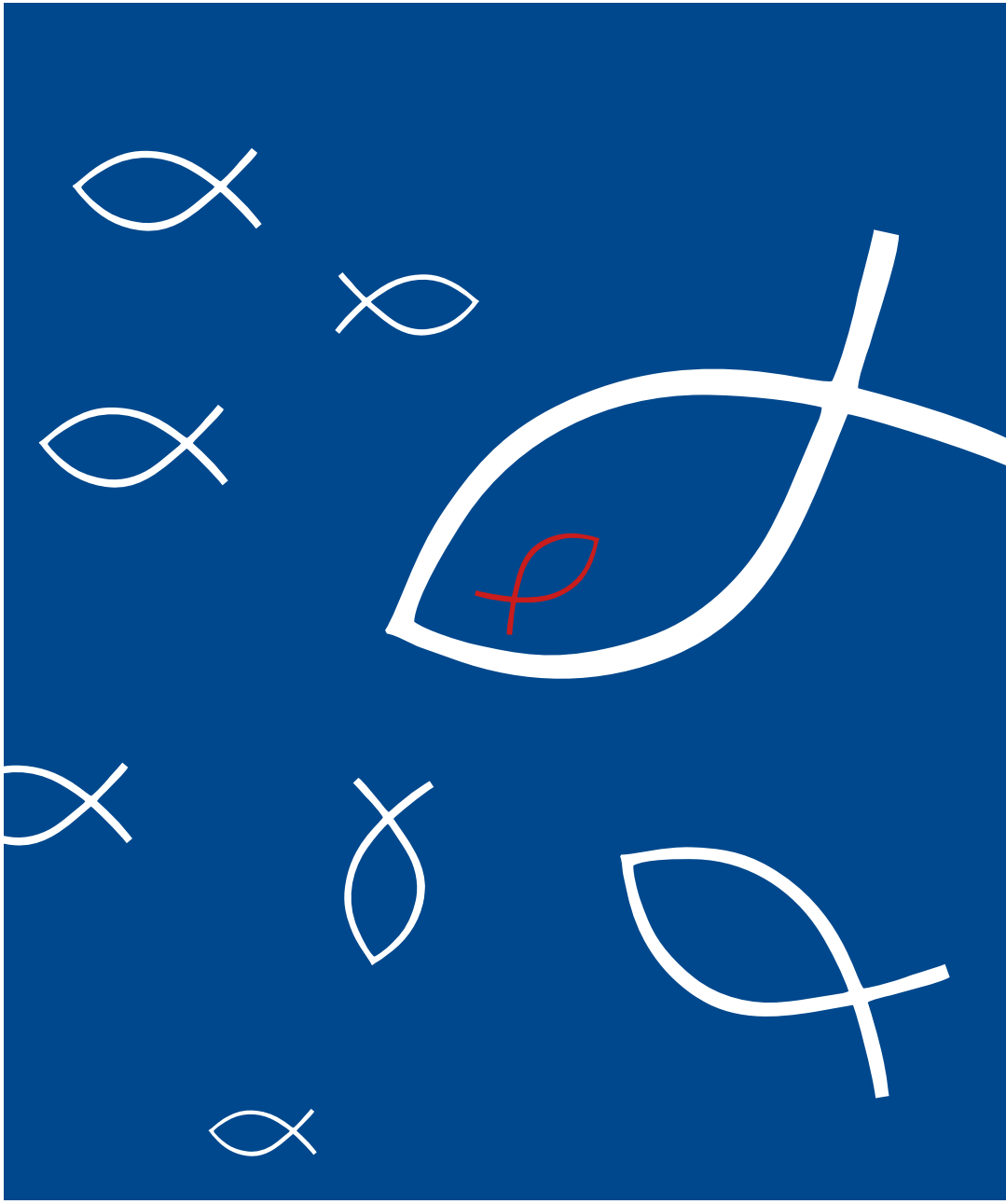
Outline of the report

This report presents the results of the citizen survey as factsheets, question by question. The results are both presented as a weighted average of all Baltic countries and also as a comparison between the three countries. The full questionnaire is included in Annex 2 but for the purpose of readability the report does not follow the exact structure of the questionnaire. Instead, the results have been grouped according to thematic categories.

These thematic categories include:

- Individual knowledge about and attitudes to water protection, including potential and actual involvement in water protection activities;
- perception on the role of different actors in protecting the Baltic Sea, including the role of local municipalities in water protection and possibilities of local citizens to contribute to those activities;
- knowledge and attitudes related to risk perception, including stating the importance of water protection in general, acknowledging problems related to water protection and perception of the current state of water bodies in the respondent's home region.

The concluding chapter will give suggestions for designing communication activities.



Results

1. INDIVIDUAL LEVEL: KNOWLEDGE, ATTITUDES AND BEHAVIOUR

For designing better engagement methods and campaigns it is important to understand how citizens currently see issues related to water protection and describe their behaviour. This chapter will present results from questions related to the individual level.

Openness to information related to water protection

We asked "How interested are you in the information describing the state of the water bodies in respectively: Estonia, Latvia, Lithuania?" The highest interest ("very interested") was expressed by every fourth Estonian and Latvian and every fifth Lithuanian.

	Baltic	Estonia	Latvia	Lithuania
very interested	22%	26%	24%	20%
rather interested	53%	55%	51%	54%
rather not interested	17%	15%	18%	18%
not interested at all	7%	3%	7%	9%
hard to tell	0%	1%	0%	0%

Table 1 How interested are you in the information describing the state of the water bodies in /respectively: Estonia, Latvia, Lithuania/?

For comparison

Previous studies have not specifically asked about interest in information related to water protection. The Eurobarometer survey from June 2014 covered awareness and interest for a wider range of environmental topics.

According to their results, 69% of Estonians, 65% of Latvians and 61% of Lithuanians consider themselves to be very well informed in the matters of environment (for comparison, the number is 83% in Finland). Compared to the results of 2011, these numbers have gone up everywhere.

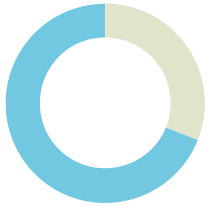
In the same study, respondents were then given a list of 14 environmental issues, and asked to pick the top five about which they particularly lack information. The issue of pollution of water bodies (seas, rivers, lakes and drinking water) was ranked fourth. Among the Baltic Sea region countries, the share was highest in Lithuania (34%) and Sweden (33%), followed by Estonia (31) and Latvia (31). In Finland the share was the lowest among all EU countries – 19% (Eurobarometer 2014, 42-44).

Euro-barometer 2014

June

Very well informed in the matters of environment

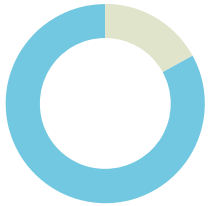
Numbers of people very well informed about environment are up compared to the results from 2011



69%
of Estonians

65%
of Latvians

61%
of Lithuanians



83%
of Finns

Interest for water protection topics

Our study then mapped the interest for selected water protection topics in more detail. Out of the 15 proposed issues, most interest was reported for information about water quality and health risks related to environmental pollution. The interest towards possibilities of citizen to prevent damage to water bodies was expressed by every fifth respondent (28% in Estonia). Only one out of ten respondents reported to be interested in civic initiatives to protect the Baltic Sea, which is the lowest among the 15 topics.

There are minor differences between the three countries. In comparison, Latvians are somewhat more interested in investments in water protection, and Lithuanians are more likely to want information about health risks and impact on life quality from pollution. In Estonia, more interest is reported for the risks affecting drinking water, including its connection to the state of the Baltic Sea.

	Baltic	Estonia	Latvia	Lithuania
the current state of water quality	46%	44%	48%	46%
health risks from environmental pollution	42%	39%	39%	46%
the main factors affecting drinking water in my home area	36%	50%	40%	27%
water protection programs in your home area	29%	34%	33%	25%
factors harming water bodies	25%	27%	27%	23%
the impact of environmental damages to human life quality (as calculated to financial value)	21%	13%	15%	29%
how citizens are able to prevent damaging the water bodies	21%	28%	20%	19%
water-related planning activities in your local municipality	19%	25%	20%	15%
the relationship between the state of the Baltic Sea and water quality in my home area	16%	28%	18%	9%
investments to water protection	16%	13%	19%	15%
the impact of environmental damage to economy	13%	12%	11%	15%
activities of the government and its agencies and their results in water protection	13%	17%	13%	10%
activities financed by European Union environmental protection programmes	12%	15%	14%	9%
legislation related to environmental protection (legal acts, rights, obligations, punishments)	11%	12%	11%	10%
civic initiatives to protect the Baltic Sea, their activities and results	10%	11%	11%	9%
Other	2%	3%	3%	0%
Hard to tell	8%	7%	5%	11%

Table 2 Which of the following topics would you like to get information about:

Knowledge about behaviours for water protection

The results of our survey support the conclusion that the knowledge about water protection measures available for individuals has not yet fully reached the citizens of the Baltic countries. The answers to the open question (i.e. question with no given choice of answers) "What can you do personally to prevent water-related problem in your home area?" should reflect what type of activities are well known and widely practiced. Almost a half of people could not name any water protection activity that they personally could do. Half of them (a quarter or all respondents) think there is nothing they can do to prevent water-related problems in their home area.

Those who mentioned any kind of activity to prevent water pollution, preferred direct ways of avoiding getting harmful substances in the environment (not throwing trash or pouring household chemicals into the sewage). The most popular answer was a very general "do not pollute".

It is interesting that in this question people do not relate their everyday activities and choices to water protection. For example, food consumption choices (organic vs. normal production or less consumption of meat) or traffic use as ways of protecting the water environment.

