

Figure 1. Study area in Turku

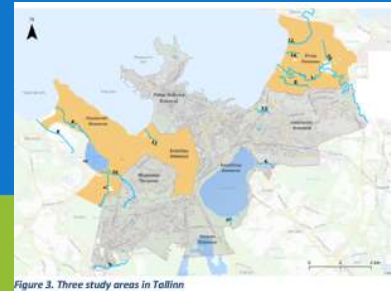


Figure 3. Three study areas in Tallinn



Figure 2. Study area in Söderhamn

Why and how to make environmental benefits visible?

Webinar final seminar
19.11.2020

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SYKE is leading WP4: Communications



Our weapon for finding out **how to make environmental benefits visible**

What a systematic survey can give to you?

- What the majority and different types of people think about this?
- Find gaps in knowledge
- Target your communication
- Understand what the people are worried about and what monetary benefit they would get from the environmental improvement



- Get an understanding on what the majority think and value concerning restoration activities and some other things as well
 - Find gaps in knowledge so you can
 - better target your future communication and information activities. For instance Inform people about your on-going activities, plans or strategies in an interesting way
 - Understand what the people are worried about and what monetary benefit they would get from the environmental improvement
- Better understanding can lead to willingness to participate and to pay more attention to water quality also from urban perspective

“What do we need questionnaires for?”



@Pixabay

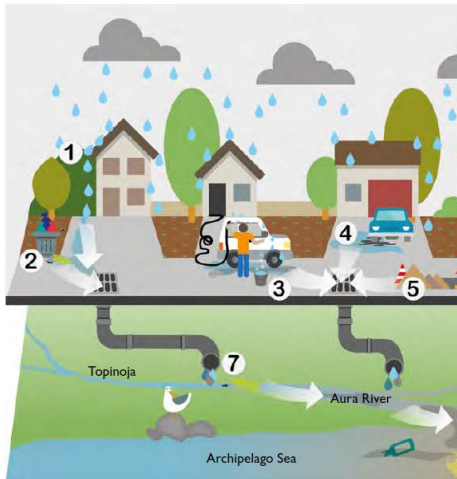
But often when we suggest: what about a questionnaire, people still wonder. Usual **development** in partners moods concerning our questionnaire:

- Step 1 Puzzled: OK, you want to make a questionnaire. Fine, we can give you some local info, doesn't sound too bad, but don't really see the point in this...
- Step 2 Starting to get interested: Hmm, this actually looks interesting. And hey, we could tell people about this and ask about this... They start seeing the opportunities.
- Step 3 This is usefull stuff for us!: How interesting results! And loads of feed back we've never heard before and now we finally have something concrete to show to the policy-makers to better justify our points of view!!

Surveys can be more than just a method; an asset to **get feed back** but also to **give information** to the citizens.

Our aims

Examples of how run-off water is formed and how human activity af



1. Metals and other hazardous substances from building roofs are released into
2. Litter from waste receptacles may fall into run-off water and be carried along
3. Car washing soaps, among other things, run untreated from residential yards hazardous to living organisms
4. Oil or other substances can leak from poorly maintained vehicles into run-off
5. Soil from construction work is often carried away by run-off water
6. Pesticides and excess nutrients are easily carried by run-off water into water
7. Run-off water from drainage pipes usually end up untreated in brooks and rivers
8. Litter and hazardous substances are also carried by brooks and rivers into the

Now, imagine

10 How much would you be prepared to pay for a city brook fee?

► For each amount, indicate how much you would be willing to pay or not pay the amount in question. Take into account in your answer the fact that the money used would be separate from all your other expenses.

Monthly fee over the next ten years	I would definitely pay	I would most likely pay	I am not sure I would pay	I would most likely not pay	I would definitely not pay
0.50 €/month (i.e. 6.00 €/year)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.00 €/month (i.e. 12.00 €/year)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.00 €/month (i.e. 24.00 €/year)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.00 €/month (i.e. 48.00 €/year)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.00 €/month (i.e. 96.00 €/year)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.00 €/month (i.e. 192.00 €/year)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32.00 €/month (i.e. 384.00 €/year)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Would you pay more than 32.00 €/month? If so, how much?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____€/month					

Questions, pictures and information. In Heawater we also drew storm water pictures for questionnaires.

