

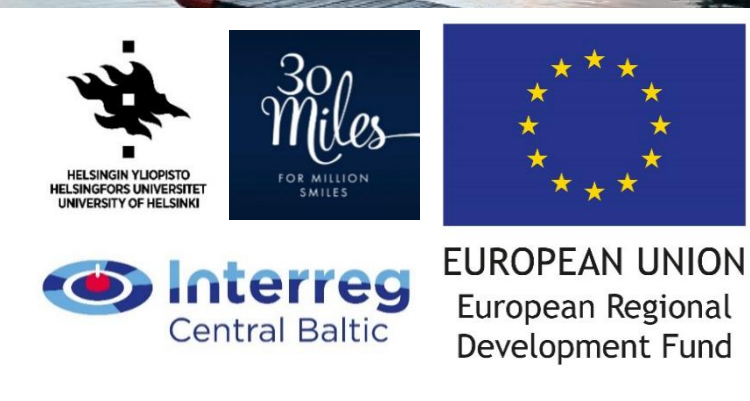
# Towards a sustainable small port – perspectives of boaters and port actors

Public report from the project 30MILES

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## Abstract

Involving stakeholders in the context of both business planning and environmental management is important to ensure joint understanding of prevailing or potential problems and risks, the objectives of different parties, and the best ways to attain them. This report presents a study concerning the sustainable development of small ports in the Eastern Gulf of Finland. Ten stakeholders, involving boaters and port actors, from two countries, Finland and Estonia, were interviewed to analyze how stakeholders communicate and think about the concept of sustainability and its materialization in the planning and development of small ports. The report also compares how the definition of sustainability, or thoughts concerning sustainable development, differ between boaters and port actors. Theoretically speaking, the concept of sustainable development should consist of a balance between three aspects: environment, economic and social.

Following an explanation of the three-aspect concept, the interviewed stakeholders accepted the idea of sustainable development being based on these three aspects; however, the weighting of aspects varied between the interviewee groups. Although the environmental perspective was important for both boaters and port actors, boaters valued the environment more socio-ecologically than port actors, who had a more economically-oriented perspective. The interviewed boaters valued safety the highest, acknowledging many things should be improved in small ports. Port actors, instead, seemed quite unaware of the challenges boaters face regarding both safety and maintaining sewage-holding-tank pump-out stations. These differences indicate the potential need for more active communication between the two groups.

The analysis concretely shows that practical management actions and investments made in small ports are typically related to more than one of the three elements of sustainability. Consequently, evaluation of various decisions' cost-effectiveness requires holistic planning. Sustainability as an objective is incompatible with short-term thinking, requiring a longer-time perspective. Observed short contracts of port actors remarkably hindered sustainability. Interviewees mutually agreed on the high potential of small ports to bring added value both economically and socially to their surrounding areas. Thus, one important question is: who should fund the investments to develop the long-term sustainability of ports?

This report consists of a description of the interviewing method and a thorough analysis of the results. The results lead from recommendations and ideas for the future development of sustainable small ports.

Keywords: sustainable development, small ports, boating, stakeholders, content analysis



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## 1. Introduction

The aim of the 30MILES (INTERREG, EU) project was to promote lively and sustainable water tourism in the Gulf of Finland through a competitive network of 12 small ports in Finland and Estonia. The network is considered a precondition to sustainable water tourism and to improving the overall attractiveness of the region. Increased service levels and safety of small ports are assumed consequences of the network, along with attracting new visitors and investors to improve regional economic growth.

Involving stakeholders in societal planning and decision making is important to make fair and acceptable decisions, and to ensure their successful implementation (Richards et al. 2004). Knowing the interests and preferences of clients is crucial for an organization when planning new investments and long-term strategies. People often use words and understand their meaning differently, which causes so-called linguistic uncertainty in the planning process (Burgman, 2005). Thus, if sustainability is the common objective in small-port planning, a crucial element is analyzing potential variation in stakeholders' thinking related to the meaning of this term.

Currently, the term 'sustainability' is commonly used in public discussion. In theory, sustainability is seen as an integrative concept involving the three fundamental dimensions of environmental, social, and economic aspects, the so-called three pillars of sustainability (e.g. Hansmann et al., 2012). Sustainability science investigates the fundamental character of interactions between nature and society (Kates et al., 2001).

This study explores how stakeholders view sustainability in the context of sustainable development in small ports. We discovered different stakeholders' opinions regarding the definition of a sustainable small port, what the most important sub-objectives are, and how they can be achieved.

Two stakeholder groups, boaters and port actors, were interviewed and compared. We randomly chose four Finnish boaters and four Finnish port actors based on our own contacts and according to the following criteria: the chosen boaters needed to regularly boat in different ports in the Eastern Gulf of Finland; the port actors needed to work in small ports located in the Eastern Gulf of Finland. In addition, interviewing two port actors from two Estonian small ports allowed understanding the key differences between Finnish and Estonian boating cultures. All the interviewed boaters had several years' experience of boating, and they had visited many ports in different countries. The port actors had also worked many years in the port, with only one port actor having less than one year's experience. A total of ten one-on-one interviews were conducted, with each interview involving ten open questions (see Appendix). First, the interviewees were asked to freely talk about sustainable development of small ports, and how small ports should be developed. Second, interviewees were shown the three-pillars-of-sustainability figure, after which they gave their opinions of the concept, and whether it corresponded to their preconceptions. This report provides a summary of the content analysis.

## 2. Perspectives on the sustainable development of small ports in Finland

### 2.1 Definition of a sustainable port

The results in this chapter are based on the interviewees' responses to the question "What does a sustainable small port operation mean, in your opinion?" (Appendix, question 2). At this stage of the interview, interviewees had not been given any information on the concept of sustainability as we see it.

#### *Boaters*

The opinions of each of the four boaters strongly emphasized the environmental aspect of sustainability. They believed nature should not be harmed, and three out of four highlighted the need for proper organization of waste management, such as emptying septic tanks. Boaters appeared to highly value a clean environment. Enjoying nature is an important part of their boating, therefore, they considered ports should manage the surrounding nature. One boater mentioned the importance of environmental legislation, especially concerning the use of antifouling paints.

