

# Shared values

Background Paper

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Havs  
och Vatten  
myndigheten

# Preface

BalticSTERN (Systems Tools and Ecological-economic evaluation – a Research Network) is an international research network with partners in all countries around the Baltic Sea. The research focuses on costs and benefits of mitigating eutrophication and meeting environmental targets of the HELCOM Baltic Sea Action Plan. Case studies regarding fisheries management, oil spills and invasive species have also been made, as have long-term scenarios regarding the development of the Baltic Sea ecosystem.

The BalticSTERN Secretariat at the Stockholm Resilience Centre has the task to coordinate the network, communicate the results and to write a final report targeted at Governments, Parliaments and other decision makers. This report should also discuss the need for policy instruments and could be based also on results from other available and relevant research.

The final report “*The Baltic Sea – Our Common Treasure. Economics of Saving the Sea*” was published in March 2013. This Background Paper *Shared values* is one of eight Background Papers, where methods and results from BalticSTERN research are described more in detail. In some of the papers the BalticSTERN case studies are discussed in a wider perspective based on other relevant research.

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## 1. Motivation

The Contingent Valuation (CV) study described in background (BG) Paper *Benefits* elicited citizens' individual willingness to pay for reduced eutrophication of the Baltic Sea. Surveys were performed in all countries surrounding the Baltic Sea. The purpose was to inform the Cost-Benefit Analysis within the BalticSTERN of environmental improvements in the Baltic Sea.

This study is motivated by a desire to improve benefits assessment. The study aims to complement the CV-study, and in particular to acknowledge that there may be several ways to measure environmental values. BalticSTERN conducted a small experiment with the objective of identifying whether a *shared value* for the Baltic Sea resource exists and, if so, record and describe the deliberative process that led to it. *Shared values* are those that extend beyond the conventional economic values, based on individual consumer motivations, and try instead to probe for the existence of values driven by a collective or shared responsibility for societal well-being, that is values based on "social rights or wrongs" (see also Chapter 7.1).

The purpose of this Background Paper is to describe the deliberative valuation method and to summarize key findings and results from two focus group experiments designed to test for the existence of shared values.

## 2. Objective

The objective of the research is to test for the existence of shared values within our focus group sample. Specifically, we aim to:

- identify relevant environmental values and their underlying motivations;
- record and summarize the discussion/dialog that occurs; and
- elicit a group consensus (or describe what prevented consensus) on a 'shared value' for the resource, which may or may not be expressed in monetary terms.

The primary objective is not to attach quantitative or monetary values. We aim primarily for a discussion of the type of values – and their underlying motivations – that the group identifies. However, a possible outcome of the discussion may be quantifiable values, depending on the trajectory of the discussion.

This experiment is necessarily limited in some respects. First, due to resource constraints the experiment was limited to a sample within Stockholm, Sweden. Second, in contrast to monetary valuation approach inherent in CV, this approach is necessarily more qualitative and interpretive. Even if shared values are found to exist in our sample and if they can be quantified monetarily – they are not necessarily compatible or directly useable in a cost-benefit analysis (see discussion in Chapter 7.2).

### 3. Theory

Given that natural resources and ecosystem services are generally not priced in a market they are often and mistakenly assumed to be “free” or value-less. But how should we assign value to the welfare benefits provided by ecosystem services? What are they worth - in monetary or other terms? What types of factors are important in attributing value?

Economists rely on several techniques to explore individual preferences, including both monetary and non monetary values. That is, economists generally think of value in terms of what an *individual* is willing to give up to obtain something (e.g., an individual’s willingness to pay for a new car, computer or fishing trip). But the basic idea behind this experiment is to test whether a sample of the Stockholm population (a group) may hold *shared or collective values* for natural resources that are distinct from an *individual (or consumer) value*. The results of this experiment may challenge the conventional economic belief that all individuals maximize their own well-being, which in turn may lead society to maximize its well-being (Adam Smith’s “invisible hand”). That is, group members may use language that suggests that social well-being includes not only “*individuals satisfying their own ‘wants’ but also the fulfillment of a variety of social, health-related, and cultural collective needs*” (Fish et al. 2011b, p. 1186).

Deliberative Valuation Methods (DMV) is a technique for measuring preferences. Table 1 provides context for the DMV approach by comparing it to survey techniques, such as CV. In this framework both DMV and survey approaches assume that society faces inevitable trade-offs – a key underlying assumption to economic valuation – that are captured by measuring an individual’s or society’s willingness to trade one good for another (i.e., Willingness To Pay, WTP, or Willingness To Accept, WTA, measures). In a DMV, the value is agreed upon by a group via consensus or majority (see Fish et al. 2011a for a further description of these techniques). However, the DMV technique may also be used to elicit individual values (expressed in monetary terms) that are informed through the dialogue process itself, that is what individuals are willing to pay/accept following a group discussion. These deliberative methods may be most appropriate in contexts where so-called cultural ecosystem services are being assessed (e.g. landscapes/seascapes of symbolic and historical significance). Monetary or qualitative expressions of shared values may be used to complement conventional stated preference approaches that capture individual values in order to provide a more complete picture of total benefits generated by a particular policy.

The approach for this study is captured by the lower right hand corner of Table 1, that is testing for the existence of *shared values* for ecosystem service benefits elicited through a process of extended group discussion, debate and learning (sometimes referred to as citizen juries). The primary focus is on the *means* rather than the *ends*, that is, we wish to promote an effective group dialog that encourages discussion about the types of values at stake and debate for and against different values. We wish to expose our problem of environmental valuation to “*a variety of opinions, views, and perspectives to bring a broader and deeper expertise to decision making*” (Fish et al. 2011b). Reaching

a final answer of ‘what it’s worth is less important than (1) understanding “*why people think and feel the way they do*” (Fish et al. 2011a, p.1188) and (2) the legitimacy gained through the discussion and dialog itself. The process-over-ends approach does not preclude an attempt to measure the intensity of values in monetary or other forms, if possible.

**Table 1 Key difference between survey-based and deliberative valuation approaches**

<i>Valuation Objective</i>	<b>Individual benefit values</b> (individual WTP/WTA)		<b>Shared (collective) benefit values</b> (Social WTP/WTA)		
<i>Engagement Level</i>	Survey	Deliberative monetary valuation (group-based)			
<i>Techniques</i>	Questionnaire/ interview format	In-depth discussion	Citizens' jury/ in-depth discussion	In-depth discussion	Citizens' jury/ in-depth discussion
<i>Value expression</i>	Individuals express <i>individual value</i>	Individuals express <i>individual value</i>	Groups express value for <i>individual value</i>	Individuals express value for what society should pay ( <i>shared value</i> )	Groups express value for what society should pay ( <i>shared value</i> )

Source: Fish et al. 2011b

## 4. Method

### 4.1. Focus group

To test for the existence of *shared values* associated with reducing eutrophication in the Baltic, we rely on focus group discussions around the theme of environmental values. Our experiment relied on two focus groups (Group A and Group B) carried out on 14 June 2012, each lasting two hours. Norstat was subcontracted to handle logistics such as recruiting participants from Stockholm County (Län). Participants were screened, based on answers to several questions through the Norstat website that were developed by the research team to ensure a reasonable mix of participants with respect to age, gender, education level, income, etc (see Table 2). Participants were provided food and refreshments and compensated for their time with a gift certificate worth 400 SEK (about € 45) in local shops.

The discussion was guided by a professional moderator from Albaeco. To prepare for the assignment she participated in a meeting with the research team to review the discussion guide and was informed of the water quality issues in the Baltic Sea. Her technical training on eutrophication was purposefully kept to a minimum, as her role was to steer the discussion toward the key research questions, rather than to answer technical questions from the participants.

The discussion guide provided direction to the moderator on how to test for and identify a collective/shared value, while still maintaining an open and free discussion. The guide was informed by the nascent literature on social values (e.g., Fish et al. 2011a; Fish et al. 2011b). The research team developed the guide from April to June 2012, which involved several iterations and revisions, one of which was reviewed by Professor Kerry Turner. Further, a “pilot study group” was convened at the Swedish EPA on 11 June 2012, which provided feedback on the discussion guide. The complete final discussion guide is provided in Appendix 1.

Following a round of introductions and a brief summary of the purpose of the meeting, participants in the two focus groups were provided with information material, including a 10 min PowerPoint presentation and relevant handouts (see Appendix 2). The material described the major factors leading to eutrophication (e.g., agricultural production, transport emissions, and municipal wastewater plants) and the most common measures to address it (e.g., reduced fertilizer use, use of phosphate-free detergents, and more effective wastewater treatment). The discussion then turned to the potential values at stake when addressing water quality degradation in the Baltic Sea in general. This discussion lasted approximately 90 minutes and focused on qualitative issues related to values, motivations, priorities, and how costs should be distributed across society.



To test for the existence of shared values – and unravel the potential benefits of eutrophication measures in the Baltic Sea – the experiment focuses on five research questions:

1. Values – What types of values are at stake?
2. Motivations – What are the key motivations for different value types?
3. Prioritizing values - Are some values more important than others?
4. Intensity of values - How much of society's resources should be spent?
5. Distribution - Who should pay?

## 4.2 Data analysis

The data analysis follows a thematic approach<sup>1</sup>, capturing common themes that arise from the discussion (Massey 2011). To guide the interpretation of focus group data and to improve the transparency of results for end-users, Massey (2011) suggests a data analysis model that distinguishes between three levels of data:

- *Articulated*. These type of data arise in direct response to a moderator's question and usually comes in the form of a direct quotation from a participant during the conversation that arises in the group.
- *Attributional*. The next level of data tries to link quotations to *a priori* theories or ideas held by the researcher. It requires deeper analysis than simply collating articulated data, as it *attributes* a response (or lack of response) to a hypothesized expectation or idea to be tested.
- *Emergent*. The final level of data relates to new insights or hypothesis formulation, that is ideas that emerge from the discussion itself without be explicitly prompted by the moderator. It may include “unspoken cultural perspectives and normative values that are presumed to contribute to the participants’ beliefs, attitudes, and behaviours.” (Massey, 2011 p. 23)

This analysis relies on all three levels of data. For example, Tables 3 through 7 in Chapter 5 provide *articulated* data in response to specific questions. These data are simply presented without being analyzed. Chapter 6 provides an analysis of these specific quotations by *attributing* (or linking) them to a typical environmental economic interpretation where possible, which necessarily requires more explanation. Finally, Chapter 7 considers the overarching research question – does a shared value exist? – by examining individual comments that may be considered *emergent*, i.e., “*inductively derived themes*” (p. 25) that “*groups are not able to typically elaborate or bring to conscious conversation*” (Massey, 2011 p. 25). These type of data typically address unspoken values or beliefs.

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<sup>1</sup> Wiggins (2004) notes this is the most common analytic approach for focus group data.

## 5. Analysis

The discussion in both focus groups filled the full two hours window, with fairly even contributions from all participants. As expected some individuals were more active than others, but none were completely excluded from the debate thanks in part to efforts by the moderator.

### 5.1. Focus group demographics

Table 2 summarizes the demographics of the individuals that participated in the two focus groups. Group A included 10 individuals (5 female) and group B included 9 individuals (4 female). Ages ranged from 18 to 59 and included high school and college students, researchers, teachers and various occupations in the private sector. 14 of the 19 individuals had completed a college education and only three had at least one parent that was born outside of Sweden (Poland, Denmark, France).

**Table 2. Focus group demographics**

ID	Age	Gender	Employment	Education	Parents' country of birth
A1	59	F	Customer service representative	Completed university education	Sweden
A2	56	F	Occupational therapist	Completed university education	Sweden
A3	18	M	Student - nature	Current high school student	Sweden
A4	26	M	Student internship Clas Ohlson	Completed university education	Sweden
A5	28	F	Teacher	Completed university education	Sweden
A6	34	M	Designer	Completed university education	Sweden
A7	38	F	Occupational therapist	Completed university education	Sweden
A8	37	F	Student in real estate	Current college student	Sweden
A9	27	M	Student game development	Current college student	Sweden
A10	44	M	Sole proprietor consult	Completed university education	Sweden/Denmark
B1	26	M	IT programmer	Completed university education	Sweden
B2	29	F	Immigration authority/ maternal leave	Completed high school education	Both from Poland
B3	35	M	IT industry	Completed university education	Sweden
B4	46	F	Graphic designer	Completed university education	Sweden
B5	34	F	Funeral parlor	Completed university education	Sweden
B6	28	M	Research teacher	Completed university education	Sweden
B7	36	F	Psychologist	Completed university education	Sweden
B8	44	M	Labor department	Completed university education	Sweden
B9	23	M	Student - economics	Current college student	One from France

## 5.2. Analysis

The analysis categorizes and collates participant responses in Tables 3 to 7 based around the five key research questions. Chapter 6 synthesizes key findings based on these tables.

The tables are designed to summarize the *key arguments* made in response to each research question and provide *representative quotations*<sup>2</sup> from individuals that best capture a given argument (The initials and numbers, e.g., A7 correspond to participant ID shown in Table 2). Rather than re-iterate arguments to which the group often returned, the analysis tries to categorize key themes that arose and uncover the arguments used to support each. Since the goal of the exercise was to encourage participants to “think freely” the discussion occasionally strayed somewhat from the key themes. Despite a certain subjectivity in interpreting such dialog, the analysis of the four-hour transcript aims to distil key points in connection with the five research questions.

### 5.2.1. Values

The first question focused on the values at stake in the Baltic Sea. In order to ensure each person captured all values that he/she thought relevant – independent of whether others in the group also mention them – participants were given several minutes to consider and then write down their thoughts. The resulting post-it notes were used by the moderator to encourage discussion afterwards. Table 3 groups the values identified by participants based around common themes. In the synthesis that follows in Chapter 6.1, these values are aligned with the marine ecosystem service classification typically used in the Baltic Sea (Garpe 2008).

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<sup>2</sup> See Appendix III for the original un-translated Swedish citations.