In the core of our surveys is contingent valuation (method); valuation of non-market benefits. We have described current situation e.g. urban small waters and then we ask to: Imagine that this state could be improved but we need more money to do so. Would you be Willing to pay that the state would improve from current to scenario? If they say yes, we ask how much, for an example y a payment card.

Surveys in Heawater



How did we do it in Heawater?

- In close collaboration with local experts
- A random sample of city residents, 3-4 contacts
 - 2018 in Turku,
 - 2019 in Söderhamn and
 - 2020 in Tallinn (yeah, probably not the best time...)
- Both as a paper and electronic survey → people ♥ paper...



Experts gave information about the area, commented the questionnaire, even helped with mailing!

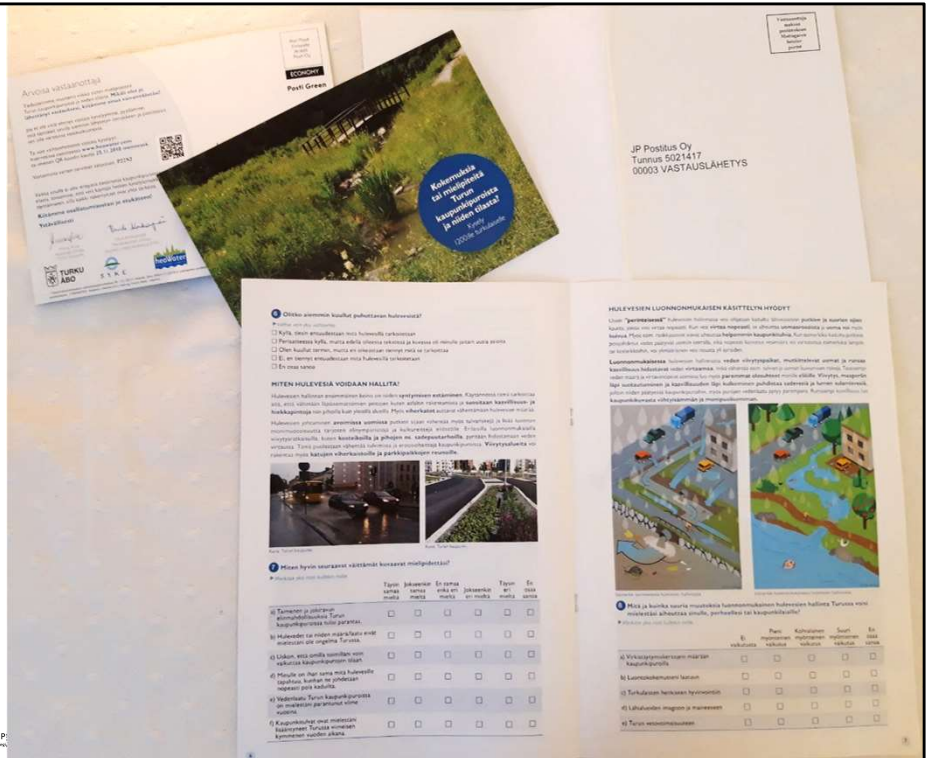
Why random sample: to generalize the results to the whole population of the city and to avoid biased results.

Paper → reminder card (thanks if you answered, you still can) → reminder card → paper

In FI and SWE paper was much more popular (80% answered there by paper, but in Tallinn 50%-50%)

Communication via questionnaires

- Survey for 5,000 → 1,200 answers → likely much more readers...
- Media campaign in Tallinn



We had 12 pages of questions, pictures, figures and information Paper → many probably looked at the pictures, read the text next to them, also family members

→ a communication wise paper version reaches much more people than an e-survey

The results are presented in several reports:

The results of the valuation surveys for the three study areas are presented in the following reports:

- Turkuilaisten mielipiteet ja osallistumishalukkuus parempien kaupunkipurojen hyväksi **(in Finnish)**
- Attityder till och villighet att engagera sig i dagvattenhantering – en studie om betalningsvilja i Söderhamns kommun **(in Swedish)**
- Piritä, Haabersti ja Kristiine elanike arvamused ja osalemisvalmidus linnajõgede olukorra parandamiseks **(in Estonian)**

