



Management plan for increased maritime safety and environmental protection in the Baltic Sea Region

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Summary

This management plan aims at working as a complement to the visions and recommendations in the Baltic Master II Political Vision with concrete suggestions for actions to how to secure a long-term management of the project results as well as contributing to increased maritime safety and environmental protection in the Baltic Sea Region.

The proposals and recommendations set out in this plan by partners of the Baltic Master II project aims to function as a summary of the conclusions made during the past three years as well as a road map for the project partners of what to continue to develop.

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1 Introduction

This management plan summarizes the findings and conclusions of the Baltic Master II project and aims at working as a steering document for how partners will continue work for increased maritime safety and environmental protection in the Baltic Sea Region.

1.1 Background

The Baltic Master II project has continued developing the important results from the previous project and turned vision into action. The project partnership has developed ideas into practical solutions to solve international problems. Through cross-border cooperation, at a local and regional level, solutions for improved on land response to oil spill at sea have been created and exercised. Suggestions for improved preventive measures towards pollution from shipping have been produced and tested.

These practical methods are partly the answer to some of the problems and threats to the Baltic Sea environment and prioritized in for example the EU Strategy for the Baltic Sea Region as well as the HELCOM Baltic Sea Action Plan. It is therefore vital that the outputs and results from the Baltic Master II project are spread in the Baltic Sea Region, as to other stakeholders outside the region, if the future Baltic Sea environment is to be secured as well as the passing on the Baltic Master legacy.

1.2 Aim and scope

The aim with this management plan is to find proposals for future actions from the findings and conclusions from the project for implementation at on larger scale covering the whole Baltic Sea Region.

When the project application was written the idea was only to cover the subprojects in Work Package 4, addressing preventive measures against pollution from shipping. However, the scope of this work has been broadened to cover also the work of Work Package 3 which addresses the issue of improve land-based preparedness to oil spills since there was no similar output from this Work Package.

This management plan will work as a road map on how to administer the outputs and results from the Baltic Master II project and disseminate these to the rest of the region for a larger scale implementation. The project partnership has addressed issues of international relevance and developed local, sometimes very practical, solutions to cross-border problems. By transferring the knowledge and solutions developed in the project, a safer and cleaner Baltic Sea can be achieved as well as contributing to the goals and priorities set out in the EU Strategy for the Baltic Sea Region and the HELCOM Baltic Sea Action Plan.

1.3 Chapter outline

This management plan is introduced by a background description in Chapter 2 of the project and the problems it and the previous project have addressed.

In Chapters 3, 4 and 5 the project outputs and conclusions are described divided into three different parts – coast, ports, sea - following the Baltic Master II Political Vision signed by the Political Committee in Brussels on 1 December 2011. These chapters also contain different suggestions for further actions are presented under the respective part as well as suggestions for investments of enhanced pollution. The management plan is then finished by a discussion summary.

At the end there is information about reference groups of project partners, associated partners as well as a list of text-based references that have been used in writing this management plan.

1.4 Project organization

The Baltic Master II project led by Region Blekinge consists of 47 partners from 9 countries in the Baltic Sea Region. The partnership includes regions, municipalities, research institutes and universities, international organizations and Baltic Sea organizations. The project is partly financed by the European Union through the Baltic Sea Region Programme 2007-2013. All in all 30 partners contribute financially to the project while 17 partners are so-called associate partners, contributing to the project with expertise and the dissemination of results.

This management plan is based on the result carried out by the project partners and their findings and conclusions. The discussions between participants, during and after, the project final conference held in Gdansk on 26-27 of October has also contributed to this work.

The final management plan has been written by Mr. Johan Sandevärn at Region Blekinge.

2 The Baltic Master projects

This chapter aims to present the background to the Baltic Master projects of this management plan for increased maritime safety and environmental protection in the Baltic Sea Region.

2.1 The Baltic Master Project

The Baltic Master project was initiated in 2004, emerging from two maritime safety conferences held in Kiel and Trelleborg. For two years, 40 partners across sectors cooperated to improve maritime safety by integrating and bringing forward local and regional perspectives. This also included measures to improve the prevention and the preparedness for accidents at sea.

2.1.1 Measures for a clean and safe Baltic Sea

The work carried out in the Baltic Master project resulted in practical ideas on how to meet the challenges faced by the Baltic Sea environment. The findings were collected in an Action Plan called Measures for a safe and clean Baltic Sea¹ that aimed to present measures and actions on how to improve the maritime safety in the Baltic Sea. Three main measures presented here are seen as the main challenges for the future of the Baltic Sea based on the experiences from the Baltic Master partners:

1, Initiate proactive on-land contingency planning

Proactive on-land contingency planning needs to be introduced or strengthened by responsible authorities and organizations in the Baltic Sea Region based upon the recommendations developed in the Baltic Master project.

2, Enforce safety regulations

The role as a PSSA as well as International and regional conventions are important instruments to safeguarding the Baltic Sea environment. These need to be observed by parties involved to be effective.

3, Develop the potentials of coastal management

Integrated Coastal Zone Management and Marine Spatial Planning are important tools for securing a sustainable use of our coasts and seas. Local and regional authorities are important actors in developing and implementing these tools.

¹ http://www.balticmaster.org/media/files/general_files_669.pdf

2.2 From vision to action – the Baltic Master II project

The Baltic Master II project has continued developing the important results from the previous project according to the suggested measures set out for turning vision into action. The project has focused on improving land-based preparedness to oil spill based on the recommendations developed in the previous project, as well as preventive measures against pollution from shipping.

2.2.1 Preparedness to Oil spill

The main goal with the partnership's work in this area during the project implementation has been to establish better oil contingency planning and response through four case studies called Blekinge, Northwest Skåne, and B7 (B7 Baltic Islands Network). These case studies have been carried out in accordance with the recommendations produced in the Baltic Master project. The partners have also worked to develop the Integrated Coastal Zone Management concept of environmental atlases and how to integrate this into the oil contingency planning.

2.2.2 Preventive measures against pollution from shipping

This part of the project has mainly concentrated on preventive measures for decreasing the negative impact of shipping on the Baltic Sea environment. This includes an inventory of the present national and regional conventions as well as national legislation to identify shortcomings. The partners have also produced and tested suggestions for concrete actions for implementation to improve the overall maritime safety in the Baltic Sea Region. This work has included very practical solutions on how to solve the management of ship generated waste in ports. For this task the Baltic Master II project has become a flagship project in the EU Strategy for the Baltic Sea Region.

