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**a comparison study among people living around the Gurjevka River and the  
Lyckeby River**

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## Summary

A comparison study on attitudes towards water issues was performed among the public in Sweden and in Kaliningrad. The countries used the same questionnaire. The questionnaire included statements about attitudes towards the global water situation, towards a local river in Sweden 'the Lyckeby river' and a river in Kaliningrad 'the Gurievka river'. 90 people participated in the study in Sweden and 129 people in Kaliningrad. The result showed no differences in attitudes towards global and local water issues, though in some separate items. There was a difference between the countries in self-reported behaviour. People in Sweden reported higher values on the behaviour scale. The respondents in Sweden also used their river for recreational purposes to a higher degree than people in Kaliningrad did. The respondents in Kaliningrad were more willing to act and to participate in projects compared to the Swedes. It is suggested that an organisation like the Lyckeby River Water Management Association in Sweden, will be created in Kaliningrad in order to increase the co-operation on the local level and to support the willingness to act. The respondents in both countries were not satisfied with the information they had received. It is therefore important to continue information and education on water issues in both countries for increasing the participation in projects and for making the connection between behaviour, the local watercourse and the Baltic Sea more visible. In order to implement the Water Framework Directive in the Baltic Sea countries further research on attitudes towards water issues is needed, among the public as well as among other groups of society.

## Background

### *The Baltic Sea*

According to the Helsinki Commission (HELCOM 2002) the Baltic Sea is divided into eight sub-systems: Bothnian Bay, Bothnian Sea, Archipelago Sea, Gulf of Finland, Gulf of Riga, Baltic Proper, Western Baltic, Sound and Kattegat. The Baltic Sea is one of the largest brackish water areas in the world. The Baltic Sea coast is highly variable, from deep embayments to extensive archipelagos while other areas have open coasts. The turnover time for water therefore varies widely in the different coastal areas, from less than two days at the open coasts to nearly 100 days in the more enclosed archipelagos. This influences how pollution affects the local coastal environment which is impacted by both marine and land-based sources. The most urgent issues to deal with in the Baltic Sea area are problems with overfishing and eutrophication. One suggestion from the report of UNEP-GIWA<sup>1</sup> Regional Assessment 17, Baltic Sea in 2005, is the importance of implementing the EU Water Framework Directive also in Russia.

The Baltic Sea comprises 1 720 270 km<sup>2</sup>, of which nearly 93 % belongs to the nine riparian countries: Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia and Sweden. Sweden has the largest Baltic Sea catchment area with 440 000 km<sup>2</sup> and the total Russian catchment area, including St. Petersburg, Leningrad oblast, and Kaliningrad is 314 800 km<sup>2</sup> (UNEP-GIWA Regional Assessment 17, Baltic Sea, 2005).

Eighty five million people are living within the catchment area of the Baltic Sea and about 15 million people are living within 10 km from the coast. About 6 million people live in the Euroregion Baltic (ERB) which includes the countries: Denmark, Estonia, Finland, Latvia, Lithuania, Poland, Russia, Sweden and Germany. Kaliningrad region is a part of the Russian federation and in the Kaliningrad region there are about 900 000 inhabitants compared to Sweden with about 9 million people. The regions in Sweden, studied in this ERB project, are Kalmar, Kronoberg and Blekinge Counties. Those regions have about 570 000 inhabitants (Region Blekinge, Seagull – Euroregion Baltic and the Baltic Sea, 2004).

In the present report the areas surrounding two River Basins are studied, one in Kaliningrad, the Gurjevka River, and one in Sweden, the Lyckeby River. Two earlier attitude studies have been performed in the area of the Lyckeby River within the Seagull project. An investigation among people within the catchment area in 2003 showed a positive attitude towards water on both global and local levels. The self-reported behaviour was rated considerably lower. The Lyckeby River was used as a recreational area and most of the respondents felt well-being when visiting it. The well-being connected to the Lyckeby River was even rated higher in 2005. The attitudes did not change between 2003 and 2005 (Lindström 2003b; 2005b). In the present report the results of the investigation made in 2003 are used.

### *The Seagull project*

The aim of the Seagull project is to work out a long-term strategy and a common developmental plan for the region. It aims at contributing to social, economic and environmentally sustainable development throughout the south-eastern Baltic Sea Region. The project is an INTERREG III B project and it is divided into five work packages: ERB strategy and Joint Transnational Developmental Programme (JTDP); Management of Water Resources; Innovative Centres and SME:s as vehicles in regional development; Development

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<sup>1</sup> UNEP=United Nation Environmental Programme; GIWA=Global International Waters Assessment

programme for rural areas and Information, Communication and Evaluation. The present study is included in the Work Package 2: Management of Water Resources. Some of the aims are to obtain a better water quality and a better dialogue with the citizens concerning water issues (Euroregion Baltic [www.eurobalt.org](http://www.eurobalt.org) 2005-11-20). In Sweden the Lyckeby River was chosen as a case study. Contacts with participants from the Kaliningrad Technical State University resulted in the performance of an attitude investigation also in Kaliningrad.

### *The Gurievka River*

The municipalities in Russia are charged with the responsibilities to carry out a fairly wide range of public services, but in recent years the problem has been that duties have not been accompanied by sufficient financial support from the federal level, thus leaving the municipalities in a very difficult situation. Typical responsibilities for the Russian municipalities include education, care of children, heating, housing, sewerage, water supply, municipal health care, public transport and communication, culture, planning and development, promotion of employment etc. There are 22 municipalities in the Kaliningrad Region and over 12 200 in Russia (Folkesson 2003).

### *Pictures from the catchment area of the Gurjevka river*

The Gurievka River is an inflow to the Pregolia River. Eutrophication is a severe ecological problem in the Kaliningrad Region. The rivers, Neman and the Pregolia, are very polluted but investigations show that a small reduction in azote and in phosphorus is noted. Diffuse inflow comes from the urban territories, agricultural grounds and woods. Eutrophication also negatively influences fishery and recreational usage of water objects of the region.

The Gurievka River starts in a marshy wood, at the east of the Lake Divnoe. After 2 km the river enters an open territory and flows among agricultural grounds executing functions of the open drainage header. Its channel is not more than 2 m and the banks abruptly break to the edge of water. The bottom is sandy and oozy. The channel is overgrown with aquatic plants in summer, which completely covers the surface of water. Then the runs through the village Orlovka and activities among the population influence the water quality. The Gurjevka river then enters a damp of a pond, which is 80 % overgrown with underwater and surface vegetation. The abundance of water vegetation allows to considering this pond as a wetland. The river flows through the town Gurjevsk. The sewage from chicken farm and unorganized issues of residential sewage run into the river. The drain of the river below the town is adjusted by two ponds. The sewage of the village Isakovo practically without purification is thrown off in the pond. The water from this pool is used for the water-supply of a fish-farm. There is a small hydropower plant on the overflow channel from the pond. The length of the river is 26,3 km, the floor space of the basin is 116,3 km<sup>2</sup>. Average annual water discharge is 0,96 m<sup>3</sup>/s. The water resources of the river are used for hydropower engineering and water supply for fish-farm. The water yield of the river Gurievka has a cascade of three river-bed ponds. The sewage from a chicken farm and from territories of three villages (Orlovka, Gurjevsk and Isakovo) runs into the river. Problems of eutrophication in this small river is a reflection of the general situation in the hydrographical net of the Kaliningrad Region. Therefore, it is necessary to start realization of a policy of eutrophication decrease (Umansky et al 2003).

Information campaigns about the state of the Gurievka river is performed in schools and in the education.

### *The Lyckeby River*

As in Russia, the municipalities in Sweden are responsible for several activities, among them water supply. In Sweden there are 290 municipalities and 25 of those are participating in the ERB project. In Sweden the primary tasks for the municipalities include both mandatory and voluntary responsibilities. Examples of the mandatory tasks are schools, environmental tasks, planning and building. Examples of voluntary responsibilities at the municipal level are culture affairs, recreational programmes and technical operations such as energy distribution (Folkesson 2003). There are seven municipalities situated in the catchment area of the Lyckeby River. The municipalities are parts of three counties, Blekinge, Kronoberg and Kalmar. The Lyckeby river starts in a village close to Kosta. It passes three lakes before it enters a lake called Getasjö, which is used as a water magazine. In the village, Emmaboda, another river is connected and later on the largest inflow comes from the Linneforsån. The largest lake within the catchment area is Törn, which is regulated by the municipality of Karlskrona for water resource management.

### *Pictures from the catchment area of the Lyckeby River*

The river continues south and passes Vissefjärda through a lake called Kyrksjön and further on through two villages. Then the lakes are decreasing along the Lyckeby River. There is also a station for measurement at the village Mariefors, situated at the Lyckeby river. Just before the outflow into the Lyckebyfjärden within the Karlskrona archipelago it passes Augerum and Lyckeby close to the Lyckeby power plant. The Lyckeby river is 100 km and starts at 234 m above the sea. The water of the Lyckeby river is used for water supply to municipalities and to industries. It is also used as a container for municipal sewage treatment plants, for day water, nature protection and for recreation and leisure. The water is controlled every year

Forests dominate along the river and covers 73 % of the catchment area and only 7 % is cultivated land. Within the catchment area there are 20 500 persons living. 77 % live in villages or societies while 23 % are living in the countryside. Agriculture activities are performed along the river and there are about 4000 animals. Eutrophication is a problem in the Lyckeby river. The color of the water is very dark. The activities causing eutrophication are air pollution, forests and the use of fertilizers (Lyckebyåns Recipientkontroll 2004)

As in Kaliningrad the education in schools about water and about the Lyckeby river is very intensive. In order to improve the water quality of the Lyckeby River, a Water Management Association was founded. The association includes representatives from three municipalities, from six power plants, eight companies for dewatering land, from nine organizations of fisheries and from one industry. The task of the organization is to facilitate the use of the water in the Lyckeby river system in a proper way through cleaning, water regulation or performing other water protecting actions. The actions should consider the opinions among the public. Several actions have been performed in order to raise awareness, among them the Lyckeby river Day (Lindström 2005b).