**Table 3. Values – what values are at stake in this discussion?**

Value at stake	Representative quotation (source)
Economic values	<ul style="list-style-type: none"> <li>• <i>It affects the economy in the end (A7 p. 7)</i></li> <li>• <i>I think agriculture is going to be forced to change ... Society may be troubled with new insect species and other invasive species that may require additional pesticides in order to continue growing food. (A10 p. 7)</i></li> <li>• <i>It is important that we can use the sea as a means of transport. (B9 p. 8)</i></li> <li>• <i>Commercial fishing, business, lost jobs, lost tax revenue, etc (A9, p. 8)</i></li> </ul>
Ecosystem service values	<ul style="list-style-type: none"> <li>• <i>I think my quality of life would get worse. For me, freedom is being out in nature and if that was ruined by algae blooms each summer it would limit my possibilities. (A5 p.7)</i></li> <li>• <i>It has a value of course because we can swim and vacation at the Sea (A9 p. 8)</i></li> <li>• <i>[There is value in] being able to take your dog to the beach without being afraid of him getting infected by bacteria (B6 p. 7)</i></li> <li>• <i>The beaches because they are affected by the health of the water (B4 p. 7)</i></li> <li>• <i>That open-ocean feeling, I like that. You can find it every time. It's beautiful and nice. (B9 p. 8)</i></li> </ul>
Human health values	<ul style="list-style-type: none"> <li>• <i>I think of people's health. If you have to swim in polluted water it's not so healthy (A9 p. 8)</i></li> <li>• <i>We must have edible fish, both for us as humans and for the system (A2 p.7)</i></li> <li>• <i>Nutritious fish that is produced locally ...</i></li> <li>• <i>It contributes to psychological health. It's been shown in research that beautiful nature helps sick people get healthy faster after operations. (B9 p. 8)</i></li> <li>• <i>That idea that we may get depressed (as a society) and become less healthy ... I think that is very very important. (B5 p. 8)</i></li> </ul>
Ecological values	<ul style="list-style-type: none"> <li>• <i>The Baltic Sea ecosystem itself because when one thing goes wrong, it can cause a big problem. We always under-estimate how everything is connected. (A10, p. 7)</i></li> <li>• <i>If the creatures at the bottom of the Sea disappear I think that plays a big part in the health of the other fish (A4 p. 8)</i></li> <li>• <i>What causes me concern are the birds. I don't know if it means so much economically but there is very little concern for them .... (A1 p. 7)</i></li> <li>• <i>The richness of species in the Sea. That has a value in itself (B3 p.7)</i></li> <li>• <i>The ecological system. Some fish take over and that creates an unbalanced system (B4 p. 7)</i></li> <li>• <i>Biological diversity (B1 p. 7)</i></li> <li>• <i>Our ecosystem ... that it suffers environmental consequences of course. The ocean is the system's lungs. If the Sea is not functioning well today, who the heck knows what will be functioning in 100 years? (B7 p. 8)</i></li> </ul>
Peace & Int'l cooperation	<ul style="list-style-type: none"> <li>• <i>This thing about cooperation today ... that countries can work together and that you can see how countries can have exchanges between one another (A1 p.5)</i></li> <li>• <i>We risk losing the friendship of our neighbours. (B3);</i></li> <li>• <i>The divisions between Baltic states will increase [if we can't protect the sea] (B5 p. 7)</i></li> </ul>
Individual growth and learning	<ul style="list-style-type: none"> <li>• <i>If you live in a healthy environment you can be fascinated by nature. And this can in turn affect your life. An inviting and healthy nature could be lost. (B3 p.7)</i></li> </ul>
Cultural landscapes	<ul style="list-style-type: none"> <li>• <i>The cultural landscape on the mainland, with its connection to towns, agriculture, fishing, industries, old fishing villages and such ... This connection disappears if something happens to the sea. (B8 p. 7)</i></li> </ul>

### 5.2.2. Motivations

The second research theme focused on the motivation underling the values identified in Table 3. Why do people think they way they do? Why did individuals select certain values? The discussion was more free-flowing and less structured than the post-it note approach above. Table 4 identifies the types of motivations identified by participants.

**Table 4. Motivation – what is the motivation for the values identified above?**

Key motivation	Representative quotation (source)
Survival	<ul style="list-style-type: none"> <li>• <i>Life ... to be able to live</i> (B4 p. 9)</li> <li>• <i>Water is of course life, if you look at it from a crude perspective</i> (A8 p. 9)</li> <li>• <i>If we don't have our health, then we basically have nothing</i> (A7 p.9)</li> <li>• <i>Anything that prevents us humans from re-producing is a problem [referring to hormone changes from fish consumption] so that in the end perhaps even reproduction is impossible</i> (A8 p.9)</li> <li>• <i>That we affect what we eat in a negative way ... this causes us to consume poison</i> (A5 p. 9)</li> <li>• <i>We are of course just 'borrowing' the planet. It will eventually get rid of us, after we have destroyed it enough. We will disappear, but not the planet.</i> (A10 p.9)</li> </ul>
Seeking better quality of life – both for <b>mental and physical health</b>	<ul style="list-style-type: none"> <li>• <i>There is research that shows that if you live near open green spaces you feel better psychologically. I think this is true with water also.</i> (A5 p.8)</li> <li>• <i>The sea is a recreational area for us, but if we're not directly dependent on it for survival then we lose our connection to it.</i> (A10 p. 11)</li> <li>• <i>It's important for me to know that I can go out and paddle.</i> (B8 p.9)</li> <li>• <i>If people realize that they can do something for themselves and for their country and their countrymen, then it can move the focus from the individual to his/her surroundings and then people feel much healthier.</i> (B5 p. 14).</li> </ul>
Improved <b>economic</b> conditions	<ul style="list-style-type: none"> <li>• <i>Competition between the Baltic states may become tougher if it's no longer easy to harvest resources from the sea. Instead, we will compete harder with each other.</i> (A1 p. 9)</li> <li>• <i>No tourists will want to come visit our country. Nobody will be curious about our country anymore.</i> (A7 p. 9)</li> </ul>
Desire & <b>satisfaction from solving problems</b> – both in Sweden and Internationally	<ul style="list-style-type: none"> <li>• <i>For me it's important that we all try to be better all the time. The Baltic may be a big problem among many, but we can't just ignore it.</i> (B1, p.9)</li> <li>• <i>That people take responsibility, that is key for individuals to feel better and healthier as a person. I know I feel better knowing that we are all trying to go in the right direction.</i> (B5 p.9)</li> <li>• <i>If we see a problem, then we must do something about it. That is an inner drive in humanity</i> (B4 p. 9)</li> <li>• <i>If we can each show that we can in fact make a change, a difference, then it becomes easier for others to 'take up the right'</i> (B6 p. 15)</li> <li>• <i>If this is successful – fixing the Baltic – then we can use it as a trend to show that other problems can also be solved</i> (B8 p.14)</li> </ul>
Concern for <b>future generations</b> and <b>values that may become scarce</b>	<ul style="list-style-type: none"> <li>• <i>What kind of world do I want to leave to my children?</i> (A5 p.7)</li> <li>• <i>It's too bad that we have to import fish from the other side of the world... I think also about other parts of the world where people may not take care of their ocean either. If we don't make sure we have healthy fish near where we live, then we may not get it anywhere.</i> (B7 p. 8)</li> <li>• <i>We may not be able to live in the globalized free trade world for ever where we can import fish</i> (B3 p. 11)</li> <li>• <i>I saw a futures analysis where they were talking about how clean water will become increasingly rare. If we can extract clean water from the Baltic, that may lead to strong economic advantages in the future also.</i> (A6 p. 12)</li> </ul>
Concern for <b>non-humans</b>	<ul style="list-style-type: none"> <li>• <i>Many of these ideas we are discussing are human-centric. There aren't many that seem to care about the birds if you can't eat them ... or if the plankton in the sea disappears.</i> (B3 p.9)</li> </ul>
Devils advocate	<ul style="list-style-type: none"> <li>• <i>Perhaps we can only do the best we can ...It might just be the case that we have to live with a different environment in the future. and who knows, we might just have to instead think of the sprat and the roach [species that benefit from eutrophication]</i> (B6 p. 11)</li> <li>• <i>Like you said, perhaps we will just get used to these changes</i> (B5 p. 10)</li> </ul>

### 5.2.3. Prioritizing values

The third area of interest was in eliciting a prioritization over the values discussed, that is, are some value more important than others - why? How do you weigh personal interest against social interest when discussing these types of values? Table 5 summarizes some of the key arguments in the discussion that arose about how to prioritize values for decision-making and links some of the indicative.

**Table 5. Prioritizing values – are there some types of values that are more important than others?**

Key argument	Representative quotation (source)
Hard to choose one value	<ul style="list-style-type: none"> <li>• <i>Some things are connected. If you take away one thing, the others fall apart.</i> (A6 p.11)</li> <li>• <i>If we ignore the necessary measures, then the economy might grow. But then if it becomes really bad in the Baltic, the whole economy may be destroyed</i> (A3 p.12)</li> <li>• <i>There are of course a lot of taxpayer funded activities such as schools, health care, etc. and what about reducing these things to improve the Baltic ? ... I don't know, of course we should fix the Baltic but...</i> (A5 p. 14)</li> <li>• <i>If I was a farmer and was dependent on using a lot of nitrogen and phosphorus in order to make a profit and put food on the table, then I think I would place my interest higher than society's</i> (B6 p.11)</li> <li>• <i>Our geographical position plays a big roll here. If we all live far from the coast instead, this discussion might be a little different ...</i> (B2 p.11)</li> </ul>
Values derived from <b>ecological systems</b> are most important	<ul style="list-style-type: none"> <li>• <i>The most important is that the ecological system functions. It is of course the basis for everything else up the food chain</i> (A2 p.11)</li> <li>• <i>Biological diversity is very important for me</i> (B1 p.12)</li> <li>• <i>I can live without Swedish cod. But I understand that the Swedish cod has an roll for diversity, a value in the future for everybody</i> (B7 p. 13)</li> </ul>
Values derived from the <b>economy</b> are most important (especially those that benefit Sweden specifically)	<ul style="list-style-type: none"> <li>• <i>I'm also wondering how environmental activism is doing in Greece right now ... with the politics there...</i> (A1 p. 11)</li> <li>• <i>Yeah, perhaps we should see the measures as a purely economic issue and see what society can "win" from taking them</i> (A8 p. 14)</li> <li>• <i>Yeah, maybe the measures will create a lot of jobs</i> (A10 p.14)</li> <li>• <i>But we must be able to create jobs. It can't just be costly for society to take these measures, we must of course get something back from what we put in</i> (A2 p. 14)</li> </ul>
Human use values such as <b>recreation</b> are important today - especially for mental health	<ul style="list-style-type: none"> <li>• <i>I need to know that when the summer comes I can lay on a warm cliff somewhere and look at the stars. I need to know this, otherwise I won't survive. It's that simple. ... If I can't do that next summer, then I'll just emigrate to a place where I can.</i> (B8 p.9)</li> </ul>
Values associated with our <b>health and food production</b> are more important than recreation	<ul style="list-style-type: none"> <li>• <i>I can adjust to never being able to swim again in the Baltic perhaps ... We can all adjust. ... The main thing is that we survive. What will happen if we suddenly cannot grow food anymore ?</i> (B7. p.12)</li> <li>• <i>When it begins to affect our health, like our lungs, that's when something is wrong and something must be done. That is the most important, our health.</i> (B6 p.13)</li> <li>• <i>But those of you who live inland and can't swim in the Baltic, you go somewhere else and swim right ? You find solutions of course ...</i> (B4 p.13)</li> </ul>
Values from <b>other marine ecosystems</b> are more important	<ul style="list-style-type: none"> <li>• <i>It is of course a big problem in the Baltic, but there are also other oceans that are in much worse shape</i> (B6 p. 15)</li> </ul>
The value associated with <b>research</b> - we need to know more about the effects	<ul style="list-style-type: none"> <li>• <i>I also think research is incredibly important. We have to investigate and create a scientific basis for how to act</i> (A2 p. 13)</li> </ul>
The value associated with <b>outreach and communication</b> are most important – the general public need to be better informed about	<ul style="list-style-type: none"> <li>• <i>A little fear propaganda might be good. that is, do we really want it like this?</i> (A8 p. 13)</li> <li>• <i>We often meet people that have worked in dentistry in the 1940s and 1950s with mercury fillings. Back then we didn't know any better and we considered it to be a good material for the job. But if we have knowledge today and we can use it to inform the farmers (about the impacts of excessive nitrogen) then I think they would act differently. I suspect they are just like us in terms of sensitivity about nature and the need to protect it</i> (B8 p.11)</li> <li>• <i>Trying to convince people that this is a problem, informing them of the consequences of inaction, getting everybody on board – that is also a possible solution</i> (A2 p.14)</li> </ul>

#### 5.2.4. Intensity of values

Given that nearly all respondents agreed that there were legitimate values at stake and that society should consider spending resources to address eutrophication, a natural follow-on question was *how much should society spend?* The moderator was not specific about how the money should be spent (tax, special fund, etc), leaving this open to respondents.

In the event that respondents asked about what society pays for other programs, a pie diagram was prepared showing the distribution of Sweden's federal budget. This issue did not arise in the first group, but the second group inquired and received the pie diagram, showed in Appendix I. Table 6 summarizes the types of responses received.

**Table 6. Intensity of values – how much should society pay for these measures?**

Key argument	Representative quotation (source)
Society should consider <b>what it costs</b> to carry out the measure	<ul style="list-style-type: none"> <li>• <i>How much will it cost? Do we have the budget to cover this?</i> (B6 p. 17)</li> <li>• <i>Yeah, depends on what it costs .. but nonetheless it is a decision that must be made somewhere by someone...</i> (A8 p.16)</li> <li>• <i>Am I the only one that thinks it's strange that Spain received 9 billion kronor to save the banks and ... the whole system. Where does all this money come from?</i> (A1 p.17)</li> </ul>
<b>We should pay now</b> because if we wait it will become more expensive	<ul style="list-style-type: none"> <li>• <i>Something must be done now because if we wait 10 years it's not exactly going to get better</i> (A7 p.17)</li> <li>• <i>It's going to be more expensive later</i> (B5 p.14)</li> <li>• <i>It's going to be a long-term impact, especially since it will only get more expensive later</i> (B8 p.14)</li> <li>• [after the state budget was presented] <i>This seems ... like an extremely small contribution. I would really like to see us commit more money [to environmental issues]</i> (B5 p. 17)</li> </ul>
It's not about money or costs, we should <b>simply force society</b> to carry out the measures	<ul style="list-style-type: none"> <li>• <i>One type of society's resources that could be used here are regulations themselves. It doesn't have to be money per se</i> (B8 p.14)</li> <li>• <i>... I think that above all we must influence companies themselves because they have the resources to address this ... We can use regulations ... It's as simple as fining and penalizing them if they don't follow the rules.</i> (B1 p.15)</li> <li>• <i>I don't believe at all that we can assume that everybody wants to have a better environment ... I think we have to use the 'stick' just like when we made it obligatory to serve military duty</i> (B7, p.11)</li> <li>• <i>I would prefer regulations that force companies to do things rather than an innovation fund that society pays into.</i> (B1 p.16)</li> <li>• <i>It's important that society – that is, the state – works with regulations that force people to change their lifestyle.</i> (B1 p. 15)</li> </ul>
We should consider <b>giving incentives to different actors</b> ; regulation can be expensive	<ul style="list-style-type: none"> <li>• <i>... It would really be great if it was in fact socially profitable to invest in the environment</i> (A10 p. 17)</li> <li>• <i>We should tax things that have a negative effect on the environment and reduce the taxes on organic food. Raise taxes on the worst environmental activities.</i> (A5 p.15)</li> <li>• <i>Regulations cost companies money, of course, which means they will scale back on other things, which can then lead to a reduction in our GDP</i> (B3 p. 16)</li> <li>• <i>Taxes are beneficial because they generate income... They also cause companies to re-design their production when taxes increase, which then allows us to reach our environmental goal. And it only affects those who have paid the tax.</i> (B8 p.18)</li> <li>• <i>But the problem with taxes is that production may be shut down or moved to another country where it won't be taxed. This is really a puzzle ...</i> (B8 p.18)</li> <li>• <i>If we actually set a tax on a product for environmental reasons, then I would like to see that revenue earmarked just for environmental causes. Right now all the money ends up in a great big hole and then we don't really know the effect of the tax</i> (B1 p. 18)</li> <li>• <i>I don't know if there is a fund that could be used to help pay for these measures? We don't know what the measures will cost. But one of these funds could be used to get an overview of all the countries, and then we could see where we could optimize the expenditures. That's where the money should be spent.</i> (B6 p.17)</li> </ul>

<p>We should <b>ensure continuity</b> of payments over time</p>	<ul style="list-style-type: none"> <li>• <i>But this becomes dependent on politics in the long-term and that is why I am sceptical of paying for this with State money. The political situation is always changing back and fourth. That's why I am thinking about business instead ... but to be honest I'm not sure how that would work either. (B7 p.18)</i></li> <li>• <i>I would like to add one thing regarding the continuity idea ... Of course, that's important. Otherwise, by the end there might not be any money left. It's better that we understand the problem and then apply a solution until it's complete. (B8 p. 19)</i></li> </ul>
<p>It depends on what it's worth;</p>	<ul style="list-style-type: none"> <li>• <i>I don't think being environmentally friends is more expensive. I think it's just about deciding which values are most important. (A8 p. 12)</i></li> <li>• <i>The measures could be extremely expensive ... in that case we'll have to see whether it's actually worth it (A9 p. 17)</i></li> <li>• <i>... But I don't think that regulations and laws and such will necessarily provide us with a more sustainable lifestyle for us or our descendents. Rather, there is something else that needs to change in every person's soul. Our fundamental values about how we treat the world we live in. Something must change ..... (B8 p.15)</i></li> <li>• <i>I still think that common sense valuations from our fellow citizens are super important (B8 p.18)</i></li> <li>• <i>But actually, it is interesting to think about setting a maximum limit for how much we should spend on this ... but it's hard to say how much that should be (B3 p.17)</i></li> </ul>



### 5.2.5. Distribution

Finally, the experiment addressed the distribution of costs across society. Given that the proposed eutrophication measures are costly to society, the question is who should bear the costs of these measures? Table 7 summarizes the types of responses received.