The outcomes and results from the Baltic Master II project as well as suggestions for a wider implementation at a macro regional level will be presented in greater detail in the next chapter.

2.3 The future of the Baltic Sea - Baltic Master II Political Vision

During 2011, the Baltic Master II Political Committee, represented by national and regional politicians from Sweden, Denmark, Poland, Estonia as well as Baltic cooperative organizations, has worked to point out the process of how the achievements of the project should be supported as well as what to prioritize in the coming years. This work has resulted in a political vision for the future of the Baltic Sea.

The Baltic Master II Political Vision called *the Future of the Baltic Sea – maritime safety and environmental protection from a local and regional perspective*, aims to function as a guiding light for what to be addressed in the future. It focuses on three areas, coast, ports and sea, and provides with recommendations for further actions to be taken to safeguard the Baltic Sea environment and the legacy of the Baltic Master II project.

A meeting was hosted by the Political Committee at the Swedish House in Brussels on 1 December 2011. The meeting was held to discuss the future and target the forthcoming challenges to be addressed. In the end of the meeting the Political Vision was signed by the Committee stating that these issues have political priority and further cooperative actions are needed to secure the future of the Baltic Sea.

2.3.1 Managing the outputs and results

This management plan aims to be a complement to the visions and recommendations in the Baltic Master II Political Vision with concrete suggestions for actions for how to secure a long-term management of the project results as well as contributing to increased maritime safety and environmental protection in the Baltic Sea Region.

The following chapters aim to describe the conclusions and outputs from the partnership's work carried out in the Baltic Master II project. The descriptions follow the structure of the Baltic Master II Political Vision using the three areas coast, ports and sea. The management plan aims to function as a more explanatory complement to the vision as well as giving concrete suggestions for actions to implement the vision. This also includes suggestions for future investments of enhanced pollution.

3 The Coasts

The first part of the Baltic Master II Political Vision focuses on the problems and threats to the coastal areas of the Baltic Sea from the looming threat of oil spill as well as the problems connected with competing activities in the coastal zones and how to manage these.

3.1 Background

As one of the world's largest bodies of brackish water, the Baltic Sea has a unique marine ecosystem that is particularly vulnerable. Geographically the Baltic Sea such is relatively closed with the result that it takes approximately 25 to 30 years for its water to renew, making it even more vulnerable to emissions and pollutions.

The Baltic Sea is a natural highway for the transport of people and goods. Hundreds of thousands of tons of oil are transported daily off its coasts and the risk of a larger oil spill in the Baltic Sea is evident. Despite this many coastal regions and municipalities in the Baltic Sea Region do not have the capacity needed to respond in the event of a major oil spill. For instance, the results of a survey conducted by the Swedish Civil Contingencies Agency in 2011 directed at Swedish coastal municipalities showed that about half do not have an oil contingency plan². This challenge has also been recognized as a priority in Chapter 14 of the EU Strategy for the Baltic Sea Region³ to reinforce maritime accident response capacity for major emergencies with respect to the negative effects on economic growth and competitiveness of EU regions.

The lack of oil contingency planning and response around the Baltic Rim was treated by the first Baltic Master project. This work resulted into a set of recommendations and guidelines for how to establish successful planning based on case studies and worst case scenario analyses. Oil contingency planning and exercises performed by the responsible authorities around the Baltic Sea were pointed out as one of the most important measures for a safe and clean Baltic Sea in the final stage of the project.

Another challenge is the managing of the coastal zones. As the demand for additional activities in the coastal zones both on land and at sea is growing, the limited space is decreasing. To avoid conflicts and to promote a sustainable use of coastal zones, a more holistic approach is needed. This problem is also recognized by the European Union's intention of creating an integrated maritime policy which calls for further development and use of Integrated Coastal Zone Management⁴.

The Baltic Master I project worked with this concept by developing a handbook as a tool for the planning of coastal zones and other maritime areas. Three different case studies were also performed by the Port of Trelleborg, Kriegers Flak, and the world heritage Curonian Spit in Lithuania to implement some of

² <https://www.msb.se/sv/Start1/Nyheter-fran-MSB/Nyheter/Ny-rapport-visar-brister-i-Sveriges-oljeskyddsberedskap/>

³ http://ec.europa.eu/regional_policy/images/language/lang_en3.gif

⁴ http://ec.europa.eu/maritimeaffairs/policy/maritime_spatial_planning/index_en.htm

the practical techniques suggested by the handbook. Integrated Coastal Zone Management was recognized as a very important method to coordinating the economic, social and ecological needs as well as threats in coastal zones to ensure a sustainable development of these areas. This method therefore was also recognized as one of the most important measures for a safe and clean Baltic Sea in the Baltic Master Action Plan.

3.2 Results from the Baltic Master II project

The work with increased oil contingency planning and response as well as with the concept of Integrated Coastal Zone Management was further developed in the Baltic Master II project.

3.2.1 Increasing oil contingency planning and response in the Baltic Sea Region

As described earlier many of the regions and municipalities around the Baltic Sea do not have a plan for oil contingency and response. In some regions and municipalities plans exist but have not been exercised. Based on the experiences and findings from the Baltic Master I project, which resulted in a set of recommendations and guidelines for oil contingency planning, the partners of the Baltic Master II project have developed four case studies.⁵

3.2.1.1 Case Study Blekinge

The work with improving the oil contingency planning and response in Blekinge began already in the Baltic Master I project and has been developed during the Baltic Master II project. The aim of the test case has been to further develop existing oil contingency plans as well as strengthen the regional cooperation between municipalities and responsible authorities. The developed contingency plan has also been exercised to find shortcomings in the plan.

3.2.1.2 Case Study North-Western Skåne

The Swedish municipalities of Ängelholm and Helsingborg have created an oil contingency plan in a case study together with three other Swedish coastal municipalities. This has been exercised with the aim of pinpointing areas for improvement. An inventory of local resources has also been made to enable recommendations for future investments.

