The Tidal Elbe –
a people’s perspective

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1 Introduction

Geest and marsh, fish and apples, rural yet close to the city of Hamburg, and people who are not as stubborn as it is commonly assumed: Those are the attributes residents of the Elbe estuary use to describe their region.

With a length of 140 km, measured from the weir in Geesthacht to the mouth at Cuxhaven, the Elbe estuary serves as cultural, ecological and economic space. As a tidal, unique ecosystem with rare habitats for plants and animals, major parts of the estuary have been protected as part of the Natura 2000 network. However, the region has been populated and used by humans for centuries. The tidal Elbe is home to more than two million residents. Economic use is intense and includes a variety of different sectors such as agriculture, industry, tourism and fishing. The river itself is used as a national waterway connecting the port of Hamburg to the open sea. In order to protect the land along the river from tidal influence and storm surges, people had to build dikes and take other flood protection measures.

The variety of intensive land uses leads to conflicts. Consensus-based and sustainable development of the Elbe region therefore requires coordination and integration of different interests. This can be achieved by means of integrated estuary management, where management is understood as shaping matters and acting in a targeted way. Integrated management is not merely the task of authorities but involves the affected population as well as all kinds of interest groups and stakeholders.

Perception studies can help to analyse the preconditions for management processes on three accounts. First, they can highlight people’s identification with and attachment to their region. Strong regional identity and attachment can encourage residents to take responsibility for their region and help to promote active involvement with management strategies. Second, they can specify people’s perception of their region. If planners and politicians take into account how people view their region and what they value most about it, residents will support their decisions and plans more easily. And third, perception studies can help to understand the levels of communication that exist between planners and local residents. Do they understand each other, do they use the same language? Are people aware of the challenges authorities are faced with when establishing integrated estuary management?

A population survey was carried out in spring 2012 to analyse the opportunities and challenges for integrated estuary management on the Elbe estuary. It was planned and implemented by the Institute for Coastal Research, Helmholtz-
Zentrum Geesthacht with the support of students of the University of Hamburg. The random street survey took place in 18 selected communities on both sides of the tidal Elbe, comprising rural areas and small towns in the federal states of Lower Saxony and Schleswig-Holstein, as well as four urban districts on the outskirts of Hamburg (see Map 1). Altogether 812 residents were interviewed, including only those older than 15 years of age and having lived in the region for at least five years.

The survey was based on a questionnaire which consisted of 33 open and closed questions. Answers received to the open questions were later aggregated into categories to allow for quantitative analysis.

The questionnaire was structured into five themes:

The first part focused on respondents’ emotional ties to the region. The German word *Heimat* was used here because it is particularly good at expressing attachment of persons to places and spaces (Ratter & Gee 2012). Three dimensions come together in the concept of *Heimat*. The first is a strong emotional component, where *Heimat* stands for a feeling of belonging and rootedness. The second is a social component, where it represents a place where friends or family members live. The third is a spatial component, linking *Heimat* to particular places and regions (Schwineköper 2005). Insights on which understanding predominates along the Elbe estuary can provide information on the residents themselves and also their attachment to the region. The second part of the questionnaire concentrated on peoples’ perception of their region, asking about their constructed mental map of the surroundings they are living in. The third part stressed economic aspects of the tidal Elbe, asking what people know about the different land uses and the conflicts that exist between them. The fourth part was a multiple choice quiz designed to establish whether residents understand the technical terms authorities use in their everyday work. The last part was concerned with current and future public participation, asking how involved people are in regional management processes and what perspectives they see for the future.

In addition to the random street survey a telephone survey conducted by FORSA (Gesellschaft für Sozialforschung und statistische Analysen mbH) was commissioned. During this survey, carried out in July 2012, 502 people living in the city of Hamburg were interviewed. The six questions asked over the phone were taken from the original questionnaire and adapted to the requirements of a telephone interview.