	Baltic	Estonia	Latvia	Lithuania
do not pollute environment, water bodies	13%	10%	14%	12%
do not throw garbage into the water, to the environment, onto the ground	13%	10%	5%	20%
reduce usage of household chemicals	5%	2%	7%	4%
control and protect my drinking water (e.g. use water filters)	5%	2%	9%	3%
do not pour household chemicals to the sewerage or onto the ground	4%	8%	2%	4%
do not use chemicals or oil near water bodies; do not let chemicals/oils to flow into water bodies	4%	5%	1%	6%
use water sparingly, do not waste it, reuse it	4%	5%	3%	4%
sort garbage (correctly), store waste correctly	4%	6%	2%	5%
express my opinion, participate in campaigns, be aware and notice, participate in clean-up events	4%	3%	7%	3%
inform other people, hinder them from polluting, educate them (also young generation)	3%	2%	2%	5%
inform relevant parties when I see pollution	2%	3%	3%	1%
arranging sewerage for a household, keep it in order, correct management of waste water	2%	5%	3%	1%
other	5%	9%	2%	5%
there is nothing I can do	23%	20%	23%	24%
hard to say	21%	25%	14%	24%
I do not see any problems	2%	1%	3%	1%

Table 3 What can you do personally to prevent water-related problem in your home area? (an open question)

Readiness to participate in water protection activities

We listed 12 possible ways of influencing local decisions as a citizen. The options differ in the level of active involvement. The most likely way of participating is by notifying different institutions, foremost the local municipality, about cases of pollution and potential risks. This readiness to contact the municipality was expressed by a third of respondents.
Activities that require a more active personal contribution, e.g. time and dedication, are less favoured as potential ways of participation. The differences between countries are tiny, however, the level of Lithuanian people (27%) who cannot say what they would do in case of encountering environmental problems, stands out as well as the higher readiness of Latvians to be involved in most of the activities.

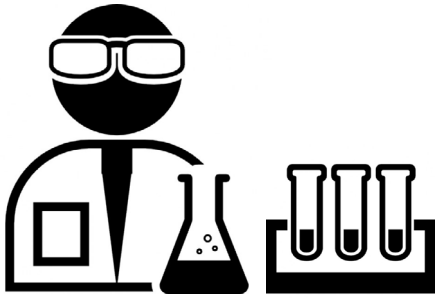
27%
of Lithuanians cannot say what they would do

	Baltic	Estonia	Latvia	Lithuania
notify local municipality about environmental risks, cases of pollution	36%	35%	39%	34%
notify media about the problems	18%	12%	23%	17%
notify relevant national institution	18%	19%	22%	13%
explain the importance of water protection to other citizens	14%	15%	12%	15%
take part in municipal discussions regarding water management	13%	8%	14%	13%
Take part in discussions regarding detailed plans in home area	12%	6%	17%	11%
gather signatures for/against significant projects affecting the water system	12%	9%	17%	9%
highlight problems in social media (Facebook, Twitter, blogs, forums etc)	11%	12%	10%	10%
take part in discussions regarding local municipality's long-term development plans	8%	5%	10%	7%
initiate discussions in the municipality to solve water-related problems	8%	5%	13%	6%
notify non-profit environmental protection organizations or citizen movements	7%	10%	6%	7%
contact scientists (giving or asking for information, initiating research, etc)	4%	7%	4%	3%
Other	3%	1%	6%	0%
Hard to tell	20%	21%	9%	27%

Table 4 I will read some possible activities how citizens can influence municipal decisions regarding water protection. Which of these would you probably engage in? You may choose several options.

For comparison

According to the 2014 Eurobarometer survey, scientists are the most trusted source for environmental information (Eurobarometer, see table on pages 127-130), followed by environmental protection associations and television. Our survey also confirms that media is the second most preferred contact in case of problems. The low position of scientists as contact persons is probably not due to lack of trust for them but rather lack of knowledge, i.e. knowing whom exactly to turn to in case of problems.



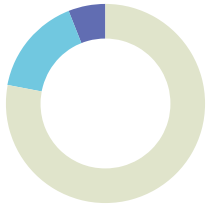
scientists are the most trusted sourced for environmental information

Most trusted institutions

The most common practice of individuals is notifying about water-related problems, but where do they turn to? We asked the open question "Suppose you notice a water pollution source /…/ whether and to whom you would report the incident?" with no pre-listed choices. About one in ten would not report to anyone if they personally saw a pollution. In Estonia and Latvia, the people would foremost (approximately 40%) go to local municipality, in Lithuania, however, to the National Environment Protection Inspection. In all countries, the rescue service is often mentioned (16-22% of people).

~40%
of Estonians and Latvians go to local municipality

28%
of Lithuanians go to the National Environment Protection Inspection



16-22%
mention the rescue service

Estonia

Local municipality	39%
Environmental inspection	20%
Environmental Board	17%
Rescue Service	17%
Police	8%
Ministry of Environment	5%
National Health Agency	4%
Environmental Agency	1%
Other	7%
would not report anywhere	2%
hard to tell	10%

Latvia

Local municipality	44%
Police	26%
Rescue Service	16%
State Environmental Agency	15%
Nature Conservation Agency	8%
Ministry of Environmental Protection and Regional Development	6%
Health inspection	4%
National Health Agency	2%
Other	8%
would not report anywhere	4%
hard to tell	2%

Lithuania

National Environment Protection Inspection	28%
Local municipality	22%
Rescue Service	22%
Environmental Protection Agency	17%
Police	16%
Local Regional Department of Environmental Protection	8%
National Health Agency	6%
Ministry of Environment	6%
other	3%
would not report anywhere	8%
hard to tell	4%

Table 5 Suppose you notice a water pollution source (such as a leaking fuel, chemical or fertilizer tank or untreated wastewater discharged directly into nature) whether and to whom you would report the incident?

Making environmentally friendly consumer choices

We also surveyed people's attitudes to more indirect ways of contributing to environmental protection: consumer behaviour and donating.
Currently the majority of people tend to prefer companies that contribute to environmental protection: one in five people would definitely prefer them when making their consumer choices.

	Baltic	Estonia	Latvia	Lithuania
completely agree	21%	16%	22%	21%
rather agree	40%	34%	42%	41%
rather not agree	16%	23%	12%	16%
definitely do not agree	12%	13%	8%	13%
hard to tell	12%	14%	15%	8%

Table 6 I prefer products and services from companies that contribute to environmental protection

For comparison

A similar question was posed in the Eurobarometer survey, asking whether people would be willing to buy environmentally friendly products, even if it costs a little more to do so. As "environmentally friendly" is a wider concept than used in our survey, the support expressed in Eurobarometer was also higher. For comparison purposes it is interesting to note that the numbers in the Nordic countries were 10-15% higher than in the Baltic countries.

10-15%
higher in
Nordic countries

Readiness to contribute financially

Our study did not operate with any specific amounts but asked generally about the willingness to contribute financially to water protection. The preparedness to make a (single) donation to a charity fund was higher than the willingness to contribute a small sum every month (47% vs 35%), even considering that the donation would be for the Baltic Sea and the monthly contribution for the local water bodies. 28% of all respondents expressed readiness to contribute both ways and 37% did not agree to do neither. The readiness to donate for the Baltic Sea was highest (56%) in the group considering the cleanliness of the Baltic Sea 'extremely important' (See Table 11).

	Baltic	Estonia	Latvia	Lithuania
completely agree	6%	8%	5%	7%
rather agree	29%	38%	27%	27%
rather not agree	26%	26%	28%	25%
definitely do not agree	31%	24%	33%	32%
hard to tell	8%	3%	8%	10%

Table 7 I am ready to contribute a small amount every month to cover the costs of water protection in my home area

	Baltic	Estonia	Latvia	Lithuania
completely agree	11%	11%	10%	12%
rather agree	36%	37%	38%	34%
rather not agree	23%	25%	24%	20%
definitely do not agree	23%	24%	19%	25%
hard to tell	8%	4%	9%	8%

Table 8 When there would be a charity foundation to cover the costs of protecting the Baltic Sea then I would definitely donate to it

For comparison

People's readiness to financially support water protection activities depends on their living standard and the potential amount. The BalticSTERN report asked people's willingness to pay for reducing eutrophication in the Baltic Sea, based on estimations of the annual benefits that citizens expect to gain if the Baltic Sea will reach a good ecological status. The study found that the annual means were highest in Sweden (110€), Finland (56€) and Denmark (52€). In Estonia people were willing to pay on average 18€ per year, in Lithuania 6€ and in Latvia 4€ (BalticSTERN, 38).

Citizens' willingness to pay annually for reducing eutrophication

110€
Sweden

56€
Finland

52€
Denmark

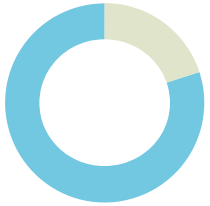
18€
Estonia

6€
Lithuania

4€
Latvia

Involvement in water protection activities

In our survey we asked about the activities people have participated in during the last two years. The list included behaviours that require an active role of the individual. The results revealed that more than 80% of respondents have not engaged in any such activity, with Latvians being most involved (mostly in clean-up events) and Estonians the least. As the selected activities mostly reflect potential co-operation practices between citizens and local municipality, the results show that such practices are not common.



more than **80%** have not engaged in any such activity

	Baltic	Estonia	Latvia	Lithuania
clear-up of pollution	8%	2%	14%	6%
participation in discussions about planning or development activities	3%	2%	4%	3%
participation in informing citizens and other water protection campaigns	2%	1%	1%	3%
notifying local or national institutions about pollution or other environmental problems	2%	1%	4%	2%
other	1%	1%	0%	1%
I have not been engaged in water protection activities	86%	92%	81%	86%
hard to tell	2%	2%	0%	2%

Table 9 During the last two years, have you been involved in any of the following water protection activities in home area or elsewhere?

For comparison

The 2012 Eurobarometer mapped the spread of water protection related good practices in the population (see table below). As for the EU in general, the most common practice in Estonia and Latvia was limiting the amount of water consumption. About half of the population recycled hazardous waste. The practices of Lithuanians differ, being significantly lower and one of the lowest in EU. The most common water protection practice there is limiting the use of fertilizers and pesticides.

Among the Baltic people, Latvians stand out as more active: half of them report using eco-friendly household chemicals and organic farming products. In other Baltic countries about a third of population report the same.

	You limited the amounts of water used (shower instead of bath, not leaving taps running..	You recycled households oil waste, unused chemicals, paints, solvents, batteries, remedies	You avoided the use of pesticides and fertilizers in your garden	You used eco-friendly household chemicals	You chose organic farming products	You harvested rain water	You did not do anything (*do not read out*)
EU27	85%	74%	62%	57%	50%	38%	2%
FI	70%	86%	53%	65%	59%	46%	3%
EE	68%	55%	48%	38%	34%	43%	5%
LV	72%	56%	58%	50%	50%	38%	5%
LT	*44%*	32%	57%	33%	34%	30%	10%

Table 10 There are different ways to reduce water problems and become more water efficient. In order to reduce these problems have you done any of the following in the last two years? Source: Water-related Flash Eurobarometer, May 2012. Table on page 67.