Water protection in the Baltic Sea region is regulated by several international conventions ratified by the Baltic Sea states, among them United Nations Convention on Biological Diversity, the Ramsar Convention on Wetlands in 1972; the Gdansk Convention in 1973; the Helsinki Convention in 1974; the Stockholm Convention in 1974; the Bern Convention in 1979; The Convention on Long-Range Transboundary Air Pollution, signed in Geneva in 1979; The Convention on the Protection and Use of Transboundary Watercourses and International Lakes in 1992; United Nations Convention of the Law of the Sea (UNCLOS);

UNESCO World Heritage Convention; MARPOL in 1973 and 1978; London Convention; the EU Water Framework Directive in 2000 (UNEP-GIWA Regional Assessment 17, Baltic Sea, 2005, p. 69). The Swedish Government agreed upon 15 environmental quality objectives in 1999. Several of these objectives concern water (Ministry of Environment, 1999).

Educational programmes in order to raise awareness among people are in progress in several of the Baltic Sea countries. The Baltic University Programme is a network of 180 universities and other institutes of higher learning (Baltic University Programme 2003, 2004). The Baltic Sea Project (BSP) includes 300 schools (Baltic Sea Project 2004) and Baltic 21 for Education for sustainable development in the Baltic Sea Region (Baltic 21 2002). The schools in the catchment areas of the Gurievka and the Lyckeby rivers are also engaged in water issues. In Sweden a project called “The Blue Thread” is in progress (Lindström 2005b). In Kaliningrad there is an ongoing project called “The Gurievka river – Past, Present and Future”.

### *The Water Situation Worldwide*

An overview of the water situation in the world was made by UNEP-GIWA during 1999 to 2005. The aim was to identify priorities for remedial and mitigatory actions in international waters. Pollution, Unsustainable use of freshwater, Unsustainable exploitation of fish and other living resources, Habitat and community modification and global change were the main concerns. Those concerns were ranked, by regional teams, after severe impact, moderate impact, slight impact or no known impact. Unsustainable use of freshwater was ranked as the top priority in Central America, Sub-Saharan Africa, North Africa and the Middle East, Northeast Asia and Australia and the Pacific. Europe is one of the mega regions that assessed to have the most severe freshwater pollution impacts. Eutrophication was ranked as severe impact in the Baltic Sea. Other mega regions that also assessed freshwater pollution as severe impact were Central Asia, Central America, North Africa and the Middle East and Northeast Asia. Impacts on freshwater caused by modification of stream flow by dams or river diversions and changes in the water table were also large problems in several mega regions. UNEP-GIWA stated that irrigated agriculture was the primary sector leading to severe impacts. Knowledge gaps, such as our limited understanding of aquifers, combined with policy and market failures, underlie the unsustainable use of freshwater. There was a pessimism expressed among the GIWA regional teams, which predicted that the freshwater situation would worsen in more than 70 % of regions and sub-systems. According to UNEP-GIWA, the future freshwater problems are due to increased freshwater consumption, growing population and global climate change (UNEP-GIWA Global Report 2005).

### *Water Framework Directive*

According to the Water Framework Directive, the community water policy requires a transparent, effective and coherent legislative framework. The community should provide common principles and an overall framework for action. This directive should provide for such a framework and coordinate integrate and in a longer perspective further develop the overall principles and structures for protection and sustainable use of water In the community (European Parliament and Council 2000, introductory part, paragraph 18).

### *Attitudes towards water issues*

Protect and economize freshwater was ranked as the most urgent issue to deal with. The ranking was made by 160 people interviewed in Sweden. Decision makers as well as the public participated in the study. The interviewed people were asked to rank 20 statements on sustainable development after priority and responsibility. Freshwater, clean air and health

issues were ranked highest in priority. Freshwater was ranked as number one as important to the world and as number three as important to themselves and their families. The interviewed people allocated themselves high responsibility for protecting and economizing freshwater but low responsibility for the protection of the air. Most of them allocated governments, EU and UN the highest responsibility for improving the air quality. People expressed their worry about future trends in freshwater shortage and what will happen to the world if we do not act (Lindström 2003a; Lindström et al. 2005a). An attitude survey in Kentucky showed that water pollution was given highest priority, followed by air pollution (Kentucky Environmental Education Council 2005). Researchers from 50 countries were asked to prioritize the environmental issues that may require attention during the 21<sup>st</sup> century. The issue most frequently cited was climate change, followed by scarcity of fresh water, threats against the forests, fresh water pollution, and weak political management (UNEP 2000). According to Uzzell (2000), people do have an awareness of global environmental problems, and the farther the problem is from the individual the more serious it is perceived (Uzzell 2000). People rate the quality of the environment at the global level as considerably worse than in their local environment (Dunlap et al. 1993).

A comparison survey made at a personal meeting with representatives (decision makers) from the municipality of Panavezys in Lithuania and Kalmar municipality in Sweden showed that clean air was the most important issue for the Swedes while protecting coasts and seas from discharge was the most important issue for the Lithuanians (Lindström 1998). Another comparison study showed that students and teachers from Kaliningrad ranked 'protect and economize freshwater' as most important to themselves and their families while Sweden ranked the importance of clean air as most important to themselves and their families (Lindström 2003c)

### *Theoretical framework*

Awareness programmes in order to encourage environmental behaviour are in progress in several of the countries around the Baltic Sea. Kaliningrad Technical State University and Kalmar University are co-operating in a TEMPUS project aiming to raise awareness on environmental issues (TEMPUS EU-project.....). To change behaviour is easier said than done. There are many factors influencing our behaviour. Our attitudes, social and personal norms, our habits, and how we perceive that we ourselves can influence the situation (control) affect the intention to act (see Figure 1). The step between attitude and behaviour can be very long (Eagly and Chaiken 1993). An attitude is, according to Ajzen (1988) a "disposition", a possibility, a tendency to react positively or negatively to an object, a person, an institution or an entity. Although formal definitions of attitudes are varying, the most social psychologists agree that the characteristic appellation of an attitude is that it is always evaluated (good – bad, pleasant – unpleasant). Attitudes can be open or hidden. They can be used towards other people but also towards the self. An attitude is usually divided into three parts: one cognitive part, one affective part, one behavioural part, that is, an intention to act (Ajzen, 1988).

According to Eagly and Chaiken (1993) an attitude is "*a psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour*" (Eagly and Chaiken 1993, pp 1). A psychological tendency refers to a state that is internal to the person, and the evaluation refers to all classes of evaluative responding, whether open or hidden, cognitive, affective or behavioural. An attitude develops on the basis of evaluative responding: An individual does not have an attitude until he or she responds evaluative to an entity on an affective, cognitive, or behavioural basis. Some attitudes are relatively temporary and changeable, especially if they are unimportant to the individuals who hold them.

Attitudes toward relatively abstract goals or end states of human existence (e.g. equality, freedom) are usually termed values. Some theorists make a distinction between values and attitudes but Eagly and Chaiken (1993) endorse the importance of understanding the relations that exist between evaluations of more abstract and more concrete attitude objects.

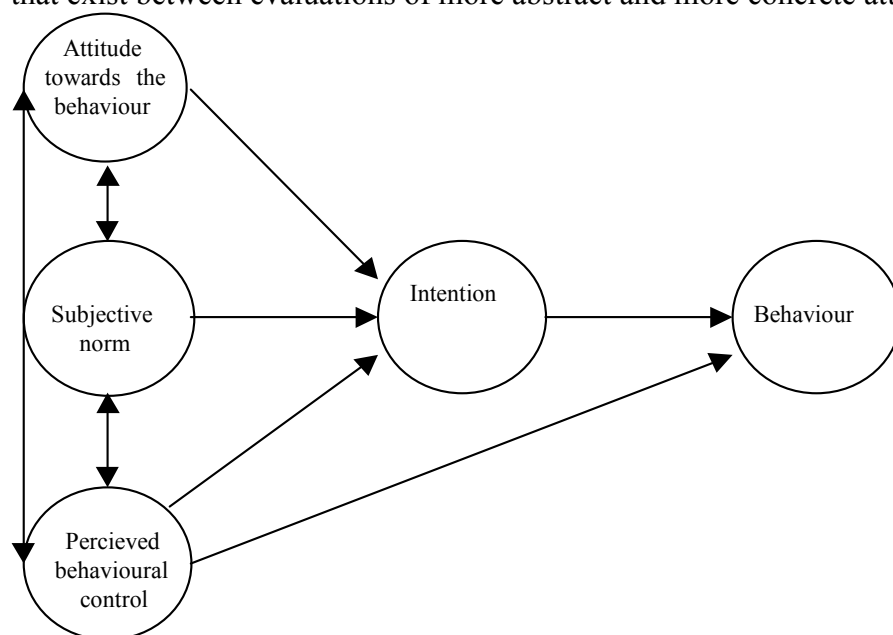


Figure 1. The Theory of Planned Behaviour, presented by Ajzen in 1991. The model was extended by Eagly and Chaiken in 1993 by adding personal norms and habits (Eagly and Chaiken 1993).

If people have a positive attitude towards the behaviour, that is, they believe that it is important to change behaviour, then the intention to act will be rising. We are also influenced of the existing norms and regulations in society as well as of the norms and demands we allocate ourselves as individuals. The factor 'control' is defined as 'one's perception of how easy or difficult it is to perform the behaviour' (Ajzen 1991 in Eagly and Chaiken 1993, p 186). Perceived control affects behaviour in two ways, it influences the intention to perform the behaviour and it may have a direct impact on behaviour. People intend to engage in behaviours they believe they can control, that is, they have confidence in their ability to perform the behaviour (Eagly and Chaiken 1993). Therefore it is very important not only to present environmental problems but also to express suggestions on what can be done (Angelöw 1994).

### *Strategies for behaviour change*

There are four basic ways to encourage individual behaviour for the common good: 1. To change values and basic ways of thinking about human-environment relations; 2. Education and information; 3. Changing the incentives; 4. Community management. Shifts in the dominant values or ways of thinking in a society are slow, generational processes, so whatever effects they have on behaviour will be long-lasting (Gardner and Stern, 2002).