The interviewed boaters mainly talked about the environment and nature when describing sustainable small ports, with the other two dimensions, economic and social, playing only a minor role. One of the boaters saw the sustainability consisting of two equally weighed dimensions: economic and environment. One of the boaters mentioned the importance of constructing a port suitable to its environment and community, an issue falling between the social and environmental aspect classification.

#### *Port actors*

According to the interviewed port actors, sustainable development involves ports offering boaters the possibility to act as ecologically and nature-friendly as possible. Ports should provide waste-sorting containers for all kinds of waste; additionally, all services should work properly, with a sufficient number of services available. Port actors emphasized the importance of the whole port environment being clean and in good condition. The port actors understood sustainability as environmentally friendly actions and sustainably built ports.

Short contracts between the port actors and port owners was a challenging issue regarding long-term planning and development of the business. Longer contracts would increase resources for sustainable development of the ports. According to the interviewed port actors, sustainable development involved more than just environmental and nature aspects. Services and long-term contracts fall between the economic and social dimensions of sustainability, despite having links with the environmental dimension.

#### *Analytic implications*

Based on the interviews, multi-dimensional-sustainability thinking was more intuitive to the port actors than the boaters. The two groups also used slightly different terms when discussing the environment. When referring to the built environment of their port, port actors mentioned words such as "ecological", "natural" and "environmentally friendly", although they also often used phrases such as "tidy environment" and "places must be in good condition".

Port actors logically value nature more economically: in a business context, a high-status environment will likely advance their economy. Places in bad condition with large amounts of scattered garbage do not attract customers. Therefore, taking care of the environment is good for business. On the sea, the boaters likely observe coastal nature and experience its possible nuisances (Vantola et al. 2018). Thus, boating as a hobby is likely to strengthen an individual's personal relationship to nature (Lee et al. 2015).

Consequently, in addition to recreational value, nature may have an inherent value, that is, a “value of existence”, meaning nature is valuable in itself (see Laurila-Pant et al. 2015).

## 2.2 Developing sustainable small ports

Our results shown here are based on answers to the questions “How should small ports be developed sustainably?” and “What are the most important objectives (goals) when a sustainable small port is developed? Can you put the objectives (goals) in order of importance?” (Appendix, Questions 3 and 4).

### *Boaters*

When developing a small port, most of the boaters claimed the requirements are strongly case-specific. Some of the ports are close to nature and do not need any special services or equipment because the accessible nature is suitable to people’s needs. However, boaters particularly value certain issues in ports. The most important issues included ports being safe, easy to access, with simple boat-securing procedures. Clearly marked entrance routes and well-made port entrance instructions are necessary, but often imperfect, according to the interviewed boaters. A good map indicating the draught and safe routes is vital, but unfortunately, often missing. Videos describing entrance routes would be useful, but with poor internet connections, often impossible to watch. In addition, the route might look very different when arriving at the port at night than during the day, when such videos are usually filmed. Therefore, a high-quality map with relevant additional information was considered the most important service; entrance videos being considered a good extra service.

The boaters wished for better signs everywhere in the ports, for example, regarding the location of waste bins, pump-outs for septic tanks, and berths for visitors. Boaters suggested improving web pages, making them more informative, for example, telling how to safely access the port, what services are provided and their location. Some ports had insufficient berth numbers for the boats. Some of the ports could develop their services, such as by serving breakfast, providing laundry facilities, ensuring sufficient electricity sockets for the boats, increasing cooperation between ports, and allowing boat-parking opportunities for longer periods, for example, a week. Additionally wished for were more buoys.

All the interviewed boaters told of common problems regarding emptying septic tanks in the ports. Some mentioned the need for proper instructions on how to use the pump-outs to prevent boaters breaking them. Suggestions for improvement included a phone number to call when a shore pump-out station is broken. Regular maintenance of pump-out stations would ensure rapid repairing of faults and stations should also be easy to access and use. Three out of four boaters pointed out the need to improve waste management. Currently, the collecting places are often quite far away, more containers are needed for different types of waste, and collecting containers are emptied too rarely.

According to the interviewed boaters, the most important issues to be developed related to safety. Thus, the social aspect was weighed highest. The second important aspect for the boaters involved the environment and associated issues, such as waste management and possibilities to empty septic tanks. Many boaters willingly take care of the environment, but doing this must be easy. Ports should provide well-functioning and easy-to-use equipment. As one boater mentioned, one of the most important objectives is to make boating as environmentally friendly as possible; in this, ports play an important role. The economic aspect was not often mentioned, although some of the interviewed boaters briefly mentioned the reasonable prices of services. Two boaters mentioned some ports are too small without sufficient numbers of berths.



### *Port actors*

The port actors wanted to answer questions by talking about the particular port they worked at. This was understandable, that port was most familiar to them. All ports are different; consequently, development targets are also different. Some ports seem to have too few berths, which was considered to negatively affect everything. Few berths lead to few clients, which in turn, makes offering good-quality services and developing ports challenging, resulting in a vicious circle. Building new berths is expensive and requires external investment, for example by cities or the EU, to break the circle and enable positive, sustainable development. In these cases, the economic aspect was seen as the preliminary driver enabling sustainable development.

The second important issue mentioned by the interviewed port actors was good basic services, such as showers, saunas, waste management, electricity, shore pump-out station and laundering. Basic services should work well, be in good condition and closely located. Some ports could provide bus connections or bike rental to reach the city center, for example. Two out of four interviewees suggested providing activities for children, such as mini golf and frisbee golf, in addition to requiring a clean and comfortable environment. Thus, the environment was seen as a service; consequently, one objective of the port actors was to create and maintain a comfortable and tidy environment. Port actors also demanded high-quality customer service. Low-quality customer service could negatively affect a port's reputation, which could lead to a loss of customers. One port actor mentioned the need for reasonable port prices, for which financial support from the city would be vital.