3.2.1.3 Case Study B7 Baltic Sea Islands

B7 Baltic Islands Network (B7) is a cooperation started in 1989 between the seven largest islands, from five different countries, in the Baltic Sea – Bornholm (Denmark), Gotland, Öland (Sweden) Hiiumaa, Saaremaa (Estonia), Rügen (Germany) and Åland Isles (Finland). The B7 cooperation has developed a joint oil contingency plan adjusted to each country's needs and legalization in the Baltic Master II project. As in the case studies Blekinge and North-Western Skåne, the B7 cooperation has exercised its plans to be able to develop it

⁵ http://www.balticmaster.org/oil_contingency_planning

based on practical experience. In this case study, an inventory of local resources has also been made to enable recommendations for future investments as in the North-Western Skåne case study.

3.2.1.4 Case Study VTS Zatoka Gdanska

The Maritime Institute in Gdansk has in the project created a preparatory study to an oil contingency plan in the VTS area Zatoka Gdanska. The task has been to develop the foundation for a regional preparedness and a framework for the different authorities' and organizations' responsibilities.

3.2.2 Conclusions from the Case Studies

The different case studies showed that the actual planning document was not the most important part, even though it is an essential pre-condition for effective maritime safety. It is also a tool for educational purposes as well as a task to bring different organizations together. In retrospect it can be concluded that the most important aspects of the contingency building process has been the exercises and the further strengthening of the networks between the different authorities involved.

The networking activities such as seminars, workshops, lectures and meetings as well as the exercises are essential to raise both awareness and knowledge between participants as well as strengthening the teamwork between responsible authorities.

3.2.3 Guide and best practices for inspiration on how to make an oil contingency plan and set up an exercise

The partners' experiences during the work of developing oil contingency planning as well as the exercises have been put together into a guide. The idea of the Baltic Master II oil contingency planning guide and exercise guide is to gather the partner's experience that are useful in contingency planning and exercise processes.⁶

To make the guide more adoptable and usable for different countries, it has been translated into several languages. The guide has also been kept to a more general level to suit a wider audience. It is therefore to be used more as a source of inspiration and guidance as well as a complement to all the existing manuals on the subject.

3.2.4 Development and update of geographical information in coastal management tools – environmental atlas

Instruments for mapping the coastal lines are essential for the authorities responsible during the planning process and in the event of an oil spill to define priority areas, division of resources and strategies.

⁶ http://www.balticmaster.org/oil_contingency_planning

The County Administrative Boards of Halland, Skåne, Kalmar, and Blekinge have cooperated during the Baltic Master II project to develop existing environmental atlases and integrate them into a joint web-based tool⁷.

Simultaneously the Maritime Institute in Gdansk has developed a similar tool for mapping of the Polish coast. During their work of developing the geographical tools, the Swedish and Polish partners have shared their experiences and knowledge to support both processes.

3.2.5 Integration of Coastal Spatial Planning and Oil Contingency Planning

Within the Baltic Master II project the Blekinge Institute of Technology has worked on how coastal spatial planning can be integrated with oil contingency planning.⁸ These are two different processes, one long-term the other short-term, that need to be fitted together. The work has primarily been carried out through cooperation with the partners who have been active in the Blekinge case study as well as the results but also by studying the results from the other case studies performed in the Baltic Master II project. The work has resulted in a report with recommendations on how to integrate the two processes successfully.

3.2.6 Socioeconomic consequences of a larger oil spill

As described earlier, most regions and municipalities around the Baltic Rim lack a sufficient response to an oil spill. The issue itself and the allocation of funding for this cause have not been prioritized regardless of the environmental and socioeconomic impact in the event of a larger oil spill in the Baltic Sea. A study of the socioeconomic impact of a larger oil spill had already been carried out in the Baltic Master I project⁹. During the follow-up project a new study has been conducted to keep up with the rapid developments in the surrounding world.

The aim of the socioeconomic study is to highlight the consequences of a larger oil spill in the Baltic Sea Region on the coasts of Poland and the south of Sweden. Comparing the economic losses and the cost for cleaning up after a larger oil spill with the costs of planning and proactive activities should help to put greater emphasis on the issue both politically and generally.

3.3 Achieving the vision for the coasts

A vision for the Baltic Sea coasts has been set out in the Baltic Master II Political Vision. Coastal environments shall be understood, well managed and respected in all activities related to shipping and maritime safety. Governments and regions shall work together cross-border to ensure an effective response, on land and at sea, to maritime accidents.

⁷ http://www.balticmaster.org/environmental_atlas

⁸ http://www.balticmaster.org/coastal_spatial_planning

⁹ http://www.balticmaster.org/media/files/general_files_716.pdf

The political vision works as a guiding light for the continuing process aimed at safeguarding the coastal environment of the Baltic Sea and working for improved oil contingency planning and response in the Baltic Sea Region. The cooperative network, results and experiences achieved by the Baltic Master II project partners at the local and regional levels provide a very valuable framework for achieving both the vision defined by the Baltic Master II Political Committee, as well as the aims of the EU Strategy for the Baltic Sea Region.

The following actions have been indicated as the most important actions for continued cooperative measures. The actions have also been pointed out by the Baltic Master II Political Committee as recommended actions in implementing the EU Strategy for the Baltic Sea Region.

1. All municipalities around the Baltic Sea will have an oil contingency plan that is exercised regularly.

The survey performed by the Swedish Civil Contingencies Agency and Region Skåne in the Baltic Master II project showed that most coastal municipalities in Sweden still do not have an oil contingency plan. Despite the fact that the case studies carried out in the project showed that developing plans are not the most important way of creating an effective oil contingency and response a plan is important for creating the framework of responsibility as well as a basis of training material.

The experiences of the case studies show that the maintenance of successful oil contingency planning and response and that it is essential to exercise regularly as well as for participants to network. These activities raise the awareness as well as knowledge among participants and increase the cooperation between responsible authorities.

Partners involved in the Baltic Master II project will continue to develop and disseminate results as well as achieve an improved oil contingency planning and response in the Baltic Sea Region through the following measures:

- Activities to gain political and public support by increasing the awareness of the issue and encouraging a public debate about the negative effects of not having an effective oil contingency planning and response.
 - Activities aimed at relating to existing conventions and agreements between the states in the Baltic Sea and developing amendments to strengthen the legal framework.
 - Developing and implementing a flagship project in the EU Strategy for the Baltic Sea Region aiming at improving oil contingency planning and response by strengthening multilevel governance and spatial planning.
2. A functioning funding mechanism for oil contingency planning and response

Another experience gained from the project implementation is that oil contingency plan exercises, training and networking involved the need for personnel funding. Since this issue does not currently have much priority

insufficient funds are allocated to oil contingency planning and exercises of existing plans. This issue may gain higher priority through ensuring better top-down funding mechanism to finance planning and exercise processes in regions and municipalities.