Future activities

While the current involvement is low, about a fifth of people (a third in Estonia) are ready to contribute more in the future on the municipality level. Most, however, feel that their present contribution of sufficient.

	Baltic	Estonia	Latvia	Lithuania
much more	3%	6%	1%	3%
a bit more	20%	26%	18%	18%
the same	64%	56%	70%	62%
a bit less	3%	2%	3%	3%
much less	1%	2%	2%	1%
hard to tell	9%	9%	6%	12%

Table 11 Considering your previous personal contribution to protecting the local environment and water bodies, which of the following describes best your behaviour in the future?

Appreciating a clean sea

People value the cleanliness of the Baltic Sea very highly: 96% of respondents said it is "extremely important", "very important" or "important" for them.

	Baltic	Estonia	Latvia	Lithuania
extremely important	27%	29%	23%	29%
very important	37%	39%	40%	34%
important	32%	28%	33%	32%
rather not important	3%	3%	2%	4%
not important at all	1%	0%	0%	1%
hard to tell	0%	1%	1%	

Table 12 How important do you consider for yourself the cleanliness of the Baltic Sea?

Building a profile

The results from this question give us a way to analyze other responses: how does the group that considers the cleanliness of the Baltic Sea "extremely important" differ in their responses?

For example, we see that the more highly people value the Baltic Sea, the better they are in mentioning benefits (see next question). Whereas the Baltic average of not been able to point out any benefits is 23%, the rate is nine per cent among the "extremely important" group, 14% in the "very important" groups and 50% in the combined "not important" and "rather not important" group.

Those who value the cleanliness of the Baltic Sea, emphasize relatively more in their answers the aspect of human health and life quality, and the need to preserve nature for future generations.

This group also showed more openness to environmental information, more previous engagement with water protection activities (e.g. cleaning pollution) and more readiness to contribute to water protection activities, including financially. 19% of people from the "extremely important" group would definitely donate to a charity fund (average is 11%) and 29% prefer environmentally friendly products (average is 21%).

They also show higher interest for topics such as factors harming water bodies, how citizens are able to prevent damaging the water bodies, water-related planning activities in your local municipality, the relationship between the state of the Baltic Sea and water quality in my home area. In addition, they want more information about topics that are generally less interesting for other groups, such as activities of the government and its agencies and their results in water protection, activities financed by European Union environmental protection programmes and civic initiatives to protect the Baltic Sea, their activities and results.

Therefore, the group of people for whom the cleanliness of the Baltic Sea is "extremely important" can be considered the most aware and with the highest potential for activation to act for water protection. In Estonia and Lithuania their proportion is somewhat higher than in Latvia, their total share in the Baltic population is 27%.

The most important social-demographic factor in this group is the level of education. Among people with university degree 34% of people think that cleanliness of the Baltic Sea is extremely important whereas within people with primary education, the share is only 14%. The age, gender or nationality did not produce any meaningful differences.

We can see the influence, albeit not a very strong one of home region. The difference between the residents of coastal and inland areas can be seen in Lithuania and Estonia. However, the effect is opposite. In Estonia 40% of residents of Tallinn and Harju County consider the cleanliness of the Baltic Sea extremely important whereas 18% of residents of Tartu and South Estonia gave that answer. The residents of Lithuanian eastern counties valued the cleanliness of the Baltic Sea considerably higher than the resident of western counties that are closer to the sea. Similarly, the residents of Vilnius and Kaunas consider Baltic Sea more important than the residents of Klaipeda.

Benefits gained from protecting the Baltic Sea

When asking people about the potential benefits gained from protecting the Baltic Sea, the most mentioned answers were about clean living environment and potential for tourism. When grouping the arguments into more general categories of economic (e.g. fisheries and fish stocks), life quality (e.g. clean environment for us and for future generation, holidays by the sea) and purely environmental (e.g. ecological balance) arguments then the first two categories are equally represented. There are small differences between countries: Latvians and Lithuanians put life quality argument ahead of economic ones, Estonians more often mention economic arguments. Almost a quarter of Lithuanians found it difficult to name any benefits.

	Baltic	Estonia	Latvia	Lithuania
clean living environment, nature, sea, water, beach	30%	31%	29%	32%
opportunity to have a vacation at the sea, to swim in the sea, opportunities for tourism	28%	18%	32%	29%
preserving, growing fish stock	18%	30%	21%	10%
preserving variety of different species (animals and plants), keeping ecological balance	16%	18%	15%	15%
cleaner, less polluted fish for food	12%	17%	7%	13%
better health for people	10%	7%	14%	8%
economic benefits, preserving fishing industry, jobs for fishermans	8%	2%	8%	12%
preserving life quality of people, clean environment for next generations	4%	2%	6%	3%
cannot see any personal benefits (and does not mention anything general either)	2%	1%	2%	3%
does not mention benefits but things that have to be done to protect	2%	3%	2%	0%
sea as part of identity (our common value)	2%	1%	2%	2%
better, cleaner drinking water	1%	2%	0%	2%
other	2%	1%	2%	3%
hard to say	16%	13%	9%	23%

Table 13 In your opinion, what are the main benefits gained from protecting the Baltic Sea? (an open ended question)

Questioning the personal role

Earlier behavioural studies (Hines, Hungerford and Tomera 1986) have shown that a person's behaviour is influenced by the belief whether he/she has an influence on the situation. We put to the respondents the provocative statement "There is nothing I can do to stop polluting the Baltic Sea", 69% of Baltic citizens agreed with the statement, including 35% who completely agreed. Compared to others, Estonians believe more in the capabilities: 38% did not agree with the statement (21% in Latvia nand 27% in Lithuania).

	Baltic	Estonia	Latvia	Lithuania
completely agree	35%	29%	37%	37%
rather agree	34%	31%	37%	34%
rather not agree	20%	30%	16%	19%
definitely do not agree	7%	8%	5%	8%
hard to tell	3%	2%	4%	3%

Table 14 There is nothing I can do to stop polluting the Baltic Sea

There is nothing I can do to stop polluting the Baltic Sea

69%
of Baltic citizens agreed

including

35%
who completely agreed

Building a profile

The belief of personal capabilities is most influenced by the education of the respondent. 39% of people with a university degree believe their actions can have an impact while it is 7% among those with primary education (Baltic average is 27%). Pessimism sharply increases after the age of 50.

There was an interesting discrepancy in the attitudes of students and retired people. While students and pupils have an above average belief that they are able to have influence, they are less likely to value the cleanliness of the Baltic Sea. Retired people, on the contrary, do not believe there is something they can do but value the Baltic Sea more than students.

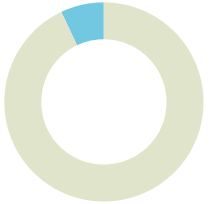
Gender or nationality did not influence this belief in capabilities. However, the impact of the home region is stronger here: in Latvia people from Riga and Kurzeme region and in Estonia people in Tallinn and Western Estonia have a stronger belief in their impact than people of their country on average.

The group for whom the cleanliness of the Baltic Sea is extremely important (see page 23), displays a lower level of pessimism. From this group 31% agreed that there is nothing they can do to protect the Baltic Sea. Furthermore, they sense more acutely those barriers to action that they cannot control. For example, the conflicting economic interests are more clearly perceived by them as a barrier than by the population on average (35% and 23% respectively).

Believe their actions can have an impact

27%
of Baltic citizens

39%
of people with a university degree



7%
of people with a primary education

Pessimism

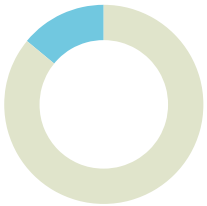
31%
of those who consider Baltic Sea extremely important agreed that there is nothing they can do

For comparison

Eurobarometer survey results suggest that pessimism about personal capabilities might concern water protection specifically. In other areas and for environment in general, people have more faith in their capabilities. Eurobarometer asked if you as an individual can play a role in protecting the environment in your country. The share of Baltic pessimists (i.e. those who answered 'no' to this question) was between 14% (Lithuania) and 21% (Estonia). For comparison, the number is 25% in Finland (Eurobaroneter 2014, p.21).

At the same time, the proportion of people who think that citizens are already doing enough has risen substantially in many countries since 2011, indicating a potentially decreasing readiness to adopt additional personal behaviours that contribute to water protection.

Pessimism



Lowest

14%

in Lithuania

Highest

21%

in Estonia

For comparison

25%

in Finland

Conclusion

1. INDIVIDUAL LEVEL: KNOWLEDGE, ATTITUDES AND BEHAVIOUR

The results from this chapter show that citizen report high interest towards water protection topics and care for clean waters. They would most like to get information about water quality and health risks related to environmental pollution. When discussing benefits from protecting the Baltic Sea, they most emphasize aspects related to life quality (such as clean environment and holiday opportunities) and economic benefits (e.g. fish stocks). This indicates the range of topics that people have most interest in and therefore provide guidance for reaching them with water-related communication.

The study also identified the segment of society – 27% of Baltic citizens – for whom the cleanliness of the Baltic Sea is extremely important. This group tends to be better educated, more aware, more interested and more involved in water protection activities. This indicates they can be further and more deeply involved in such activities when encouraged.
Overall, however, the Baltic citizens can be characterized as passive in their water protection behaviour and pessimistic in the belief in their capabilities. They showed little interest in information about civic initiatives to protect the Baltic Sea, the lowest level of interest among the 15 topics. The activities they are most likely to participate in include notifying other institutions above the more active forms of personal involvement.
A substantial number of people have a pessimistic outlook on the possibilities of individuals to contribute to water protection. They believe that they are not able to do anything and also lack knowledge about possible way an individual is able to improve water quality. This is also reflected by the fact that among the possible ways of contributing to water protection they did not mention ways connected to their everyday behaviours such as food consumption or transport use. This means that people do not feel the connection between water environment and their choices in those areas. These highlight the potential focus for communication acitivities.
The importance of local municipalities for citizen is indicated by the result that municipalities are by far the most likely institution people turn to in case of pollution (except in Lithuania). This potentially shows a level of trust that can be further developed into more engaging water protection activities.