Although the interviewed port actors wished for improved waste management in some ports, only one port actor thought it should be improved in the port where they worked. According to the interviewees, no large problems exist, despite the provision of only one container for all waste. "I do not think someone would not come to the port just because the waste management is not at a good level", one port actor said. Three port actors mentioned port traffic arrangements as an important factor regarding safety. Some wanted to forbid driving in the port area, although others claimed a speed bump would suffice.

### *Analytic implications*

The most striking difference between boaters and port actors was that boaters emphasized safety and its importance; about these issues, the port actors talked little. Safety was mentioned by three port actors, but only in the context of cars and driving, and the associated risks. No port actor raised the same safety issues as the boaters, such as emergency equipment, clear marking of boat routes, or helping boaters drive to a port. Port actors gave highest weight to good service levels; meaning enough berths and good basic services. According to the port actors, essential is political decisions to develop ports, with money invested by cities directed at improving service levels and making ports more comfortable. A clean environment and good waste management was also mentioned by the port actors, but the topic of operational problems with the shore pump-out stations was neglected. This problem was an issue raised both by the interviewed boaters and in the web-query data collected in the 30MILES project (see Vantola et al. 2018).

## 2.3 Behind the respondents' reasoning

### *Boaters*

When asked "What factors affect achieving these objectives?" (negative/positive), "What actions are needed to achieve these objectives?" and "Do you see issues or actions that currently complicate or prevent reaching these objectives?" (Appendix, Questions 5, 6, 7) the interviewed boaters had many potential explanations. Improving route markings was recognized as challenging, requiring authorities' involvement. The boaters also acknowledged an important factor limiting all improvements is money.

Improving internet pages was suggested as one potentially cost-effective measure. In general, the boaters identified the most important issue separating a well-managed port from a poorly managed one, as the ability to attentively listen to customers. Boaters often have practical experience on using a variety of ports, often in different countries. This experience could provide valuable information for port managers if port managers listened to the boaters. The boaters wished cities, municipalities and other authorities invested more in small ports, especially to improve safety. The boaters emphasized boating's positive impact on people's health, and environmental awareness and attitudes. Thus, boaters claimed the positive social and environmental impacts of boating should be acknowledged. The boaters wished for more interaction and transparency in port planning, with many mentioning the benefit of projects, such as the current 30MILES project, in developing small ports and increasing cooperation between ports.

#### *Port actors*

When the port actors were asked what factors affect achieving the identified objectives, all highlighted the predominance of resources and money. Berths and sanitary accommodations are expensive to build, and ports need both money and political will to build and improve them. However, actions less dependent on money were named, for example, making port areas car-free was seen to need only political courage. Many port actors wished cities would consider and develop ports as social living rooms. In developing ports, port actors wished for more political courage and risk taking from decision makers, which would also make ports more profitable. Suggestions included extending the currently short active season in small ports to make them profitable; this was considered challenging, however, and no clear solutions for this were suggested. In contrast, potentially helpful ideas included providing more events and services, and actively cooperating with other entrepreneurs.

#### *Analytic implications*

Both boaters and port actors recognized the impact of money and political decisions on ports and their goals. Yet, boaters pointed out the importance of listening to customers and taking their thoughts into consideration when developing ports. To develop sustainable ports, the boating season should be longer or even year-round, and events and services should also be offered to local people.

## 2.4 Opinions on the theoretical framework of sustainable development

Boaters were shown a figure of the three-dimensional sustainable development theoretical framework (Figure 1). The figure consists of three equal-sized circles representing a balance between economic, social (focusing especially on safety and accessibility) and environmental aspects. When these three aspects are in balance, development is considered theoretically sustainable. The boaters were asked whether the picture corresponds to their thoughts, whether they would like to modify it, and whether they think these three aspects are equally important (Appendix, Question 8).

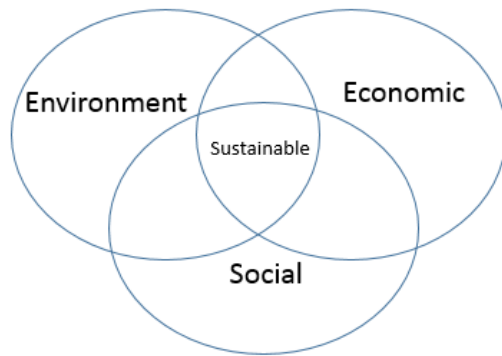


Figure 1. Three circles presenting the three different aspects of sustainability (See Elkington 1998, Thatcher 2015).

When describing sustainable port operation at the beginning of the interview, the boaters mainly talked about nature and the environment, and weighed the safety aspects regarding their own preferences in Questions 3 and 4. However, after seeing the three-dimensional sustainability framework figure, boaters mostly agreed with it. Three out of four boaters thought it a good way to think about sustainable development; if all three aspects were in balance, development would be considered sustainable. However, two boaters regarded safety paramount, with second place equally divided between environmental and economy aspects. One boater said identifying the most important of the three aspects depends on the port.

One of the boaters felt he did not quite understand the picture and therefore could not say whether it corresponded with his thoughts; based on his discussion, however, he appeared to think similarly to the other boaters. He acknowledged if the economy disregards the environment, it will collapse at some point. Safety also depends on people and the weather; thus, these three aspects actually go hand in hand, he stated. When asked whether some of the circles should be larger than the others, he replied that in small ports (in the Gulf of Finland), economy can never be the key driver, acknowledging the active season of only two months. In his opinion, a small port in this area can never be a gold mine; consequently, the economy cannot constitute the same proportion as the other two aspects.

The port actors were also shown the sustainability figure and asked the same questions. Two of them agreed on the figure as such, whereas two said the economy is the most important aspect, as without a healthy economy, the social and environmental aspects cannot be taken care of. One port actor, who agreed on the figure, identified the economy as the most worrying issue. The other port actor who agreed on the figure, mentioned safety as an important aspect, which led to the importance of car-free ports and proper and clearly marked walk ways. The port actors accepted the three-dimensional aspect of sustainable development, claiming it should be taken into consideration, at least to some extent, in port development.