Partners involved in the Baltic Master II project will continue to work for improved oil contingency planning and response in the Baltic Sea Region through the following measures:

- Activities to gain political and public support by increasing the awareness of the issue and encouraging a public debate by for example marketing the socioeconomic consequences of a larger oil spill in the Baltic Sea.
- Activities aimed at supporting the establishment of an oil spill contingency fund for financial support to oil contingency planning and exercising in keeping with the Oil Pollution Compensation Fund in Finland managed by the Ministry of the Environment.

3. A spatially integrated management plan for the whole Baltic Sea

As described above the maritime and related activities in the Baltic Sea are increasing rapidly and the competition for the limited space is growing. To make the best use of the space available and avoid accidents an open and cooperative approach is needed. The partners of the Baltic Master II project have also showed how Integrated Coastal Zone Management (ICZM) is an important part of the oil contingency planning.

ICZM combines the different needs of relating and competitive activities into one single plan to create a more holistic and sustainable view. Since the Baltic Sea is relatively small and closed and the activities in different states and regions are highly interrelated it is important to find a more integrated approach for the whole Baltic Sea.

Partners involved in the Baltic Master II project will continue to develop and disseminate results as well as a more integrated management of the Baltic Sea Region through the following measures:

- Activities to gain political and public support by increasing the awareness of the issue and encouraging a public debate of the importance of ICZM.
- Activities aimed at supporting dialogue between the authorities responsible in the Baltic Sea States
- Activities aimed at supporting a more open, transparent and democratic approach to coastal management involving all sectors
- Activities aimed at securing a broad public participation in the planning processes without introducing additional administrative structures
- Activities aimed at improving the planning and result evaluation by achieving a standardization of data to make coastal planning based more on facts

- Activities aimed at achieving a better understanding of coastal zones and creating databases as a basis for research and decision making
- Activities aimed at supporting studies evaluating the socioeconomic value of environmental aspects

3.3.1 Proposals for investments for improved oil contingency planning and response in the Baltic Sea Region

In the Baltic Master project Region Skåne has evaluated the needs for things like equipment and materials in four case studies including Blekinge, Gotland, Bornholm and North-Western Skåne. The studies included listing existing equipment and materials as well as an analysis of what materials are currently missing. The Region has also mapped current oil contingency planning and preparedness in the Baltic Sea States.

4 The Ports

The second part of the Baltic Master II Political Vision focuses on the activities in ports and how to lower the environmental impact without hampering economic growth and business development.

4.1 Background

Ports are one of the most obvious connections between land- and sea-based activities. There are today over 200 ports in the Baltic Sea Region. These highly important nodes connect the states around the Baltic Sea with each other as well as with global logistics chains. The ports work as centres of trade, communication and business. The sea transport of goods in the Baltic Sea Region constitutes about 15 percent of the combined world transport of goods and it is the ambition of the European Union to shift even more goods from land to sea.

The combination of more and larger ships puts greater pressure on ports in terms of their capacity to manage goods as well as in terms of handling waste and ballast water since ships also generate waste and sewage that threatens to end up in the sea if not handled onshore. This problem is recognized by the EU Strategy for the Baltic Sea Region Chapter 4 to become a model region for clean shipping.

The partners of the first Baltic Master project I took up this issue with focus on the problem of the lack of standardizations in the field of port waste management. Since both ships and ports use different technical solutions as well as routines for waste management, ports cannot always offer the services needed. One major issue was the different couplings on ships for disposal of sludge water. There are an existing standard for couplings but it is not used with the result that there are almost as many different couplings as ships which do not fit the equipment in many ports. To solve this problem the Port of Kalmar produced a special trailer for sludge water disposals equipped with different couplings that would fit a wider range of ships¹⁰.

Ballast water carried to ensure the balance of the ship when unloaded may contain species of plants and animals not part of the Baltic Sea's natural habitats that pose a threat to the ecosystem. According to the existing regulations and conventions the ports around the Baltic Sea ought to manage the issue but in many cases they have neither the capacity nor technical ability to solve the task.

The International Convention for the Control and Management of Ships' Ballast Water and Sediments was issued by IMO 2004 to counter the problem of Ballast Water treatment and to minimize harmful transfer of aquatic organisms and pathogens. In May 2010, Sweden was the only country in the Baltic Sea region that had signed the Ballast Water Management convention that should be signed by all the Baltic countries by 2013. The issue of preventing the introduction of new alien species through ballast water is acknowledged by the

¹⁰ http://www.balticmaster.org/media/files/general_files_686.pdf

Chapter 2 of the EU Strategy for the Baltic Sea Region to preserve natural zones and biodiversity, including fisheries. However, the signing and implementation of the convention needs preparation and investments at a local level.

4.2 Results from the Baltic Master II project

The work with combating the problems with waste management from ships in ports continued to be developed by the partners in the Baltic Master II project. Furthermore, the partners have also worked with finding solutions to how to implement the Ballast Water Convention to be signed by the countries around the Baltic Sea by 2013 as well as a study of port capacity for prevention of pollution from ships.

4.2.1 Suggestions for management routines of solid waste and sludge water from ships

Present legislation, regulations and policies regarding the handling of waste from ships have been analyzed in the Baltic Master II project. The conclusion was that in the first step, present legislation is sufficient. However, there are existing problems regarding how the regulations are followed. Furthermore a lack of unified routines and guidelines, no harmonized tariffs, and uneven distribution of waste disposal in ports complicates the issues.¹¹

The work with waste management in ports is based upon the experiences gained in the first Baltic Master I project and ideas as well as solutions have been further developed. A set of guidelines and routines have been developed in the project in cooperation with the Swedish ports of Kalmar, Västervik and Oskarshamn, as a proposal for the uniform handling of waste in ports. The solution includes a mobile sludge cart to decrease the time to discharge sludge from ships, as well as a collection cart with waste containers for recycling.