Education and information can change attitudes and specific environmental beliefs, but they cannot quickly or easily change ethics or values. In the short run, education can help people to overcome internal barriers to action, particularly the barriers of ignorance and misinformation. Information and feedback are most effective if those are available immediately before and after an action. Changing the incentives is another strategy in order to change behaviour. Incentives can overcome specific external barriers to action and can change behaviour, but

will probably not change attitudes. In the end community management is likely to be successful in groups where there are widely shared norms before the resource management problem arises. The keys to success are participatory decision-making, monitoring, social norms, and community sanctions. Most people do what is good for the group and the resource because they internalise the group's interest. Community management can encourage people to move beyond selfishness (Gardner and Stern, 2002, Lindström 2003a).

### *Aim*

The aim of the present study is to compare attitudes and self-reported behaviour towards water issues in Kaliningrad and Sweden. It was hypothesized that the attitudes towards global water issues were equal but that there was a difference between the countries in attitudes towards local water issues and in self-reported behaviour. The study is made in order to get a better understanding of how people in different countries think about water issues. The result could be used in the work with implementing the EU Water Framework Directive in the countries around the Baltic Sea.

### *Main questions*

The main questions are:

Are there any differences between the countries

- in attitudes towards global water issues?
- in attitudes towards local water issues?
- in information and knowledge about water issues?
- in people's intention to act?
- in self-reported behaviour?

## Method

### *The sample*

The sample was in Sweden collected through the telephone register. People who lived in the catchment area of the Lyckeby River, from north to south, were selected. In Kaliningrad parents to pupils at three schools were selected. The schools are situated along the Guriejka River.

Table 1. The table shows the sample in Sweden and in Kaliningrad. Gender, education, living area and distance from the river are presented in percent.

		<b>Sweden</b>	<b>Kaliningrad</b>
Gender	Men	47 %	21 %
	Women	51 %	75 %
Education	Up to 9 years	31 %	18 %
	Up to 12 years	33 %	32 %
	More than 12 years	28 %	43 %
Living area	Countryside	19 %	21 %
	Small society	43 %	11 %
	Town	34 %	61 %
Distance from the river	Less than 1 km	40 %	31 %
	1 – 5 km	43 %	40 %
	More than 5 km	14 %	16 %

Gender 4 % no answer Kaliningrad. Education 7 % no answer in Kaliningrad. Living area 4 % no answer in Sweden, 8 % no answer in Kaliningrad. Distance from the rivers 2 % no answer in Sweden and 12 % no answer in Kaliningrad.

The mean age was 53 years in Sweden (22-88 years) and 38 years in Kaliningrad (16-69). Due to different selection methods the mean age was much lower in Kaliningrad. The selection method used in Sweden could not in beforehand control the age variable as only the address was known. In Kaliningrad the people participating in the study were approximately of the same age. In Sweden there were just as many men as women replying to the questionnaire while the women dominated in Kaliningrad. More people in Kaliningrad had university education than in Sweden and most of the respondents in Kaliningrad lived in a town. In both countries about 40 % lived 1-5 km from the rivers.

### *Material*

The inquiry was developed in 2003 (Lindström 2003b) and was also used in a follow up study in Sweden in 2005 (Lindström 2005b). The inquiry investigates peoples' attitudes towards water in general and especially towards the Lyckeby River and to the Gurjevka river in Kaliningrad. There were 21 statements about water in general (question 1), 20 statements concerning the Lyckeby River and the Gurjevka river (question 2), 15 statements about self-reported behaviour (question 3), 13 questions about information and participation and also background variables such as gender, age, education, living areas. On questions 1 to 3 the reply alternatives were 1-4, where 1 meant "do not agree at all" and 4 meant "totally agree". A letter was sent together with the inquiry emphasizing the anonymity. The people in Sweden were asked to again fill in the inquiry in order for us to follow up the results since 2003. In this study the result from the investigation in 2003 is used.

## *Procedure*

### Sweden

In total 300 inquiries were distributed in spring 2003, to people living in the draining area of the Lyckeby River. 150 were distributed in the Kalmar county, 90 in the Blekinge county and 60 in the Kronoberg county. Reply envelopes were enclosed. The inquiry was 2005 sent to the same persons, living within the draining area of the Lyckeby River, as in 2003. The total response rate was based on 282 inquiries in 2003 (18 came back due to address unknown or the person was dead). In September 2003, 90 inquiries were returned from 46 men and 41 women (3 no answer), 24 – 88 years old. The total response rate was 32 % (90/282). Only 4 inquiries were returned after a reminder in 2003. The method can be discussed, it had been better to personally distribute the inquiries at meetings or to send them with people in schools. The reason why we were choosing to send them by mail was that we wanted to reach people in the whole draining area. We were choosing addresses from the telephone book in order to cover all the draining area. As we did not know the age of people the distribution resulted in sending inquiries to some people who were sick or too old.

### Kaliningrad

The questionnaire was translated into Russia and the questions about the Lyckeby River were rearranged into questions about the Gurievka River. ?? questionnaires were distributed. Three schools were visited and the attitude survey about the Gurievka River was explained to the teachers. The schools in Isakovo, Gurjevsk and Orlovska are situated along the Gurievka River. The teachers were asked to distribute the questionnaires to the parents of the pupils. The pupils distributed the questionnaires and collected them filled up by their parents or their brothers and sisters and returned them to the teachers at school. Almost 100 % replied to the questionnaire (exactly how many????).

The same questionnaire was used in both countries. The methods used for distribution were different. The mean age among the respondents was high in Sweden compared to Russia. This could depend on the different methods used. Of course, it would have been better to use the same distribution procedure. In Kaliningrad the reply frequency was almost 100 % compared to the very weak reply frequency in Sweden (32 %). This result must be considered in the following analysis.

## Result

### Attitudes

#### Global water issues

Attitudes towards water issues on the global level were investigated by ten items. The items included statements about water scarcity, the importance of preventing pollution and of economizing water. The respondents could choose between 1=do not agree at all, 2=partly agree, 3=agree on the whole and 4=totally agree. The result is presented in Table 2 below.

Table 2. The table shows attitudes towards global water issues. Mean values (m) for Sweden and Kaliningrad are presented issue by issue. Significant differences are shown. (Sweden: N=90; Kaliningrad: N=129). Reply alternatives: 1=do not agree at all, 4=totally agree.

Statements	Sweden m	Kaliningrad m	Sign.
Drinking-water is a scarce resource in many places all over the world	3.96	3.51	n.s.
All water must be protected and used in a not polluting way	3.89	3.91	n.s.
Water is essential to us	3.86	3.93	n.s.
A large part of the world's population lack clean drinking-water today	3.78	3.24	n.s.
Clean water is vital to animals and plants	3.77	3.81	n.s.
It is important to economize on drinking-water	3.72	3.73	n.s.
Water is a scarce resource	3.72	3.26	n.s.
Today people pollute water without caring about future generations	3.58	3.59	n.s.
People waste too much drinking-water today	3.42	3.38	n.s.
I worry about the scarcity of water in the world	3.12	3.07	n.s.
<b>Total</b>	<b>3.68</b>	<b>3.54</b>	n.s.

There were no significant differences between the countries concerning attitudes towards global water issues. The mean values were very high which means that the respondents agreed on the whole or totally agreed to the statement. No significant differences were shown. Most important in Sweden was 'drinking water is a scarce resource, and 'all water must be protected and used in a not polluting way'. These issues were also important in Kaliningrad but most important was 'water is essential to us'.

Factor analyses showed that people in both countries clustered the issues 'water is a scarce resource, people pollute water without caring about future generations, worry about water scarcity' in the same factor. The result shows that people in Sweden and in Kaliningrad think almost the same about global water issues.

#### Local water issues

Attitudes towards water issues on the local level were investigated, that is, attitudes towards the Lyckeby river in Sweden and the Gurievka river in Kaliningrad. The survey dealt with statements on the importance of not polluting the river, on what the river means to people and on the importance of bird life and vegetation along the rivers.

Table3. The table shows attitudes towards local water issues. Mean values (m) for Sweden and Kaliningrad issue by issue are shown. Significant differences are presented (Sweden: N=90; Kaliningrad: N=129). Reply alternatives 1=do not agree at all, 4=totally agree

Statements	Sweden m	Kaliningrad m	Sign.
The quality of water means a great deal to the flora and fauna there.	3.84	3.73	n.s.
It is important that the water of the Lyckeby River/the Gurjevka River is used properly not to be polluted	3.81	3.82	n.s.
The Lyckeby River/the Gurjevka River is beautiful	3.64	2.52	n.s.
It is important to improve the quality of water of the Lyckeby River/the Gurjevka River	3.49	3.86	n.s.
I like living close to the Lyckeby River/the Gurjevka River	3.49	2.44	tendency
It is nice to experience the bird life of the Lyckeby River/the Gurjevka River	3.07	2.56	n.s.
The vegetation along the Lyckeby River/the Gurjevka River is pleasant and varied	3.01	2.62	n.s.
The Lyckeby River/the Gurjevka River is of a great cultural-historical value to me	2.75	2.60	n.s.
<b>Total</b>	<b>3.38</b>	<b>3.02</b>	n.s.

No significant differences in attitudes towards local water issues were shown. There was a small tendency of difference concerning if they liked living close to the river. People in Kaliningrad did not to a very high degree like living close to the Gurjevka River. People in Sweden liked living close to the Lyckeby River to a higher degree.

The most important local issue was in Sweden 'the quality of water means a great deal to the flora and fauna there' and most important in Kaliningrad was 'it is important to improve the quality of water of the Gurjevka River'. Very important in both countries was 'it is important that the water of the Lyckeby River/the Gurjevka River is used properly not to be polluted'. Most of the people in both countries agreed on the whole to most of the statements, though the cultural values of the rivers were lowest ranked on local water issues.

The issues about 'beautiful rivers, like living close to the river, it is nice to experience the bird life, the vegetation is pleasant and varied and the rivers are of great cultural value' were clustered in the same group in both countries.

### Recreation and well-being

Some issues concerned recreation and well-being. The aim was to investigate if people perceived the river and the area close to the river as a recreation area where they could walk and feel relaxed.

Table 4. The table shows issues connected to recreation and well-being. Mean values for Sweden and for Kaliningrad are presented (Sweden: N=90; Kaliningrad: N=129). Reply alternatives: 1=do not agree at all, 4=totally agree.