## 2.5 Environmental effects of small ports

The results shown here are based on answers to the questions “What are the most important environmental effects of small ports?”, “How could the environmental effects be decreased?” and “Do some factors exist that prevent decreasing the environmental effects?” (Appendix 9a, 10a and 10d).

### *Boaters*

The greatest environmental effects of the small ports, according to the boaters, concern fuel and different types of waste, such as litter, septic tanks emissions, toxic antifouling paints and grey waters from boats. Too few places to empty septic tanks, or tanks being out of order, increases the risk of boaters emptying tanks into the sea. One of the boaters remarked the environmental burden of a small port is just a tiny part of the whole, and if septic tanks are emptied properly, the true environmental effect involves only boat traffic. However, one boater pointed out that despite the large amount of sewage water from, for example St. Petersburg, boaters being environmentally friendly is important. This relates to the significance of all actions, and improperly emptying septic tanks especially impacting locally. The interviewed boaters often believed boaters are generally environmentally conscious, but increasing their environmental education could be helpful and could change some people's attitudes. They suggested ports could serve recyclable- and environmentally friendly products, and offer ideas on how boaters could act more environmentally friendly. Boaters said environmental effects could be decreased in different ways: 1) taking better care of the waste management infrastructure (emptying containers regularly, locating them close to the ports and enabling waste sorting), 2) better maintenance of shore pump-out stations (checking and repairing them regularly, providing proper instructions on how to use them and ensuring sufficient shore pump-out stations that are safe and easy to use), 3) generally increasing boaters' environmental consciousness and 4) marking visitors' berths better, to make them easier for boaters to find. One boater additionally mentioned the availability of biofuel to boats as useful.

### *Port actors*

Three out of four port actors believed the environmental effects of small ports are relatively small. In general, the existence of a shore pump-out station or waste containers were considered sufficient guarantors of a no-spills or no-littering situation. Fuel emissions were mentioned regarding environmental effects, along with the suspicion that septic tanks are improperly emptied. However, both port actors and boaters believed boaters are mainly environmentally friendly people and if well-organized waste management and shore pump-out stations existed, they would be used, with minimal environmental effects. Two port actors said waste management could be improved; another mentioned car traffic being too busy especially at night time, therefore requiring restrictions of some kind.

### *Analytic implications*

None of the port actors mentioned any problems with using the shore pump-out stations. This was the greatest difference to the boaters, who told of inadequate numbers of shore pump-out stations, which are often broken. Problems with shore pump-out stations are common, based both on the boater interviews and a web query directed at boaters conducted in 2016 (see Vantola et al. 2018). However, port actors may be unaware of how common the problems are. In contrast, boaters had many good ideas on how to improve the use of shore pump-out stations; those ideas could be considered to increase the usability of stations and avoid emptying septic tanks into the sea.

None of the interviewees mentioned water quality or blue-green algae; one possible reason being the belief that blue-green algae are a natural phenomenon in the Baltic Sea (Hasselström 2008). However, boaters did mention the importance of shore-pump-out-stations, and the importance of not pouring the grey water in the sea. The types of problems involved in these discharges were not discussed in the interviews; such problems include: nutrients leading to eutrophication, bacteria leading to hygiene problems, or both. Other environmental stress factors in small ports not discussed involved the potential dispersal of alien species, when boating longer distances; above- and underwater noise caused by the boats; and other physical impacts boats and anchors may cause to the environment (Davenport & Davenport 2006, Leon & Warnken 2008).

## 2.6 Economic effects of small ports

This chapter includes results that are based on the answers to the questions “What are the most important economic effects?”, “How could the economic development be increased?” and “Do some factors exist that prevent increasing the economic development?” (Appendix 9b, 10b and 10d).

### *Boaters*

According to the boaters, the greatest economic effect of a small port is the resulting increased number of visitors and tourists to the port and town. Visitors use local services and bring money to the town. Some smaller ports are unprofitable, however, and could not function without a town's economic support. In those ports, the town is providing a service to the locals and visitors rather than running a profitable business. Boaters believed, however, that increasing a port's income would be important to make the port business itself profitable.

Boaters claimed leisure ports are always small and often struggling to make business profitable, with a short active season at the mercy of the weather. Therefore, their business can never be large. According to the boaters, increasing the income is possible by offering more services and new events, thus, lengthening the season. Increasing marketing and cooperating with other ports would also be helpful. Encouraging more people, also other than boaters, to use the services of small ports would be another tactic to increase income. The boaters suggested ports could have events year-round, consequently becoming social living rooms for locals. They stressed decision makers and politicians should understand the utility of boating to public health and invest more in small ports. As one stakeholder said, it is not the high income, but small expenditure that will make small port businesses sustainable. The income of small ports can never be very high, but a cost-effectively run port can be profitable. Additionally, small ports' income often comes from many small different sources instead of a single source.

### *Port actors*

According to the port actors, the economic effects of small ports result from the money boaters and tourists bring to a port and town, the employment they increase when they use services, and the increase in the number of services available in an area, which also benefits the locals. Small ports cannot live only on the income brought by boaters, local people must also use the services in the ports. Even for non-boaters, a small port will send positive signals to a wider environment, keeping in mind that small ports are ports to the town itself. Therefore, to welcome tourists to a town, ports should be well managed and inviting. Customer service must be good, because bad service sends negative signals to tourists that will affect the tourist flow of the whole town. Small ports tend to give more than take, otherwise they would not exist. Port actors suggested improvements to the economy by networking, cooperating more actively, providing a variety of different services, organizing events, increasing marketing, and trying to lengthen the season with different services and events. Generation changes in a business can also inspire fresh ideas.

## 2.7 Social effects of small ports

The results shown here are based on answers to the questions “What are the most important social effects?”, “How could the safety and accessibility of the ports be improved?” and “Do some factors exist that prevent improving safety and accessibility?” (Appendix 9c, 10c and 10d).