The sludge cart has proven to be an effective tool for minimizing the time to deliver sludge in port which also cuts costs. Through this a more effective service can be provided from the ports that save cost as well as decreasing the environmental impact. The problem of different couplings has been solved through developing a special coupling that fits approximately 70 percent of all ships handled by the ports in the project.

Through this work the Baltic Master II project has been given flagship status in Chapter 4 of the EU Strategy for the Baltic Sea Region to become a model region for clean shipping. By following a uniformed protocol for the Baltic Sea Region both better environmental and social performance can be achieved as well as greater cost effectiveness.

4.2.2 Preparative study for the ratification of the Ballast Water Convention

The Ballast Water Convention is to be signed by the Baltic Sea States by 2013. The signing and ratification of the convention put pressure on authorities and ports to carry out duties and responsibilities as well on infrastructural capacity.

¹¹ http://www.balticmaster.org/waste_management_in_ports

As part of Baltic Master II project the Port of Gdynia has investigated what needs to be done to prepare for the Polish signing of the convention and worked for promoting its ratification.¹²

The outputs of the ballast water management work carried out by the Port of Gdynia in the project is for example a proposed model to determine the quantity of ballast water discharges in the port based on collected statistics, the origin of the ships, listings of species, to establish an risk assessment of the risk from ballast water.

4.2.3 Port capacity study for prevention of pollution from ships

The Maritime Institute Bremen produced a study on port capacity for prevention of pollution from ships during the Baltic Master II project. The aim of the study has been to envision the current trend concerning ship development in the Baltic Sea as a basis for planning the ports in the future.

The report concludes that despite the economic crisis the continued trade of goods is expected to increase. This fact together with the environmental ambitions to shift more goods from road and rail to ships assumes a continued growth of ships in numbers and size. Generally larger ships put greater pressure on ports in terms of waste management facilities and ballast water treatment as well as increasing the emission of greenhouse gases in the Baltic Sea Region. The recent emphasis on decreasing the emission of sulphur oxides in the Baltic Sea will also increase the demand for alternative shipping fuels. These are challenges that Baltic ports face the need for infrastructural planning and development.¹³

4.3 Achieving the vision for ports

As for coasts a vision for the Baltic Sea ports has been set out in the Baltic Master II Political Vision. Ports shall be able to carry out their activities and responsibilities regarding waste, discharges and ballast water management in a manner that has a minimal impact on the Baltic Sea environment while still encouraging business development and economic growth.

The practical solutions produced, tested and developed by the partners in the Baltic Master II project are very hands-on, local solutions to international problems. Making use of and implementing the outputs of the project on a larger scale would help in achieving both the vision defined by the Baltic Master II Political Committee as well as the aims of the EU Strategy for the Baltic Sea Region and the HELCOM Baltic Sea Action Plan.¹⁴

The following actions have been indicated as the most important for continued cooperative measures. The actions have also been pointed out by the Baltic Master II Political Committee as recommended for implementing the EU Strategy for the Baltic Sea Region.

¹² http://www.balticmaster.org/ballast_water

¹³ http://www.balticmaster.org/port_capacity_for_prevention_of_pollution

¹⁴ http://www.helcom.fi/BSAP/ActionPlan/en_GB/ActionPlan/

1. Implementation of uniform standards for waste handling

The partners of the Baltic Master II project have concluded that the present legislation concerning waste management in the Baltic Sea Region is sufficient but that it is not very well observed. A lack of common routines and guidelines, no harmonized tariffs, and uneven distribution of waste disposal in ports could be one of the sources to the problem.

Through the Baltic Master II project examples of hands-on solutions have been developed as suggestions for resolving the problems with waste management in ports and on board. Partners involved in the Baltic Master II project will continue to develop and disseminate results as well as contribute to an improved waste management in the Baltic Sea Region through the following measures:

- Activities aimed at increasing the awareness of the issue and encouraging the public debate about the problems related to waste management and the importance of introducing common routines for public and political acceptance.
- Activities aimed at disseminating the waste handling routines recommendations developed in the Baltic Master II project for full-scale implementation in the Baltic Sea Region through networking ports and ship users and by using existing governmental bodies as facilitators.
- Activities supporting the development and introduction of environmentally friendly labeling and certification for ports and ships
- Activities supporting research and development aimed at improving the designing of new ships in a more environmentally friendly manner

2. Signing of the Ballast Water Convention

As is mentioned in the next part of the report, *the International Convention for the Control and Management of Ships' Ballast Water and Sediments* introduced in 2004, regulating the handling of ballast water has so far only been ratified by Sweden.

Partners involved in the Baltic Master II project will continue to develop and disseminate results as well as contribute to the signing of the Ballast Water Convention in the Baltic Sea Region through the following measures:

- Activities aimed at increasing the awareness of the issue and encouraging the public debate about the problems related to Ballast Water for public and political acceptance.
- Activities aimed at benchmarking port and maritime authorities based on the work carried out by the Baltic Master II partners as best practice

4.3.1 Proposals for future investments of enhanced pollution

The partners of the Baltic Master II project have produced proposals for future investment of enhanced pollution. The suggestions aim at pointing out those investments that would contribute most to decreasing emissions and pollution from shipping in the Baltic Sea Region. The Baltic Master II partners suggest that:

- Investments are made in Baltic ports to improve reception facilities and capacity for waste management of solid waste and sludge water from ships. For instance, investing in the solutions for waste management developed by the partners in the Baltic Master II project would improve port service through improved efficiency and reducing costs and at the same time decrease the environmental impact
- Investments are made in ships operating in the Baltic Sea Region that would improve the capability and capacity to manage and store solid waste
- Investments are made in Baltic ports to enable dockside electricity. The investment would decrease the problem of emissions of greenhouse gases from shipping in ports due to ships needing to run their engines to provide with own electricity during loading and unloading
- Investments are made in Baltic ports to enable the use of alternative fuels for example through loading facilities for liquefied nature gas (LNG) to decrease the emissions of sulphur dioxides in the Baltic Sea Region in line with the IMO MARPOL Convention Annex VI
- Investments to be made to decrease the environmental impact of port activities on areas classified as Natura 2000
- The Port of Gdynia will make adjustments of their sewage reception facilities according to the IMO resolution MEPC 83
- Investments are made in ships operating in the Baltic Sea Region that would increase the navigational safety to decrease the likelihood of accidents that would result in an oil spill
- Investments are made in Baltic ports to improve reception facilities and capacity for ballast water management
- Investments are made in ships operating in the Baltic Sea Region to enable them to take care of their ballast water in a safe way that minimizes the risk of introducing alien species into the Baltic Sea

5 The Sea

The third part of the Baltic Master II Political Vision focuses on how to protect the sea to prevent accidents in the future and how to ensure a sufficient compensation to affected parties if an accident occurs.