In addition two summary reports **in English**

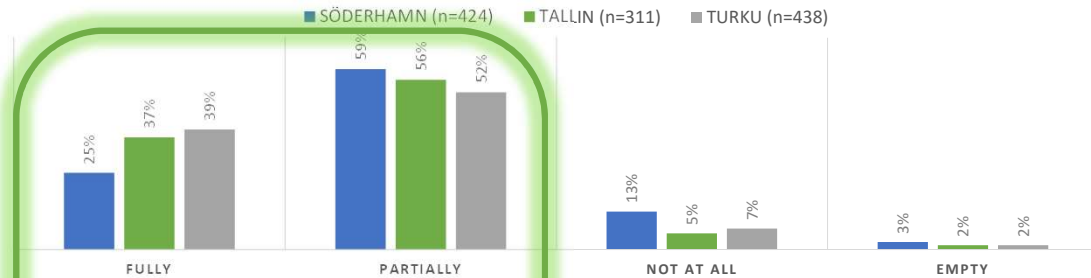
Already in [here!](#)



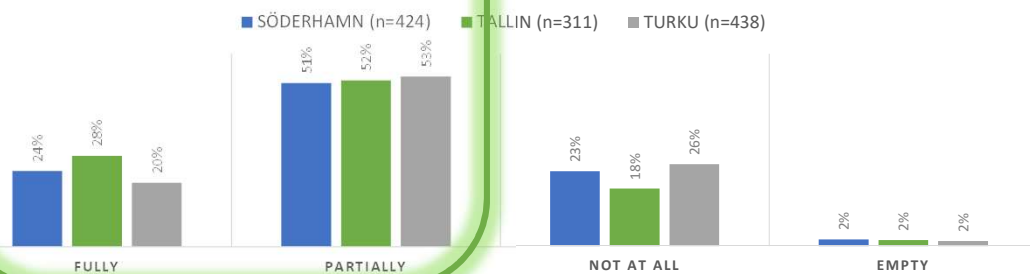
We've finished 3 land reports already and almost finished the 2 summaries. Please, see the SYKEs project web site.

What we found out, for example...

THE QUESTIONNAIRE GAVE ME NEW INFORMATION ABOUT URBAN BROOKS



THE QUESTIONNAIRE GAVE ME NEW INFORMATION ABOUT STORM WATERS

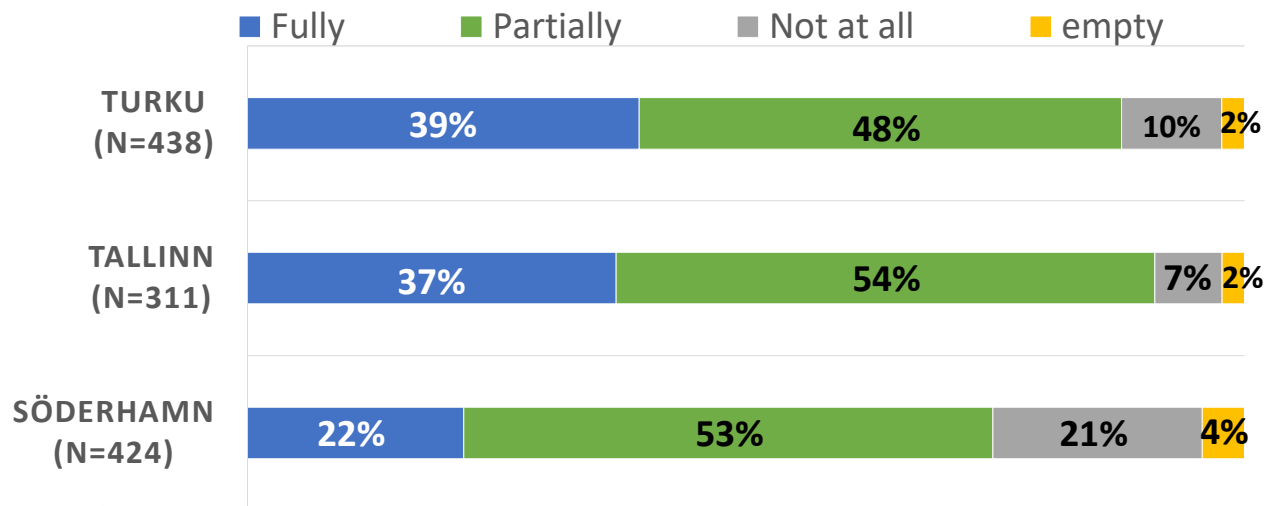


What we found out about the awareness of the residents?