**Table 7. Distribution – Who should pay for these measures?**

Key argument	Representative quotation (source)
Everybody should contribute in some way	<ul style="list-style-type: none"> <li>• <i>This can't be blamed only on the business sector or agriculture ... We're all guilty when we buy their products. It shouldn't be blamed on any particular entity</i> (B6 p. 17)</li> <li>• <i>I think the whole society needs to change</i> (B5 p.11)</li> <li>• <i>Small companies think it is too expensive to recycle and such and that's where society should contribute and help.</i> (B4 p. 15)</li> <li>• <i>Penalties and fines might not be the right thing ... We might have to help invest as a society and help companies invest in new things</i> (A10 p.16)</li> <li>• <i>Yeah, but [the Baltic Sea] is a common resource for everybody. Therefore it is reasonable that we use common social tools [such as taxes].</i> (A1 p.15)</li> </ul>
Private companies should contribute through innovation	<ul style="list-style-type: none"> <li>• <i>Technical solutions are possible, of course. It's really just a cost question. But then, whether those companies should bear those costs themselves, that should perhaps be discussed</i> (A10 p. 16)</li> </ul>
Private companies that are responsible should be forced to pay (e.g., PPP)	<ul style="list-style-type: none"> <li>• <i>Well, of course, if you find companies that are polluting a lot, and releasing phosphorus and such [they should bear the costs themselves]...</i> (A10 p. 16)</li> <li>• <i>... I think that above all we must influence companies themselves because they have the resources to address this ... We can use regulations ... It's as simple as fining and penalizing them if they don't follow the rules.</i> (B4 p.15)</li> <li>• <i>But of course we have identify those actors that are causing the largest emissions</i> (B10 p. 13)</li> </ul>
Consumers should be willing to pay more for products to reduce environmental impact	<ul style="list-style-type: none"> <li>• <i>There is a Polish make-up company that is supposed to be very environmentally friendly. I think we just have to choose to buy things that are perhaps a little more expensive but quite simply better for the environment.</i> (A8 p.15)</li> <li>• <i>But most often the companies pay themselves [for the more expensive production costs] and then this is passed on to consumers. If you choose to buy things from China [because it's cheaper] then you have to accept the environmental costs you are imposing on the planet</i> (A8 p.16)</li> </ul>
Sweden should carry a heavier burden – or, in any case, shouldn't avoid responsibility	<ul style="list-style-type: none"> <li>• <i>But couldn't we Swedes think like this: as long as we do the right thing then we can be satisfied with that? ... Personally, I believe that somebody must take the first step and since we have the capacity and finances to do it, why not start ?</i> (B8 p.17)</li> <li>• <i>We need to do a little more. We have a good standard of life here and the fact that we give 1% of our GDP to environmental work around the world ... well, maybe that's because it's needed.</i> (A8 P.13)</li> <li>• <i>Those other countries around the Baltic probably have it much tougher than we do [economically] and a different development history. They might be fighting to survive. And we all have to consider how we can pay for this. I think we all have very different opinions about this Baltic Sea ...</i> (A10 p.12)</li> <li>• <i>If the effect of tougher regulations is that we import products from other states around the Baltic – which turns out to be the same production process that we don't want to allow here because of our regulations – then we're doing something wrong, I think.</i> (B3 p.17)</li> <li>• <i>We import [environmentally damaging] products that we could have produced here, then pat ourselves on the back and we don't even care that this was produced somewhere else instead. Yeah. That's weird.</i> (B1 p.17)</li> </ul>
Other countries around the Baltic should contribute, too, not just Sweden	<ul style="list-style-type: none"> <li>• <i>We need to [apply] the same resources as the Baltic countries ... We can't do something here [undertake measures], but then those countries don't do as much over there. Or the opposite. We can't achieve any lasting result like that.</i> (A7 p.2)</li> <li>• <i>It is a good idea actually with a program of measures that everybody [all countries] must implement because ... well, everybody should do something.</i> (A3 p.2)</li> <li>• <i>I read an article about emissions in China where industry is systematically building factories over there without emissions control because they know that, in the end, "we" in the western world will paying for it on their behalf.</i> (A5 p.12)</li> </ul>

## 6. Key findings

This chapter synthesizes the key findings compiled in Tables 3 through 7 above.

Participants exhibited surprisingly comprehensive knowledge about water quality issues, despite our fairly random selection process designed in part to screen out individuals who are actively engaged in environmental issues. This may be the result of random selection or it may indicate that citizens in Stockholm County have a particularly strong relationship with the Baltic Sea. Importantly, both groups provided evidence to support the hypothesis that a shared value for this resource may be real (see Chapter 7.2). The only immediate difference between the groups was a higher level of sophistication in responses provided by participants in Group B. The similarity of responses justifies the analysis of data in aggregated form.

### 6.1. Values

Table 8 provides a more detailed list of the values identified in the words of the focus group participants. Table 9 links these identified values to the comprehensive marine ecosystem services classification used in policy analysis in the Baltic (see Garpe 2008).

**Table 8. Detailed list of “values at stake in the Baltic” identified by focus group participants.**

1)	Economic values
	a) tourism (operators and businesses dependent on the sea)
	b) commercial fishing (fishermen and the related industries)
	c) agriculture (dependent on services provided by the sea, that is is affected by water quality as much as it affects water quality through its emissions)
	d) employment opportunities (e.g., from tourism, fishing, agriculture)
	e) tax revenues (government needs businesses that can profit from services provided by the sea)
	f) form of transport (ride the ferry)
2)	Nature’s service values
	a) quality of life (e.g., freedom, a place to vacation, nature experience, etc)
	b) recreational activities (boating, swimming, fishing, paddling, diving, jet ski, water ski)
	c) sandy beaches (represent a value in and of itself, even for those who do not swim)
	d) open sea (unique values associated with an “open and free” ocean)
3)	Human health values
	a) clean aquatic environment for physical health (contamination leads to health impacts for humans (and pets) due to water contact, e.g., swimming, diving etc)
	b) food source for physical health (edible food source, local food source, healthy food)
	c) Psychological health benefits of protecting common resource (national consciousness/identity)
4)	Ecological values (non-use values)
	a) services provided by nature (see recreation above)
	b) ecological interdependencies that we depend upon (value in maintaining balance)
	c) ethical treatment of nature (value in protecting wildlife for their own sake)
5)	Opportunity for peace and international cooperation
6)	Individual growth, education, and learning from marine resources
7)	Cultural landscapes connected to the sea

The classification in Table 9 includes a division between final and intermediate ecosystem services, as identified by SaWAM (forthcoming) which notes that “*Final services can be seen as services that provide direct utility to society, while intermediate services provide inputs to the production of final services.*” For example, nature’s ability to mitigate the forces of eutrophication would be an intermediate service while a final service may be the recreational opportunity afforded by a healthy water body. From a valuation perspective it is useful to focus on final services because a more direct link can be made to social well-being. Further, it avoids a common accounting mistake: double counting nature’s benefits (see e.g. Boyd, 2007). By valuing the final service we inevitably capture at least part of the value of the intermediate service (eutrophication mitigation) that was required to provide the final service (recreation).

**Table 9. Linking values identified by the focus group to the marine ecosystem service classification by Garpe (2008)**

MEA <sup>1</sup>	Ecosystem service	Type of service <sup>2</sup>	Identified by focus group (abbreviations from Table 8)
S1	Biogeochemical cycling	Intermediate	No
S2	Primary production	Intermediate	4a
S3	Food web dynamics	Intermediate	4
S4	Diversity	Intermediate	4
S5	Habitat	Intermediate	4
S6	Resilience	Intermediate	4
R1	Climate and atmospheric regulation	Intermediate	-
R2	Sediment retention	Intermediate	-
R3	Eutrophication mitigation	Intermediate	-
R4	Biological regulation	Intermediate	-
R5	Regulation of hazardous substances	Intermediate	3a
P1	Food	Final	3b, 1b, 1c
P2	Inedible goods	Final	-
P3	Genetic resources	Final	-
P4	Chemical resources	Final	-
P5	Ornamental resources	Final	7
P6	Energy	Final	-
P7	Space and waterways	Final	1f
C1	Recreation	Final	2, 3a
C2	Scenery	Intermediate	2c, 2d
C3	Science and education	Intermediate	6
C4	Cultural heritage	Final	7
C5	Inspiration	Intermediate	2d, 3c
C6	The legacy of the Sea	Final	2a

Source: Based on Garpe (2008), adapted by SwAM (forthcoming)

<sup>1</sup> MEA refers to the Millennium Ecosystem Assessment classification into Supporting, Regulating, Provisioning, and Cultural.

<sup>2</sup> Type of service is based on own classification, but considers Boyd 2007

As shown in Table 9 respondents identified mostly final ecosystem services, which is expected given that well-being is obviously connected to services that impact an individual's quality of life. For example, popular responses focused on *recreational use* (sailing, swimming, boating, etc; see 2 in Table 8) and direct *economic outputs* (e.g., employment provided by commercial fishing and fish consumption; see 1 in Table 8). Also of direct relevance to respondents' quality of life was the potential *human health* values (3a and 3b in Table 8) affected by decreased water quality, including adverse impacts from eating contaminated fish or swimming in polluted water (both for humans and dogs). Further, some pointed to the environmental benefits of locally-produced food sources from the sea.

However, a number of respondents also identified services that this study considers to be intermediate. For example, there was a high level of sophistication in discussing the *ecological values* at stake (4 in Table 8), with some individuals explicitly identifying the interdependencies and complexities of such systems, not only for what they provide human society but, from an ethical perspective, what they provide individual species (4c in Table 8). In addition to physical health, many stressed the *mental health values* (3c in Table 8) that come from living near a clean environment and open space, as well as the fact that some may benefit psychologically just from being involved in the protection or improvement of a national and common resource. This report's classification considers these *inspirational* ecosystem services to be intermediate in the sense that they make possible final products, such as artwork or education.

Finally, there was significant agreement that the Baltic Sea is a transboundary resource that plays a key role in bringing countries together and avoiding cross-border conflict, that is, *supporting and promoting international cooperation*. Interestingly, this value type does not fit into the comprehensive list of marine ecosystem services provided by Garpe (2008). This is also true of *4c ethical treatment of animals*, as this value seems to be important to some individuals independent of any (positive or negative) consequences for social welfare.

## 6.2. Motivations

Respondents identified a diverse set of motivations in Table 4, ranging from *survival* (human life may not exist without these values) to *devils advocate* (perhaps humans can adjust to changing conditions over time). As discussed in Chapter 7.2, some of these motivations can be interpreted as support for the existence of a shared value. Further, some of these were consistent with the motivations provided by CV survey respondents in a similar study in the late 1990s (see Chapter 7.2).

It is interesting to compare the participants' motivations to those that underlie the Total Economic Value (TEV) framework upon which CBA relies. TEV reflects the categories of value that are relevant in a non-market valuation context. TEEB (2010) defines it as "a framework for considering various constituents of value, including direct use value, indirect use value, option value, quasi-option value, and existence value." Because the respondents allude to each of these value types in the focus group discussion, it is important to

define each:

- *Direct use*. Benefits from an ecosystem that are used directly by an economic agent, including consumptive (harvest) and non-consumptive uses (enjoyment of scenery).
- *Indirect use*. Benefits derived from an ecosystem that are used indirectly by an economic agent, for example purification of drinking water filtered by soils or wetlands.
- *Non-use values*. Benefits that are not connected to either direct or indirect use. They frequently include the following:
  - *Existence value*. Benefit that individuals place on knowing that a resource exists, even if they may never use it.
  - *Option value*. Benefit associated with being able to use a service at some point in the future, if not today.
  - *Quasi option value*. Benefit of avoiding irreversible damage today. The benefit is that waiting may provide future knowledge that better explains the implications of (irreversibly) damaging the resource today.

Some respondents focused their motivation on direct uses such as practical survival needs (food source, clean water, etc), or on simple desires for improved quality of life (recreational opportunities). To support the pure economic values, one respondent noted that the failure to protect common resources might lead to costly economic competition among resource users (countries) to capture increasingly scarce resources. Another noted that tourists may choose not to visit Sweden if the country does not appear to care for its environment. Some pointed to ethical concerns – either for individual bird and phytoplankton species themselves or for future unborn human generations, where the latter captures an existence value. One person seemed to touch upon the concept of option value associated with access to clean water (*I saw a futures analysis where they were talking about how clean water will become increasingly rare. If we can extract clean water from the Baltic, which may lead to strong economic advantages in the future also A6 p. 12*). A similar concept is found in this comment regarding fish stocks: *I think also about other parts of the world where people may not take care of their ocean either. If we don't make sure we have healthy fish near where we live, then we may not get it anywhere.* (B7 p. 8).

Interestingly, several noted that inherent human ingenuity should motivate a desire to address and solve environmental quality problems – in the Baltic or elsewhere. Humans derive satisfaction from finding solutions to challenging problems, which, in one sense, motivates our interest in acting now to prevent further loss of value.