Statement	Sweden m	Kaliningrad m	Sign
The environment of the Lyckeby River/Gurjevka River gives me pleasure	3.23	2.30	n.s.
I feel relaxed when I visit the Lyckeby River/Gurjevka River	3.08	2.13	n.s.
The Lyckeby River/Gurjevka River means recreation to me*	<b>2.88</b>	1.85	p=.017 p=.005 kolla
It is relaxing to go fishing in the Lyckeby River/Gurjevka River	2.80	1.86	n.s.
I enjoy bathing in the Lyckeby River/the Gurjevka River	1.56	1.54	n.s.
<b>Total</b>	<b>2,71</b>	<b>1,94</b>	n.s.

The river Gurievka was less used as a recreation area than the Lyckeby River was. The difference was significant. In Kaliningrad 74 % did not or did partly agree that the Gurievka river meant recreation to them while only 35 % in Sweden did not or did partly agree. 60 % in Sweden agreed on the whole or totally agreed that the Lyckeby river meant recreation to them compared to 18 % in Kaliningrad (se figure 2). The mean values were lower in Kaliningrad in all five statements but there was no significant difference in total. People in Sweden used the river more for relaxing and for recreation to a much higher degree than people in Kaliningrad did. Most important in both Sweden and Kaliningrad was ‘ the environment of the rivers gives me pleasure’.

### The Lyckeby/Gurievka river means recreation to me

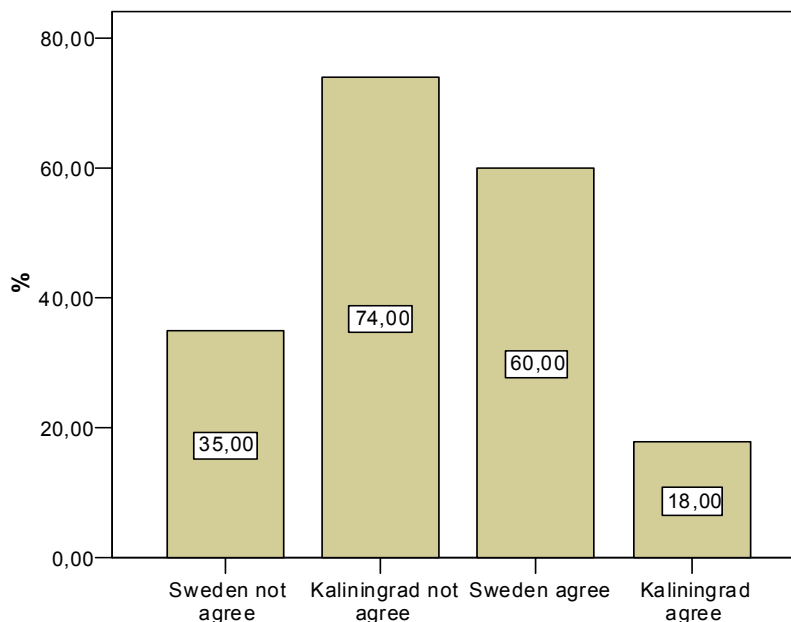


Figure 2. The figure shows attitudes towards the recreational values of the Lyckeby river and the Gurievka river. 35 % in Sweden compared to 74 % in Kaliningrad did not agree to the statement. 60 % in Sweden and 18 % in Kaliningrad did agree to the statement.

## Knowledge

Knowledge about water issues is important for developing positive attitudes towards behaviour. Increased knowledge could influence people's intentions to act. In this study we wanted to investigate how people perceived the water quality of the rivers and if they knew where their drinking water came from.

Table 5. The table shows statements about knowledge. Mean values are shown (Sweden: N=90; Kaliningrad: N=129). Reply alternatives: 1=do not agree at all, 4=totally agree.

Statements	Sweden	Kaliningrad	Sign.
The access to clean drinking-water is a matter of course to me	3.64	3.67	n.s.
I know where my drinking-water comes from	3.63	3.26	n.s.
People know too little of water issues today	3.18	3.21	n.s.
The quality of water of the Lyckeby River/the Gurjevka River is good	2.39	<b>1.18</b>	n.s.
The water of the Lyckeby River/the Gurjevka River has deteriorated during the last few years	2.15	<b>3.56</b>	n.s.
Total	3.00	2.98	n.s.

There was no significant difference in total between the countries. The people from Kaliningrad thought that the Gurjevka river was very polluted and that it had deteriorated during the last few years. People in Sweden did not think that the water of the Lyckeby river had deteriorated and they thought that the water quality was rather good. It is difficult to know from these figures how much people know, as 12 % in Sweden (7 % in Kaliningrad) did not reply to the question about the deterioration of the river. Both countries were convinced that people know too little of water issues. Two statements were not included in the table above. The statements concerned if we needed to economize drinking water in Sweden and Kaliningrad. The respondents in both countries agreed on the whole to the statement. They also agreed to the importance of saving water, which concerns all people living around the Lyckeby river and the Gurjevka river.

## Intention to act

In order to investigate people's intention to act for improving the quality of water in the Lyckeby river and in the Gurjevka river as well as in the world, the following statements were investigated (Table 6).

Table 6. The table shows statements about intentions to act. Mean values and significance values are shown (Sweden: N=90; Kaliningrad: N=129). Reply alternatives: 1=do not agree at all, 4=totally agree.

Statements	Sweden	Kaliningrad	Sign.
We who live around the Lyckeby River/Gurjevka River can improve the quality of water together	3.09	3.09	n.s.
I can contribute to improving the quality of water of the Lyckeby River/the Gurjevka River	2.63	2.52	n.s.
It is important that I decrease my consumption of water	2.58	<b>2.70</b>	P=.034
I can contribute to improving the quality of water in the world	2.56	2.54	n.s.
My own actions influence the state of the Lyckeby River/the Gurjevka River	2.53	2.20	n.s.
My family and I would save a lot of money if we used less water	2.19	<b>2.37</b>	P=.004
I will decrease my use of water within the near future	1.92	<b>2.42</b>	P=.045
Total	2,50	2.55	n.s. .092

People in Kaliningrad were more willing to decrease their water consumption and they were more convinced than people in Sweden that they could save money if they used less water. There was no significant difference in total.

**It is important that I decrease my consumption of water**

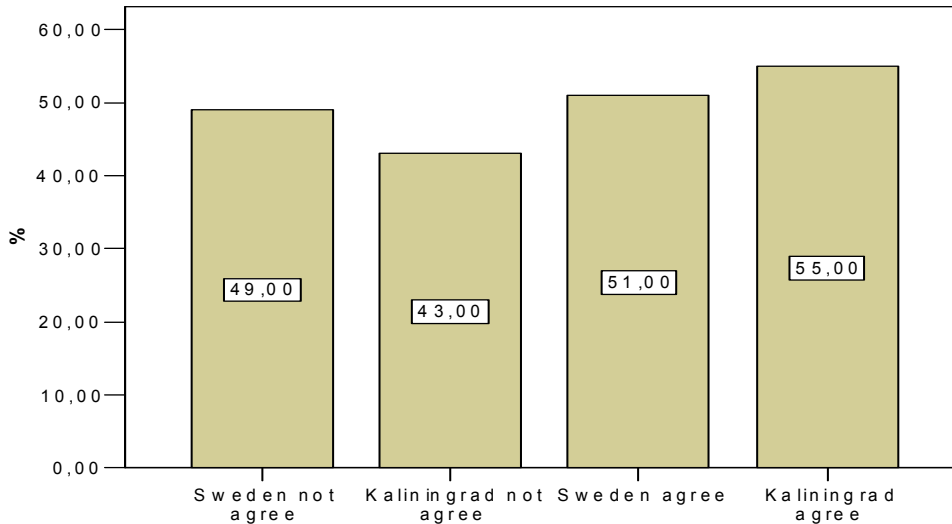


Figure 3. The figure shows that people in Kaliningrad to a higher degree agreed to the importance of increasing the water consumption (55 %) than people in Sweden did (51 %). However, the opinions did not differ very much between the countries.

**My family and I would save a lot of money if we used less water**

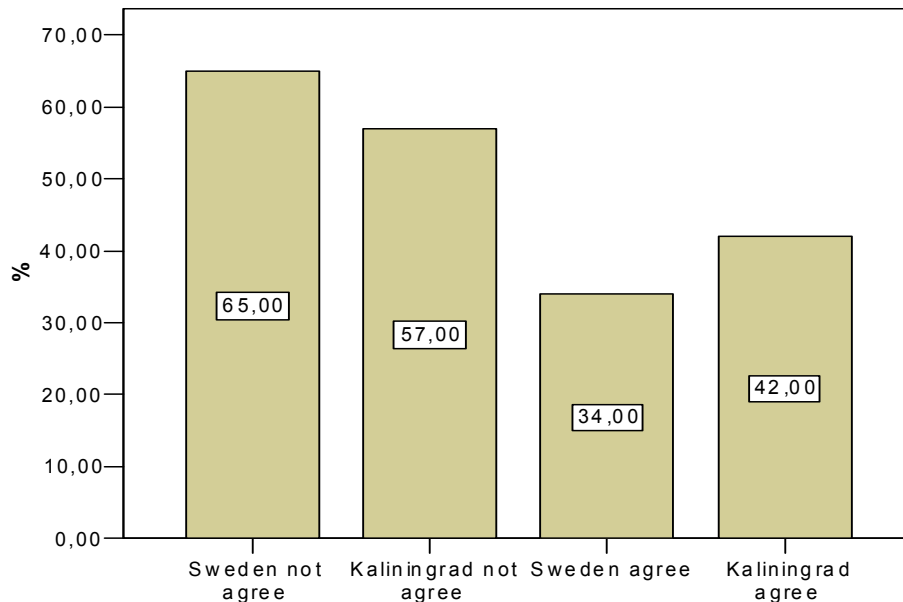


Figure 4. The figure shows that people in Kaliningrad to a higher degree agreed that they would save money if they used less water. 42 % in Kaliningrad agreed totally or on the whole compared to Sweden (34 %).