To put the results into context, they will be compared with the outcomes of similar studies carried out at the German North Sea coast and different German river valleys such as the Middle Rhine, Nahe and Mosel (Ratter 2005; Ratter & Treiling 2008; Franke, Ratter & Treiling 2009; Ratter, Lange & Sobiech 2009).
Map 1: Survey locations
(data source: Statistisches Bundesamt 2010; cartography: B. Weig, B. Gardeike; Software: GfK Geo-Marketing)
The following summary focuses on four main results of the survey. The first part sets out that weak regional identity along the Elbe estuary and an understanding of Heimat less concerned with the regional aspect of the term represent challenges to integrated management. The second part draws a picture of the Elbe estuary as a cultural, ecological, and economic area from the perspective of the residents, which can help to understand people’s point of view and represent a basis for future planning. The third part reveals weaknesses in communication processes between authorities and the public and a lack of knowledge of relevant management issues. The last part looks at public participation and the opportunities arising from the creative and active informal engagement of respondents in preserving their Heimat. The summary concludes with recommendations for action.

2 Regional Identity and Heimat at the Tidal Elbe

Are local people attached to the tidal Elbe? To what degree do they identify with the river and the region? Is there a sense of belonging on the Elbe estuary? The survey reveals a comparatively weak sense of regional identity along the tidal Elbe. The metropolitan area of Hamburg attracts people from other parts of Germany and abroad, indicated by the fact that 45.3% of all interviewed persons were not born within the region. Furthermore, people frequently move within the region. 48.6% of all respondents represent the first generation living in their current home towns or villages. The high degree of mobility may be one reason for primarily defining Heimat emotionally and socially and less so spatially. For the greater part of respondents, Heimat constitutes a place where they feel at home and comfortable (45%), a place where family and friends live (36%), or a place for living and working (19%) (see Fig. 1). These answers have no direct connection to the Elbe region and are spatially interchangeable: Come the next move, respondents can simply take this kind of Heimat with them. Answers referring to typical landscapes (13%) or specific locations and regions (6%) within the research area are comparatively rare.

When asked “Where is your Heimat?”, over 60% of the respondents mention their current place of residence. One might conclude that the residents on the tidal Elbe feel at home and comfortable even though their emotional attachment to the region is not as strong as in other regions where similar surveys were conducted. The river Elbe, connecting the whole region and serving as element of common regional identity is only mentioned by 3.4% of all interviewees. In other German river valleys 9% to 23% of all respondents said their river meant Heimat to them (Ratter 2005; Ratter & Treiling 2008; Franke, Ratter & Treiling 2009).
The proportion of active members in clubs and associations is also comparably low in the Elbe region. However, there is a considerable difference between rural and urban areas. People living in rural areas show greater readiness to engage in clubs than those in the more anonymous atmosphere of urban societies. Active involvement in clubs and associations enables greater connectedness with the region and fellow citizens and can therefore help to contribute to developing solidarity.

Weak regional identity on the tidal Elbe can be seen as challenge for authorities on their way to implementing integrated estuary management. In order to actively involve the public in regional planning and management processes it is useful to raise public awareness of the region and the challenges it is faced with now and in the future. Stronger regional identity in both rural and urban parts of the region could reinforce people’s intrinsic motivation for becoming involved, as other studies and literature show (comp. EISSING ET AL. 2003).

In order to strengthen the common sense of belonging within the region, it is helpful to know more about local perception of the region. What mental image do people have of their region?

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### Fig. 1: What does Heimat mean to you?

(m.a.p.; number of answers: 1.163; n = 812)

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>to feel at home and comfortable (369)</td>
<td>45.4%</td>
</tr>
<tr>
<td>family &amp; friends (295)</td>
<td>36.3%</td>
</tr>
<tr>
<td>living/working place (153)</td>
<td>18.8%</td>
</tr>
<tr>
<td>landscape (109)</td>
<td>13.4%</td>
</tr>
<tr>
<td>place of birth (100)</td>
<td>12.3%</td>
</tr>
<tr>
<td>place in study area (52)</td>
<td>6.4%</td>
</tr>
<tr>
<td>no Heimat (12)</td>
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<td>other (65)</td>
<td>8.0%</td>
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<tr>
<td>no answer (8)</td>
<td>1.0%</td>
</tr>
</tbody>
</table>
3 The Elbe Estuary – Perception of a Cultural, Ecological and Economic Area

In answer to the question “How would you describe the region you are living in to a friend or visitor?” people on the tidal Elbe drew a varied picture of their region. Many name different types of landscapes such as river meadows, mudflats, moorlands and water as characteristic elements of the region. Overall, respondents take their region to be a worthwhile place to live; they enjoy the beautiful landscape, helpful people and mostly good infrastructure. The region also offers a variety of leisure opportunities and sightseeing options. On the one hand, life is quiet and in tune with nature, on the other hand, the advantages of a big city like Hamburg are within easy reach. 10% of the respondents mentioned negative aspects concerning the region. Life in rural areas appears to be dreary for some people, there are complaints about the weak economic situation in parts of the region, and inhabitants of several communities feel abandoned by the city of Hamburg and underprivileged (see Fig. 2).