Finally, there was some uncertainty among the group, with one individual sparking a lively debate about whether some of the groups' motivations were exaggerated, that is, can we not adapt to a changing environment as our parents have done over the last 30 years, or must we address each and every negative environmental impact?

### 6.3. Prioritization of Values

Despite the thoughtful and variable motivations discussed above, it was challenging to get individuals to select one set of values over the others for use in decision-making. Many recognized the interdependencies of many of the values, which not only made it difficult to select one specific value, but also implicitly suggested that by protecting one value (e.g., ecological), society would jointly protect others (economic). Others noted that it depended very much on one's perspective – those living inland or making a living through agriculture were likely to respond differently than this mostly urban focus group.

However, there was an implicit acceptance that society must give up one thing in order to achieve another, that is, prioritization was necessary, if difficult. For example, some explicitly acknowledged that other social services (health care, school, etc) might need to be cut if we agreed to focus more resources on the Baltic Sea. Further, some respondents noted that Swedes use too many resources today and that such behaviour would have to change if one wishes to reach better environmental outcomes. Others criticize the short-term economic profit motive for causing problems, which implicitly acknowledges a trade-off in the short term between economic profits and environmental quality. However, others suggested that lack of money was not the problem, but rather lack of knowledge, that is, priority should be set on both research (what are the impacts on well-being from a polluted lake?) and outreach and communication (how can we better inform citizens of what we already know about water quality improvement measures?).

The participants spent considerable time discussing the inevitable trade-off between environmental and economic interests. For example, some suggested that we should focus on measures that create jobs, increase tax revenues or support a strong economy, which are all pre-requisites for caring about the environment (one respondent sarcastically and rhetorically asked the question, *Yeah, I mean, how's the environmental movement doing in Greece right now?* A1 p.11). But others disagreed and stressed ecological values, for example, *I can live without Swedish cod. But I understand that the Swedish cod has an roll for diversity, a value in the future for everybody* B7 p. 13).

Some suggested that we should focus society's scarce resources on *adapting* to a changed Baltic Sea rather than *mitigating* every change, especially those changes that we could live without (e.g., swimming, which can be done elsewhere). This sparked a discussion about the trade-off between desires and needs. Some suggested that the opportunity to spend leisure time by the Baltic Sea (e.g., swimming, paddling, etc) was critical to their own well-being and mental health, while others suggested that the most important values should be those focused on survival: food and physical health (*I can adjust to never being able to swim again in the Baltic perhaps ... We can all adjust. ... The main thing is that we survive. What will happen if we suddenly cannot grow food anymore?* B7. p.12).

## 6.4. Intensity of Values

It was nearly impossible to elicit what participants thought was a reasonable monetary figure for these measures. However, since the experiment's aim was more on observing a dialogue about types of values rather than forcing participants to give a specific figure, this is a somewhat un-remarkable conclusion.

As expected, many (but not all) avoided the difficult question of value and tried to focus instead on what it would cost society to undertake the measures.<sup>3</sup> This can be interpreted to some extent as a protest given the experiment's stated-objective of getting individuals to reflect on value. However, some individuals made the distinction between cost and value, but were nonetheless reluctant to quantify their personal views (*The measures could be extremely expensive ... in that case we'll have to see whether it's actually worth it.* (A9 p. 17); see "*It depends on what it's worth*" in Table 6).

Given a reluctance to discuss *how much society should pay*, the group dialog evolved into a discussion of *how society should (and should not) pay*. For example, some suggested that individuals and companies should simply be forced to pay, that is, regulation was the only effective way to proceed. One interpretation is that individuals implicitly value the resource high (nearly infinite), which justifies a "do it at all costs" approach. Others suggested a more market-like approach that emphasizes incentives, that is, it should be profitable to invest in environmental improvements and costly to cause damage (although some pointed out that such policies often just move polluting activities across borders). A few stressed the urgency of acting now because measures would most likely become more costly in the future.

Finally, two individuals made an interesting argument for ensuring continuity over time. They suggested that political pressures will change in the future and initial investments in environmental measures may end up being wasted in later years if political priorities change. They preferred that whatever amount was agreed on should be consistently applied over time to avoid back-sliding.

## 6.5. Distribution

The discussion guide planned to take up the issue of *who should pay* in the last 10 minutes, but in reality respondents brought it up early and often. The vast majority of this discussion focused on the distribution of costs between Sweden and other countries, although there was some discussion of how to allocate costs domestically, for example, across consumers and producers.

By far the most common direct response was that "everybody" should contribute, both domestically and internationally. A classic example was: *This can't be blamed only on the business sector or agriculture ... We're all guilty when we buy their products. It shouldn't be blamed on any particular entity* (B6 p. 17).

However, as the discussion preceded a number of distinctions and excep-

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<sup>3</sup> This was somewhat re-inforced in the second group, where we presented the 2012 Federal budget in Sweden, which identified expenditure categories

tions arose to the “everybody should contribute” idea. For example, many felt that the polluter should be responsible for paying (see discussion below), while others felt that consumers should be willing to pay more to support environmentally-friendly products. A few discussed the idea of encouraging private sector innovation through either economic incentives (e.g., taxes) or direct governmental support for research and development.

The most frequent point of discussion was whether Sweden should pay for these measures or if other bordering countries should pay. Although the moderator repeatedly made the case that “countries undertake measures according to where they will be most effective” the discussion nonetheless frequently degenerated into issues of fairness, burden, and transboundary impacts. Interestingly, participant preferences were not always consistent. For example, one individual (A10 p.13) said that he would feel better if *all countries were on board* but 10 seconds later stated that *we must find a way to identify those who are most responsible for pollution*.

Most respondents saw a country’s participation as a zero sum game – you either help or you don’t – and suggested that ‘in principle’ all countries should make a contribution and nobody should get a free pass (*We can’t do something here [undertake measures], but then those countries don’t do as much over there. Or the opposite. We can’t achieve any lasting result like that. (A7 p.2)*). There was a clear undercurrent of “us vs. them” with many Swedes arguing that their current and costly efforts to clean the Baltic Sea are not being matched by their neighbours.<sup>4</sup> In some sense this could be interpreted as a weak protest to the extent that participants avoided the issue of cost allocation among domestic entities.

The focus on fairness can be linked to the Polluter Pays Principle (PPP). A related study of Swedish preferences in dealing with transboundary pollution came to a somewhat similar support of the PPP: a sample of Swedes believed that those countries emitting CO<sub>2</sub> should be responsible for taking corrective measures, rather than sharing the burden with the entire global community (Brännlund & Persson 2010). Specifically, the Swedes believed that the CO<sub>2</sub> reduction should be shared evenly across Europeans, rather than only occurring in Sweden. This finding is consistent with our results in the Baltic. That is, Swedes feel that they have historically caused water pollution problems but have also paid to fix it in the subsequent decades. But, given that the blame for the current degradation of the Baltic is more evenly spread, Swedes may now believe that the cost burden should be shared more equally. If this interpretation of the focus group dialog is correct, it appears somewhat consistent with this CO<sub>2</sub> study with respect to burden-sharing and cross-border pollution.<sup>5</sup>

Despite the prevalence of “fairness” issues in the discussion, there was also some indication of support among the group for a Victim Pays Principle (VPP). For example, one individual suggested that wealthier countries like

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<sup>4</sup> The relevant Baltic states are Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia and Sweden. The European Union is also an important actor since eight of these nine states are EU Member States.

<sup>5</sup> Admittedly CO<sub>2</sub> is a global pollutant and Baltic water pollution is more regional-focused.



Sweden can and should foot the bill for other countries (*Those other countries around the Baltic probably have it much tougher than we do [economically] and a different development history. They might be fighting to survive. And we all have to consider how we can pay for this.* A1 p.6). Further, another alluded to the fact that if Sweden does not provide financial support for these measures, Sweden will end up “paying for it” in other ways. This seemed to refer to so-called “leakage” of impacts from other countries, for example, if Sweden does not allow certain emissions, production activities may simply move to another Baltic State and continue to release the substance into the sea. Finally, one individual even discussed the idea of finding an optimal sharing of burden across countries based on differing marginal costs, with an underlying presumption that it was perhaps more cost effective for poorer countries to take certain measures rather than have Sweden act (see “Sweden should carry a heavier burden” in Table 7)

## 7. Conclusions and Recommendations

### 7.1. Defining value

It is worth reflecting first on the nature of value. The US EPA commissioned a comprehensive report by their Scientific Advisory Board to help the Agency improve their valuation of ecological systems and services (USEPA 2009). The conceptual framework – developed with the help of experts in decision science, ecology, economics, philosophy, and psychology – suggests that “People assign or hold all values ... which reflect either explicitly or implicitly what the people assigning them care about.” The report highlights the difficulty in defining value:

Value is not a single, simple concept. People have material, moral, spiritual, aesthetic, and other interests, all of which can affect their thoughts, attitudes, and actions toward nature ... when people talk about environmental values [...] they may have different things in mind that can relate to these different sources of value. Furthermore, experts trained in different disciplines [...] understand the concept of value in different ways.<sup>6</sup> (p. 13)

The literature has several definitions of “shared value”:

- The US EPA report relies on an inclusive definition that allows for various value types:

*This report therefore uses the term “value” broadly to include both values that stem from contributions to human well-being and values that reflect other considerations, such as social and civil norms (including rights), and moral and spiritual beliefs and commitments. (p. 13)*

The “contribution to well-being” seems to refer to the conventional economic belief that consumers consider their own well-being when valuing goods and services, which in turn may lead society to maximize its well-being. This is consistent with a utilitarian perspective that the general outcome is the ultimate criterion of which to judge an action. Further, it reflects the TEV framework in that it captures relevant value types in the non-market valuation context. However, the “other considerations” leaves open the possibility that some values may be motivated by pure obligations to do the right thing, regardless of the actual outcome. This latter justification is sometimes labeled *teleological* in that it focuses on the *act* itself (e.g., stopping an environmentally offensive activity), rather than the *consequences* of the act (e.g., what the offensive activity actually implies in terms of altered well-being) (see e.g., Söderqvist 1998).

- In a comprehensive technical report produced for the UK’s environmental agency, Fish et al (2011b) suggest that because ecosystem services have “collective meaning and significance” they cannot be “reduced to individual preferences and motivations alone.” (p. 1184). They suggest that:

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<sup>6</sup> For example, the distinction between instrumental and intrinsic value leads to significant disagreement between disciplines (see endnote 8 in USEPA 2009).

Shared values concern the values people hold for ecosystem services as ‘citizens’; that is as ‘social beings’ capable of expressing preferences for ecosystem services not simply in terms of individual costs and benefits, but in terms of social rights and wrongs (p. 1184).

The assumption is that citizens may “*see themselves as wanting to moderate their rights to maximize their own satisfaction because they have shared responsibility for collective well-being*” (p. 1184). These citizen-type behaviours and motivations may be more relevant when assessing certain benefits of ecosystem services such as option, existence and altruistic values (Fish et al., 2011a). These non-use values are relevant to cultural ecosystem services (e.g. seascapes of symbolic and historical significance).

- US EPA (2009) defines “community-based” or shared values as:  
*... values based on the assumption that, when consciously making choices about goods that might benefit the broader public, individuals make their choices based on what they think is good for society as a whole rather than what is good for them as individuals. ... these values may not reflect tradeoffs that individuals are willing to make [but may instead reflect] tradeoffs that the person feels society as a whole should be willing to make. (p. 14).*
- Finally, note that some disagree and suggest that it is difficult to pin down a concept like “shared values.” These proponents suggest that social well-being may be a parameter in an individual’s utility function (altruism), which makes the distinction between ‘individual vs. shared’ values somewhat problematic. These economists argued instead that a CV survey elicits, in part, social values held by individuals but separating these values is difficult (Johansson 1991).

## 7.2. Results: Testing for the existence of shared values

The definitions above arguably provide a theoretical basis to support the concept of a shared value. This relatively small study based on two focus groups investigates this possibility empirically, relying on qualitative focus group data. This study finds an indication of the existence of shared values regarding the Baltic Sea resource and the services it provides, which is distinct from, and in addition to, the conventional individual values typically captured in an economic valuation study and subsequently used in a CBA. This evidence is summarized in the bullet points below and is based on a subjective interpretation of the group discussion, including individuals’ word choice and their general beliefs, opinions, and expectations. Inevitably, this subjective approach precludes conclusive evidence in either direction. That is, some arguments presented by focus group participants could reasonably fit under the conventional economic definition of consumer-driven *individual values*. The results of this study suggest that the Baltic Sea resource likely provides a combination of shared and individual values. The implications of these results for CBA are discussed in Chapter 7.2.

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<sup>7</sup> In principle, however, a shared value could be based on the fact that society is willing to give up one good (e.g., health care) in order to receive more of another (water quality).

These findings are likely influenced by the DMV valuation method itself. Individual values are typically elicited through a survey and assume that individuals understand the impacts and implications of a particular ecological change, an assumption that is frequently questioned by critics. In contrast, the DMV method applied here stimulates dialog that likely influences individuals' responses in a way that could not have been captured through individual surveys (importantly, the same information was provided to focus group participants and individuals responding to the BalticSUN survey). The implication of this alternative method could be that individuals in this group setting may have been more likely to consider and discuss shared values. The DMV approach is most often associated with a process of "constructing individuals' preferences" (which are assumed to be unknown to the individual), while the survey approach for capturing individual values generally assumes that preferences are stable and known by the individual and simply need to be elicited.

Whether or not shared values exist for other environmental resources is an open question, but it is interesting to note that this study's findings are consistent with at least some of the motivations respondents provided to a similar survey from 1997 that asked individuals to state their WTP for measures aimed at preventing eutrophication in the Baltic Sea (Söderqvist 1998). A follow up question asked why the respondent answered the way he/she did. Several respondents referred to a moral obligation to protect such values, which can be compared to similar motivations in this study (e.g., ethical treatment of animals, see 4c in Table 8). The author argued that these responses suggested teleological preferences, which one may argue are more closely linked to citizen-type behaviours than individual motivations. One may also wonder whether such motivations existed for individuals that responded to the 2011 BalticSUN survey that elicited respondents' willingness to pay for eutrophication prevention measures.

The points below summarize the implicit themes that arose in the discussion and how the *focus group data* may be interpreted to support the possible existence of a shared value, while not precluding the existence of individual values.

A number of themes arose that can be interpreted to support existence of a shared value:

- **Taking responsibility.** There was a strong belief that all entities should take responsibility for their own actions, that is, respondents were angry that oil tankers washed their tanks at sea, that ferries dumped their wastewater at sea, and that individuals took long showers with too much shampoo. There was a feeling that each of these actions impinged on a resource that belongs to everybody – that there was a shared responsibility for maintaining and protecting it. This is supported by the individuals that seemed to touch upon the concept of option value, as discussed above.
- **A unique resource.** Many noted the uniqueness of the Baltic Sea and Stockholm Archipelago (*You recognize it. There's a familiarity to it. A5 p.4*). There were comparisons to other marine environments (Mediterranean) but a feeling that the Baltic was distinct and special (*They don't really*

*understand our nature*. A10 p. 3). To some extent the uniqueness of the good – that is, like the Mona Lisa in Italy, it is not easily replaced or substituted – speaks to the idea that there is a common need to protect it.