### I will decrease my use of water in the near future

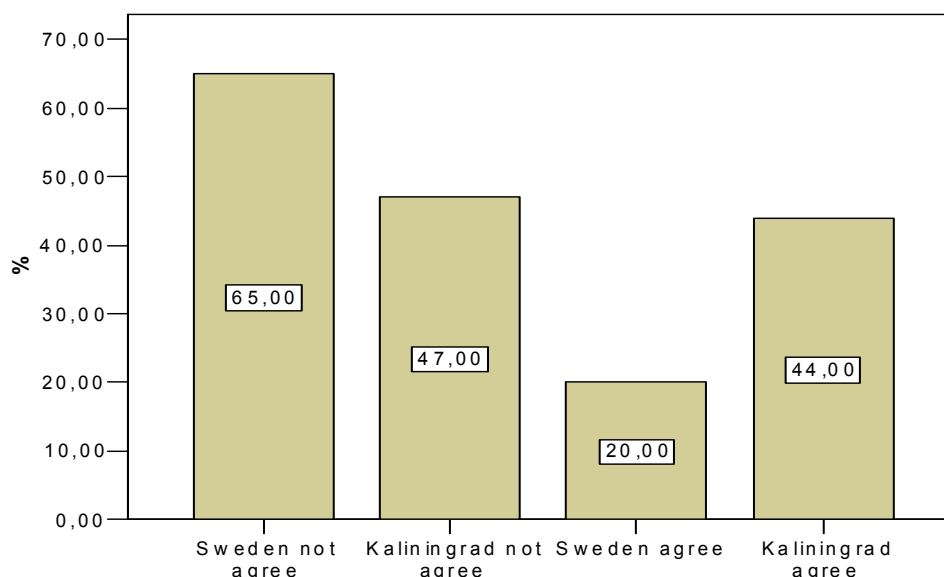


Figure 5. The figure shows that 65 % of the respondents in Sweden were not willing to decrease their consumption of water compared to 47 % in Kaliningrad. 44 % in Kaliningrad were willing to decrease their consumption compared to Sweden 20 %.

There were three significant differences between the countries concerning intention to act. People from Kaliningrad showed a higher intention to act than people in Sweden.

### Self-reported behaviour

Table 7. The table shows self-reported behaviour. Mean values (m), significant differences and comments are shown (Sweden: N=90; Kaliningrad: N=129). Reply alternatives: 1=do not agree at all, 4=totally agree.

Statements	Sweden m	Kaliningrad m	Sign.
I mind what I throw in the plughole	3.60	3.00	P=.008
I always wash with a full machine	3.29	3.07	n.s.
I economize on washing detergent	3.20	3.00	n.s.
When I wash, I always use environmentally friendly detergents	3.17	2.71	n.s.
I never wash up with water running	2.96	2.55	n.s.
I never brush my teeth with water running	2.79	2.83	n.s.
I only use environmentally friendly products when I wash my car	2.67	2.75	n.s.
In my family we use water-saving showers	2.57	2.37	n.s.
I have tried to decrease my consumption of water during the last year	2.31	2.11	n.s.
I often walk along the Lyckeby River/the Gurjevka River in order to have a bit of peace and quiet	2.26	2.74	n.s.
I use the Lyckebyån for leisure activities	2.11	1,92	n.s.
I can consider to invest in some alternative to water toilets	1.83	2.53	n.s.
I often go canoeing on the Lyckeby River/Gurjevka River	1.30	1.23	n.s.
In summer I often bathe in the Lyckeby River/the Gurjevka River	1.27	1.27	n.s.
<b>Total</b>	<b>2.52</b>	<b>2.48</b>	p.001

There was a significant difference in self-reported behaviour in total between the countries. More people in Sweden mind what they throw in the plughole. This difference was significant (Figure 6). The mean values varied a lot between the countries, for example in the issue about alternatives to water toilets. In Kaliningrad people were more willing to do so. The statement about if they were watering their lawns in summer was not included in the table. The statement was difficult to interpret as it was unclear what kind of water they were using. Though there was a significant difference between the countries. The respondents in Kaliningrad did water their lawns more often than people did in Sweden ( $p=.031$ ).

### I mind what I through in the plughole

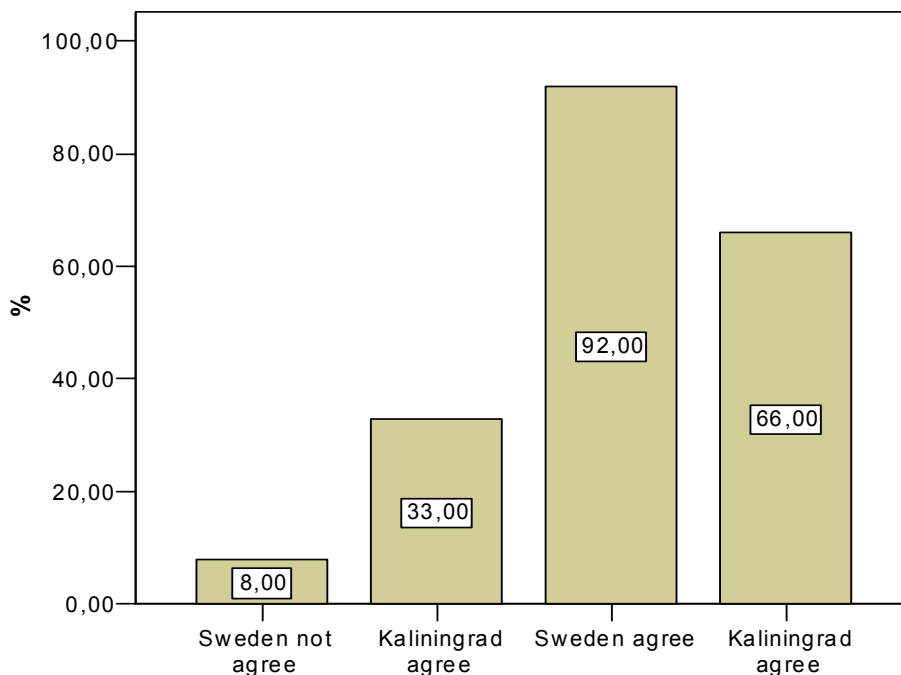


Figure 6. The figure shows that people in Sweden to a much higher degree mind what they through in the plughole (92 %). Only 8 % did not mind in Sweden compared to 33 % in Kaliningrad.

### Strategies for raising awareness

People's perceptions on which strategies that were important in order to raise awareness were investigated. The aim was to find out to what degree they prioritized education, technical or economic solutions.

Table 7. The table shows strategies for raising awareness in water issues. Mean values are shown (Sweden: N=90; Kaliningrad: N=129). Reply alternatives 1=do not agree at all, 4=totally agree.

Statements	Sweden	Kaliningrad	
It is important to educate people in water issues	3.72	3.67	n.s.
To increase the understanding of the importance of water, a change in attitude is necessary	3.59	3.60	n.s.
If drinking-water was more expensive, people would decrease their consumption	2.79	2.41	n.s.
New technique can solve the problems with the supply of water in the world	2.74	3.13	n.s.
<b>Total</b>	<b>3.21</b>	<b>3.20</b>	n.s.

Education in water issues was most important for raising awareness in both countries followed by the importance of an attitude change. In Kaliningrad new technique was higher prioritized than in Sweden. There were no significant differences between the countries.

### Information

The respondents were asked how they had got information on water issues and especially on the Lyckeby river and the Gurievka river. These statements aims to find out which information strategies that could be developed in future projects (see Table 6 and Figure 7).

Table 8 shows questions on information. The replies are given in percent. Comments on the differences are shown.

Statement/Question	Sweden	Kaliningrad	Comments
I have received information about the Lyckeby/the Gurievka river	24 % yes 74 % no 1 % no answer	58 % yes 37 % no 4 % no answer	More people in Kaliningrad had got information about their river
Are you satisfied with the information?	33 % yes 34 % no 33 % no answer	23 % yes 67 % no 11 % no answer	More people in Kaliningrad were not satisfied with the information
How did you get information?			
- daily newspapers	61 % yes 39 % no	43 % yes 54 % no 3 % no answer	
- children at school	2 % yes 98 % no	43 % yes 52 % no 5 % no answer	The information about the Gurievka river was performed by the school children
- information leaflets	14 % yes 86 % no	14 % yes 84 % no 2 % no answer	
- the Lyckeby River Water Management Association	9 % yes 91 % no		There is no similar association in Kaliningrad
- the municipal officials	11 % yes 89 % no	8 % yes 89 % no 3 % no answer	
- Internet	4 % yes 96 % no	4 % yes 94 % no 2 % no answer	
- Study circles	100 % no	2 % yes 95 % no 3 % no answer	
- Projects	2 % yes 98 % no	6 % yes 92 % no 2 % no answer	
Are you yourself involved in any project?	4 % yes 90 % no 6 % no answer	7 % yes 81 % no 12 % no answer	
Could you think of being involved in any project?	16 % yes 73 % no 11 % no answer	49 % yes 28 % no 23 % no answer	There was a large difference between the countries in willingness to participate in projects.

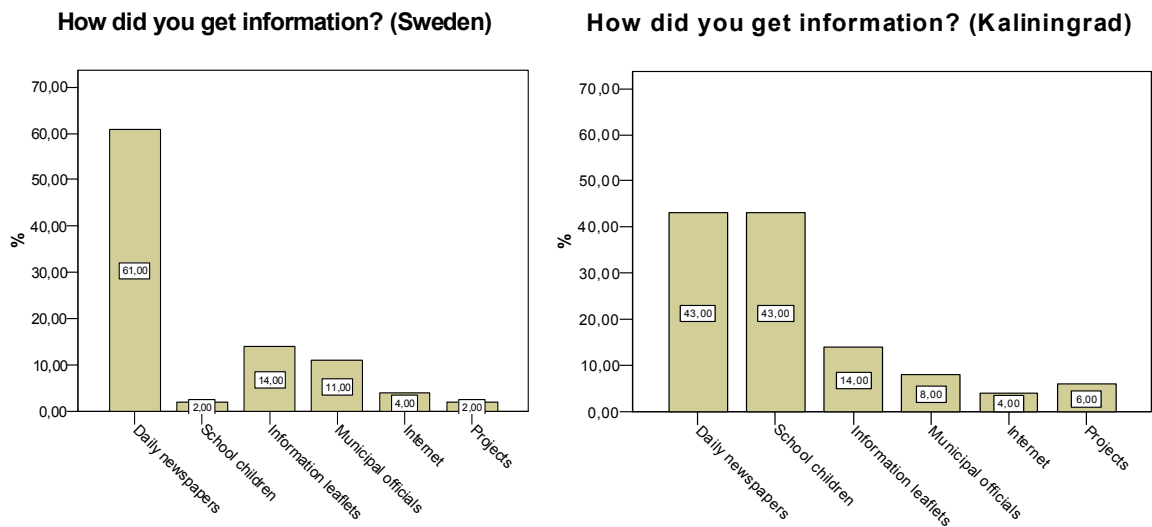


Figure 7 shows how the respondents did get information on the Lyckeby River and the Gurievka river. Most of the respondents got information through daily newspapers. 43 % in Kaliningrad got information from the school children compared to Sweden where only 2 % got information from the school children.