### *Boaters*

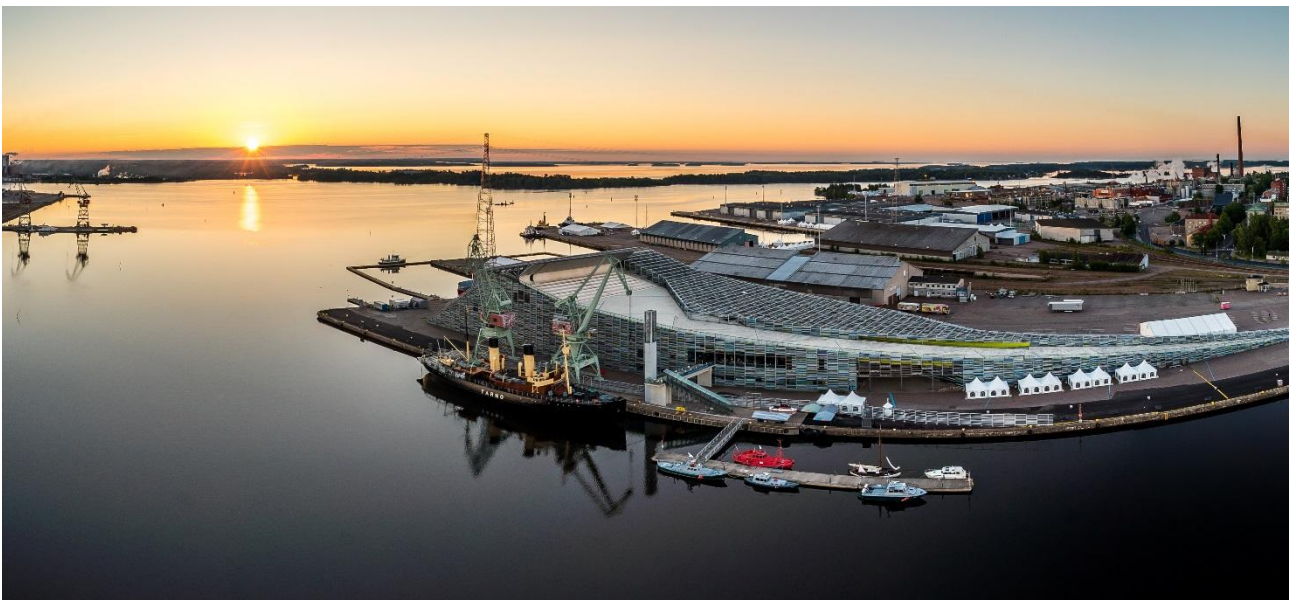
Boaters thought small ports have a strong social effect on boaters, locals and non-boaters. Small ports greatly affect a town's image, and can attract visitors from different places. Ports are places to meet people, hold events, provide local services, and welcome visitors to a town, according to the boaters. By providing more events and services, boaters believed ports could attract more local people to develop them into social living rooms.

Safety is the most important thing for many boaters; a great deal still must be done to achieve good safety levels in small ports. Suggestions to improve safety included better marking of safe routes, shoals and rocks, with available information on the sea depth, especially for sailors. Web pages could be better used, for example to provide large-scale maps of port entries; information boards at ports could illustrate warnings, and a wind gauge could help observe the wind. When a boater arrives at a port for the first time, it is essential to know the depth, wind direction, safe routes and places for visitors. Useful suggested changes in some ports include having someone help boaters to arrive at the berth, with equipment to help push a boater in the right direction. According to the boaters, some ports lack safety equipment, such as life buoys and first-aid kits, or the equipment may be in bad condition or be insufficient. Safety directions were also missing in some places. Generally, increasing guidance and safety information would be helpful, because accident prevention is essential.

### *Port actors*

The port actors claimed small ports' social effects increase employment, revive a town, bring more events to a town, and bring locals and tourists together. Some small ports are already seen as living rooms, where people enjoy services, events and a good atmosphere.

Regarding port safety, the port actors only brought up the existence of safety equipment, but not any problems with them. Three port actors did not see any problems with boats entering ports, and considered the routes well marked. Only one port actor mentioned a route should be marked better. Three out of four did not see any need for improvements in the safety level of their port in the context of boating. However, few mentioned safety could be improved by restricting the number of cars in the port area. One main difference between the interviewed groups involves safety: boaters see safety as most important, as something that should be improved generally in small ports. However, port actors rarely mention the importance of safety and seem content with safety levels, at least in their own port and in the context of boating.



### 3. Perspectives on the sustainable development of small ports in Estonia

#### 3.1 Background

When comparing Finnish and Estonian small ports and boating culture, some historical and cultural differences are noticeable. In Estonia, the current boating culture is much younger than in Finland, and consequently boating is much less common there due to the Soviet heritage of Estonia. When Estonia was part of the Soviet Union, the country's coastal areas were under military control and ordinary people had no right to own a boat or go to the sea. During that time, according to the interviewee, people lost touch with the boating culture; its new development in Estonia has started only after the breakup of the Soviet Union.

Finland has a different coastline to Estonia, which greatly impacts boating in these countries. The Finnish coastline is fragmented with different-sized islands boaters can visit with a public right of access, whereas the Estonian coastline lacks thousands of small islands. Due to the Finnish archipelago, many natural harbors exist and ports are very sheltered. When arriving at the ports, however, many rocks must be avoided. Estonian ports are expensive to build because they are open to the sea, although they are easy to access, without many islands and rocks. Estonian ports are quite shallow due to moving sand, however, making arrival impossible for some boats.

The other great difference between Finland and Estonia involves the need for a license to drive a boat: in Finland people do not need a license, but in Estonia a license is obligatory. Acquiring a license makes beginning boating more difficult and expensive in Estonia, consequently affecting the numbers of boaters in Estonia. Boating is quite expensive, and according to the interviewees, is therefore still a privilege of wealthy people rather than being a form of leisure available to the whole nation in Estonia. Despite this, according to the interviewee, the past few years has seen an increase in the number of people taking the license.