The concept of stormwater was surprisingly familiar in all 3 study areas
Residents learnt about stormwater management and local urban waters from these surveys

Info texts and pictures seemed to raise awareness...

I WILL PAY MORE ATTENTION TO THE STATE OF URBAN SMALL WATERS IN THE FUTURE



Notable majority of the respondents thought that they will pay more attention to the state of urban small waters in the future.

Willingness to pay



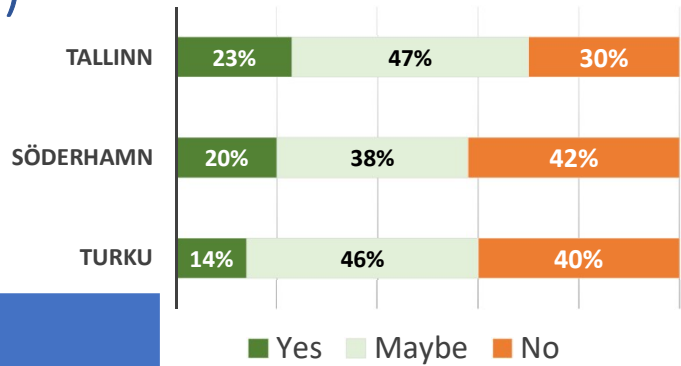
- Next, we will briefly outline our core results in terms of willingness to pay estimates
- However, it is good to keep in mind that these are directly related to the scenario presented in the survey.
- And these future changes in urban waters were described in the survey, always relevant to the study area in question

Willigness to pay (WTP)

- Small differences in responses between different study areas
- The majority would be willing to consider an annual fee

STUDY AREA	MEAN WTP (std dev.), €/person/year
TALLINN	10.9 (20.0) - 23.7 (29.1)
TURKU	12.2 (23.7) - 32.0 (40.2)
SÖDERHAMN	25.9 (60.6) - 54.6 (66.2)

Would you be prepared to pay ...?



- Average willingness to pay highest in Söderhamn

- We used the contingent valuation method, which is one of the most common non-market valuation methods and used worldwide; We asked willingness-to-pay for improved water status and stormwater management of small urban rivers
- Some differences were shown in responses; However, a clear majority of respondents in each country, were at least willing to consider paying, and Additionally, a clear majority of respondents chose some positive fee from the list of shown payments
- We calculated the mean annual willingness-to-pay per person, and these value ranges are shown in this table
- From eleven to 24 euros per person per year in the Tallinn study area, and from 26 to 55 euros in Söderhamn, and estimates in Turku were between these

Aggregated benefits of improving small urban rivers

	Mean WTP, €/year	Aggregated WTP €/year
TALLINN	10.9 - 23.7	0.85 – 1.29 million
TURKU	12.2 - 32.0	1.83 – 2.75 million
SÖDERHAMN	25.9 - 54.6	0.41 – 0.51 million



The mean willingness to pay values can be used to determine the overall benefit of the proposed improvement in small urban rivers.

Total willingness to pay - that is, aggregate benefit - is affected not only by the average willingness to pay, but also by the size of the adult population in the study area

Aggregate willingness to pay varied by study area from about half a million euros to about three million euros per year

How can benefit information be used?

- In social cost-benefit analysis (CBA)
- Should a plan or policy be undertaken or not?
- To aid in formulating more effective plans or policies with increased public support
- In the Heawater project we showed that:
 - Uncertainty in the annual and aggregate cost estimates
 - The annual benefits to the study area residents were higher than the costs of improving small urban rivers, in each study area!