5.1 Background

The Baltic Sea is a very important common resource for trade, transportation, energy, food and leisure for the states around the Baltic Rim. All these areas increase in activity and compete for the limited space around the coast and at sea. For instance, there are over 2000 ships operating in the Baltic Sea every second and the number is growing. This high level of activity increases the risk of accidents that could threaten both the fragile environment as well as the economic interest of the people living there.

In 2003 eight of the nine Baltic Sea States proposed that the Baltic Sea be named as a Particularly Sensitive Sea Area (PSSA), in other words an area that needs special protection because of its ecological, socioeconomic and scientific importance. The proposal was recognized by the United Nations International Maritime Organization (IMO) in 2005 with the exception of the waters of Russia who did not participate in the proposal. This means that the states around the Baltic Rim are able to suggest Associated Protective Measures (APMs) to be acknowledged by the IMO to be introduced in the Baltic Sea to minimize the negative effects of for instance shipping on the Baltic environment.

An accident such as the *Prestige* incident off the coast of Spain in 2002 occurring in the Baltic Sea is not far from reality and appropriate protective measures need to be considered to avoid a catastrophe. The partners of first Baltic Master I project carried out an analysis of the present APMs in the Baltic Sea with the aim of identifying areas not yet protected enough and to suggest new APMs. The overall aim was to propose three new APMs to the IMO within three years.

The PSSA work carried out in the Baltic Master I project also resulted in a Vision of PSSA 2020¹⁵. The document acknowledged international cooperation, increased monitoring and surveillance, and better training and standards for seafarers as important building stones in improving the environmental security in the Baltic Sea. This is also recognized by Chapter 13 of the EU Strategy for the Baltic Sea Region to become a leading region in maritime safety and security. The PSSA status is also helpful for introducing further measures to decrease emissions and pollution from shipping as described in the EU Strategy under Chapter 4 to become a model region for clean shipping.

In the event of larger oil spills, sufficient monitoring and legal structures need to be in place to localize those responsible and ensure the best compensation possible. There are several regional and international conventions in existence

¹⁵ http://www.balticmaster.org/media/files/general_files_687.pdf

for safeguarding the sea environment but the ratification and observation of these are not ensured.

In line with this the partners of the Baltic Master I project declared in the Baltic Master action plan that continued work with PSSA is one of the most important measures for a safe and clean Baltic Sea, for protecting the Baltic Sea and that international legalization be observed by the Baltic Sea States.

5.2 Results from the Baltic Master II Project

The aim to develop suggestions for new APMs to be introduced to protect the Baltic Sea as a PSSA as well as ensuring the observation of existing legalization continued to be developed in the Baltic Master II project.

5.2.1 Present status of regional and international conventions in the Baltic Sea region regarding ship-source pollution

In the event of larger oil spills, sufficient legal structures need to be in place to localize those responsible and ensure the best compensation possible. As part of the Baltic Master II the World Maritime University has carried out an inventory of the present status of the regional and international conventions in the Baltic Sea region regarding ship-source pollution to identify possible shortcomings in the legal structures protecting the Baltic Sea.

The study shows that there are sufficient regional and international conventions in place but that the implementation, ratification and observation of these needs to be ensured. Most of the existing conventions have been ratified by the Baltic Sea States. However, none of the nine Baltic Sea States had during the time of the study signed the *Hazardous and Noxious Substances protocol* (HNS) introduced by the International Maritime Organization 2010.

Furthermore, *the International Convention for the Control and Management of Ships' Ballast Water and Sediments* introduced 2004, regulating the handling of ballast water has so far only been ratified by Sweden. The Baltic Sea States are currently preparing for the ratification of this convention, earlier scheduled for 2007 and now for 2013, and as described in the previous chapter the Port of Gdynia has in the project prepared a study for the Polish ratification of the convention.

It should be noted that *the International Convention on Civil Liability for Bunker Oil Pollution Damage* introduced 2001 ensuring compensation to those affected of oil spill from the fuel tanks of ships has so far been ratified by all Baltic Sea States except Sweden. This means that Sweden is partly uninsured for these kinds of accidents.¹⁶

¹⁶ http://www.balticmaster.org/international_and_regional_conventions

5.2.2 Scenario modelling studies for proposals for new APMs in connection with the Baltic Sea being a PSSA

The Baltic Sea has been classified as a PSSA by the IMO but this status is only effective when strengthened with Appropriate Protective Measures (APMs). APMs were acknowledged by the partners of the first Baltic Master I project to be a very important instrument for safeguarding the Baltic Sea environment and the partners stated as described earlier in the Vision of PSSA 2020 that there was an ambition to develop three suggestions for new APMs.

Maritime Institute in Gdansk has continued to work with developing suggestions for new APMs in Baltic Master II by evaluating different measures and their effect on oil spill risk for Polish Marine Areas. The different APMs have been analyzed through scenario modelling including many different variables such as wind, currents, and ship trajectories to identify high risk areas. The results have then been compared to the situation without the implemented APMs to the situation with implemented APMs.

The work carried out by the Maritime Institute in Gdansk have been used to comparing the effectiveness of different suggested APMs to find the most appropriate or effective solution.¹⁷

5.2.3 Risk assessment and simulation studies

Region Halland worked during the first Baltic Master I project with developing oil contingency plans in four coastal municipalities. To improve the work carried out in the previous project and establish a better basis for prioritization, risk assessment studies of the marine traffic outside the coast of Halland have been made in the Baltic Master II project.