Small ports are both privately- and publicly-owned in Estonia. Ownership greatly affects port economies. Ports owned by municipalities are economically more stable, and a municipality may decide to maintain an unprofitable port if it brings other positive advantages. However, private owners must balance the budget and will be unable to run a port if it is unprofitable in the long term. This also affects the development of small ports.

The past ten years have given a major boost to Estonian small ports by the European Union Structural Funds, say the interviewees. Thanks to this funding, local municipalities or private owners have been able to invest in small ports, making them much more attractive and sustainable for boaters.

#### 3.2 Definition of a sustainable port

Small ports in Estonia differ from each other by size and location, consequently sustainability and how it can be attained also varies between the ports. One interviewed Estonian port actor thought sustainable development consists of two equally important aspects: economic and environmental sustainability. According to this port actor, economic sustainability means finding an economic balance, while simultaneously providing boaters with a sufficient service level, so they feel welcome and comfortable and all their basic needs are covered. The environment can be taken care of by using renewable energy sources, such as sun power or wind power, sorting the trash and having waste water and bilge water pump out stations in the ports.

The other port actor saw sustainable development from an economic and social perspective, claiming ports should offer people a wide range of services. The port actor believed good quality services should be provided to boaters, but also to people without boats, as only then can ports be sustainable.

### 3.3 Developing sustainable small ports

Similar to the Finnish interviewees, the Estonians believed the development of a port depends on the individual port. Initially identifying a port's own specific characteristic is important, and allows consequent development of the characteristic. If a brand-new port is to be built, location is the most important thing to consider before starting the project, said the interviewees.

Economic and environmental sustainability are the two corner stones and objectives in developing a sustainable small port both port actors agreed. According to them, many boaters still dump waste water into the sea. Only the largest of the small ports can receive waste water and even in these, often a truck empties septic tanks, as pump-out stations do not yet exist at Estonian small ports. Consequently, emptying is not easy for the boaters. Trash sorting in the boats and ports should be improved, said the port actors, claiming financial reasons explain why often only one container is available for all the different types of waste. In Estonia, septic tanks are still missing in several boats and emptying septic tanks in ports is rare. One way to change these trends, said the port actors, would be to increase the environmental consciousness of the people. Funding instruments can also motivate the ports to make environmental investments as, for example, a working shore pump-out station for waste waters is a prerequisite for support by some financiers. The most important thing, however, is to affect peoples' attitudes and encourage them to change their behavior.

The port actors thought the ports should have all the basic services such as showers, toilets, saunas and waste management. Due to the small size of small ports, their pressure on local environments was also considered quite small. However, advice on how to protect the environment included: waste management, using renewable energy sources and having shore pump-out stations for septic water. An additional identified element was the need to actively monitor the changing needs of boaters, both tourists and local boat owners. Needs may differ between younger and older generations; younger generations may, for example, be ready to share a boat instead of owning one. The world is changing, and people's mentality, especially of younger generations, are simultaneously changing. This change was speculated as impacting port business.

Both interviewed port actors said sustainable small ports need different sorts of activities or services to serve as wide a client base as possible - not only boaters, but also local people. Different services, entertainment and sport activities could be arranged and seminar clients invited having seminars in ports to lengthen the season. Events or services offered during the wintertime would be possible if the premises and infrastructure allowed. For that reason, one port actor advised that especially in smaller towns, ideally, small ports would be developed into a town hub. Cooperation with other businesses around the port should begin already when the port is built, to gain competitive advantage, for example through cross marketing.

Port actors believed that current improvements in technology have increased ports' willingness to use it both to help business and decrease costs. When more technology is used, less personnel is needed, they thought. Although using more technology often reduces personnel requirements, increasing the use of technology would help develop sustainable ports. Good-quality customer service, however, should never be forgotten or replaced by technology, the interviewees reminded.

One port actor emphasized the importance of good service level and high-quality customer service. Many other shortcomings and weaknesses of a port can be compensated by a customer service-oriented

attitude, he thought. As long as friendly staff are present, boaters can be satisfied with just a few basic services: clean showers, toilets, and saunas. Tourists arriving by boat do not only look for a place to park, but also wish for things to do, one port actor stated. Ports should either offer activities or make it easy to reach places where activities are provided.

### 3.4 Behind the respondents' reasoning

Estonian interviewees considered the key factors of sustainable small port operation as economic and environmental sustainability, people's mind-set, and laws and regulations, such as the requirements of different funds for ports. An open-minded attitude can help develop a viable economy. Real-estate development around a port affects Estonia, especially Tallinn, where the development of real estate brings people closer to the port.

Projects such as 30MILES were seen as good opportunity to develop ports and make them more cooperative. Money was also seen as a good motivator to develop small ports sustainably. In addition, favorable political changes, such as decisions to support small ports' entrepreneurs, also positively affect ports.

According to the port actors, Estonian small ports have budget issues and are reliant on EU funding and projects such as 30MILES. Losing these funds would affect their plans and development. The port actors wished the state authorities would work more effectively to popularize boating and spread the message of how a coastal life and small coastal areas can enrich life. Recently, however, several investments in ports have been made, and the media has been more interested in coastal areas. Boating was seen as an expensive hobby; therefore the increase in income of the Estonian population has helped popularize boating. The port actors reminded that nowadays, more people take small-vehicle captain paper exams to enable driving a boat.

### 3.5 Opinions on the theoretical framework of sustainable development

The holistic sustainability framework three-dimensional illustration was shown to Estonian interviewees. They agreed on the figure and conceded that a balance between the three aspects allows running a sustainable port. One port actor highlighted the social importance of a small port, especially in small towns; ports being a meeting place where events are arranged, and services offered.

### 3.6 Environmental effects of small ports

The most severe environmental effects of small ports, according to these Estonian port actors, involve waste water dumping, unsorted trash and energy creation. Both port actors agreed certain issues need addressing in Estonian small ports, such as waste management, oil spill equipment, bilge and waste water handling equipment and instructions for their proper use.