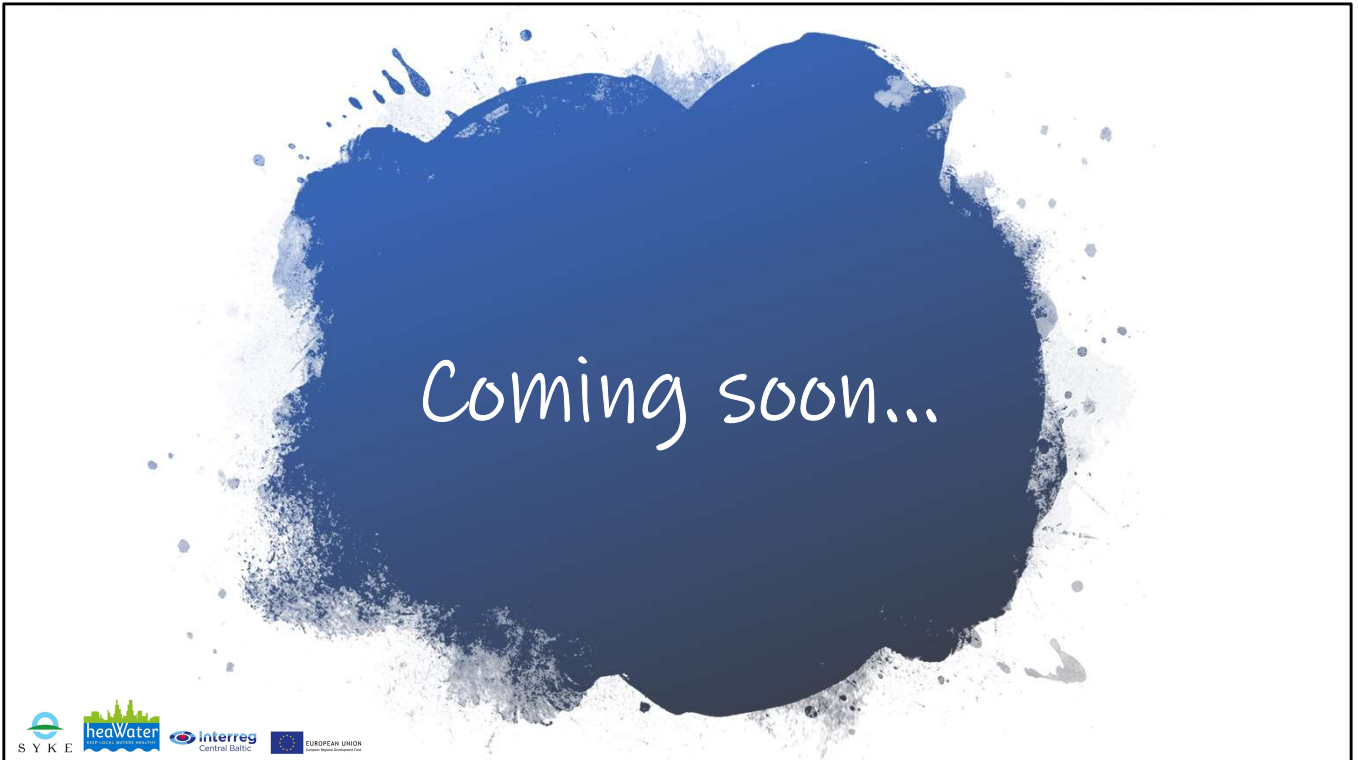
Why should we make environmental benefits visible?

-To compare social benefits with social costs; Cost-benefit analysis is used for identifying whether a government plan or policy is efficient, thus whether it should be undertaken or not

-Making the benefits of more visible, will help in formulating more effective plans or policies with increased public support

-In the Heawater project we showed that: there was uncertainty in the cost estimates; yet we can state that, the annual benefits to the study area residents were higher than the costs of improving small urban rivers, in each study area!

- This was briefly from me. Next, Sari will talk about what is still coming from us related to stormwater communication



Collection of storm water pictures made in Heawater will be completed with couple of more drawings still.

S p i n O f f



All drawings will be put **online** (in Finland to Vesi.fi web sites) with some small animations and info texts.

The last ones illustrate how storm **water may accumulate** and cause problems and how **nature based solutions** can help.

We hope that all these pictures will keep on living after the project ends and be part of this projects communicational legacy.

Thank you!

- *“There is poor information on the state of city streams. At least I haven't come across myself. Restoration work could be something I could take part in myself.”*
- *“It is necessary to clean the city rivers and make a health/nature trail and put benches next to it.”*
- *“Prior to this survey, I had not understood the impact of stormwater and was mainly irritated by the charges imposed on it. I also didn't know that there is so much life in small waters, even though I am a pro environment person. So people's awareness should be raised! “*



As a finishing touch here are some quotes from the questionnaires. And with these we want to stress that even though they are called “questionnaires”, when well made, they can be a powerful tool for both **communicating to citizens** but also to comprehensively **collect** citizens views and attitudes and **get very concrete** and useful tips from them.