The attitudes and behaviours of Baltic citizens are fairly similar and the differences mostly fall within the error margin. Notable differences include the role of local municipalities in Lithuania where people are more likely to notify National Environment Protection Inspection about pollution. Latvians report more active participation in the last two years such as clean-up activities and discussions. Estonians who report the least participation in the last two years display most readiness to increase their contribution in the future. They also are the least pessimistic in terms of citizen capabilities but, at the same time, are less likely to favour products from companies that contribute to environmental protection. Finally, while the level of willingness to donate to a charity fund for a clean Baltic Sea is equal in all three countries, Estonians are more ready to make a monthly contribution for the benefit of local waters. These differences should be considered when preparing transnational water protection campaigns.

27%
consider cleanliness of the Baltic Sea extremely important

2. THE PERCEIVED ROLES AND ACTIVITIES OF MUNICIPALITIES AND OTHER ACTORS

This chapter will explore how the people see the responsibility of various actors in water protection, with special focus on local municipalities. The emerging picture allows understanding who does, what, and why does for water protection as perceived by citizen.

The role of different actors in protecting the Baltic Sea

When ranking various actors in terms of how big the citizens consider their responsibility in protecting the Baltic Sea we can identify two groups. The first group is composed of the actors who are considered to be 'extremely important' by at least 40% of respondents: these are national governments, industry and European Union. The second group, whose role is considered 'extremely important' by about 30% of respondents, is composed of local municipalities, non-governmental organizations and citizens.

Such pattern can be explained by the level of power and resources the actors are perceived to have, i.e. the first group is believed to possess more capabilities and resources to achieve the desired results.

The country comparisons bring out several interesting differences. In Estonia, government, EU and municipality are considered more important than in other countries. Latvians highlight more the role of industry and believe less in EU, activists and citizens. Lithuanians, again, have more faith in NGOs and less in local municipalities.

Table 15 In your opinion, how important it is that the following actors are active and take responsibility for protecting the Baltic Sea?

Baltic Sea countries, their governments, ministries

	Baltic	Estonia	Latvia	Lithuania
extremely important	42%	48%	41%	40%
very important	33%	31%	35%	32%
Important	23%	17%	23%	25%
rather not important	1%	0%	0%	1%
not important at all	0%	1%	0%	0%
hard to tell	1%	3%	1%	1%

Industry, companies

	Baltic	Estonia	Latvia	Lithuania
extremely important	42%	42%	44%	41%
very important	31%	30%	32%	30%
Important	22%	21%	21%	24%
rather not important	2%	3%	2%	2%
not important at all	1%	0%	1%	1%
hard to tell	1%	3%	0%	1%

Table 15 In your opinion, how important it is that the following actors are active and take responsibility for protecting the Baltic Sea?

European Union

	Baltic	Estonia	Latvia	Lithuania
extremely important	39%	44%	35%	39%
very important	32%	29%	34%	31%
Important	24%	21%	26%	25%
rather not important	3%	2%	3%	2%
not important at all	1%	0%	0%	1%
hard to tell	2%	3%	1%	2%

Non-profit environmental organizations

	Baltic	Estonia	Latvia	Lithuania
extremely important	29%	29%	24%	33%
very important	31%	31%	30%	33%
Important	31%	32%	35%	27%
rather not important	5%	4%	6%	5%
not important at all	1%	1%	1%	1%
hard to tell	3%	4%	4%	2%

Local (parish, country, city) municipalities

	Baltic	Estonia	Latvia	Lithuania
extremely important	30%	38%	28%	28%
very important	32%	28%	36%	31%
Important	30%	28%	30%	32%
rather not important	5%	3%	3%	7%
not important at all	1%	0%	1%	2%
hard to tell	2%	3%	2%	1%

Citizens of Baltic Sea countries

	Baltic	Estonia	Latvia	Lithuania
extremely important	28%	32%	23%	31%
very important	34%	34%	35%	33%
Important	31%	28%	36%	29%
rather not important	4%	3%	4%	5%
not important at all	1%	0%	1%	1%
hard to tell	2%	2%	1%	2%

Perception of capabilities of various actors

Earlier studies have shown that the environmentally responsible behaviour of people is related to their perception of their ability to control or influence the situation (Hines, Hungerford, Tomera 1986). The ability can be understood both as ability to act with their own resources and also as ability to influence the behaviour of others, including more powerful actors.

Therefore our study set out to map the societal spread of beliefs that are related to such activities of other actors that might inhibit the activity of an individual. The study tested the beliefs that environmental initiatives are are often overruled by economic interests or bureaucracy.

The study confirmed that about two thirds of people in the Baltic countries believe that when environmental and economic interests collide, the economic interest of a company will win. The belief was very similarly spread in all three countries.

The most common (see Chapter 1) and easiest environmental practice for an individual is to inform about environmental damages or risks. This behaviour might also be discouraged when the outcome, after informing the officials, is that no-one is held responsible. 58% of respondents (ranging from 47% in Estonia to 70% in Latvia) agree that this is usually the case.

	Baltic	Estonia	Latvia	Lithuania
completely agree	23%	21%	22%	24%
rather agree	44%	43%	45%	44%
rather not agree	16%	23%	17%	12%
definitely do not agree	4%	3%	5%	5%
hard to tell	13%	10%	11%	14%

Table 16 In water protection the environmental organizations and civil activists will be defeated when economic interests of companies are involved

	Baltic	Estonia	Latvia	Lithuania
completely agree	20%	18%	27%	16%
rather agree	38%	29%	43%	37%
rather not agree	27%	35%	20%	28%
definitely do not agree	9%	11%	5%	12%
hard to tell	6%	6%	5%	7%

Table 17 Informing the officials about industrial pollution is useless because in the end no one will be held responsible

Role of local municipality in water protection

On the municipal level, the topic of water protection needs to compete with several other topics such as education, employment or social services. How important do the citizens consider water protection? 38% of the Baltic citizens are convinced that water protection needs to be emphasized similarly to the other mentioned topics. In Estonia, this is believed more, and in Latvia less than in the Baltic countries on average.

	Baltic	Estonia	Latvia	Lithuania
completely agree	38%	46%	31%	39%
rather agree	47%	43%	47%	48%
rather not agree	8%	7%	11%	6%
definitely do not agree	2%	1%	4%	2%
hard to tell	5%	3%	7%	5%

Table 18 Local municipality needs to emphasize water protection similarly to other topics (eg employment, social services)

38%
are convinced that water protection needs to be emphasized similarly to the other mentioned topics

Awareness of municipality activities

The respondents were given a list of possible activities, including the building or renovation of waste water treatment plants; supervision of the waste water management of companies or private individuals, consumption of water or treatment of waste; discussions about water-related development plans; organizing clean-up events. They were asked if their local municipality is doing any of those activities.

The awareness of turned out to be very low. Most of the people (almost 70%) in Latvia and Lithuania have not heard of any water protection activity by their local municipality. In Estonia, the percentage is lower (44%). One possible explanation is better communication by municipalities but we cannot exclude the influence of the prominent Estonian annual clean-up events since the list of activities included "clean-up events". Although these events are not always organized by and related to the local municipality, this hypothesis is supported by the result that 18% of those who had heard of water protection activities could not tell what kind of water body these activities aimed to protect.

	Baltic	Estonia	Latvia	Lithuania
I have heard nothing about any such activity	63%	44%	69%	67%
I have heard/ read about some of these activities	31%	49%	29%	25%
I have been engaged (at least once)	3%	4%	2%	2%
hard to tell	3%	3%	0%	5%

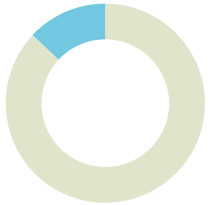
Table 19 Have you heard of any water protection activity by your local municipality?

70%
in Latvia and Lithuania have not heard of any water protection activity

18%
could not tell what kind of water body these activities aimed to protect

The type of water bodies being protected

The best known (and probably most common) of all municipality water protection activities are those related to drinking water. People mentioned less the activities that were protecting some other inland water bodies. 13% of people with knowledge about municipality activities (4% of all respondents) associated the local municipality water protection activities with the Baltic Sea.



13%
associated the local municipality water protection activities with the Baltic Sea

	Baltic	Estonia	Latvia	Lithuania
drinking water	66%	69%	68%	61%
inland water bodies not related to drinking water	35%	16%	45%	43%
the Baltic Sea	13%	9%	14%	15%
Other	4%	7%	4%	1%
hard to tell	8%	18%	1%	7%

Table 20 As far as you know, what kind of water did these activities seek to protect?

Conclusion

2. THE PERCEIVED ROLES AND ACTIVITIES OF MUNICIPALITIES AND OTHER ACTORS

People consider local level actors, including municipalities and citizens less powerful in water protection than state governments, EU and industry. Also, the topic of environment is often perceived to be on the losing side when various other interests are involved. As discussed earlier in this report, belief in one's capabilities to influence the situation has an impact on the likelihood of action, therefore the perception of dominance by more powerful actors may discourage engagement with water protection.