### 3.7 Economic effects of small ports

The port actors thought the most important economic effect involves boosting local surrounding businesses and tourism, and attracting people to both the port and the town. Increasing economic development requires improving cooperation between different ports and surrounding businesses. Including young people with new, fresh ideas into business could help. Ports should have events and services for various types of people year-round, to attract as many tourists and locals as possible, said the port actors. Incomes from other services than just berth rental were considered important. Finnish and Estonian interviewees seemed to have very similar thoughts about economic effects; the economy should be improved through cooperation, offering more events and services for many kinds of people and trying to lengthen the season.



### 3.8 Social effects of small ports

The most important social effect according to Estonian interviewees is a port's attraction and being a meeting point location for locals and tourists, which is particularly important in small towns. Ports should provide services and events for both tourists and local people.

Actions required to improve safety, according to port actors include: renovation of old piers, establishment of more signs, increase in safety equipment, and education on acting safely around water. Much development in improving safety in Estonian ports was considered necessary. Port safety could also be improved by improving ports' web pages and developing or using available apps with specific information about the ports, such as sea depth, current sea level and wind direction.

Interviewees claimed a major obstacle to development in Estonia, especially on the northern coast, is the shallowness of the ports. Ports tend to be shallow and boaters need to know the current sea level and the weather forecast before arriving at the port. This could be solved by dredging, which requires remarkable investment, said one port actor.

Finland has many twisting approaching routes; in comparison, routes in Estonia are usually open and no specific instructions are needed when approaching the port. From this point of view, accessing Estonian ports is often straightforward; more difficult is getting the correct information on prevailing circumstances in each port, including the depth of the port, free berths, service level, said one interviewee.

Estonian port actors had plenty of ideas on how to increase port safety, many of which were mentioned by Finnish boaters, such as more signs, more information boards and better safety equipment. Despite this similarity, with very different coastlines and port depths, challenges differ markedly between Finnish and Estonian ports.





## 4. Conclusions and recommendations

We interviewed four boaters and four port actors from Finland and two port actors from Estonia, mapping their thinking and way of speaking concerning the concept of sustainability and sustainable development in the small-port context.

Regarding small-port sustainable development, the most important issues for the boaters were: safety and environment, and for the port actors: economy and environment. The environment was an important aspect of sustainability for both groups, boaters talked about it in a more socio-ecologically oriented manner. The port actors spoke more economically, considering the environment being more of a service that must be taken care of to maintain business.

In addition, the speech of Finnish boaters and port actors differed regarding safety issues. Boaters mostly valued safety and pointed out many safety issues needing improvement in today's small ports. Port actors, instead, seemed less aware both of the challenges boaters face regarding safety, and problematic maintenance of the pump-out stations. These safety problems, however, possibly did not occur in the ports represented by these particular port actors. Noticeably, the boaters' answers concerned the ports they have visited in general, whereas the port actors mainly discussed their own ports. Interestingly, the Estonian port actors seemed aware of the safety and environmental challenges in the small ports mentioned by the Finnish boaters.

Similar to Finnish interviewees, the Estonian interviewees highlighted the differences between small ports, and the need to develop them in accordance with their individual uniqueness. The historical, cultural and geographical differences between Finland and Estonia seem to result in divergence between the countries' small ports. Accordingly, the potentially best actions to increase their sustainability may also be nationally different. One recommendation involves the ports of the whole Eastern Gulf of Finland learning from each other, changing information concerning their clients and best practices, and cooperating regarding their marketing and communications.

Much is yet to do in developing small ports in both Finland and Estonia, according to the interviews. Based on the interviews, and in many cases supported by the 30MILES client query data sets collected in the years 2016 and 2017, we provide the following recommendations:

### 1. Listen

When developing small ports, both the port actors and boaters should be heard. This was emphasized by both Estonian and Finnish interviewees. The boaters considered the most important issue separating a well-managed port from a poorly managed one is the ability to attentively listen to customers. Both listening and a good customer service were considered ways to compensate some other possible shortages of the ports. Furthermore, feedback system to discover customers' opinions could be efficient in small ports.

### 2. Increase environmental awareness

According to the interviewees, small ports could have a remarkable role in increasing people's environmental awareness. The ports could teach and offer information and ideas on how to act in an environmentally friendly manner, simultaneously striving to minimally stress the port environment itself.

Seemingly, boaters are not always aware of all the environmental impacts of boating, or tend to understate those. Large numbers of boats gathering in one area, such as a small port, can put remarkable localized pressure on the coastal environment. Other port visitors can also cause pressure. Ultimately, if not managed properly, this decreases the attraction of a site, and may cause tension among local people. Thus, in addition to enabling environmentally responsible behavior by providing appropriate infrastructure and equipment, a need exists for increasing information on the importance of using the available facilities.

### 3. Maintain and support

The interviewed port actors were aware of their role in decreasing the environmental effects of boating and port operations. However, they may not be fully aware of the practical problems the boaters face regarding, for example, the shore pump-out stations or other waste management. This hypothesis is also supported by the port user web-query data collected in the 30MILES project in 2016 (see Vantola et al. 2018). Providing a wide variety of services is advantageous, but requires their maintenance and monitoring. Additionally, clear user instructions and support services are of utmost importance.

### 4. Minimizing the vicious circle

Some small ports struggle with a vicious circle: they do not have enough customers and thus lack money to develop the port to tempt more customers and make it profitable. This vicious circle must be minimized and converted into a positive cluster effect involving interconnected companies, institutions and service providers competing and cooperating in that area (Porter 1998). According to the interviews, several things could help:

1. Apply for external investment funding  
External investment funding from local, regional or EU levels may help generate a positive twist if the investments are carefully planned. We suggest gathering information on the needs and preferences of different users and other stakeholder groups to map the most cost-effective investments for a particular port. Practices and methodology for stakeholder profiling are developed and will be published by the 30MILES project in the near future.
2. Support longer contracts with the port actors  
Port actors are often willing to invest in developing ports; however, short contracts involve risk. This hinders long-term planning, and consequently sustainability thinking.
3. Increase cooperation and cross marketing  
Working together minimizes costs, allowing partners' good ideas to be utilized. In addition, cooperation allows arranging events that would be impossible to arrange alone.
4. Utilize technology and data communications  
Modern technology and data communications can help decrease certain costs, especially when used for marketing. As shown by the 30MILES client query data (2017), informative and up-to-date web-pages are a very cost-effective way of marketing.