- **A resource with “shared” benefits.** Others noted that it was a common resource that we all shared (A common resource that we must use and protect together A9 p.8). There seemed to be a common bond among Swedes that have shared access to this resource, which provides benefits to society not just to any private individual (*There are some socially beneficial things that I find very hard to consider ‘private’* A10 p.17). Support for this argument can be found in the frequent use of the collective voice during the discussion, which was striking at times: *The strong nature experience is so important for us* (B4 p. 7) or *We have a common resource in our land. We Swedes are quite proud over this* (B7 p. 8) or *It is, of course, a part of our life, this water* (A10 p. 9)
- **Empowerment and improved mental health.** An analogy between the health of the resource and the mental health of the Swedish population was brought up repeatedly and seems to underscore a common and shared connection for services from the Baltic. This demonstrates an un-prompted understanding of the link between humans and the indirect ecosystem services upon which they depend – a link that was also identified in Söderqvist (1998). One respondent used strong words to convey the idea of citizen empowerment through collective action: *If people realize that they can do something for themselves and for their country and their countrymen, then it can move the focus from the individual to his/her surroundings and then people feel much healthier.* (B5 p. 14). Another noted that failure to take such positive action could lead to *a bad conscience and that people become depressed. As if they carry part of the guilt* (B1 p. 7). It is not unreasonable to connect feelings of collective guilt to a resource that provides a shared social value compared to a resource that mostly provides individual values.
- **A shared symbol for peace and cooperation.** The fact that the Baltic acts as a symbol and forum for promoting peace and cooperation with neighbouring countries can be seen as evidence of a resource that provides social benefits. Several noted the important roll of the resource in achieving peace: *[if we don’t succeed with the Baltic] We risk losing the friendship of our neighbours.* (B3, p.7) or *The divisions between Baltic states will increase* (B5 p.7)
- **Belief in taxes.** Most, but not all, individuals supported the idea of using a tax to pay for the eutrophication measures. One respondent referred to taxes as a community tool that applies well in this situation: *[the Baltic Sea] is a common resource for everybody. Therefore it is reasonable that we use common social tools [such as taxes].* Another suggested that it was necessary in order to ensure collective action: *It’s important that society – that is, the state – works with regulations that force people to change their lifestyle* (B1 p. 15). Relying on a common resource like tax income to support Baltic Sea improvement measures provides, in some sense, evidence of the groups’ belief in joint efforts to protect the shared values at stake (as with other goods in Sweden like health care, roads, education, etc).

Despite these qualitative indications for the existence of a shared value, other comments are hard to interpret equivocally. In reality, the Baltic most likely provides both individual values and shared social values and these are inevitably difficult to separate. At least one respondent (B2) had such troubles. In response to the question “*what types of values are at stake?*” the participant turned and asked the moderator “*Is it personal values or more general values that you’re trying to capture?*”<sup>8</sup> Another respondent captured the problem of distinguishing between individual and social value well: *Whatever affect society obviously affects me too. That’s just the way it is. Whatever is good for society is indirectly good for me too.* (A5 p. 10). At least two motivations were found that were more closely linked to individual strategic motivations:

- **Selfish motivations.** Several of the value types identified by respondents fit more comfortably within the conventional “individual value” framework found in welfare economics. These pure selfish economic motivations for the values provided by the Baltic Sea may include recreational benefits or commercial fishing revenues. When talking about a shared responsibility to protect the resource one individual said *I don’t want to force somebody else to do it, but I want to take responsibility* (A5 p. 6). One could interpret this individual value as being motivated by a selfish desire (“warm fuzzy feeling”) to do the right thing rather than a feeling of shared responsibility to the community. These ‘selfish’ values are typically recognized as the key drivers behind individual utility maximization, even if some may argue that some individuals consider the social good when maximizing their utility.
- **Shared benefits but individual costs.** At times the discussion resembled the classic tragedy of the commons: many agreed that the Baltic provides communal benefits, but imposes individual costs, either financial (through taxes to fund measures, increased cost of consumer goods, etc) or behavioral costs (actions that reduce an individual’s environmental footprint). One even noted that the cost of protecting the resource should become more individual, not less: [implementing measures in the Baltic] *need to come down to the individual everyday level ... It must affect us humans, as individuals in society* (A7 p. 10). But this focus on the costs need not necessarily suggest that the benefits – the values at stake – are in any sense shared or collective.

### 7.3. Implications for the BalticSTERN CBA

The purpose of BalticSTERN research is to combine ecological and economic models to better estimate the costs and benefits of environmental policies. This appendix focuses on the benefits side. The relevant research question is *how to capture, quantify, and value the flow of valuable benefits provided by the Baltic Sea, some of which are not captured in markets? More specifically, what types of values are at stake when trying to measure the gains to society of reaching certain targets and the costs of not reaching them?*

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<sup>8</sup> The moderator responded by saying “general” values, which was accurate, but inevitably biases the responses to some extent

The conventional approach to valuation is to rely on markets where possible (e.g., prices for provisioning goods such as food, fibre and other raw materials) and, for non-market goods, to estimate values that individual consumers hold based on their willingness to pay to achieve certain outcomes. The BalticSUN survey estimated non-market monetized values held by individual citizens (consumers). These values were assumed to be driven primarily by selfish economic interests (e.g., satisfying individual needs) and individual budget constraints (income), although it cannot be ruled out that altruism or a “common social good” motivated some individual survey responses.

Thus, while the conventional willingness to pay approach provides an indication of the *magnitude* of monetary values at stake, this analysis suggests that such an approach may fail to capture some other *types of values* associated with the Baltic Sea resource, that is, it likely under-estimates the benefits to society of preventing eutrophication. If instead the benefits of undertaking certain measures – for example, the avoided environmental costs to society of reducing fertilizer use – are higher than the BalticSUN survey suggests, then a CBA may incorrectly suggest that further water quality improvement measures are not socially profitable. This would mistakenly prevent a social welfare enhancing project. This may be the case if the monetized values captured by the BalticSUN survey represent only a portion of the total value society holds for affected resources.

While this qualitative analysis is helpful in identifying the *types of values* at stake, it provides little information about how to *quantify and incorporate these values* into policy making (e.g., a CBA). Furthermore, even if the shared values identified here could be quantified (which is difficult given the small focus group sample size), they are not necessarily compatible with the CBA decision-making framework, which relies on certain underlying assumptions. For example, it is based on a TEV framework discussed above, which assumes that monetized estimates of both use and non-use values can be captured (Fish et al. 2011a). Further, it relies on fairly restrictive assumptions about human behaviour, namely that individuals are self-interested, respect budget constraints, and exhibit teleological preferences (individuals exhibit teleological preferences if they believe that the *consequences* of acts are more important than the *acts* themselves). In contrast, shared values belong to a more general category of values with less restrictive motivations. Because of these alternative motivations, shared values – even if quantified – cannot be used within a CBA framework.

Thus, the results of a CBA of water quality improvement measures in the Baltic may provide an incomplete picture for policy makers if not interpreted in the larger and site-specific context of possible values at stake. This experiment attempts to provide this larger context by contributing to benefits assessment. The results suggest a range of additional non-CBA-compatible values may be at stake and thus provides a useful and complementary input to benefits assessment for the Baltic Sea. For example, several respondents exhibited ethical beliefs that are inconsistent with teleological preferences, that is, some individuals seem to value the implementation of eutrophication

prevention measures independent of the actual improvements these measures imply for human well-being. These findings are consistent with a very similar eutrophication study in the 1990s (Söderqvist, 1998). Since these preferences – which are driven by an assumed moral obligation to ‘do the right thing’ for current or future generations – are not directly compatible with the CBA framework, they should be considered separately in the social decision-making of balancing the social costs and benefits of water quality improvement.

Considering such preferences, and the values they imply, through experiments such as this one is consistent with the recent recommendations for improved valuation in both the US and the UK. The US EPA’s “integrated and expanded approach to valuation” suggests that:

*Non-economic methods could be used to provide supplemental information outside the strict benefit-cost analysis about sources of value that might not be fully captured in benefit measures that come from economic valuation, such as moral or spiritual values. [...] Even if not part of a formal benefit-cost analysis, information about non-economic values may be useful to both EPA and the public. (US EPA 2009, p. 23)*

Further, the UK’s environmental agency recently recommended the use of participatory and deliberative techniques to “engage with a plurality of values [that are] integral to good decision-making processes and are the basis for more robust and resilient decision outcomes.” (p. 6 in Fish et al., 2011a)

#### 7.4. Recommendations for future work

The suggestion that (resource) value may be defined in different ways has received increased attention related to non-market valuation (see Chapter 2.1.3 in US EPA, 2009; see also UK, 2007). However, very little guidance exists on how to carry out the empirical studies that are required to improve benefits assessment. If similar studies are to be undertaken in the future, a number of considerations may be relevant:

- Prior to undertaking future work, a new literature search should be conducted that tries to identify newer methodological studies for identifying and quantifying – in monetary or non-monetary terms – alternative value types. These types of non-economic valuation studies were difficult to find in preparation for this study, but given the salience of this issue, the literature is growing rapidly. For example, USEPA (2009)’s suggestion for pilot studies to improve future benefits assessment may be a useful starting point for a future literature search.
- Any future literature identified should be scrutinized in light of basic economic principles. USEPA (2009) suggests that three principles in particular are relevant when reviewing new non-economic valuation studies: validity criteria (e.g., does the method yield values that reflect intensity of preferences, are relatively stable, reflects construct validity, etc), aggregation across methods (e.g., how to handle differing metrics of value), and double counting of values when multiple methods are used.
- Future work should try and replicate the results of this study but with an expanded sample and perhaps with an alternative methodology based on the new and emerging literature in the field.. Due to resource constraints,



this study focused exclusively on one geographic (urban) area of one Baltic country. Although both focus groups in this study came to similar results, it may be worth testing for differences in the existence of – or motivations for – social values across countries and demographic groups. Some of the participants in this study noted that uniqueness of Swedish culture and how this may affect the types of values they find relevant.

- Future research may also test whether social values are more common – or motivations stronger – for certain resource types.
- As with all such studies, a careful balance is required between informing participants and allowing them to state their opinions. Several respondents complained that they lacked the knowledge to answer these questions. The key knowledge gaps related to (1) how the current policy regime (or any revisions to it) affects current environmental quality and (2) how environmental quality affects their own well-being. This highlights a key limitation of our findings: When individuals are under-informed or simply misperceive the environmental problems, this affects the values they think are at stake. Most participants seemed to imply that future water quality changes would be catastrophic (and in some cases unrealistic), while some seemed to underestimate how these change may affect their well-being. Future work should be very clear about the (marginal) changes we are discussing and should prevent discussion that assumes more radical future changes.
- Considerable time should be spent on the discussion guide and how to handle the inevitable tangents. The discussion frequently got off-track and focused on “*what is the problem?*” or “*who is to blame?*” or “*what should we do about it?*” rather than “*should we do something?*” and “*why?*” and “*how to prioritize?*” and “*who should pay?*” Future applications should be clearer about our focus upfront. The moderator should have flexibility to cut off unnecessary tangents, while allowing an open discussion.

## References

- Álvarez-Farizo, B., Hanley, N., Barberán, R., Lázaro, A. 2007. Choice modeling at the “market stall”: Individual versus collective interest in environmental valuation. *Ecological Economics* 60: 743-751.
- Boyd, J. & Banshaf, S. 2007. What are ecosystem services? The need for standardized environmental accounting units. *Ecological Economics* 63: 616-626.
- Brännlund, R. & L. Persson 2010. *Tax or no tax? Preferences for climate policy attributes*. CERE Working Paper.
- Fish, R., Burgess, J., Chilvers, J., Footitt, A., Turner, K. 2011a. *Participatory and Deliberative Techniques to support the monetary and non-monetary valuation of ecosystem services: an introductory guide*. (Defra Project Code: NR0124). Department for Environment, Food and Rural Affairs: London. Available at: [www.defra.gov.uk](http://www.defra.gov.uk).
- Fish, Robert and Jacquelin Burgess, Andrew Church and Kerry Turner. 2011b. “Chapter 24: Shared Values for the Contributions Ecosystem Services Make to Human Well-being” In: The UK National Ecosystem Assessment Technical Report. UK National Ecosystem Assessment, UNEP-WCMC, Cambridge. <http://uknea.unep-wcmc.org/>
- Garpe, K. 2008. *Ecosystem series provided by the Baltic Sea and Skagerrak*. Report 5873, Swedish Environmental Protection Agency, Stockholm.
- Johansson, P.-O. 1991. *An Introduction to Modern Welfare Economics*. Cambridge University Press. (1991). ISBN 0521356954.
- MacMillan, D., Philip, L., Hanley, N., Alvarez-Farizo, B., 2003. Valuing non-market benefits of wild goose conservation: a comparison of interview and group-based approaches. *Ecological Economics* 43, 49-59.
- Massey, O.T. 2011. A proposed model for the analysis and interpretation of focus groups in evaluation research. *Evaluation and Program Planning*. 34: 21-28
- Nortstat. 2012a. Written transcript in Swedish of focus groups 14 juni 2012. Not available to the public.
- Nortstat. 2012b. DVD film recording in Swedish of focus groups 14 juni 2012. Not available to the public.
- Spash, C. L. 2007. Deliberative monetary valuation (DVM): issues in combining economic and political processes to value environmental change. *Ecological Economics* 63: 690-699.

Spash, C. L., 2008. Deliberative monetary valuation and the evidence for a new value theory. *Land Economics* 84: 469-488.

Sagoff, M. 1998. Aggregation and deliberation in valuing environmental public goods: a look beyond contingent pricing. *Ecological Economics* 24: 213-230.

Söderqvist, Tore. 1998. Why give up money for the Baltic Sea? *Environmental and Resource Economics*. 12: 249-254.

SwAM (forthcoming). *Marine ecosystem services at risk from potential future oil spills: An overview for the Swedish EEZ (Project C - Report 1)*. Produced by Enveco Ltd for the Swedish Agency for Marine and Water Management.

TEEB. 2010. *The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature: A synthesis of the approach, conclusions and recommendations of TEEB*.