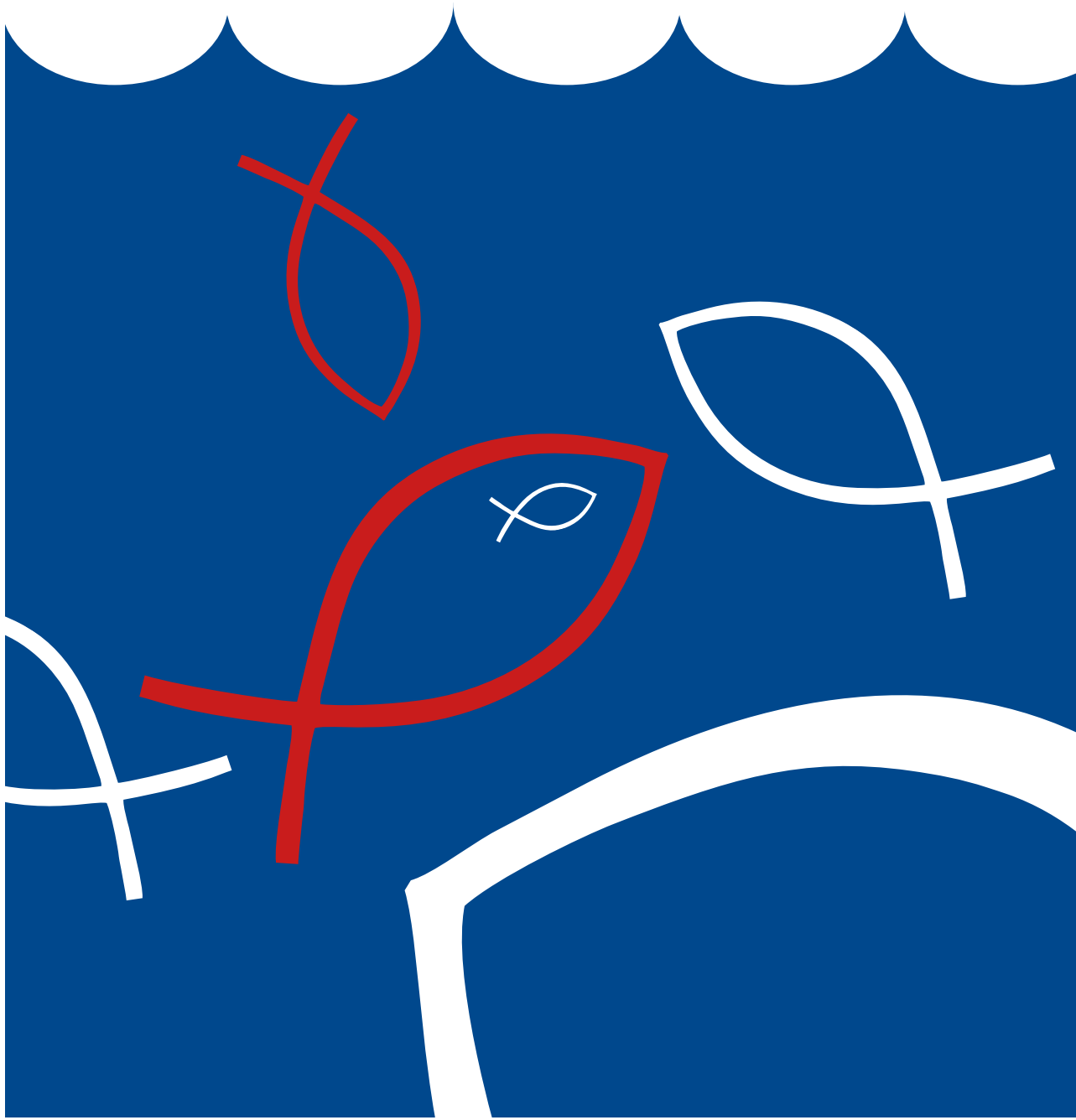
Around two-thirds of the respondents (less than half in Estonia) report not being aware of any water protection activities by their local municipality. This is probably more due to the deficiency in informing than the lack of activities. Our survey of the municipalities (Kaal, Olesk, Tampere 2015) shows that the municipalities have in the past two years generally undertaken more than ten different water protection activities. The activities that the citizen are aware of mostly deal with drinking water.

Comparing the three countries we see more pessimism in Latvians: they have lower belief that citizens' role in protecting the Baltic Sea is important and tend to believe more that no-one will be held accountable in pollution cases. They also believe the least of the three countries that local municipality should consider water protection equally important to other fields. Estonians report much more awareness of municipality water protection activities.

3. KNOWLEDGE AND ATTITUDES ABOUT WATER QUALITY AND RISKS

People's knowledge and perception of water protection related activites in their home region give us the context to understand their risk perception and potential to become and active participant in the activities.

The perceived state of water bodies is another factor that influences people's attitudes towards water protection. Bad water quality and potential threat to human health motivate people to a more active stance and behaviour whereas a perceived good state directs the focus of the individual towards other kind of problems.



For comparison

According to the 2014 Eurobarometer survey, water pollution is the second most common environmental concern at European level. Finland (67%), Greece (64%), Sweden (64%) and Latvia (61%) have the highest proportions of people who say they are worried about this. Lithuanians (53%) and Estonians (47%) show average concern, while Poland (37%) and the United Kingdom (39%) have the lowest share of people worried about water pollution.

Among the Baltic Sea countries, water pollution is rated as the biggest environmental concern in Finland, Sweden and Latvia. In Estonia people are most worried about the growing amount of waste. In Lithuania water pollution is only fourth among the concerns, after concern about chemicals in everyday products, air pollution and growing amount of waste. (Eurobarometer 2014, p.14-15)

CONCERN ABOUT WATER POLLUTION

47%
in Estonia

67%
in Finland

61%
in Latvia

64%
in Sweden

53%
in Lithuania

37%
in Poland

Cleanliness of local water bodies

For these questions we also calculated the average score (where very good is 5 and very bad is 1) to make the assessments better comparable. People assess the cleanliness of nearby rivers and lakes as satisfactory or good (average 3.08 out of 5), with Estonians most and Latvians least satisfied with the cleanliness. This is only somewhat lower than the satisfaction with cleanliness of drinking water (3.58).

	Baltic	Estonia	Latvia	Lithuania
very good	1%	4%	1%	1%
good	25%	31%	19%	27%
satisfactory	53%	46%	58%	52%
bad	15%	11%	15%	16%
very bad	2%	1%	2%	2%
hard to tell	5%	8%	5%	3%
5-point scale average	*3,08*	3,24	*3,02*	*3,1*

Table 21 In your opinion, what is the state of the cleanliness of rivers and lakes in your home area?

Cleanliness of the Baltic Sea

Considerable part of respondents did not reply the question asking about the state of the Baltic Sea saying that their home region was not near the coast. Those who stated their opinion, considered the state of the Baltic Sea worse than that of the inland water bodies. Especially big is the difference in the Lithuanian sample. For Latvians, the cleanliness of inland water bodies and the sea is similar and for Estonians the sea is in a just a little bit worse state. As we saw in case of inland water bodies, the ratings of Estonians to the cleanliness of the Baltic Sea are again the highest. As confirmed by European Environment Agency (2012: 12-13), the water quality in Estonia is somewhat better than in the southern neighbours, therefore the survey results reflect the true situation.

	Baltic	Estonia	Latvia	Lithuania
very good	1%	2%	1%	1%
good	14%	18%	18%	8%
satisfactory	37%	40%	46%	30%
bad	16%	10%	15%	19%
very bad	2%	2%	2%	2%
hard to tell, home area not close to sea	30%	28%	18%	40%
5-point scale average	2,93	*3,14*	2,99	2,79

Table 22 In your opinion, what is the state of the cleanliness of the Baltic sea in your home area?

Knowledge and attitudes towards water protection activities

To map people's belief about the necessity of water protection, the study measured agreement or disagreement to the provocative statement "Water protection topic is overemphasized, it is not worth it".

	Baltic	Estonia	Latvia	Lithuania
completely agree	5%	4%	5%	4%
rather agree	15%	19%	13%	14%
rather not agree	37%	47%	32%	37%
definitely do not agree	37%	23%	44%	38%
hard to tell	6%	7%	6%	6%

Table 23 Water protection topic is overemphasized, it is not worth it

Building a profile

Over a third of all respondents did definitely not agree with this statement, meaning they are firmly convinced water protection is necessary. The comparison between countries shows that more Estonians (23%) find water topic overemphasized than Latvians and Lithuanians (both 18%).

The attitude depended on the educational level of the respondents: the people with secondary education were more likely to consider the water protection topic overrated.

37%
are firmly convinced that water protection is necessary

23%
of Estonians find water topic overemphasized

18%
of Latvians and Lithuanians find water topic overemphasized

The importance of waste water treatment

HELCOM has emphasized that improving municipal waste water treatment remains a remarkably cost-efficient measure to reduce pollution in the Baltic Sea. A quarter of all respondents consider extremely important that their household waste water is being treated.

	Baltic	Estonia	Latvia	Lithuania
extremely important	25%	35%	24%	21%
very important	37%	33%	40%	36%
important	32%	23%	32%	36%
rather not important	4%	4%	3%	5%
not important at all	1%	1%	0%	1%
hard to tell	2%	3%	1%	1%

Table 24 In your opinion, how important it is that the waste water coming from your household is treated before discharged back to the nature?

Assessment of local water protection activities

Most activities covered in the survey are taking place on the local level or are the responsibility of the local municipality. The survey asked people to rate these activities and highest average score was given to drinking water cleanliness (3.37 out of 5) and household waste water treatment (3.30). Satisfaction with protection of drinking water facilities/infrastructure against floods and storm damage was similarly high (3.31) although many could not assess this issue.

In your opinion, what is the state of the following in your home area?

Protection of the cleanliness of drinking water

	Baltic	Estonia	Latvia	Lithuania
very good	4%	7%	3%	4%
good	44%	43%	37%	49%
satisfactory	38%	35%	44%	34%
bad	9%	7%	10%	9%
very bad	2%	1%	2%	1%
hard to tell	4%	6%	5%	2%

Table 25 Protection of the cleanliness of drinking water

In your opinion, what is the state of the following in your home area?

Table 26 The state of waste management, including the collection, storage and recycling of household waste.

	Baltic	Estonia	Latvia	Lithuania
very good	4%	8%	3%	3%
good	38%	42%	37%	38%
satisfactory	38%	36%	38%	38%
bad	13%	8%	11%	16%
very bad	2%	2%	1%	2%
hard to tell	6%	4%	11%	2%

Table 27 Protection of drinking water facilities/infrastructure against floods and storm damage.

	Baltic	Estonia	Latvia	Lithuania
very good	2%	3%	2%	2%
good	28%	24%	25%	31%
satisfactory	34%	26%	36%	35%
bad	8%	7%	9%	7%
very bad	1%	1%	1%	1%
hard to tell	28%	40%	26%	23%

Table 28 Considering water protection when planning new buildings

	Baltic	Estonia	Latvia	Lithuania
very good	1%	3%	1%	0%
good	22%	25%	16%	26%
satisfactory	33%	27%	35%	34%
bad	7%	11%	7%	6%
very bad	1%	2%	1%	1%
hard to tell	35%	32%	40%	32%

Table 29 The treatment of waste water before discharging it into nature

	Baltic	Estonia	Latvia	Lithuania
very good	2%	5%	2%	2%
good	27%	32%	22%	28%
satisfactory	38%	30%	43%	39%
bad	12%	11%	9%	14%
very bad	2%	2%	2%	2%
hard to tell	19%	20%	23%	15%

In your opinion, what is the state of the following in your home area?