The risk assessment analysis of the maritime traffic carried out by Region Halland provide input to develop the oil contingency plans made in the previous project as well as material for arguing for the introduction of new APMs. All the five coastal municipalities in Halland have developed oil contingency plans. The risk assessment study showed that the risk of a maritime accident can be decreased through the introduction of traffic separation schemes. It also showed that it is important that maritime traffic is not placed closer to the coast of Halland which would decrease the time for response in the case of an accident. The study will be used as one of the bases for proposing new APMs to IMO by the Swedish Transport Agency and the Danish Maritime Safety Administration.¹⁸

Different simulations of collected data can be used as a very good instrument to identify high risk areas as well as predict possible accident lapses. This data is useful in making priorities and allocating resources in the oil contingency planning, identifying the need for new APMs, as well as in the training of maritime personnel.

¹⁷ http://www.balticmaster.org/associated_protective_measures

¹⁸ http://www.balticmaster.org/risk_modelling

The Maritime University of Szczecin worked to develop a model to analyze maritime accidents based on information from automatic identification systems (AIS) and radar surveillance systems in the Baltic Master II project. The analyses have for example been used to identify maritime accident hot-spots in the Baltic Sea, estimate possible effects of plausible maritime accidents, and make proposals for the allocation of oil contingency resources.

5.3 Achieving the vision for the sea

As for coasts and ports a vision for the Baltic Sea ports has been set out in the Baltic Master II Political Vision. The partners in the project found that the regional and international conventions are sufficient but need to be signed, ratified and observed. It is the vision of the Baltic Master II Political Committee that regions, governments and international organizations work together to ensure that existing conventions and regulations are observed and that APMs are introduced in the Baltic Sea Region to prevent maritime accidents and thereby the impact of these.

The committee also finds that regulations and incentives for shipping aimed at protecting the environment should be introduced while allowing shipping companies to be competitive within the Baltic Sea Region and in the world by supporting new technology and innovation.

The culture of ship crews is environmentally and safety oriented, supporting efficient handling of ship generated waste and preventing ship accidents. Safety standards that are risk assessment methods and targets, for coastal regions against pollution from shipping are being implemented.

The practical solutions produced, tested and developed by the partners in the Baltic Master II project are very hands-on, local solutions to international problems. Making use of and implementing the outputs of the project on a larger scale would help in achieving both the vision defined by the Baltic Master II Political Committee as well as the aims of the EU Strategy for the Baltic Sea Region, the EU long term strategy for 'Blue Growth' ¹⁹ and the HELCOM Baltic Sea Action Plan.

The following actions have been indicated as the most important for continued cooperative measures. The actions have also been pointed out by the Baltic Master II Political Committee as recommended for implementing the EU Strategy for the Baltic Sea Region.

1. The Hazardous and Noxious Substances Convention is signed and ratified by all Baltic Sea States

The partners of the Baltic Master II project have concluded that the present regional and international conventions protecting the Baltic Sea are sufficient but that all are not yet signed, ratified or observed by all the Baltic Sea States.

As described earlier, the Hazardous and Noxious Substances Convention have so far not been ratified by any the Baltic Sea States with the

¹⁹ http://ec.europa.eu/maritimeaffairs/policy/blue_growth/index_en.htm

exception of Lithuania and Russia. To fill this gap in the regional and national conventions protecting the Baltic Sea environment this convention should be ratified by all the nine Baltic Sea States.

Partners involved in the Baltic Master II project will continue develop and disseminate results as well as and strengthened regional and international legal framework in the Baltic Sea Region through the following measures:

- Activities to gain political and public support by increasing the awareness of the issue and encouraging the public debate about the importance of the.

2. Sweden signs the Bunker Convention

The partners of the Baltic Master II project have also concluded that Sweden so far have not signed *the International Convention on Civil Liability for Bunker Oil Pollution Damage*, and thereby non-eligible to the financial compensation instruments connected to the convention. To strengthen the Swedish insurance and filling the gap in the existing international legal framework Sweden should sign and ratify the convention.

Partners involved in the Baltic Master II project will continue develop and disseminate results as well as and strengthened regional and international legal framework in the Baltic Sea Region through the following measures:

- Activities to gain political and public support by increasing the awareness of the issue and encouraging the public debate about the importance signing and ratifying the convention as well as envision the consequences of the opposite.

3. A Common surveillance system for the Baltic Sea Region

The Baltic Sea has as described earlier been classified as a PSSA by the IMO. However, if this status is to have any relevance protective measures need to be taken. A common surveillance system would e.g. make it easier for joint efforts and rescue actions, to determine ship source emissions and counteract illegal maritime activities.

A surveillance system for the Baltic Sea Region could also provide with a good basis for data collection for analysis and studies to improve maritime safety and security. The work carried out in the Baltic Master II project show how collected AIS and radar surveillance data can be used for modeling analysis to e.g. trace oil spill or ship source emissions as well as calculate plausible outcomes for dividing contingency resources.

Partners involved in the Baltic Master II project will continue work for improved maritime safety and security in the Baltic Sea Region through the following measures:

- Activities to gain political and public support by increasing the awareness of the issue and encouraging the public debate about the importance of introducing a common surveillance system for the Baltic Sea Region.

- Activities aimed at supporting the dialogue between responsible authorities in the Baltic Sea States
 - Activities aimed at supporting initiatives contributing to the introduction of a common surveillance system for the Baltic Sea Region.
 - Activities aimed at supporting the development of current and future AIS systems
 - Activities aimed at supporting the development of AIS systems also covering small ships not equipped with transponders as well as promoting the use of AIS-transponders
 - Activities aimed at supporting the development databases with accident data for research
4. A common reporting and anti-collision system with dynamic accident forecasting for the Baltic Sea Region

To prevent maritime accidents and negative consequences to the Baltic Sea fragile environment a common reporting and anti-collision system should be introduced. Such a system would assist in decreasing the risk of a maritime accident on the crowded Baltic Sea as well as in joint rescue actions.

The human factor is often one of the contributing factors to maritime accidents because of working conditions, lack of training or basic knowledge of technical navigational equipment. The assisting technical equipment is only useful if it can be operated correctly and competence rising education and training may be needed to maritime personnel.