Fig. 2: How would you describe the region you are living in to a friend or visitor? (m.a.p.; number of answers: 1,910; n = 812)
Just 15% of all respondents mention the river in their description of their region. Asked to name three terms that spontaneously spring to mind when thinking about the Elbe, respondents make clear that the river is mainly seen as a busy waterway which is used by residents only for leisure. Negative images of the Elbe include an obstacle to traffic, a threat (e.g. through storm surges) and a polluted river suffering the impacts of industry, intensive agriculture and shipping. Positive images of the Elbe are drawn in the context of leisure activities. Only 7% of all respondents associate the river Elbe with plants and animals, and only 12% think of typical landscapes. Altogether, the Elbe is primarily perceived as a cultural and economic area and less so as a natural environment (see Fig. 3).

The telephone survey in Hamburg showed that perception of the Elbe differs between the city population of Hamburg and the other Elbe residents. When thinking about the Elbe, Hamburg respondents mostly focus on the river within the city, predominantly associating the Elbe with the port, shipping, the city and the deepening of the river. Personal answers concerning leisure activities and memories as well as critical comments are given rather rarely. People along the tidal Elbe river have different views of nature. Some respondents understand nature as untouched where humankind has not yet intervened. Others include man-made objects or heavily altered areas in their understanding of nature, such as agricultural land, dikes, villages and the river

Fig. 3: Please name three terms that spontaneously spring to mind when thinking about the Elbe (m.a.p.; number of answers: 2.336; n = 812)
Elbe itself. The Elbe quiz revealed that special elements of nature on the tidal Elbe are widely unknown to the public. This applies to the highly protected endemic plant Elbe Water Dropwort (*Oenanthe conioides*), as well as to twaite shad (*Alosa fallax*), a rare type of herring that comes to spawn in the Elbe. The term *Natura 2000* is also mainly unknown. *Natura 2000* constitutes a European network of nature conservation areas, and large parts of the tidal Elbe are protected as *Natura 2000* sites. In another question people were asked to evaluate to what degree their surroundings are characterised by nature conservation. Analysis of these answers, differentiated by location within the Elbe region, reveals a big gap between people’s perception and the real presence of nature conservation areas. Analysing people’s perception of the tidal Elbe as an ecological area thus reveals severe knowledge gaps within the public. You can find both an overestimation and an underestimation of actually protected areas in the surroundings.

More than two million people live along the tidal Elbe, about 1.8 million in the city of Hamburg alone. Therefore, it is not surprising that the Elbe estuary is an important economic area. Respondents mainly see their region characterized by agriculture; several industrial centres complete the picture of the region. A small number of communities, mostly those close to the coast, attract tourists. Fishing used to be important but nowadays only plays a minor role. Flood protection measures characterize the whole region from Geesthacht to Cuxhaven. However, the survey shows that some people have integrated dikes into their mental map of the natural landscape, with their original function no longer consciously perceived. Surprisingly, there is hardly any perception of shipping as a key economic factor in the Elbe region. According to the respondents, the many ships passing by their communities on their way to the port of Hamburg have little relevance for the economic structure of these locations. Just about 50% fully agreed that the region is characterized by shipping.