Table 30 Prevention of water pollution and other negative effects caused by industry and mining, including drying of wells.

	Baltic	Estonia	Latvia	Lithuania
very good	1%	1%	2%	1%
good	16%	15%	13%	19%
satisfactory	40%	26%	53%	36%
bad	10%	10%	9%	11%
very bad	1%	2%	2%	1%
hard to tell	16%	14%	22%	11%
no industry/ mining in home area	16%	32%	0%	21%

Many could not assess the question of considering water protection when planning new buildings, a potential sign of low engagement of citizens. Those who expressed their opinion deemed the situation satisfactory (average 3.26). The most doubt was voiced by Latvians: 40% choosed 'hard to tell' and the rest gave the lowest average score, 3.18.

40%

of Latvians could not assess water protection when planning new buildings

Waste water treatment before discharging it into nature was most valued by Estonians and Latvians. Respectively 68 and 64% considered this extremely or very important. However, when asked about how satisfied they are with this activity in the home region, a difference emerged between the two countries: 37% of Estonians and 24% of Latvians find the situation good or very good.

People were most pessimistic about the capabilities of preventing pollution from industry. The average score was 3.09 and the average scores of three countries were most similar in this question.

Waste water treatment extremely or very important

68%

of Estonians

64%

of Latvians

Important activities for the protection of the Baltic Sea

The survey asked people to select activites that they consider most important for the future protection of the Baltic Sea. The resulting list will also reflect the respondents' understanding of both what they perceive as the biggest problems needing tackling and the activities with the biggest perceived positive effect. Therefore the resulting ranking (presented as a weighted average of all the respondents) reflects the factors that are considered most likely to be harmful to the Baltic Sea and/or most easily managed.

The most important activity, according to the respondents, is dealing with pollution risks related to sea transport. Similarly important are problems related to agricultural pollution, treatment of water water from households and preventing industrial pollution. Almost half of the Baltic citizens consider it important to deal with littering of the sea and the shore by people – the highest ranking activity related to the actions or non-actions of common people. Climate change is much less emphasized than all the other, perhaps more tangible risks.

Looking at the differences between the three countries we notice that Estonians have listed more activities (average of five), compared to four in Latvia and three in Lithuania. There are also some differences in the ranking of the activities. In Estonia, household waste water treatment is ranked relatively higher than in other countries, in Latvia, there is more mentioning of use of chemicals in agriculture and the problem of invasive species. In Lithuania, more emphasis is put on the

	Baltic	Estonia	Latvia	Lithuania
pollution from sea transport	62%	72%	68%	53%
the use of chemicals, including fertilizers in agriculture	58%	66%	64%	51%
the treatment of waste water of households before discharging back to nature	54%	70%	56%	46%
preventing pollution from industries, including mining	51%	66%	54%	42%
littering the sea and the shore by holidaymaker and residents	47%	67%	27%	55%
protecting fish stock and seals (by quotas and fishing management)	40%	55%	41%	33%
possible Baltic Sea pollution caused by land and air transport	31%	33%	32%	29%
prevention and management of invasive species alien to the Baltic Sea	30%	38%	39%	19%
protection of drinking water facilities/infrastructure against floods and storm damage	29%	39%	37%	19%
pollution caused by storm waters (i.e. too much rain)	25%	46%	19%	21%
mitigating climate change/ global warming (eg reducing CO2 emissions)	21%	25%	18%	21%
Other	1%	1%	1%	1%
hard to tell	4%	3%	3%	6%

Table 31 focus be put on when protecting the Baltic Sea?
Please choose from the following list what you think the most important areas.

issue of littering by holidaymakers and residents. They considered this even more important than pollution from sea transport that topped the list in the other countries.

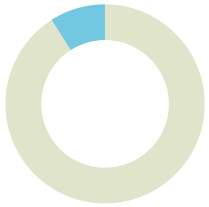
Quality of drinking water

We use risks related to drinking water as an indicator how well people perceive the interconnectedness of water systems. Most (58%) of the people of the Baltic countries consider the quality of their drinking water good or very good. One out five Estonians considers their drinking water very good. Only a minority – roughly one out ten – thinks the quality of their drinking water is bad.

	Baltic	Estonia	Latvia	Lithuania
very good	11%	20%	8%	9%
good	47%	37%	42%	55%
satisfactory	33%	35%	39%	27%
bad	7%	6%	9%	6%
very bad	2%	2%	2%	2%
5-point scale average	*3,58*	*3,67*	*3,45*	*3,6*

Table 32 In your opinion, what is the quality of your drinking water?

58%
consider the quality of their drinking water good or very good



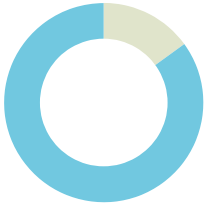
9%
think the quality of their drinking water is bad

Looking for information

The number of people who have recently searched for information about the quality of their drinking water is fairly low. The size of the group is comparable to the number of people not satisfied with their drinking water. However, analysis shows that these groups do not overlap substantially: 85% of all information seekers are satisfied or more with their drinking water.

	Baltic	Estonia	Latvia	Lithuania
Yes	10%	5%	10%	13%
No	88%	95%	90%	83%
Hard to tell	2%	0%	0%	3%

Table 33 Within the last 12 months, have you been interested (i.e. searched the internet, asked your service provider, local municipality etc.) about the quality of your drinking water or factors influencing it?



85%
of all information seekers are satisfied or more with their drinking water

Impact of other water bodies to drinking water

Four fifths of people perceive the connection between their drinking water and the quality of other inland water bodies. The impact of other water bodies to their drinking water is less believed in Lithuania.

	Baltic	Estonia	Latvia	Lithuania
completely agree	38%	49%	45%	28%
rather agree	43%	38%	40%	48%
rather not agree	9%	8%	7%	11%
definitely do not agree	4%	2%	4%	5%
hard to tell	5%	3%	5%	7%

Table 34 The quality of inland water bodies will in the end affect the quality of my drinking water

Potential risks to drinking water

Despite high awareness that pollution of other water bodies can influence drinking water, more than a half of people do not know or cannot name any water body whose pollution might influence their drinking water. Those who do perceive some water bodies as a potential risk source, most often mention a river (especially in Latvia and Lithuania) or a lake. The risk to their drinking water from the sea, artificial lakes or natural springs is perceived by a minority.

	Baltic	Estonia	Latvia	Lithuania
a river	26%	18%	27%	28%
a lake	14%	12%	18%	11%
an artificial water body (e.g. a reservoir)	7%	7%	6%	8%
a sea	6%	11%	7%	2%
other natural water body (spring, mire lake)	4%	2%	5%	3%
no such water body close enough	47%	53%	43%	47%
hard to tell	11%	8%	9%	15%

Table 35 Is there any water body in your home region whose pollution might influence the quality of your drinking water?

Conclusion

3. KNOWLEDGE AND ATTITUDES ABOUT WATER QUALITY AND RISKS

People consider pollution risk from shipping to be the problem that needs most attention regarding the Baltic Sea. This represents a low probability-big impact scenario and and is an issue that is rarely dealt with on the local level. Problems such as agriculture and waste water treatment that impact the level of eutrophication – widely considered to be most severe current problem of the Baltic Sea – rank very closely behind shipping. Climate change is considered the least relevant problem.

We used risks related to drinking water as an indicator how well people perceive the interconnectedness of water systems. The awareness seems to be there on the abstract level but most people seem to fail in adopting it to their home area.
The state of the Baltic Sea, other water bodies and drinking water are rated mostly satisfactory or good. Roughly one out if six respondents think the state of the Baltic Sea or their local inland water body is bad or very bad. The work of their local municipality in water protection is most commonly rated as satisfactory or good: the average score was above 3 (on a 5-point-scale) in all aspects. The most prominent difference in these results is the Estonian satisfaction with water quality and municipality work in comparison with Latvia and Lithuania. Also noteworthy is the Latvian relative dissatisfaction with municipalities.

Satisfaction with water quality and the work of their local municipality are factors that influence the activity of people. Potentially, if the situation is perceived as good and there seem to be no risks then less importance is attached to the topic and engagement is less likely. For example, our results show that Estonians rate water quality higher than their southern neighbours. According to the 2012 Flash Eurobarometer survey that looked at water issues, 26% of Estonians believe the water quality has gotten worse in the last ten years. The EU average is 44% and in Finland, for comparison, the rate was 48%. Also the fear for problems with water quality (pollution or ecosystem damage) was below EU average: 49% of Estonians think that water bodies have such problems while the EU average is 68%. In Latvia the rate is 64% and in Lithuania 70% (Eurobarometer 2012, page T4).

Despite being less concerned about water systems than their neighbours, in our study Estonians were better at listing problems affecting the Baltic Sea and showed bigger concern. They also were more likely to emphasize the importance of the treatment of waste water. These contradictory interpretations show that the relationship between water quality and risk perception in the local context is complex and needs further study.

Discussion and summary

The goal of this survey was to map the attitudes and behaviour of the citizens of the three Baltic countries regarding water protection. The aim was to identify aspects of attitudes and current behaviour that either support environmentally friendly behaviour or hinder it. Earlier studies (see Kollmuss and Agyeman 2010) have identified several factors that contribute to environmentally responsible behaviour:

- Knowledge about problems, risk perception;
- Awareness of strategies of environmentally friendly behaviour;
- Attitutes towards environment;
- Expressed readiness for action;
- Sense of individual responsibility;
- Sense of control of the situation.

Our study explored these aspects in the context of water protection in the Baltic countries with the special focus on the local level actors. Overall, people attach great importance to clean water systems and express interest and concern for the state of water bodies, including the Baltic Sea. They are most interested in issues where the water systems relate to their health or well-being.

The interest, however, does not well translate into behaviour. People report low participation in various activities related to water protection and consider local level actors less responsible for the state of the Baltic Sea than national or transnational level actors. Also the list of biggest problems – topped by pollution from sea transport and fertilizer use in agriculture – indicates that there is little sense of individual responsibility and awareness of the impact of local level actors, including citizen, on the health of the Baltic Sea. This was also evident by the fact that consumer behaviour was not mentioned by the respondents as a way to avoid problems for water systems.