USEPA. 2009. *Valuing the Protection of Ecological Systems and Services: A Report of the EPA Science Advisory Board*. EPA-SAB-09-012. May (www.epa.gov/sab)

UK (Department for Environment, Food and Rural Affairs). 2007. *An Introductory Guide to Valuing our Ecosystem Services* (68 pp), December. <http://www.defra.gov.uk/wildlife-countryside/pdf/natural-enviro/eco-valuing.pdf>

Wiggins, G. S. 2004. The analysis of focus groups in published research articles. *The Canadian Journal of Program Evaluation*. 19(2), 143 - 164

## Appendix I Discussion guide for focus groups

Do's and Don'ts for the moderator (and research team)

- DO focus on the process of coming to a conclusion. DON'T focus on the final outcome.
- DO encourage debate, argument and disagreement, but DON'T leave without some type of consensus agreement by the end.
- DO encourage discussion of the underlying and fundamental reasons why we hold value for certain things, but DON'T get stuck on any one type of value. We are seeking a "plurality of values" i.e., many different ways to consider value in the discussion prior to stating the shared value.
- DO stress the fact that value may take several forms ("plurality of values"), DON'T get stuck on monetary values (which the group will undoubtedly bring up on its own)
- To the extent that money arises in discussion, DO encourage talk of scarcity, budget constraints, and trade-offs, but DON'T let it dominate the discussion of value.
- DO provide the participants with information during the PowerPoint presentation, but DON'T encourage fact-finding as the basis for their values.
- DO seek a convergence of values near the end (consensus), but DON'T base that consensus on any one (or several) individual's concerns. Rather the convergence should be in terms of the public interest.
- DO use participation and dialog to try and reach the consensus, but DON'T be afraid to end with an agreement to disagree (but identify the reasons driving this divergence!)

## 1. Discussion guide – Details

### 1.1. (5 min) Welcome, practical issues, purpose of meeting

**M (moderator):** Välkomna hit.

Vi håller på i två timmar. Toalett (Vi kolla med Norrstat om läget). Efter en introduktionsrunda kommer jag ge en kort presentation och därefter har vi ca en timme för diskussion. Mötet filmas och följs av den forskargrupp som beställt denna fokusgrupp.

**M:** Syftet med mötet är att bidra till samhällsvetenskaplig forskning som i sin tur ger stöd till beslutsfattare. Forskningen bedrivs vid Stockholms universitet.

**M:** Några principer för att möjliggöra en bra diskussion:

- Det finns inga svar som är rätt och fel i detta sammanhang.
- Allas åsikter är värdefulla. Ni behöver inte försöka övertyga varandra om olika ståndpunkter utan det är viktiga att alla åsikter får höras. Var öppna för varandras synpunkter. Lyssna på varandra.
- Min roll är att se till att diskussionen handlar om det som beställaren vill, men jag ska inte ge min åsikt och jag har heller inte kunskap att kunna svara på detaljer om sakfrågan. (OK for moderator to say “I don’t know, but can still have this discussion.”)

### 1.2. (10 min) Introduction of participants & Baltic Sea warm up

**M:** Här är en bild av Östersjön – idag definierar vi alla de färgade ytorna i det som kallas Östersjön, dvs även Västkusten upp till Göteborg. Öppna havet osv.

**M:** Jag tänkte att vi gör en presentationsrunda där vi kan säga våra namn och dela med oss till varandra av vad vi associerar till när vi hör namnet Östersjön.

Jag heter Louise Hård af Segerstad och det första jag tänker på är nog Stockholms Skärgård. Varsågod - ...

**M:** Känner ni att ni bor nära Östersjön? Var?

**Optional if time allows:**

**M:** Om ni inte bor nära har ni spenderat tid kring Östersjön? Hur ofta, det sista året?

**M:** Vad gör ni om ni spenderar tid kring eller på Östersjön?

*Prompt: Swimming (in the sea) Fishing, Boating, Being at the beach or seashore for walking, picnicking, sunbathing, Water sports (diving, wind surfing, water skiing), Going on a cruise, other*

**Optional:**

**M:** Är det möjligt att ha en likvärdig upplevelse vid andra vatten som vid Östersjön?

**M:** Kommer ni spendera någon fritid kring Östersjön de kommande 5 åren?

### 1.3. (10 min) Övergödningen av Östersjön – PRESENTATION

*M: Moderator gives short .ppt presentation identifying basic policy problem of eutrophication (focusing only on facts). See Attachment II*

- *main problems: water clarity, algal blooms, underwater meadows, fish species.*
- *color table describing CURRENT extent of the problem*
- *color table describing FUTURE (2050) extent of the problem if nothing is done*
- *possible solutions*

*Information till Louise*

*... om frågan om hur scenarion tagits fram kommer upp så kan du säga att den är baserat på expertarbete från många olika länder runt Östersjön. Bäst att svara så snabbt och tydligt som möjligt så att vi kan gå vidare till de viktiga frågorna*

*... om frågan om hur vattenkvalitet IDAG uppstår så kan du säga att idag är det sämre än BAU till 2050.*

### 1.4. (60 min) Shared values discussion

#### 1.4.1. (10 min) Framing the issue (is it worth discussing?)

**M:** Ska vi berätta om detta? Varför eller varför inte?

#### 1.4.2. (15 min) Identifying relevant values (“formally record” in UK NEA).

**M:** Om vi ska utföra dessa åtgärder behöver vi fundera över hur mycket det är värt för samhället. Så vi ska nu tala om värdet av dessa förbättringar. (i.e., the BSAP measures shown in presentation).

**M:** Vilka värden står på spel? Vi tar någon minut där vi enskilt kan skriva ner vad ni kommer på post-it lappar. (Louise - du samlar ihop lapparna och grupperar dem på tavlan efteråt)

**M: Runda**

*Tips: Moderator writes answers on board etc ... moderator can decide.*

**M:** Finns det andra värden som inte kommit upp?

**M:** Varför värdesätter ni alla dessa/detta?

#### 1.4.3. (20 min) Measuring intensity of values (“assessing significance” in UK NEA)

Här måste moderatorn börja precisera att ”society” gäller Sverige och vad ”vi i Sverige” bör betala.

**M:** Nu har vi listat ett antal värden. Nu ska vi tala om huruvida de är olika viktiga. Ska vissa värden ges högre prioritet? (in decision-making?) Om ja, varför?

*If further prompting is needed...*

- *Which type of value is most important?*
- *Försök om det går att få en rangordning (men du behöver inte tvinga dem)*

**M:** Nu vill vi att ni diskuterar hur mycket det är värt för samhället att spendera för att få dessa förbättringar som jag visade. Med ”samhället” menar vi Sverige.

**M:** Tycker ni som grupp att samhället bör använda sina resurser för detta åtgärdsprogram?

**Varför eller varför inte?** (Louise - vi antar att detta borde leda till en längre diskussion. Vi är mer intresserade av varför samhället borde använda resurser till just detta problem (och inte skolor, vård, m.m.) och lite mindre intresserade i precis hur mycket samhället borde spendera)

*If consensus, then go on to next question. If not, then figure out why not.*

**M:** Hur mycket anser ni att samhället bör spendera?

Louise - Som sagt precis ovan så är det viktigaste resultatet från denna övningen en diskussion om vilka typer av värden eller plikt som ligger bakom gruppens vilja att förbättra vattenkvalitet (om de faktiskt vill satsa samhällsresurser på detta). Den monetära värderingen som de eventuellt kopplar till dessa värden är mindre viktig.

Därför håller vi den monetära frågan så öppen som möjligt. Vi visar därmed inget payment card. Om folk är villiga att ange en siffra eller inte spela mindre roll för oss (egentligen för att ändå inte kommer att kunna använda denna siffra i en analys ändå).

*Other issues that may arise and how to handle them:*

1. Om de frågar "hur då?!" så kan du förklara de här förutsättningarna (om de fastnar på dessa antagande så kan du be dem att svara så gott de kan och senare diskutera alternativa antaganden)
  - det är en specifik Östersjöskatt
  - alla betalar varje år (individer och företag)
  - alla länder runt Östersjön betalar, inte bara i Sverige.

Om någon frågar efter merkontext så kan du visa hur mycket Sverige spenderar på andra saker i samhället (back up slide med pajdiagram på "statsbudgeten" i miljoner SEK, MSEK) (SE PAJDIAGRAM EFTER GUIDE PÅ TOTAL STATS-BUDGET DÄR INLAGT RELEVANTA POSTER SAMT KLUMPAT IHOP ÖVRIGA)

*Some may ask what it costs. We want to try and focus on value so try and steer people away from thinking in terms of costs. Säg: "försök tänka på hur mycket det är värt!" Men vi kan visa dig lite kontext ifrån Statsbudgeten som sagt ..."*

#### **1.4.4. (10 min) Who should pay (distribution of costs)**

**M:** Vem bör betala. Ska någon bära en större del?

Possible answers

- farmers? utility companies? businesses? citizens? taxpayers? Sverig eller andra länder?

#### **1.4.5. (5 min) Consensus on shared values**

(Louise - Ge en allmän summering av hela diskussion. Fokusera på den stora bilden och inte specifika svar)

**M:** Om vi summerar våra slutsatser, t.ex. "Gruppen är överens om att det finns ett gemensamt värde".

**(5 min) Avslutning (Thanks, reimbursement, etc)**

**M:** Tack för ert deltagande. Det arbete som följer nu är:

- analys av dessa resultat för att stötta beslutfattande inom miljöfrågor.
- slutresultaten kommer vara tillgängliga på senhösten på ([www.stockholm-resilience.org/balticstern](http://www.stockholm-resilience.org/balticstern))

**M:** vi kommer lämna ut er ersättning.

**M:** Slutligen har vi också ett deltagar-utvärdering där ni gärna får ge kommentarer och feedback. TACK!



## Appendix II Information material for focus group (in Swedish)



### Övergödning I Havet

Övergödning orsakas av för stora mängder av näringsämnen kväve och fosfor, som når havet från vattendrag och från luften. Dessa näringsämnen kommer från jordbruket, kommunala reningsverk och transporter till havs. Övergödningen berör hela Östersjön.

### Övergödningens Effekter

- *Grumligare vatten* är en av övergödningens effekter.
- *Blågröna alger* kan ansamlas vid havsytan i vissa områden, som synliga algblomningar. Algtillväxten ökar med övergödningen. (Ett annat namn på blågröna alger är cyanobakterier.)
- *Undervattens-ängar* med sjögräs och/eller tång är betydelsefulla lek- och uppväxtområden för många fiskarter. När övergödningen ökar blir undervattens-ängarna igenväxta. Sjögräs och tång ersätts med fintrådiga alger.
- *Fiskens artsammansättning* förändras på grund av övergödning. Exempelvis missgynnas torsk, strömming/sill och abborre, medan t.ex. skarpsill och mört gynnas.
- Övergödning leder till *syrebrist vid djupa havsbottnar* i vissa områden under vissa delar av året. Växter och djur kan inte överleva i dessa områden.

Vattenkvalitet	Vattnets klarhet	Blomningar av blågröna alger	Undervattensängar	Fiskens artsammansättning	Djupa havsbottnar
Bästa möjliga	Klart	Ovanligt	Utmärkt skick Bra lek- områden för fisk	Torsk, ström- ming/sill och abborre vanliga	Minskad syre- halt förekom- mer inte Bottenlevande djur är vanliga
	I huvudsak klart	Ibland	Ojämn vegetation Bra lek- områden för fisk	Torsk, ström- ming/sill och abborre vanliga	Minskad syrehalt i stora områden Bottenlevande djur är vanliga
	Lätt grumligt	De flesta somrar	Täcker en liten yta Mindre bra lek- områden för fisk	Mindre torsk, men ström- ming/sill och abborre vanliga Mer skarpsill och mört	Ofta total avsaknad av syre i stora områden Vissa botten- levande djur är sällsynta
	Grumligt	Varje sommar	Täcker en liten yta Dåliga lek- områden för fisk	Mindre torsk, strömning/sill och abborre Mer skarpsill och mört	Ofta total avsaknad av syre i stora områden Vissa botten- levande djur är sällsynta
Sämsta möjliga	Mycket grumligt	I stora områden varje sommar	Nästan borta Fisk kan inte leka här	Nästan ingen torsk, mindre strömning/sill och abborre Mycket mer skarpsill och mört	Alltid total avsaknad av syre i stora områden I många områden finns inga botten- levande djur

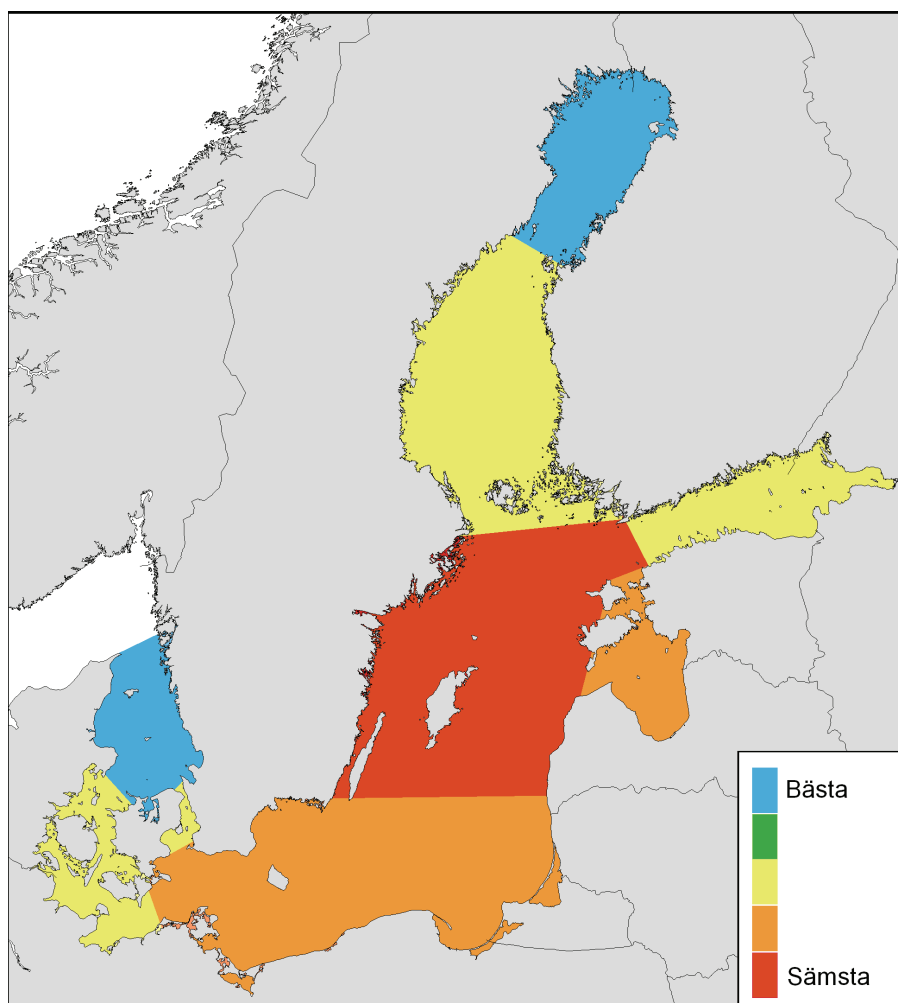
## övergödning av östersjön år 2050

Snart presenteras nivån av övergödning i havet med hjälp av kartor. Kartorna har tagits fram av marinbiologer och är baserade på bästa tillgängliga kunskap om utvecklingen av övergödning i Östersjön. Färgerna på kartorna motsvarar vattenkvalitetsskalan som tidigare beskrevs (blå = bästa nivån, röd= sämsta nivån).

Vi vill ha era åsikter om minskad övergödning i havet i sin helhet. I de kartor som följer visas därför den genomsnittliga vattenkvaliteten för stora havsområden. Lokalt kan vattenkvaliteten vara bättre eller sämre än dessa genomsnitt.