Daily news papers were the most common source for information. The school children in Kaliningrad distributed the inquiries to their parents and this could partly explain the school children as information source in Kaliningrad. People in Sweden wanted to be informed by daily news papers, repeating information, leaflets to the households, lectures, excursions, information meetings etc. The projects they suggested should concern how to raise awareness on behavioural impacts on the water quality in the Lyckeby river, improvements of the area surrounding the Lyckeby river, research on plants and fish living in the river and on water protection etc. The people in Sweden used the river for walks along the river, fishing, recreation, drinking water, canoeing, enjoying, nature perceptions etc.

People in Kaliningrad preferred information through daily news papers, information leaflets, from municipal officials, the schools and internet etc. The information should concern how to clean the river from garbage, improvements of the water quality, how to protect the river from pollution, tourism etc. The respondents in Kaliningrad used the river as it “flows into our city and as it is a part of our history”, for fishing, pleasure and for its esthetical value, walks along the river, a place for rest etc.

People were also asked to report if they were involved in any project or if they could think of being involved (Figure 8).

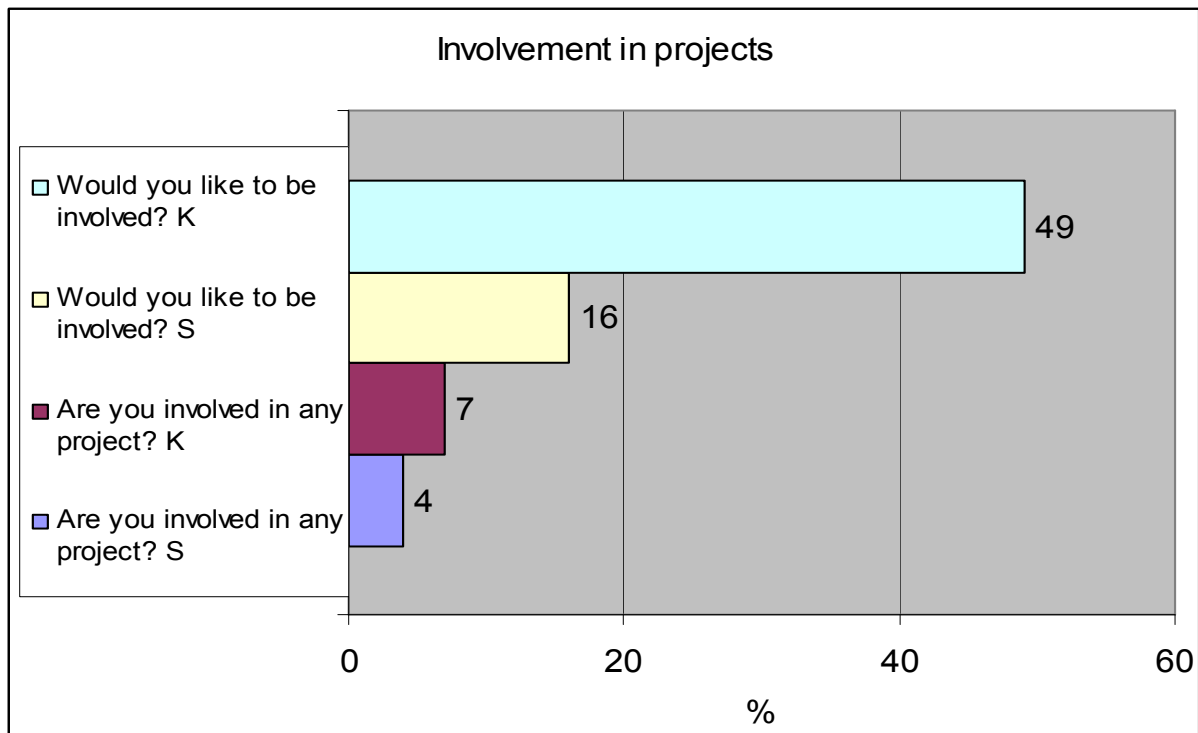


Figure 8 shows that 49 % in Kaliningrad would like to be involved in a project compared to Sweden 16 %. 7 % were already involved in projects in Kaliningrad compared to 4 % in Sweden.

**Correlation**

The correlation between attitudes towards global water issues and behaviour was strong in Sweden (Pearson  $r = .902$ ,  $p < .001$ ) and also between attitudes towards local water issues and behaviour (Pearson  $r = .950$ ,  $p < .001$ ). There was no correlation between attitudes and behaviour in Kaliningrad. The result shows that people in Sweden who prioritized global and local issues very high also reported high values on behaviour. This connection could not be found in Kaliningrad.

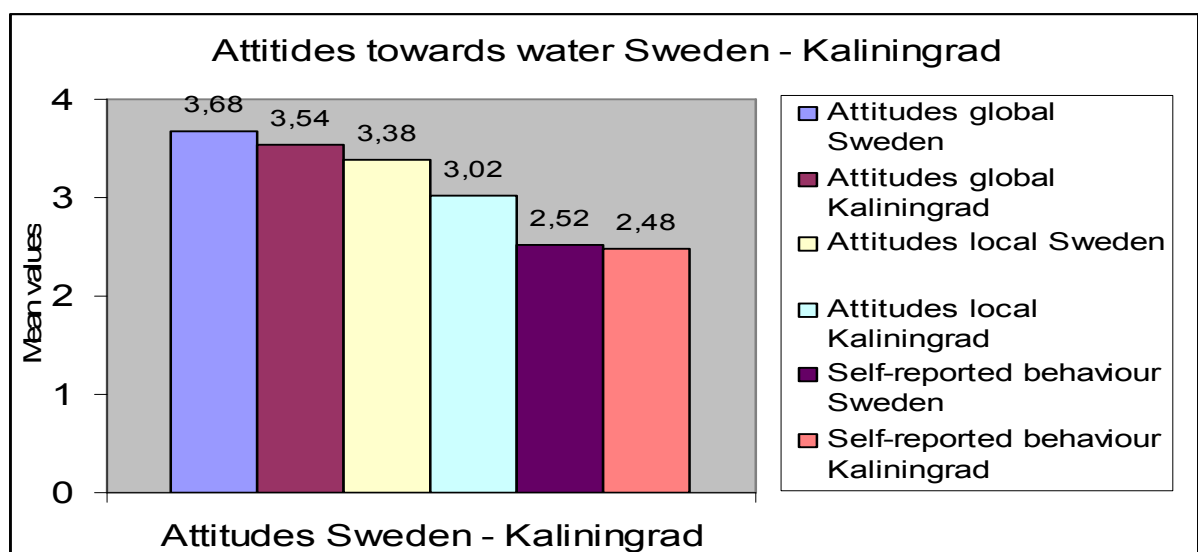


Figure 9 shows mean values on attitudes and behaviour in both countries.

The mean values of global attitude were in Sweden 3.68 and in Kaliningrad 3.54. Most of the respondents agreed that water issues on the global level were very important. Water issues on the local level were also important. The mean values were 3.38 in Sweden and 3.02 in Kaliningrad. The self-reported behaviour was rated lower, 2.52 in Sweden and 2.48 in Kaliningrad.

## Discussion

The study shows that people in Sweden and in Kaliningrad think almost in the same way about water issues on the global level. There were no differences in attitudes between the countries. They agreed upon the importance of protecting all water from pollution. They were also convinced that water is a scarce resource and that we have to economize on drinking-water. People do have an awareness of global environmental problems, and the farther the problem is from the individual the more serious it is perceived (Lindström 2003a; Uzzell 2000). According to Dunlap et al. (1993) people often rate the quality of the environment at the global level as considerably worse than in their local environment. This fact was shown in this study. The attitudes towards the local rivers, the Lyckeby river and the Gurievka river, were rated lower.

Eutrophication is a large problem in the Baltic Sea and so also in the rivers investigated. The Lyckeby river flows directly into the Baltic Sea while the Gurievka river is an inflow to the Pregolia river in Kaliningrad. Pregolia river flows into the Baltic Sea. A small reduction of the eutrophication problem could be found due to the wetland close to the city of Guryevsk. Several industries are situated along the Gurievsk river and the problem with pollution is large. The forests along the Lyckeby river are one of the root causes for the eutrophication problems. In Sweden the Lyckeby River Water Management Association including members from the municipality, from industries, from power plants and from fishers organization, is one example on how to organize and work together for a common cause. Such organizations could also be arranged in the countries along the Baltic Sea. Maybe such organizations could support the implementation of the EU Water Framework Directive in the Baltic Sea Countries. This could be an example on Community Management as suggested by Gardner and Stern (2002). The follow up study in Sweden in 2005 showed that information through the Lyckeby River Water Management Association increased the awareness of the association and people also perceived that the information had increased (Lindström 2005b).

People in Kaliningrad did not prioritize their river for recreation as high as people in Sweden did. They did not think it was very beautiful and they did not appreciate the recreation values. One explanation to this result could be that they think the river is too polluted to be able to walk along it and feel pleasure. Several people in Kaliningrad thought that the state of the river had become worse during the last years. Though, some of the respondents in Kaliningrad reported that they enjoyed walking along the river, but not to the same degree as in Sweden. Recreation values are important and people often visit nature for recovering from stress (Kaplan and Kaplan 1989). Projects supporting a development of the recreation values could also support an increased tourism.