Our and also previous studies indicate that the belief whether a person is able to change something with his/her behaviour is one of the main barriers for individual action to protect the Baltic Sea. People with a strong sense of control believe they are capable of changing things. People with a weak sense of control perceive their actions as insignificant and feel that changes can be brought about only by "important others". The sense of lack of control can lead to denial of the problem and no changes in behaviour (Gifford et al. 2011).

Our survey shows that even in the most responsible faction of the population – those people who say the cleanliness of the Baltic Sea is "extremely important" to them – can be pessimistic about their ability of control (31% completely agree with the statement that there is nothing they can do to stop polluting the Baltic Sea). In total, two thirds of respondents agreed with the statement "There is nothing I can do to stop polluting the Baltic Sea".

Another worrying result is the lack of knowledge about actions that individuals can contribute to help the Baltic Sea – almost a quarter could not name any possible activity and another quarter said they cannot do anything.

The relationship between citizens and local municipality in water protection matters is ambivalent. On the one hand individuals see the local municipality as their first point of reference for any environmental problems and they are mostly satisfied with the relevant activities of the municipality. On the other hand they are not very aware of the water protection activities of their municipality and have rarely taken part in such activities.

The people of the three countries are generally similar in their attitudes and reported behaviour. Estonia is the country that most often seems to deviate from the Baltic average, sometimes in contradictory ways. Estonians display more satisfaction with water quality and, at the same time, are more aware of various problems threatening it. Their reported personal behaviour and readiness for behaviour, however, is often lower then by its neighbours. Latvians are relatively more pessimistic about the capabilities of local level actors, especially their municipalities. Lithuanians, in contrast with its neighbours, do not consider local municipality the primary institution to contact in case of (water) pollution. For them, littering is the biggest problem regarding Baltic Sea.

Our results clearly indicate that for the protection of the Baltic Sea, the role of communication is to subvert the prevailing beliefs that individual action have little impact or that initiatives mostly abate in the conflict with economic interests or bureaucratic indifference. More positive examples about individuals' capabilities to play a role in water protection are needed to empower citizens and the current barriers need to be turned into incentives for behaviour.

We recommend that water protection related communication activities directed towards citizen should aim to enhance the following aspects:

a) understanding of the interrelations between human activities and the state of the water bodies, and the consequent interrelation between water quality and human life quality;
b) emphasizing the capabilities of local level actors (especially local municipalities and citizen) to improve the state of various water bodies;
c) increase knowledge of specific ways in which individuals and local communities are able to contribute to water protection.

We must note that according to our results people's interest for information about civic initiatives to protect the Baltic Sea is very low. This poses another challenge for the communication: how to cross the threshold of attention? How to initiate water protection behaviour? The content and form of messages regarding the protection of the Baltic Sea will be crucial.

More specific communication recommendations will be provided in the *CITYWATER – Benchmarking water protection in cities*. project publication *Empowering Local Actors: Communication strategy for local level water protection activities* (Tampere, Olesk, Kaal 2015).

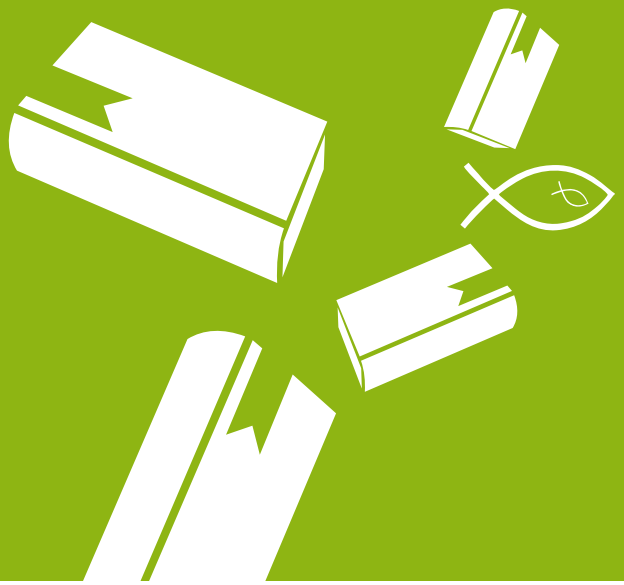
Related publications

Kaal, E., Olesk, A., Tampere, K. (2015) Local actors and the Baltic Sea 2: Water protection attitudes and activities in coastal municipalities. Tallinn University. Tallinn: Tallinn University & EU Life+ Content. Available at: http://www.citywater.fi/actions/communication-and-dissemination/

Tampere, K., Olesk, A., Kaal, E. (2015) Empowering local actors: communication strategy for local level water protection activities. Tallinn University . Tallinn: Tallinn University & EU Life+ Content. Available at: http://www.citywater.fi/actions/communication-and-dissemination/

Punttila, E. (2014) Cost-benefit analysis of municipal water protection measures: Environmental benefits versus costs of implementation. City of Helsinki Environment Centre publications 21/2014. Helsinki: City of Helsinki & EU Life+ Content.
Available at: http://www.hel.fi/static/ymk/julkaisut/julkaisu-21-14.pdf

References



BalticSTERN Secretariat (2013) *The Baltic Sea – Our Common Treasure: Economics of Saving the Sea*, http://www.stockholmresilience.org/download/18.4531be2013cd58e84484e3/1381790136357/Baltic_Stern+Main+report_0306.pdf (January 2015)

European Environment Agency (2012) *European waters — current status and future challenges: synthesis*. EEA Report No 9/2012, Luxembourg: Publications Office of the European Union.

Flash Eurobarometer 344 (2012) *Attitudes of Europeans towards water-related issues* http://ec.europa.eu/environment/working_en.htm (December 2014)

Gifford, R., Kormos, C., McIntyre,A. (2011) Behavioral dimensions of climate change: drivers, responses, barriers, and interventions. *WIREs Clim Change*, 2 (6), 801-827.

HELCOM (2007) *Baltic Sea Action Plan*, http://helcom.fi/baltic-sea-action-plan (January 2015)

HELCOM (2011) *The Fifth Baltic Sea Pollution Load Compilation (PLC-5)*, Baltic Sea Environment Proceedings No. 128.

HELCOM (2014) *Eutrophication status of the Baltic Sea 2007-2011 - A concise thematic assessment*. Baltic Sea Environment Proceedings No. 143 http://www.helcom.fi/Lists/Publications/BSEP143.pdf (January 2015)

Kiviluoto, K., Komulainen, M., Kunnasvirta, A. (eds) (2014) T*owards Baltic Sea Citizenship Experiences in public involvement*. Turku: Reports from Turku University of Applied Sciences 181.

Kollmuss A., Agyeman J. (2002) Mind the Gap: Why do peole act environmentally and what are the barriers to proenvironmental behavior? *Environmental Education Research* 8:3, 239-260

Koskinen, S. (2010) *Children and young people as environmental citizens the environmental education perspective to participation*. Ph.D. Thesis. University of Helsinki, Department of Biological and Environmental Sciences.

Science for Environment Policy (2012) *Future Brief: Green Behaviour*. http://ec.europa.eu/environment/integration/research/newsalert/future_briefs.htm (January 2015)

SEPA (2008) *Ecosystem services provided by the Baltic Sea and Skagerrak*. Swedish Environmental Protection Agency Report 5873.

Special Eurobarometer 416 (2014) A*ttitudes of European citizens towards the environment*. http://ec.europa.eu/public_opinion/archives/ebs/ebs_416_en.pdf (December 2014)

Steg, L., Vlek, C. (2009) Encouraging pro-environmental behaviour: An integrative review and research agenda. *Journal of Environmental Psychology*, 29, 309–317.

Stern, P.C. (2000) Toward a Coherent Theory of Environmentally Significant Behavior. *Journal of Social Issues*, 56 (3), 407–424.

Söderqvist, T., H. Ahtiainen, T. Nõmmann, H. Tuhkanen et al. (2010) *BalticSurvey – a study in the Baltic Sea countries of public attitudes and use of the sea*. Swedish Environmental Protection Agency, report: 6348.
http://www.naturvardsverket.se/sv/Nedre-meny/Webbokhandeln/ISBN/6300/978-91-620-6348-1/ (November 2014)

Österlund, A. (2014) Role of members of the public in the protection of the Baltic Sea. In Kiviluoto et al. (eds) (2014) *Towards Baltic Sea Citizenship Experiences in public involvement* (pp.41-49). Turku: Reports from Turku University of Applied Sciences 181.

ANNEX 1

About Baltic Citizen Survey

The data collection of population (citizen) survey was coordinated by TNS Emor and carried out in all three Baltic States by TNS Emor (Estonia), TNS Latvia, and TNS LT (Lithuania).
The data collection period of the survey was 24.01.-10.02.2014.

The survey method was computer-assisted personal interviewing (CAPI-interview) at respondent's home. In case of CAPI interviews the questions appear on the laptop screen and the answers are inserted in the computer immediately during the interview.
The target group of the study were permanent residents of Estonia/Latvia/Lithuania aged 18-74 years.

The size of the universe of the survey in total as of January 1st, 2013 is:

- 938 968 permanent residents of the Republic of Estonia,
- 1 657 204 permanent residents of the Republic of Latvia,
- 2 166 084 permanent residents of the Republic of Lithuania.

The sample size in Estonia was 503, in Latvia 506 and in Lithuania 500 individuals. The territorial model of samples was based on the annual statistics of Estonian/Latvian/Lithuanian Statistical Office (updated January 1st, 2013).

The sample was formed as self-weighting, i.e. the proportional model of the universe where everybody belonging in the universe have an equal opportunity of becoming a respondent. The two-staged stratified sampling to form the sample was used. First, the universe was divided into 6 strata in Estonia and Latvia and into 15 strata in Lithuania by territorial domicile. The size of the sample in each stratum was based on proportional division of the universe. Then, two-staged selection was done in each stratum.

The primary sampling units were settlements (towns, small towns, country towns and villages). We chose the sampling points at random according to the size of the settlement (the number of residents who qualify for the survey's age group) on proportional probability bases. In each primary sampling unit the secondary sampling units - individuals - were chosen.

Random route rules were applied to selected households - starting addresses were selected at random from the population register. After the apartment or private house was chosen, the so-called young-men/women-rule was used for selecting individuals in households. The youngest male at home, and if not present, the youngest female, 15 or older, was interviewed.

To check the formed sample its socio-demographic structure (split of gender, age, nationality and settlement type of respondents), was compared to the corresponding data of the universe. The data were weighed to ensure the representability of the sample.