## Övergödning i öppna havet år 2050

Kartan nedan visar nivån av övergödning i havet år 2050 om inga ytterligare åtgärder tas för att minska övergödningen.



### Åtgärdsprogram För Att Minska Övergödningen I Havet

Med hjälp av ett åtgärdsprogram kan utsläppen av näringsämnen till havet minska genom att t.ex. minska användandet av gödsel i jordbruket, använda fosfatfria tvättmedel och öka effektiviteten i kommunala reningsverk. De åtgärder som mest effektivt minskar utsläppen kommer att väljas om åtgärdsprogrammen införs. Alla länder runt Östersjön kommer att behöva uppfylla åtgärdsprogrammen.

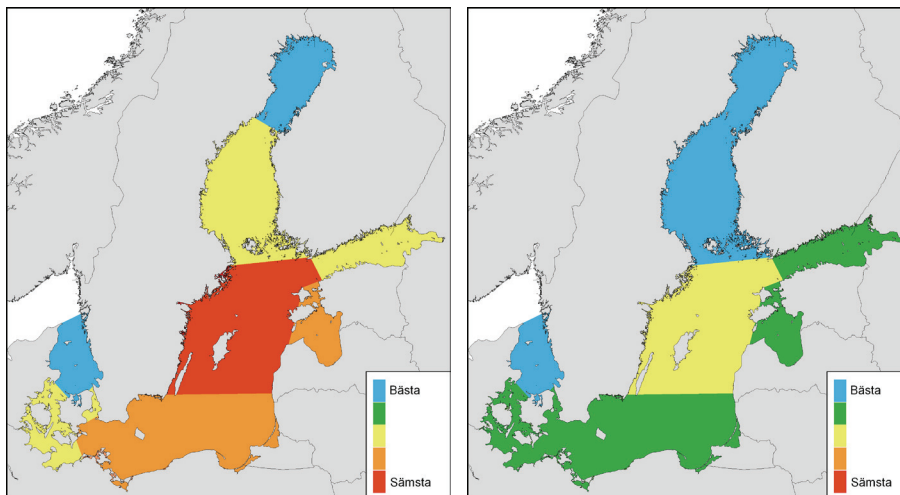
Vi bidrar alla till utsläpp av näringsämnen, till exempel genom att konsumera jordbruksprodukter och genom att producera avloppsvatten.

På den vänstra kartan kan du igen se vattenkvaliteten i Östersjön år 2050 om inga ytterligare åtgärder tas för att minska övergödningen.

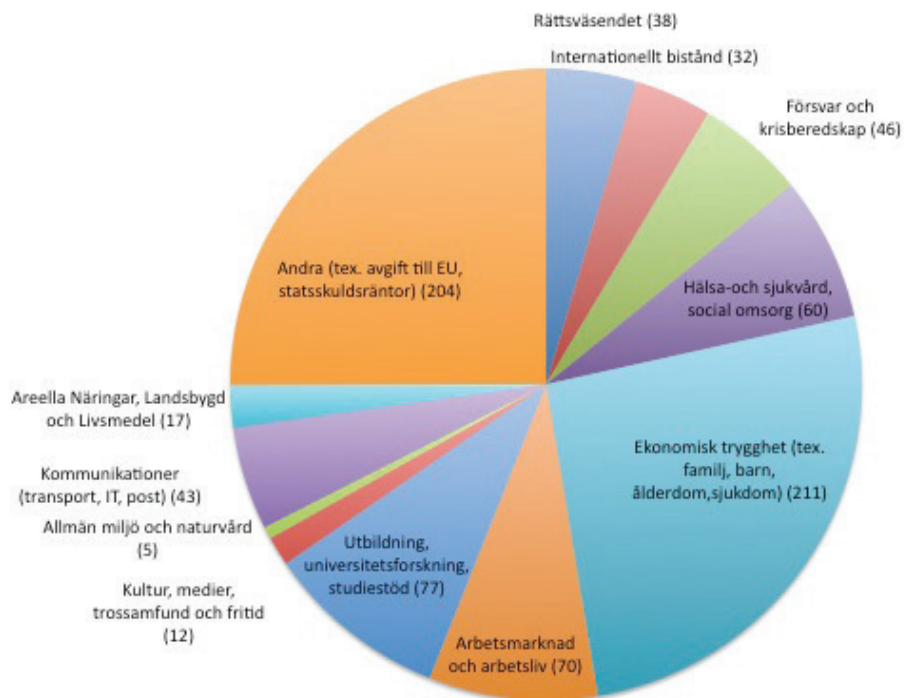
På den högra kartan kan du se vattenkvaliteten i Östersjön år 2050, om åtgärdsprogrammet för att minska övergödningen genomförs.

**Vattenkvalitet år 2050 utan ett åtgärdsprogram**

**Vattenkvalitet år 2050 med åtgärdsprogrammet**



**Statsbudget som visades till andra gruppen**



## **Appendix III Quotations from focus group in Swedish**

1. Values - What types of values are at stake? (Vilka värden står på spel?)
2. Motivations - What are the key motivations for different value types?  
(Varför värdesätter ni alla dessa/detta?)
3. Prioritizing values - Are some values more important than others?  
(Ska vissa värden ges högre prioritet?)
4. Intensity of values - How much of society's resources should be spent?  
(Hur mycket ska samhället lägga ned?)
5. Distribution - Who should pay? (Vem borde betala?)

# 1. Values

Table 3. Values – what values are at stake in this discussion?

Value at stake	Representative quotation (source)
Economic values	<ul style="list-style-type: none"> <li>• att det påverkas ekonomi i slutändan (A7 p. 7)</li> <li>• jag tror att jordbruket kommer att förändras ... vi kanske får massor med insekter, nya arter som kommer in vilket kan innebära att vi måste använda nya gifter för att kunna odla (A10 p. 7)</li> <li>• Det är viktigt att man kan använda havet som transportmedel för att kunna resa (B9 p. 8)</li> <li>• Fiskelivet, näring, förlorade arbetstillfällen och skatteintäkt och sådär (A9, p. 8)</li> </ul>
Ecosystem service values	<ul style="list-style-type: none"> <li>• Jag tror att min livskvalitet skulle försämrans. ... För mig ... är frihet att få vara ute i naturen och skulle den bli förorenad med algblomning varje sommar ... det begränsar ju möjligheterna utav vad man kan göra där. (A5 p.7)</li> <li>• Den här ju ett värde eftersom att man kan bada och semestra där (A9 p. 8)</li> <li>• att man kan ta med sig hunden ner till stranden utan att vara rädd för att han ska få i sig för mycket bakterier (B6 p. 7)</li> <li>• stränderna för de påverkas ju jätte mycket utav hur vattnet mår (B4 p. 7)</li> <li>• Den där havskänslan, den tycker jag om. Som man hittar ute varje gång. Det är väldigt vackert och trevligt (B9 p. 8)</li> </ul>
Human health values	<ul style="list-style-type: none"> <li>• Sedan tänker jag på folks hälsa, också, om man ska bada i förorenat vatten är det inte så hälsosamt (A9 p. 8)</li> <li>• man måste ha ätlig fisk, båda för oss och hela systemet (A2 p.7)</li> <li>• näringsrik fisk som är närproducerat. (B7 p. 8)</li> <li>• Det skapar ju psykologisk hälsa, det är ju jätte välforskat att vacker natur gör att människor till frisknar snabbare efter operationer, det finns ju massor av sådant som vi vet (B9 p. 8)</li> <li>• Det där med att om vi inte göra någonting då blir vi deppiga och mår sämre som ett helt folk. Det tror jag är väldigt väldigt viktigt (B5 p. 8)</li> </ul>
Ecological values	<ul style="list-style-type: none"> <li>• Östersjöns ekosystem, för jag tänker att när en sak rubbas, då blir det nog väldigt mycket problem ... man underskattar hur allting sitter ihop (A10, p. 7)</li> <li>• Botten djuren försvinner och jag tror att de har väldigt mycket att göra med hur de andra fiskarna lever och så (A4 p. 8)</li> <li>• det som bekymrar mig mest är fåglarna. Jag vet inte om de betyder så mycket ekonomiskt men det har väl varit lite (A1 p. 7)</li> <li>• artrikedom i havet. Det är ett värde i sig (B3 p.7)</li> <li>• det ekologiska systemet. Vissa fiskar tar över och då bli det obalans (B4 p. 7)</li> <li>• Biologiska mångfalden (B1 p. 7)</li> <li>• Vårt ekosystem, att det får andra miljömässiga konsekvenser så klart. Havet är ju som dess lungor. Och om inte havet fungerar då vet jag sjutton vad som fungerar om hundra år (B7 p. 8)</li> </ul>
Peace & Int'l cooperation	<ul style="list-style-type: none"> <li>• Just det här med samarbete idag, och att man kan arbete tillsammans, och att man har sett att länderna kan bli ett utbyte emellan idag (A1 p.5)</li> <li>• [om vi inte lyckas skydda östersjön] riskerar vi att förlora vår vänskap med våra grannar (B3); ... och klyftor mellan Östersjöländerna bildas (B5 p. 7)</li> </ul>
Individual growth and learning	<ul style="list-style-type: none"> <li>• Om man lever i en frisk natur då kan man bli fascinerad av naturen. Och det kan påverka hela livet. En inbjudande, frisk natur kan gå förlorad (B3 p.7)</li> </ul>
Cultural landscapes	<ul style="list-style-type: none"> <li>• Kulturlandskap på land i anslutning till en hel del orter med både jordbruk och fiske och industrier, gamla fiskebyar och sådär som har en koppling. Kopplingen försvinner ju om det händer någonting med havet (B8 p. 7)</li> </ul>

## 2. Motivations

Table 4. Motivation -- what is the motivation for the values identified above?

Key motivation	Representative quotation (source)
Survival	<ul style="list-style-type: none"> <li>• <i>Livet - att leva (B4 p. 9)</i></li> <li>• <i>vatten är ju liv om man ser det rent krasst (A8 p. 9)</i></li> <li>• <i>Men har vi inte hälsan ... ja då har vi ju ingenting mer i stort sett. (A7 p.9)</i></li> <li>• <i>Allt som leder till att man inte ens kan fortplanta sig. Så själva reproduktionen kanske inte fungerar till slut. (A8 p.9)</i></li> <li>• <i>att vi påverkar det vi äter på ett så negativt sätt att vi får i oss alla de här gifterna (A5 p. 9)</i></li> <li>• <i>Vi lånar ju bara planeten, sedan kommer nog planeten att göra av sig med oss människor, när vi har förstört tillräckligt. Vi kommer att försvinna, men inte planeten. (A10 p.9)</i></li> </ul>
Seeking better quality of life -- both for mental and physical health	<ul style="list-style-type: none"> <li>• <i>Det är ju forskning som visar att om man inte bor nära grönområden så mår man psykiskt dåligt ... jag tror att det är med vatten också (A5 p.8)</i></li> <li>• <i>Det är en nöjesplats för oss, men vi är inte i direkt behov av överlevnad om vi inte har en direkt koppling till det. (A10 p. 11)</i></li> <li>• <i>jag måste veta att även idag att jag kan paddla på ett visst ställe (B8 p.9)</i></li> <li>• <i>Om man märker mer och mer att man kan göra någonting för sig själv och sitt land och sina medmänniskor, då kan man flytta fokus från sig själv till utåt och då mår man nog mycket bättre själv. (B5 p. 14).</i></li> </ul>
Improved economic conditions	<ul style="list-style-type: none"> <li>• <i>Konkurrensen mellan de här staterna runt sjön blir ju tuffare om det inte går att ta saker därifrån längre, utan att man då konkurrerar hårdare. (A1 p. 9)</i></li> <li>• <i>Det kommer väl inte vara någon direkt som vill komma hit. Det blir väl inte någon nyfikenhet på vårt land, i världen (A7 p. 9)</i></li> </ul>
Desire & satisfaction from solving problems -- both in Sweden and Internationally	<ul style="list-style-type: none"> <li>• <i>För min del är det viktigt att vi strävar efter att bli bättre hela tiden. Östersjön är ett problem bland många problem, men vi kan inte riktigt släppa det. (B1, p.9)</i></li> <li>• <i>att ansvaret tas, då tror jag att man mår väldigt mycket bättre som person. Jag vet också att jag mår bättre av att vi alla kanske strävar åt det hållet. (B5 p.9)</i></li> <li>• <i>Om vi då ser ett problem, då måste ju jobbar någonstans mot att lösa det. Det är en inre drivkraft i mänskligheten (B4 p. 9)</i></li> <li>• <i>Men kan vi visa att vi faktiskt kan göra någonting, då blir det nog enklare för andra att också ta upp kampen. (B6 p. 15)</i></li> <li>• <i>... Och om det här bli framgångsrikt kan man ju använda det här till en trend, att vända andra problem till det bättre, också. (B8 p.14)</i></li> </ul>
Concern for future generations and values that may become scarce	<ul style="list-style-type: none"> <li>• <i>Vilken värld vill jag lämna efter mig till mina barn och deras barnbarn? (A5 p.7)</i></li> <li>• <i>Det är synd om vi måste importera näringsrik fisk från andra sidan jorden. Sedan tänker jag att de i andra delar av världen inte kommer att ta hand om sina hav, heller. Ser vi inte till att ha vettig fisk i närheten av där vi bor, då får vi det ju ingenstans. (B7 p. 8)</i></li> <li>• <i>Vi kanske inte alls kommer att kunna leva i den här globaliserade frihandelsvärlden för alltid och kommer att kunna importera fisk (B3 p. 11)</i></li> <li>• <i>Jag såg en framtidsanalys och där talade de om att rent vatten kommer att bli ovanligt i framtiden. Om man kan utvinna rent vatten ur Östersjön, kan det vara en väldigt stark ekonomisk fördel i framtiden också. Det kommer alltid att vara mer ekonomiskt (A6 p. 12)</i></li> </ul>
Concern for non-humans	<ul style="list-style-type: none"> <li>• <i>många av dessa är väldigt människocentriska ... Det är få som bryr sig om fåglarna som man ändå inte äter, eller om det är dålig plankton (B3 p.9)</i></li> </ul>
Devils advocate	<ul style="list-style-type: none"> <li>• <i>Some suggest that:</i></li> <li>• <i>Även om det är någon annan som har sett till att Östersjön ser ut så här så ska jag fortfarande gå in och göra någonting för att förbättra (B8 p.10).</i></li> <li>• <i>But a devils advocate suggested that:</i></li> <li>• <i>... vi kanske bara får göra så gott det går ... Det kanske är så att vi helt enkelt får finna oss i att miljön blir annorlunda. Och vem vet, vi kanske måste tänka på skarpsillen och mörten. (B6 p. 11)</i></li> <li>• <i>Som du säger.. man kanske vänjer sig (B5 p. 10)</i></li> </ul>