### 5. Aim to build a social living room

Developing small ports in an economically viable manner is important. Such development involves turning the ports into a social living room-type of urban green space, where services are provided also to

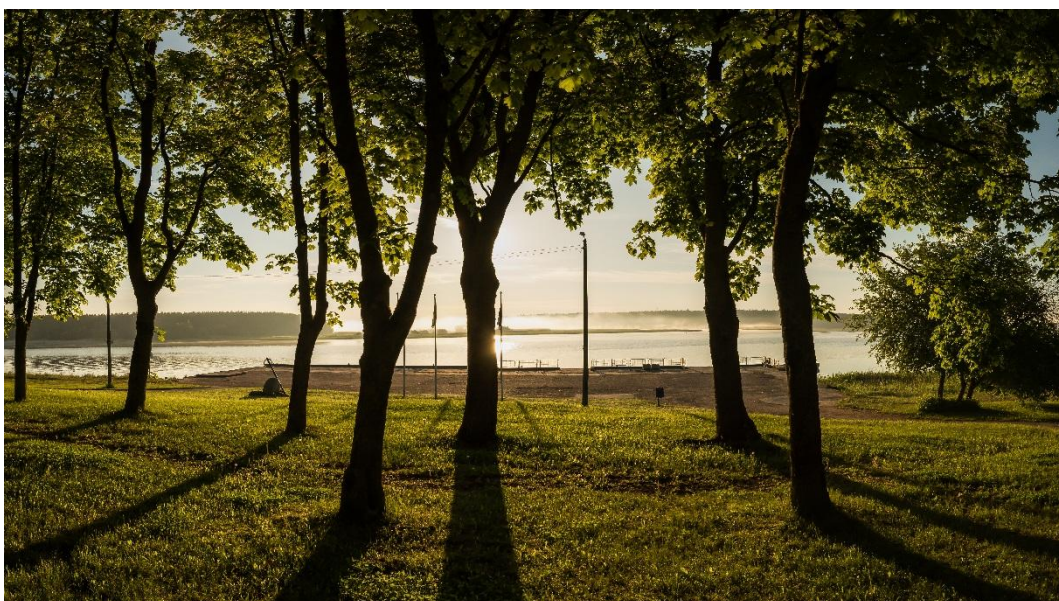
locals and people without boats, even year-round. The 30MILES client-query data (2016 and 2017) suggested many small issues, for instance, increased number of diverse events year-round; activities especially for children; organizing winter swimming and public saunas. To tempt a variety of customers, ports should find their own strengths and specialties and develop those. Especially in small towns, small ports could function as a lively center of the whole town.

#### 6. Reach the decision makers' support

Many small ports struggle with budget shortages and consequently, monetary support from the city or region is essential. Small ports noticeably tempt visitors using the services of not only the port, but also the surroundings, thus strengthening the economy of a wider area. This should be noticed in political decisions concerning small ports. A well-designed and -maintained small port is likely to attract visitors from near and far. Simultaneously, it can serve as the social living room and urban green area for locals, bringing vast amounts of social capital to the area. Thus, the productivity of a small port and the cost-effectivity of related investments should not be evaluated based on the sales of the port, rather a much broader perspective is needed.

Due to the small number of interviewees, these results are indicative and guiding rather than generalizing. The time-consuming methods, that is, interviews and careful content analysis with comparisons within and between groups and countries, restricted the sample size. In addition, conducting the interviews of Estonians in English may have affected the results. However, this study demonstrated how differently stakeholders, both individual and groups, think about the terms sustainability and sustainable development. Different aspects (environmental, social and economic) are weighed differently by different people and the same words are thought of from different perspectives, potentially giving them a different meaning. This possible misunderstanding is important to acknowledge early in the process of involving stakeholders in the planning and development work aiming at the sustainable operation of a small port.

Sustainability as a general objective should be opened and defined in more detail at the beginning of the port development project. Overall, a good way to help people and parties understand each other's thinking and minimize linguistic uncertainties in the future involves joint discussions concerning the meaning of central terminology. Such discussions build trust and mutual understanding, a prerequisite for consensus-based target-setting. Stakeholder involvement in planning and development ensures maximal overall satisfaction of different small-port user groups, commitment of key actors, and support of other related parties. These factors are of utmost importance in making long-term port operations sustainable.



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### Questions considering sustainable development of small ports

1. Tell me first a little bit about yourself.
  - a. Boaters: How long have you had a boat and what kind of boat do you have? Where do you boat and how often? How many times a month (in the summer)? How long are your trips?
  - b. Port actors: What port are you working at? How long have you been working at this port? What kind of enterprise do you have and what are your duties and responsibilities there?
2. What does a sustainable small port operation mean, in your opinion?
3. How should small ports be developed sustainably?
4. What are the most important objectives (goals) when a sustainable small port is developed? Can you put the objectives (goals) in order of importance?
5. What factors affect achieving these objectives? (negative/positive).
6. What actions are needed to achieve these objectives? (restrictions/ additions etc.)
7. Do you see issues or actions that currently complicate or prevent reaching these objectives?
8. In this project, sustainable development is considered to consist of three different aspects: environmental effects, sustainable economic development, and a social aspect, which also involves safety and accessibility of the port. (\*Show Figure 1: three circles presenting the three different aspects of sustainability). These three aspects are equally important and should be in balance. Does this correspond to your thoughts or would you like to change this? Do you agree that they are equally important?
9.
  - a. What are the most important environmental effects of small ports?
  - b. What are the most important economic effects?
  - c. What are the most important social effects?
10.
  - a. How could the environmental effects be decreased?
  - b. How could the economic development be increased?
  - c. How could the safety and accessibility of the ports be improved?
  - d. Do some factors exist that prevent decreasing the environmental effects, increasing the economic development or improving safety and accessibility?





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