Taking account the number of respondents the confidence interval of survey results do not exceed ±4,5 on case of country level and not more than ±2,5 on Baltic's average.

Permanent residents aged 18–74 years

permanent residents

938 968
in Republic of Estonia

1 657 204
in Republic of Latvia

2 166 084
in Republic of Lithuania

sample size

Estonia **503**

Latvia **506**

Lithuania **500**

ANNEX 2

Questionnaire used in the Citywater Citizen Survey

Q1 How interested are you in information describing the state of the water bodies in /respectively: Estonia, Latvia, Lithuania/? Water bodies are defined as both ground water resource, inland water bodies (lakes, rivers, springs, reservoirs etc) as well as the sea.

1 very interested
2 rather interested
3 rather not interested
4 not interested at all
5 *hard to tell (do not read out)*

Q2 Which of the following topics would you like to get information about...
(multiple answers possible)

1, factors harming water bodies in /Estonia, Latvia, Lithuania/
2, the current state of water quality in /Estonia, Latvia, Lithuania/
3, the main factors affecting drinking water in my home area
4, the relationship between the state of the Baltic Sea and water quality in my home area
5, health risks due to environmental pollution
6, the impact of environmental damage to economy
7, the impact of environmental damages to human life quality (as calculated to financial value)
8, investments in water protection
9, water-related planning activities in your local municipality
10, water protection programs in your home area
11, activities financed by European Union environmental protection programmes in / Estonia, Latvia, Lithuania/
12, activities of the government and its agencies and their results in water protection
13, civil initiatives to protect the Baltic Sea, their activities and results
14, how citizens are able to prevent damaging of water bodies
15, legislation related to environmental protection (legal acts, rights, obligations, punishments)
16, other /please write/
17, hard to tell (do not read out)

In your opinion, what is the state of the following in your home area? Home area is defined as the city part, borough, village or any other inhabited area where you live for most of the year, excluding temporary places of residence related to work, including abroad.

Please evaluate each on the scale of 1=very good, 2=good, 3=satisfactory, 4=bad, 5=very bad, 6= *hard to tell (not read out)*
Additional answer 7, do not read out: Q3: 7=*home area not close to sea*; Q6: 7= *not industry/mining in home area.*

Q3. Cleanliness of the sea

Q4. Cleanliness of rivers and lakes

Q5. Protection of the cleanliness of drinking water

Q6. Prevention of water pollution and other negative effects caused by industry and mining, including drying of wells

Q7. The treatment of waste water before discharging it in nature

Q8. The level of waste management, including the collection, storage and recycling of household waste

Q9. Protection of drinking water facilities/infrastructure against floods and storm damage

Q10. Water protection when planning new buildings

Q11 **What can you personally do to prevent water-related problem in your home area? Please give examples of your activities.** *Spontaneous question. The interviewer will ask everyone additionally:* **Anything else?**

Q12 **During the last two years, have you been involved in any of the following water protection activities in home area or elsewhere?** *Multiple choices allowed*
1, clear-up of pollution
2, participation in discussions about planning or development activities
3, participation in informing citizens and other water protection campaigns
4, notifying local or national institutions about pollution or other environmental problems
5, other /write/
6, I have not been engaged in water protection activities
7, *hard to tell (not read out)*

Q13 **Considering your previous personal contribution to protecting the local environment and water bodies, which of the following describes best your behaviour in the future? Would you contribute...**
1 much more
2 a bit more
3 the same
4 a bit less
5 much less
6 *hard to tell (do not read out)*

Q14 **Have you heard of any water protection activity by your local municipality?** For example, the building or renovation of waste water treatment plants; supervision of the waste water management of companies or private individuals, consumption of water or treatment of waste; discussions about water-related development plans; organizing clean-up events? (one answer possible)
1 I have heard nothing about any such activity
2 I have heard/read about some of these activities
3 I have been engaged (at least once and in one activity)
4 *hard to tell (do not read out)*

Ask Q14A if Q14 was 2 or 3...
Q14a **As far as you know, what kind of water did these activities seek to protect?** *Multiple choices allowed*
1, drinking water
2, inland water bodies not related to drinking water
3, the Baltic Sea
4, other /write/
5, hard to tell (do not read out)

Q15 **I will read some possible activities how citizens can influence municipal decisions regarding water protection. Which of these would you probably engage in? You may choose several options.**
1, Take part in discussions regarding detailed plans in my home area
2, take part in discussions regarding local municipality's long-term development plans
3, take part in municipal discussions regarding water management
4, initiate discussions in the municipality to solve water-related problems
5, highlight problems in social media (Facebook, Twitter, blogs, forums etc)
6, notify my local municipality about environmental risks, cases of pollution
7, contact scientists (to get or give information, initiate research etc)
8, explain the importance of water protection to other citizens
9, gather signatures for/against projects significantly affecting the water system
10, notify media about water-related problems
11, notify relevant national institution (e.g. an environmental agency or ministry)
12, notify non-profit environmental protection organizations or citizen movements

13. Other /free answer/
14. *Hard to tell (do not read out)*

Q16 **What is the source of the water you use at home for drinking and cooking?** *(single choice; in case household only sometimes uses different sources of water, they should choose the source they use the most often. If they always use different sources, choose option 5).*
1 water from a dug well , drilled well or other water source that supplies only you or at the most 50 other surrounding households
2 water from a drilled well or other water source that supplies more than 50 households
3 only bottled water from the shop or from another household
4. water straight from nature (e.g. from a spring or other water body)
5 I always use water from different sources
6 *There is so-called tap-water but I don't know where it comes from (not read out)*
7 *hard to tell (do not read out)*

Q17 **In your opinion, what is the quality of your drinking water? Please evaluate it on the following scale**
1 very good
2 good
3 satisfactory
4 bad
5 very bad
6 *hard to tell (not read out)*

Q18 **Within the last 12 months, have you been looking or asking for information about the quality of your drinking water or factors influencing it (i.e. searched the internet, asked your service provider, local municipality etc.)?**
1 Yes
2 No
3 *Hard to tell (do not read out)*

Q19 **In your opinion, how important is it that the waste water coming from your household is treated (cleaned) before discharged back to the nature? Please evaluate it on the following scale.**
1 extremely important
2 very important
3 important
4 rather not important
5 not important at all
6 hard to tell (not read out)

Is there any water body in your home region...
Q20 **... that you use for holidays, leisure activities?** *Multiple choices allowed,answers 6 & 7 are single*

Q21 **... whose pollution might influence the quality of your drinking water?**
Multiple choices allowed, answers 6 & 7 are single
1, a sea
2, a river
3, a lake
4, an artificial water body (eg reservoir)
5, other natural water body (spring, mire lake)
6 no such water body close enough
7 hard to tell (do not read out)

Q22 **Suppose you notice a water pollution source (such as a leaking fuel, chemical or fertilizer tank or untreated wastewater discharged directly into nature) whether and to whom would you report the incident?** */spontaneous answer, may give several answers/*
1, Environmental inspection
2, Local municipality
3, National Health Agency
4, Ministry of Environment
5, Environmental Agency
6, Environmental Board
7, Rescue Service
8, Police
9, other /write, including any phone numbers that are mentioned/
10, would not report anywhere
11, hard to tell

To what extent do you agree or disagree with the following statements?
Scale: 1=completely agree, 2= rather agree, 3=rather not agree, 4=definitely do not agree, 5=*hard to tell (will not be read out).*
Rotate the order of questions Q23-31.

Q23 **There is nothing I can do to stop polluting the Baltic Sea**

Q24 **Informing the officials about industrial pollution is useless because in the end no one will be held responsible**

Q25 **when there would be a charity foundation to cover the costs of protecting the Baltic Sea then I would definitely donate to it**

Q26 **I am ready to contribute a small amount every month to cover the costs of water protection in my home area**

Q27 **the local municipality needs to emphasize water protection similarly to other topics (eg employment, social services)**

Q28 **water protection is overemphasized, it is not worth it**

Q29 **In water protection the environmental organizations and civil activists will be defeated when economic interests of companies are involved**

Q30 **The quality of inland water bodies will in the end affect the quality of my drinking water**

Q31 **I prefer products and services from companies that contribute to environmental protection**

Q32 **How important do you consider for yourself the cleanliness of the Baltic Sea? Please evaluate it on the following scale.**
1 extremely important
2 very important
3 important
4 rather not important
5 not important at all
6 *hard to tell (not read out)*

Q33 **In your opinion, what are the main benefits gained from protecting the Baltic Sea? Please give examples.** *Spontaneous answer.*

In your opinion, how important is it that the following actors are active and take responsibility for protecting the Baltic Sea?
Please evaluate it on the scale 1=extremely important, 2=very important, 3=important 4=rather not important, 5=not important at all 6=*hard to tell (not read out)*

Rotate the order of Q34-39
Q34 **European Union**
Q35 **Baltic Sea countries, their governments, ministries**
Q36 **Non-profit environmental organizations**
Q37 **Citizens of Baltic Sea countries**
Q38 **Local municipalities (parish, country, city)**
Q39 **Industry, companies**

Q40 **In the future, on what should more focus be put when protecting the Baltic Sea? Please choose from the following list what you think the most important areas. Choice is not limited.**
1, pollution due to the use of chemicals, including fertilizers in agriculture
2, the treatment of waste water of households before discharging back to nature
3, pollution caused by storm waters (i.e. too much rain)
4, protection of drinking water facilities/infrastructure against floods and storm damage
5, pollution from sea transport /marine traffic
6, Baltic Sea pollution caused by land and air transport
7, preventing pollution from industries, including mining
8, littering of the sea and the shores by tourists and residents
9, protecting of fish stock and seals (by regulations)
10, prevention and management of invasive species in Baltic Sea (*explain when necessary: Invasive alien species are animals, plants or other organisms introduced by man into places out of their natural range of distribution, where they become established and disperse, generating a negative impact on the local ecosystem and species*)
11, mitigating climate change/global warming (eg reducing CO2 emissions)
12, other /write/
13, *hard to tell (not read out)*

LOCAL ACTORS AND THE BALTIC SEA 1: ATTITUDES TOWARDS WATER PROTECTION AMONG THE POPULATION OF THE BALTIC COUNTRIES

A questionnaire study

Tallinn 2015