### 3. Prioritizing values

**Table 5. Prioritizing values – are there some types of values that are more important than others?**

Key argument	Representative quotation (source)
Hard to choose one value	<ul style="list-style-type: none"> <li>• <i>Vissa saker hänger ju ihop, tar man bort en så faller de andra. (A6 p.11)</i></li> <li>• <i>Om man nu struntar i åtgärder, då kanske ekonomi växer av att man inte behöver ändra på saker. Men däremot om det nu blir jättedåligt på Östersjön, då förstörs ju ekonomin utav det. (A3 p.12)</i></li> <li>• <i>Det finns ju en del skattefinansierad verksamhet, som skola, vård, och omsorg, och att dra ner på dem för att lägga på det här ... Det är klart att man måste rädda vattnet, men ... (A5 p. 14)</i></li> <li>• <i>Om jag hade haft ett jordbruk, där jag var väldigt beroende av att ha mycket kväve och fosfat i min mark för att kunna få en ... avkastning på min jord och få pengar på bordet själv, då hade jag nog inte satt mig högre då än samhällets intresse. (B6 p.11)</i></li> <li>• <i>... vårt geografiska läge har ju väldigt stor betydelse .... Hade vi varit bosatta på en plats som inte är så nära kustområdet vid Östersjön, kanske diskussionen hade varit väldigt annorlunda (B2 p.11)</i></li> </ul>
Values derived from ecological systems are most important	<ul style="list-style-type: none"> <li>• <i>Men det absolut viktigaste är ju det ekologiska systemet, att det fungerar. Det är ju grunden till resten utav allt det andra. ... Upp i kedjan (A2 p.11)</i></li> <li>• <i>Biologisk mångfald är väldigt viktig för mig (B1 p.12)</i></li> <li>• <i>... jag kan leva utan svensk torsk. Men jag förstår att den svenska torsken har ett värde för mångfalden som får ett värde i förlängningen, för alla (B7 p. 13)</i></li> </ul>
Values derived from the economy are most important (especially those that benefit Sweden specifically)	<ul style="list-style-type: none"> <li>• <i>Sen undrar jag hur det går med miljöarbetet i Grekland just nu ... Med politiken ... (A1 p. 11)</i></li> <li>• <i>Ja, man får väl se det [åtgärdsprogram] som en ekonomisk fråga och se vad man kan vinna på det (A8 p. 14)</i></li> <li>• <i>Ja, det kanske skapar en massa jobb, det här åtgärdsprogrammet (A10 p.14)</i></li> <li>• <i>Men vi måste ju ändå skapa arbetstillfällen, så det kan ju inte bara vara kostsamt för samhället, utan vi måste ju få tillbaka något (A2 p. 14)</i></li> </ul>
Human use values such as recreation are important today - especially for mental health	<ul style="list-style-type: none"> <li>• <i>jag måste veta att jag kommer att kunna ligga på en solvarm klippa om sommarkvällarna och titta på stjärnorna, det måste jag veta. Annars överlever inte jag. Så enkelt är det. ... Om jag vet att jag inte kan göra det nästa sommar, så emigrerar jag till ett ställe där jag kan det. (B8 p.9)</i></li> </ul>
Values associated with our health and food production are more important than recreation	<ul style="list-style-type: none"> <li>• <i>... jag kan nog klara mig ... om jag aldrig någonsin mer får bada i Östersjön. Vi kan väl anpassa oss till det. ... huvudsaken är att vi överlever. Men vad får det för konsekvenser när vi plötsligt inte längre kan odla, på marken? (B7. p.12)</i></li> <li>• <i>När det börjar påverka vår hälsa, som med lungorna, och påtagligt .. då är det någonting som är fel och någonting som måste åtgärdas. ... Det är det viktigaste. Vår hälsa. (B6 p.13)</i></li> <li>• <i>Men ni [som bor i inlandet] kan inte ens bada på ert lantställe? Åker ni någon annanstans och badar? Man hittar väl lösningar? (B4 p.13)</i></li> </ul>
Values from other marine ecosystems are more important	<ul style="list-style-type: none"> <li>• <i>Det här är ju ändå ett stort problem, med Östersjön. Men det finns andra smutsigare hav (B6 p. 15)</i></li> </ul>
The value associated with research - we need to know more about the effects	<ul style="list-style-type: none"> <li>• <i>Jag tror också att det här med forskning är otroligt viktigt. ... Man måste ju på något sätt forska och få någon slags vetenskaplig grund för hur vi ska se ett resultat (A2 p. 13)</i></li> </ul>
The value associated with outreach and communication are most important -- the general public need to be better informed about	<ul style="list-style-type: none"> <li>• <i>Lite skrämpropaganda kanske är bra nu. Vill vi ha det så här? (A8 p. 13)</i></li> <li>• <i>Vi ser folk som har jobbat i kanske tandvården på 40-50-talen med kvicksilver, för man hade inte kännedomen och det var ett bra och enkelt material. Har man kunskapen och kan informera bönderna, då tror jag att de gör olika. De har nog lika mycket känslor och behov kring naturen som vi har. (B8 p.11)</i></li> <li>• <i>... att övertala alla människor, förmedlar information och liksom ... få med alla på spåret. Det är ju också en satsning (A2 p.14)</i></li> </ul>



## 4. Intensity of values

Table 6. Intensity of values -- how much should society pay for these measures?

Key argument	Representative quotation (source)
Society should consider what it costs to carry out the measure	<ul style="list-style-type: none"> <li>• Hur mycket kommer det att kosta? Har vi budget att täcka? (B6 p. 17)</li> <li>• Ja, det är ju hur mycket det kostar. Men det är ändå ett beslut som man måste ta någonstans ... (A8 p.16)</li> <li>• Är jag den enda som tycker, angående det här med att det kostar, att det är konstigt att Spanien fick 9 miljarder för att rädda bankerna och.. Ja. Systemet. Vart kommer pengarna ifrån? (A1 p.17)</li> </ul>
We should pay now because if we wait it will become more expensive	<ul style="list-style-type: none"> <li>• Den måste göras någonting nu, för om vi väntar 10 år, blir det ju inte precis bättre (A7 p.17)</li> <li>• Det kommer att bli dyare senare (B5 p.14)</li> <li>• Sedan att det blir en långsiktig belastning för oss, att det blir dyrare sedan (B8 p.14)</li> <li>• [efter statsbudgeten presenteras] Det här känns... jävligt lite, faktiskt. Jag skulle gärna vilja att vi sätter mycket på det här. (B5 p. 17)</li> </ul>
It's not about money or costs, we should simply force society to carry out the measures	<ul style="list-style-type: none"> <li>• Då kan man väl säga att resurser kan vara lagstiftning också, det behöver ju inte vara pengar (B8 p.14)</li> <li>• ... jag tror att man framförallt måste påverka företag som är de som kan ta tag i det här. ... Där är det ju reglering, man får helt enkelt köra på böter om man inte följer dessa regler (B1 p.15)</li> <li>• Och tror inte alls att man kan utgå från att alla vill ha en bättre miljö. ... Jag tror att det måste vara ett tvång ... som när vi införde skolplikt (B7, p.11)</li> <li>• Jag skulle nog föredra det [reglering], då, än att man startar innovationsfonder som man pumpar in miljarder i. (B1 p.16)</li> <li>• Det är viktigt att samhället och då kanske staten, jobbar med regleringar så att de tvingar folk att förändra sin livsstil (B1 p. 15)</li> </ul>
We should consider giving incentives to different actors; regulation can be expensive	<ul style="list-style-type: none"> <li>• ... Det skull kunna vara en fantastisk grej om det vore lite mer samhälls-ekonomiskt att återinvestera i miljön (A10 p. 17)</li> <li>• Men att beskatta sådant som påverkar miljön mest negativt.. Sänk skatten på ekologisk mat! ... Höj skatten på de värsta miljöområdena. (A5 p.15)</li> <li>• Reglering kommer ju att kosta pengar för företaget, som får minska på någonting, vilket kan leda till någon procentminskning av vårt BNP (B3 p. 16)</li> <li>• Skatter är ju bra, för där uppstår ju intäkter. ... Då kommer man ju att ställa om en produktion om skatterna ökar, och då har man ju nått ett mål, och det är bara de som har betalat just det. (B8 p.18)</li> <li>• ..., då kanske vissa produktioner stängs ner och tas till ett annat land där det inte behöver skatta på det. Det där är ett pyssel. (B8 p.18)</li> <li>• Om man nu lägger en viss skatt på någon produkt av miljösynpunkt, skulle jag vilja att de pengarna faktiskt öronmärktes att det var.. Till det. För nu hamnar allting i ett stort jävla hål och man vet inte vad det får för effekt. (B1 p. 18)</li> <li>• Jag vet inte om det finns någon fond som kan gå in och hjälpa till med det här. ... vi vet inte hur mycket det kommer att kosta ... Men de här fonderna kommer ju att få en överblick av alla länderna och kunna se vart man kan optimera mest. Och där ska pengarna satsas. (B6 p.17)</li> </ul>
We should ensure continuity of payments over time	<ul style="list-style-type: none"> <li>• ... det blir ju ett politiskt beroende av långsiktighet. Och därför är jag skeptisk till att lägga utgifterna på en statlig nivå. Det växlar ju så mycket fram och tillbaka. Därför tänker jag mer på näringslivet. Men jag vet inte helt hur det skulle gå till, faktiskt. (B7 p.18)</li> <li>• Jag skulle vilja tillägga att det här med kontinuitet ska vara klart, så att det inte blir på slutet och att pengarna inte räcker.. Att man har en fixering av problematiken och så gör man det tills det är klart. (B8 p. 19)</li> </ul>
It depends on what it's worth;	<ul style="list-style-type: none"> <li>• Jag tror inte att vara miljövänlig behöver vara dyrare, utan det handlar nog mer om att man bestämmer sig för vilka värden man tycker är viktiga. (A8 p. 12)</li> <li>• Sedan är ju frågan hur mycket det kostar. Det skulle kunna vara extremt dyrt, och då får man se om det verkligen är värt det, liksom. (A9 p. 17)</li> <li>• ... men jag tror ju inte att reglering och lagstiftning och sådant kan göra att vi får ett mer hållbart förhållningssätt till vårt eget liv och vår egen avkomma. Utan det finns någonting annat som måste förändras i folksjälen, där. Våra grundläggande värderingar kring hur vi behandlar vår omvärld. Någonting mer måste till ... (B8 p.15)</li> <li>• Jag tror fortfarande att sunda värderingar hos våra medmänniskor är jätteviktig (B8 p.18)</li> <li>• Men i verkligheten är det intressant att sätta en övre gräns för hur mycket man ska lägga ner på det här ... Det är ju svårt att säga hur mycket det är (B3 p.17)</li> </ul>

## 5. Distribution

Table 7. Distribution -- *Who should pay for these measures?*

Key argument	Representative quotation (source)
Everybody should contribute in some way	<ul style="list-style-type: none"> <li>• <i>Det kan ju inte enbart läggas ut på näringslivet eller jordbruket ... vi alla är skyldiga där när vi äter deras produkter. Det ska nog inte fördelas på någon speciell enhet (B6 p. 17)</i></li> <li>• <i>jag tror att det är hela samhället som måste ändra sig (B5 p.11)</i></li> <li>• <i>Småföretag tycker ju att det är för dyrt att återvinna och sådär och där måste ju samhället hjälpa till. (B4 p. 15)</i></li> <li>• <i>Men jag tänkte att på ... aktörer som är som bovar i sammanhanget ... eller bestraffning kanske är fel, man kanske måste investera och hjälpa dem investera i nya grejer. (A10 p.16)</i></li> <li>• <i>Ja, men det är ju ett gemensamt intresse för oss alla. Då är det ju lämpligt att använda det gemensamma redskapet vi har i samhället. (A1 p.15)</i></li> </ul>
Private companies should contribute through innovation,	<ul style="list-style-type: none"> <li>• <i>Tekniska lösningar finns ju. Det är väl mer en kostnadsfråga ... Sedan om de företagen ska bara de kostnaderna själva, det är också något att diskutera, tycker jag (A10 p. 16)</i></li> </ul>
Private companies that are responsible should be forced to pay (e.g., PPP)	<ul style="list-style-type: none"> <li>• <i>Det är klart, att hittar man ett företag som håller på jätte mycket med utsläpp och ser att det är mycket fosfatutsläpp och så ... (A10 p. 16)</i></li> <li>• <i>... man framförallt måste påverka företag som är de som kan ta tag i det här. Och som släpper ut. ... man får helt enkelt köra på böter om man inte följer dessa regler. (B4 p.15)</i></li> <li>• <i>Man måste ju komma åt de bovorna som verkligen slänger in mest ( B10 p. 13)</i></li> </ul>
Consumers should be willing to pay more for products to reduce environmental impact	<ul style="list-style-type: none"> <li>• <i>Det finns ett polskt make-up märke nu som ska vara väldigt miljövänligt, så det gäller nog nu att vi väljer att köpa de grejer som kanske är dyrare men miljövänligare helt enkelt. (A8 p.15)</i></li> <li>• <i>Men oftast betalar de själva för produkten.. Och då får folk betala det.. Väljer du att köpa från Kina, då får du ju ta de smållarna. (A8 p.16)</i></li> </ul>
Sweden should carry a heavier burden -- or, in any case, shouldn't avoid responsibility	<ul style="list-style-type: none"> <li>• <i>Men kan vi här i Sverige tänka, att om vi gör rätt.. Kan vi nöja oss med det? ... Personligen tycker jag att någon alltid måste börja, och när vi har väldigt bra förutsättningar, varför inte starta? (B8 p.17)</i></li> <li>• <i>Och vi behöver också göra lite mer. För vi har en bättre standard här, och om vi säger att vi ger 1% av vår BNP till miljöarbete i världen då kanske det är för att det behövs (A8 P.13)</i></li> <li>• <i>De andra länderna runt Östersjön kanske har det mycket tuffare med en helt annan historia. De kanske kämpar för att överleva. Och så måste man ju se hur man ska kunna betala för det här. jag tror att vi har väldigt olika åsikter om det här med sjön. (A10 p.12)</i></li> <li>• <i>Om effekten av sådana regleringar här i Sverige blir att vi importerar från Baltikum, vilket är samma sak som vi inte gör längre för att vi har hårda regleringar, då går det ändå fel, tycker jag. (B3 p.17)</i></li> <li>• <i>Vi importerar grejer som vi hade kunnat tillverka här, och så klappar vi oss själva på axlarna och bryr oss inte alls om att det har tillverkats någon annanstans. Ja.. Det är konstigt. (B1 p.17)</i></li> </ul>
Other countries around the Baltic should contribute, too, not just Sweden	<ul style="list-style-type: none"> <li>• <i>.. vi måste ha samma resurser som Baltländerna, ... vi kan ju inte liksom göra någonting och så gör inte de andra länderna lika mycket. Eller tvärtom. Det blir ju inget resultat utav det. (A7 p.2)</i></li> <li>• <i>Det är ju bra med ett åtgärdsprogram då som alla måste genomföra, för alla ska ju.. Göra något. (A3 p.2)</i></li> <li>• <i>Jag läste en artikel om utsläppen i Kina där de systematiskt bygger fabriker utan reningssystem, eftersom att vi i Västvärlden ändå betalar för dem (A5 p.12)</i></li> </ul>