Nevertheless, the importance of the port of Hamburg as an economic hub for the whole region is widely accepted. At the river mouth in Cuxhaven and Friedrichskoog more than 75% of all respondents agree that the port of Hamburg is important for the economic development of the region. Another question was “What significance does the port have for you personally?” This shows that similar to the river Elbe, the port is more or less a place to spend leisure time (see Fig. 4). However, the answers also reveal understanding of the port’s relevance in terms of jobs and economic strength of the region. At present, there is a contentious debate on the deepening of the river Elbe, which is arguably needed to maintain the port’s competitiveness and to protect the jobs it generates. Within the research area, views of this topic are controversial. Respondents gave much thought to the question of whether the further deepening of the Elbe is important for the economic development of the region,
and carefully weighed the pros and cons. On the one hand, residents are aware that the deepening of the river is important for the future of the port and regional economic development, on the other hand they consider these interventions to have unpredictable impacts on the whole region. Economically, the region is not seen to be uniform either. It is clear to respondents that the interests of agriculture, industry, tourism and shipping need to be balanced – a considerable challenge for integrated estuary management. The main interest of the respondents is to preserve and create new jobs within the region, which means compromises between sectors. There is the view that support of one sector should not be at the expense of others. The river Elbe not only serves Hamburg, and the consequences of deepening the waterway mostly affect the riversides in Lower Saxony and Schleswig-Holstein which are used by agriculture, tourism and industry. The widespread appreciation of the Port of Hamburg as a key to regional economic development might be a starting point for open and honest dialogue with the population affected. According to the respondents, residents are still waiting for the promises to be implemented that were made during the last phase of deepening. This situation marks a loss of confidence and explains why some respondents feel abandoned by authorities and politicians. Mutual trust is essential for implementing integrated estuary management. Sustainable economic development of the whole region can only be successful if all communities and economic sectors take part in the discussions on future strategies and directions of economic development.

Fig. 4: What significance does the port of Hamburg have for you personally? (m.a.p.; number of answers: 1.105; n = 812)
4 Communication and Knowledge

Good information flow and a common language are essential in building up trust and establishing a high level of cooperation. Results of the Elbe quiz demonstrate that the technical terms used by authority staff and scientists in their everyday work are unknown to ordinary people. The only term that was widely known was tide (96.7%). Most people did not know whether the tidal range is highest in Hamburg, Cuxhaven or the German high sea island of Heligoland, with only 35% of all respondents giving Hamburg as the correct answer. The telephone survey in Hamburg led to the same result. The technical terms Elbe sediments and river maintenance were unfamiliar to most residents, but the right answers could quite easily be picked out of three given choices. Choosing the correct definition for the German term for estuary (Ästuar) was the most difficult task within the quiz. Only 23.5% of all respondents chose the right answer. 66% thought Ästuar was a device to measure flow velocity. These examples show that simple language or an explanation of technical terms is needed in conversation with the public to avoid misunderstandings and discouragement.

![Bar chart showing the percentage of respondents mentioning various future problems for the port of Hamburg.](chart)

Fig. 5: Which future problems do you think will come up for the port of Hamburg? (m.a.p.; number of answers: 1.105; n = 812)

Apart from the linguistic challenge of finding a common language, it is also important to understand local problem awareness. Acceptance and active support of decisions made by authorities is probably easier to come by if residents understand how compromises were reached and what alternatives were abandoned for which reasons. The example of the deepening of the Elbe...
has shown that people within the region are quite well informed. But does this also apply to topics that attract less media coverage, such as land use conflicts within the region? In terms of land use conflicts, nature conservation is considered to offer the most serious potential for conflict since people perceive nature conservation to be incompatible with other land uses. In the rural parts of the Elbe region, nature conservation and agriculture are perceived to be the main conflict, in the other parts, it is nature conservation and industry. However, these answers mostly reflect general opinions about the interaction of different land uses and do not refer to existing regional conflicts. The results of the Hamburg telephone survey underline these findings.

Respondents showed greater interest and knowledge when asked about future problems of the port of Hamburg. Limited capacity is regarded as one problem that might challenge the port (38.3%) (see Fig. 5), aggravated by the constantly growing ship sizes. Other problems mentioned are the deepening of the Elbe (31.7%) and (inter-)national competition (16.1%) especially between Hamburg and the new deep water port in Wilhelmshaven. Respondents offer a variety of solutions to solve these problems: deepening of the Elbe (13.3%) (see Fig. 6), not deepening the river but restricting ship sizes (10.2%), building and using other ports on the coast (9.4%) and inter-port cooperation (6.9%). A number of respondents wanted politicians and authorities to focus more on forward-thinking planning and to organise decision-making processes in a more transparent and participatory manner.

![Fig. 6: What do you think could be done to avoid those problems? (m.a.p.; number of answers: 905; n = 812)](image-url)
In the telephone survey, the most common answers received from the tidal Elbe concerning the port of Hamburg were read out to be evaluated. With respect to future problems of the port, people in Hamburg are most concerned about competition between ports and ecological problems, with their most favoured solutions those that strengthen the competitiveness of the port of Hamburg. Cooperation with other ports and the deepening of the Elbe are considered to be the most important measures to prevent future problems. Alternative solutions for developing the region without strengthening the port are only supported by one quarter of the respondents.