The respondents in Kaliningrad were more willing to act than people in Sweden. This could perhaps depend on that the pollution of the Gurievka river is more clear and visible to people than it is in the Lyckeby river. Angelöw (1994) suggests that if environmental problems are visible it is easier to find a motivation to act. The respondents in both countries, especially in Kaliningrad, were not satisfied with the information they got. They wanted more information about the state of the river and about how to clean the rivers. The respondents in Kaliningrad were informed by their school children to much higher degree than in Sweden. The children could influence the attitudes and the commitment among their parents. This was shown in a study by Ohrberg on environmental education in a Swedish school (2001). Ohrberg found that the parents of the children felt influential by the children's knowledge but the children did not perceive that they were influencing their parents (Ohrberg 2001). Education was, in the

present study, found as the most important strategy for raising awareness. There are several projects in progress in the schools in both Sweden (Lindström 2005b) and in Kaliningrad.

In the present study different methods were used when choosing the sample for the investigation. The aim for choosing the sample in Sweden was to cover representatives from the whole catchment area. This was not possible in Kaliningrad due to time limits and to other obstacles. For future research it is recommended to use the same method. To choose the school children as distributors of the inquiry is a very good example. It would be interesting to investigate attitudes towards water issues in the other Baltic Sea countries, by using the schools as distributors. A further interesting research issue is to investigate attitudes towards water issues among other groups of society for example people representing companies, politicians and experts on water issues.

The self-reported behaviour was ranked lower than the attitudes. People in Kaliningrad showed lower ranking than people in Sweden. Maybe the possibilities to act environmentally friendly are more problematic in Kaliningrad. For example they did not use environmentally friendly detergents to the same degree as people did in Sweden. According to Eagly and Chaiken (1993) there are several factors that influence our behaviour: habits, social and personal norms, as well as if we think we can influence or not. We can have a very positive attitude but the steps to changing behaviour can be very long. Therefore it is important to use several strategies for information and education at the same time. In the present study people reported that they had got information through the daily news papers. It is important that the newspapers report about environmental problems but it is also important to give suggestions on actions. People must feel that they can influence the situation, otherwise it is very difficult to change behaviour (Ajzen 1991; Eagly and Chaiken 1993).

### *Conclusions*

People feel concerned about water issues on both global and local levels. This study showed that there were no differences in attitudes towards global water issues between respondents in Sweden and in Kaliningrad. There was a difference in self-reported behaviour. People in Sweden reported higher values on behaviour than people in Kaliningrad did. The Swedes also ranked the recreational values, when visiting the Lyckeby river, higher than the respondents in Kaliningrad did. People from Kaliningrad were more willing to act than people in Sweden. This willingness to act must be supported. Our suggestion is that an association, like the Lyckeby River Water Management Association, will be created in Kaliningrad. Such an organization, including representatives from industries, from the municipality, from different NGO:s, could support a common interest and facilitate the implementation of the EU Water Framework Directive in Kaliningrad. The association could serve as a platform for projects. Together with other information and education initiatives, a water association could improve the awareness and the knowledge on the state of the rivers. We also suggest a development of the recreational areas along the rivers. It is important that information and education about global and local water issues continues in both countries, especially the connection between behaviour, the local watercourse and the Baltic Sea. Further research on attitudes towards water issues in the other countries around the Baltic Sea is needed as well as investigations on attitudes among other groups of society.

*Acknowledgement*

We would like to thank people in Sweden and in Kaliningrad who responded to our questionnaire on water issues. We would also like to thank associated professor Jan Herrmann at the University of Kalmar who made valuable comments on the questionnaire. The financial support from the Seagull project made this study possible.

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## Enclosures:

Enclosure 1: Combination of the replies of the questionnaire in percentages.

1. According to the EU directive on water, all of us shall protect our water. What do you think is important to take into consideration when dealing with water in general? Please tick the appropriate box.

**1 = do not agree at all      2 = partly agree      3 = agree on the whole      4 = totally agree**

	Mean	1	2	3	4	Miss- ing	p
It is important to economize on drinking-water	S 3.72 K 3.73	1.1 0.8	5.6 3.9	13.3 16.3	80.0 78.3	0.8	.535
Drinking-water is a scarce resource in many places all over the world	S 3.96 K 3.51	0 1.6	0 6.2	4.4 30.2	95.6 58.9	3.1	.909
All water must be protected and used in a not polluting way	S 3.89 K 3.91	0 0	1.1 0.8	8.9 7.0	90.0 90.7	1.6	.763
People waste too much drinking-water today	S 3.42 K 3.38	3.3 1.6	7.8 16.3	32.2 24.8	56.7 57.4		.834
Water is a scarce resource	S 3.72 K 3.26	2.2 6.2	3.3 11.6	14.4 30.2	80.0 49.6	2.3	.939
Today people pollute water without caring about future generations	S 3.58 K 3.59	0 1.6	6.7 9.3	28.9 17.8	64.4 71.3		.021
I worry about the scarcity of water in the world	S 3.12 K 3.07	6.7 6.2	13.3 18.6	41.1 34.9	38.9 38.0	2.3	.612
Water is essential to us.	S 3.86 K 3.93	0 0	1.1 0.8	12.2 5.4	86.7 92.2	1.6	.911
New technique can solve the problems with the supply of water in the world	S 2.74 K 3.13	4.4 2.3	35.6 23.3	38.9 31.8	18.9 41.1	2,2 1.6	.314
A large part of the world's population lack clean drinking-water today	S 3.78 K 3.24	0 3.1	2.2 17.8	17.8 30.2	80.0 48.1	0.8	.426
It is important to educate people in water issues	S 3.72 K 3.67	0 0	0 6.2	27.8 20.2	72.2 72.1	1.6	.432
Clean water is vital to animals and plants	S 3.77 K 3.81	0 0	1.1 2.3	21.1 14.0	77.8 82.9	0.8	.699
To increase the understanding of the importance of water, a change in attitude is necessary	S 3.59 K 3.60	1.1 0.8	3.3 7.0	31.1 23.3	64.4 67.4	1.6	.404
We do not need to economize drinking-water in Sweden.	S 1.83 K 1.65	53.3 64.3	16.7 15.5	23.3 10.9	6.7 9.3		.765
It is important that I decrease my consumption of water	S 2.58 K 2.70	13.3 8.5	35.6 34.1	31.1 33.3	20.0 21.7	2.3	.034
My family and I would save a lot of money if we used less water	S 2.19 K 2.37	28.9 21.7	35.6 34.9	21.1 25.6	13.3 16.3	1.1 1.6	.017
If drinking-water was more expensive, people would decrease their consumption	S 2.79 K 2.41	6.7 25.6	34.4 29.5	32.2 21.7	26.7 22.5	0.8	.818

I can contribute to improving the quality of water in the world	S 2.56 K 2.54	13.3 10.1	38.9 38.8	26.7 25.6	21.1 17.1	8.5	.213
The access to clean drinking-water is a matter of course to me	S 3.64 K 3.67	1.1 1.6	3.3 4.7	25.6 17.8	70.0 72.1	3.9	.996
I know where my drinking-water comes from	S 3.63 K 3.26	3.3 7.0	7.8 14.0	11.1 23.3	77.8 52.7	3.1	.359
People know too little of water issues today	S 3.18 K 3.21	1.1 5.4	21.1 12.4	36.7 37.2	41.1 44.2	0.8	.724

2. How do you experience the Lyckebyån today and to what degree do you feel that you can influence the water of the Lyckebyån? Please, tick the appropriate box.

1 = do not agree at all, 2 = partly agree, 3 = agree on the whole, 4 = totally agree

	Mean	1	2	3	4	Miss- ing	p
It is important to improve the quality of water of the Lyckebyån	S 3.49 K 3.86	1.1 0.8	8.9 2.3	27.8 6.2	57.8 86.8	4.4 3.9	.991
The environment of the Lyckebyån gives me pleasure.	S 3.23 K 2.30	3.3 28.7	12.2 31.8	40.0 11.6	41.1 23.3	3.3 4.7	.238
The Lyckebyån is beautiful	S 3.64 K 2.52	0 17.8	3.3 32.6	28.9 24.0	65.6 21.7	2.2 3.9	.110
The Lyckebyån means recreation to me	S 2.88 K 1.85	11.1 45.0	24.4 28.7	24.4 6.2	35.6 12.4	4.4 7.8	.005
I feel relaxed when I visit the Lyckebyån	S 3.08 K 2.13	3.3 34.1	23.3 26.4	32.2 19.4	37.8 13.2	3.3 7.0	.513
It is nice to experience the bird life of the Lyckebyån	S 3.07 K 2.56	7.8 17.1	20.0 30.2	26.7 23.3	42.2 23.2	3.3 6.2	.334
I like living close to the Lyckebyån	S 3.49 K 2.44	1.1 20.2	10.0 32.6	26.7 17.1	60.0 21.7	2.2 8.5	.551
The quality of water means a great deal to the flora and fauna there.	S 3.84 K 3.73	0 1.6	1.1 5.4	13.3 10.1	84.4 78.3	1.1 4.7	.967
The quality of water of the Lyckebyån is good	S 2.39 K 1.18	12.2 78.3	34.4 11.6	41.1 0	3.3 1.6	8.9 8.5	.502
All of us who live around the Lyckebyån do not need to save water	S 1.64 K 1.36	56.7 75.2	25.6 7.0	10.0 6.2	5.6 4.7	2.2 7.0	.853
It is important that the water of the Lyckebyån is used properly not to be polluted	S 3.81 K 3.82	1.1 1.6	3.3 1.6	8.9 9.3	85.6 82.2	1.1 5.4	1.000