5 Public Participation

Only 9.6% of all respondents participate in planning and management processes for the region. Reasons for not engaging are lack of time and listlessness, but also lack of knowledge and the feeling of not being qualified enough. The interconnectedness of all kinds of processes within the region seems to be too complicated even for experts to fully understand. At least 36% of all interviewees stated they would like to be asked by authorities to be involved. This is potential that could be tapped.

<table>
<thead>
<tr>
<th>Wish for the Future of the Elbe</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>No more human intervention</td>
<td>43.7%</td>
</tr>
<tr>
<td>More nature conservation</td>
<td>38.7%</td>
</tr>
<tr>
<td>Balance</td>
<td>9.0%</td>
</tr>
<tr>
<td>More flood protection measures</td>
<td>4.6%</td>
</tr>
<tr>
<td>Renaturation</td>
<td>4.4%</td>
</tr>
<tr>
<td>Support economy &amp; shipping</td>
<td>4.1%</td>
</tr>
<tr>
<td>Higher attractiveness for tourists and residents</td>
<td>3.9%</td>
</tr>
<tr>
<td>Other</td>
<td>2.3%</td>
</tr>
<tr>
<td>No answer</td>
<td>4.1%</td>
</tr>
</tbody>
</table>

Fig. 7: What are your wishes for the future of the Elbe? (m.a.p.; number of answers: 932; n = 812)
Even though the respondents seem reserved with respect to participation in official planning and management processes, they have a clear view of the future they would like for the Elbe and are active and creative in working towards these aims. For the future, residents want human intervention to stop (43.7%) (see Fig. 7) and nature conservation to become more important (38.7%). 9% of all interviewees are keen to find a balance between nature conservation and economic development. Altogether about 10% of the respondents want more intervention such as strengthening flood protection measures, supporting economic development or expanding infrastructure. More than 80% of all the people surveyed already contribute to the preservation of their Heimat; and they do so in many different ways. The answers present a wide range of ideas and possibilities, such as waste separation and rubbish collection (33.9%) (see Fig. 8), engagement in nature conservation and environmental protection (27%), not using the car (12.7%), social (6.3%) or political (5.5%) engagement and promoting the region (2.1%). These answers demonstrate that the intention to become actively involved in the development of the region is present. However, official planning processes seem to be inscrutable for outsiders, and there is insufficient trust between authorities and the public. A way must be found to overcome people’s fear of not being qualified enough to engage more in official processes.

Fig. 8: What is your contribution to preserve your Heimat? (m.a.p.; number of answers: 1.129; n = 812)
6 Conclusion and Action Points

In conclusion, it can be said that integrated estuary management on the tidal Elbe is faced with several challenges. However, there are also opportunities that make success a realistic option.

Because the population on the tidal Elbe is highly mobile, regional identity is rather weak, with *Heimat* primarily interpreted socially rather than connected to regional space. It may be possible to stimulate and cultivate a stronger connection between residents and the region.

The Elbe estuary cannot be seen as a uniform region, as rural and urban parts differ in certain ways. To promote economic development within the region as a whole, all parties concerned should be equally involved in planning and management processes.

Moreover, the survey discloses weaknesses in communication and knowledge. The public only has limited knowledge of the special properties of the region. Making available more information on the particular strengths of the region might foster greater connectedness and a stronger communal spirit.

Authorities and the public do not seem to speak the same language. Respondents do not participate in planning and management processes because they do not feel qualified enough. Decisions made by authorities are perceived as non-transparent, short-term and interest-based. At present there is a decided lack of trust which is needed for successful cooperation.

But apart from these challenges, the survey also reveals several opportunities for successful estuary management. People living in the region feel comfortable and at home on the tidal Elbe. They are demonstrating active interest in shaping the future of their region by engaging individually and creatively in maintaining their *Heimat*. The high degree of involvement might encourage authorities to take the next steps: to open to the public, fill knowledge gaps, and provide stimuli for sustainable regional development in cooperation with the residents.

The Elbe estuary is a cultural, ecological and economic area. Residents want their environment to remain worthwhile as a living environment; they also want to earn a living and still feel comfortable and at home. The survey reveals that the public supports sustainable development. The challenge will be to mobilize these internal forces and to shape the development process together.
Bibliography