The water of the Lyckebyån has deteriorated during the last few years.	S 2.15 K 3.56	22.7 4.7	37.8 7.0	20.0 12.4	7.8 68.2	12.2 7.08	.15 1
My own actions influence the state of the Lyckebyån	S 2.53 K 2.20	18.9 31.1	31.1 27.1	21.1 13.2	24.4 17.8	4.4 10.9	.32 6
The Lyckebyån is of a great cultural-historical value to me	S 2.75 K 2.60	11.1 14.0	33.3 33.3	22.2 21.7	31.1 24.0	2.2 7.0	.75 9
It is relaxing to go fishing in the Lyckebyån	S 2.80 K 1.86	20.0 48.1	14.4 15.5	22.2 9.3	35.6 13.2	7.8 14.0	.12 4
I can contribute to improving the quality of water of the Lyckebyån	S 2.63 K 2.52	10.0 16.3	38.9 31.0	23.3 22.5	23.3 20.2	4.4 10.1	.70 3
We who live around the Lyckebyån can improve the quality of water together	S 3.09 K 3.09	2.2 3.9	21.1 19.4	37.8 33.3	34.4 35.7	4.4 7.8	.69 4
I will decrease my use of water within the near future	S 1.92 K 2.42	32.2 24.0	43.3 23.3	15.6 26.4	4.4 17.8	4.4 8.5	.07 4
I enjoy bathing in the Lyckebyån	S 1.56 K 1.54	64.4 62.8	12.2 13.2	10.0 8.5	6.7 6.2	6.7 9.3	.92 4
The vegetation along the Lyckebyån is pleasant and varied	S 3.01 K 2.62	2.2 17.1	25.6 26.4	37.8 24.8	31.1 24.8	3.3 7.0	.22 6

3. How do you handle water in your daily life? Please tick the appropriate box.

**1 = do not agree at all, 2 = partly agree, 3 = agree on the whole, 4 = totally agree**

	Mean	1	2	3	4	Mis sing	p
I have tried to decrease my consumption of water during the last year	S 2.31 K 2.11	24.4 34.9	32.2 31.8	27.8 17.8	13.3 14.0	2.2 1.6	.305
In my family we use water-saving showers	S 2.57 K 2.37	34.4 34.1	11.1 18.6	15.6 20.2	37.8 24.8	1.1 2.3	.791
I economize on washing detergent	S 3.20 K 3.00	3.3 10.1	18.9 16.3	31.1 36.4	45.6 36.4	1.1 0.8	.327
I always wash with a full machine	S 3.29 K 3.07	3.3 9.3	16.7 17.8	26.7 27.1	52.2 43.4	1.1 2.3	.699
I can consider to invest in some alternative to water toilets	S 1.83 K 2.53	43.3 19.4	35.6 31.8	8.9 17.1	8.9 26.4	3.3 5.4	.725
I never wash up with water running	S 2.96 K 2.55	10.0 26.4	26.7 21.7	20.0 21.7	42.2 29.5	1.1 0.8	.271
I water my lawn in summer	S 1.36 K 2.44	73.3 36.4	14.4 17.1	3.3 12.4	4.4 34.1	4.4	.167
When I wash, I always use environmentally friendly detergents	S 3.17 K 2.71	6.7 15.5	22.2 30.2	17.8 18.6	52.2 33.3	1.1 2.3	.939
I mind what I throw in the plughole	S 3.60 K 3.00	2.2 16.3	5.6 16.3	22.2 17.8	70.0 48.8	0.8	.008

I never brush my teeth with water running	S 2.79 K 2.83	26.7 18.6	14.4 20.2	11.1 17.8	46.7 41.1	1.1 2.3	.379
I only use environmentally friendly products when I wash my car	S 2.67 K 2.75	14.4 18.6	30.0 19.4	22.2 17.1	27.8 34.1	5.6 10.9	.796
I often walk along the Lyckebyån in order to have a bit of peace and quiet.	S 2.26 K 2.74	32.2 20.2	28.9 20.9	15.6 19.4	21.1 36.4	2.2 3.1	.861
I use the Lyckebyån for leisure activities	S 2.11 K 1.92	38.9 38.8	26.7 31.8	14.4 7.0	17.8 12.4	2.2 10.1	.617
In summer I often bathe in the Lyckebyån	S 1.27 K 1.27	81.1 74.4	8.9 9.3	5.6 1.6	2.2 3.9	2.2 10.9	.962
I often go canoeing on the Lyckebyån	S 1.31 K 1.23	77.8 76.0	12.2 7.0	5.6 3.1	2.2 2.3	2.2 11.6	.658

4. Below you find a few questions dealing with the Lyckebyån and with yourself. Please reply to them by ticking the appropriate boxes.

Have you heard of the Water Association of the Lyckebyån? Yes 33 % No 67 %

I have received information about the Lyckebyån

Yes S 24 %, K 58.1 %

No S 74 %, K 37.2 %

Missing S 1.1 %, K 3,9 %

In most cases I have been informed about the Lyckebyån by (several ticks are possible)

Daily newspapers Yes S 61 % K 43.4 %. No S 39 %, K 54,3 %, K missing 2.3 % p=.286

Study circles Yes S 0 %, K 2.3. No S 100 %, K 95,3, **K missing 2,3 %** p=.401

Children at school Yes S 2 %, K 42,6 %. No S 98 %, K 52 % K missing 2,3 % p=.382

Participating in projects **Yes S 2 %, K 6,2 % No 98 %, K 91.5 % K missing 2.3 %**

Information leaflets **Yes S 14, K 14 % No S 86, K 83,7 % K missing 2.3 %**

Other ways K Yes 36,4 %, K No 61.2, missing 2.3 %

The Water Association of the Lyckebyån **Yes 9 %, No 91 %**

The officials of the municipality **Yes 11 %, K 8,5 %. No 89 % K 89.1 % K missing 2.3 %**

The Internet **Yes 4 %, K 3,9 %. No 96 % K 93.8 %, K missing 2,3 %**

What was the information about?

Are you satisfied with this information? Yes 32 %, K 22,5. No 33 %, K 66.7 %. 34 % missing. **K missing 10.9 %**

Please/give your reasons:

How would you prefer to be informed about water issues (see above) in the future?

Are you involved in some project concerning the Lyckebyån yourself?

Yes 4 %, K 7,0 %. No 90 %, K 81,4 %. 6 % missing. K missing 11.6 %

If Yes, what does the project deal with?

If no, can you consider to commit yourself to some project concerning the Lyckebyån?

Yes 16 % K 48.8 %. No 72 %, K 27,9 %. S 12 % missing K 23.3 %

What would you like that project to deal with?

*May we contact you? If so, please write your address below*

In what way do you benefit from the Lyckebyån?

Some information about yourself : Male 47 % K 20.9 % Female 51 % K 75,2 %, 2 % missing K missing 3.9 %

Mean 53 år (från 24 – 88 år) K

Education:

Up to 9 years 31 % K 17.8 % Up to 12 years 33 % K 31.8 % More than 12 years 28 %, K 43.4 % missing 8.0 % K 7,4 %

Domiciled: Blekinge county 40 % Kalmar county 43 % Kronobergs county 17.0 %

Do you live in the countryside 19 % K 20.9 % in a small society 43 % K 10.9 % in a town 34 %, K 60,5 % missing 4 %, K missing 7,8 %

For how long have you been living near the Lyckebyån For 28 years on average

How far from the Lyckebyån do you live?

Less than 1 km 40 % K 31 % 1 - 5 km 43 % K 40, 3 % more than 5 km 14 % K 16.3 % , missing 2 % K missing 12.4 %

Do you have municipal water 81 % water of your own 12 %, both 3 %, 3 % missing

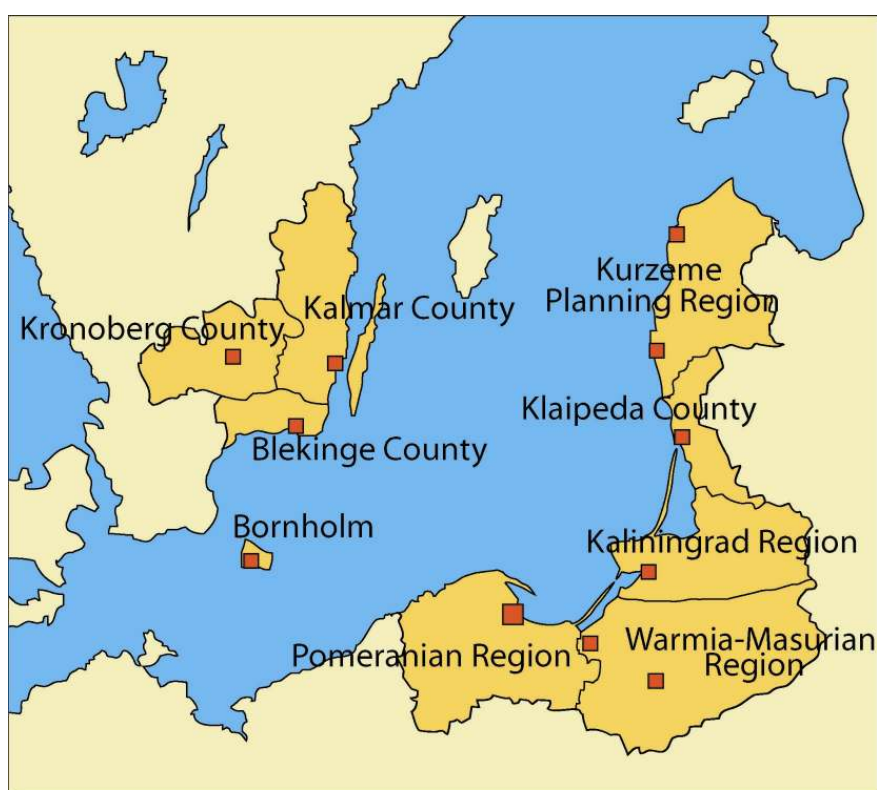
*Thank you for your participation!*





Seagull is a project for the Euroregion Baltic (ERB) with the main purpose of developing and anchoring a long-term strategy and a joint transnational development programme (JTDP) for the region. The programme will form the basis for future investments in the environment and infrastructure, for building networks of innovative environments such as science parks, for development and cooperation of industrial clusters in the region, etc. It will thereby contribute to social, economic and environmentally sustainable development throughout the region.

[www.eurobalt.org](http://www.eurobalt.org)



This is a comparison study on attitudes towards water issues performed among the public in Sweden and in Kaliningrad and implemented within Seagull Workpackage 2 - Water management.



The Seagull project is co-financed by the European Union Baltic Sea Region INTERREG IIIB programme