Partners involved in the Baltic Master II project will continue work for improved maritime safety in the Baltic Sea Region through the following measures:

- Activities to gain political and public support by increasing the awareness of the issue and encouraging the public debate about the importance of introducing a common reporting and anti-collision system for the Baltic Sea Region.
- Activities aimed at supporting the development of a common reporting and anti-collision system
- Activities aimed at rising the competence level regarding technical equipment among maritime personnel
- Activities aimed at supporting strengthened standards and certification for maritime personnel
- Activities aimed at supporting improved working conditions for maritime personnel to decrease significance of the human factor
- Activities aimed at promoting a more safety oriented culture among maritime personnel

5. Implementation of APMs proposed by the Baltic Master II project

To give the status of being a PSSA any significance it has to be accompanied with the protective measures. The Partners of the Baltic Master II project have through analyses of the current situation introduced APMs as well as comparisons between different solutions to find the most effective ones. Through this work proposals for new APMs to be introduced in the Baltic Sea have been developed thereby strengthening the status of PSSA as well as the environmental protection of the Baltic Sea.

The partners involved in the Baltic Master II project will continue to work to strengthen the status of the Baltic Sea as a PSSA, through the implementation of the suggested AMPs and by developing APMs through:

- Activities aimed at strengthening the basic data information as a basis for the argument to introduce the APMs suggested by the partners of the Baltic Master II project

6. Russia should acknowledge the Baltic Sea as a PSSA

The PSSA classification was acknowledged in the first Baltic Master I project as an important contributing status to increase the environmental protection of the Baltic Sea. The partners of the Baltic Master II project has continued working with PSSA and strengthening the status through things like developing suggestions for APMs. However, Russia has not yet recognized the Baltic Sea as a PSSA which weakens the status which also was acknowledged by the partners of the first Baltic Master I project in the Vision of PSSA 2020. To strengthen the PSSA status further in the Baltic Sea and increase the possibility for further protective measures Russia should recognize the Baltic Sea as a PSSA.

Partners involved in the Baltic Master II project will continue work to strengthen the status of the Baltic Sea as a PSSA through the following measures:

- Activities to gain political and public support by increasing the awareness of the issue and encouraging the public debate about the importance of a consensus among all the nine Baltic Sea States.
- Activities a at supporting dialogue with responsible authorities in all the nine Baltic Sea States to achieve a consensus.

6 Discussion summary

This management plan aims to work as a complement to the visions and recommendations in the Baltic Master II Political Vision with concrete proposals for actions on how to secure a long-term management of the project results as well as contributing to increased maritime safety and environmental protection in the Baltic Sea Region.

The partners of Baltic Master I and Baltic Master II have worked for almost 7 years with the two projects and for more than 10 years in bilateral and international forums for increased maritime safety and security as well as environmental protection in the Baltic Sea Region. The partnerships have during these years developed local and regional ideas and solutions to international problems.

The partners of the Baltic Master I project set out a vision developed through the result of their ambitious work to counter the serious threats against Baltic maritime safety, security and environment. In this document three important measures were highlighted to be taken from vision to action.

During the Baltic Master II the partners have adopted these measures to develop practical solutions. Through this approach oil contingency plans have successfully been developed and exercised as highlighted as the first important measure. The international conventions and legislation have been analyzed to find shortcomings and new APMs have been proposed to eliminate threats to the Baltic Sea as a PSSA as highlighted as the second measure. Coastal management has been acknowledged as another important measure from the Baltic Master I project, and tools for coastal planning have been developed and integrated into the oil contingency plans.

Furthermore this the Baltic Master II project has also successfully contributed to the European Union Strategy for the Baltic Sea Region and has the ambition to become a leading region in maritime safety and security, and to reinforce maritime accident response capacity protection from major emergencies. The Baltic Master II project has also had the honour to be named as a flagship project in the strategy under Chapter 4.5 to become a model region for clean shipping. This has been done through devising simple and practical solutions for managing waste from ships in ports.

The proposals and recommendations set out in this management plan by partners of the Baltic Master II project aims to function as a summary of the conclusions made during the past three years as well as a road map of what to continue to develop in order to increase maritime safety and environmental protection in the Baltic Sea Region.

List of Literature

Baltic Master I results

Measures for a Safe and Clean Baltic Sea. Available at:
http://www.balticmaster.org/media/files/general_files_669.pdf

Socioeconomic impact of massive oilspill. Available at:
http://www.balticmaster.org/media/files/general_files_716.pdf

Vision of PSSA 2020. Available at: http://www.balticmaster.org/media/files/general_files_687.pdf

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Environmental atlas. Available at: http://www.balticmaster.org/environmental_atlas

Coastal spatial planning. Available at: http://www.balticmaster.org/coastal_spatial_planning

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Baltic Master II Partners

Denmark

Bornholm Police*
Danish Emergency Management Agency,
Bornholm (DEMA)
Regional Municipality of Bornholm

Germany

Maritime Institute Bremen
Ministry of Agriculture, Environment and
Consumer
Protection, Mecklenburg Vorpommern*
Ministry of Federal State of Bremen*

Latvia

Latvian Maritime Association*

Estonia

Saaremaa County Government

Finland

Finnish Maritime Administration*
Kotka Maritime Research Association
University of Turku*

Poland

Maritime Institute Gdańsk
Maritime University of Szczecin
Ministry of Infrastructure, Poland*
Office of the Marshal of the Pomorskie
Voivodeship*
Port of Gdynia Authority S.A.

Russia

ABIORAS*
Administration of Baltijsk Municipal District*
Institute of spatial planning, development
and foreign relations*
Zoological Inst Russian Academy of Sciences*

Sweden

Region Blekinge, Sweden (Lead partner)
Blekinge Institute of Technology (BTH)
County Administrative Board of Blekinge
County Administrative Board of Halland
County Administrative Board of Kalmar
County Administrative Board of Skåne
Halland Regional Development Council
KSRR*
Municipality of Gotland
Municipality of Helsingborg
Municipality of Kalmar
Municipality of Karlshamn
Municipality of Karlskrona
Municipality of Oskarshamn
Municipality of Ronneby
Municipality of Västervik
Municipality of Ängelholm
Region Skåne
Regional Council in Kalmar County
Rescue Services of Höganäs*
Swedish Civil Contingencies Agency
Swedish Coast Guard

International partners

World Maritime University
Baltic Sea Seven Islands (B7)*
Baltic Sea States Sub-regional Cooperation
(BSSSC)*
CPMR Baltic Sea Commission*

* Associated partners

www.balticmaster.org

Baltic Master II is a flagship project in the EU Strategy for the Baltic Sea region that brings together countries from around the whole Baltic Rim. Its aim is to improve maritime safety by integrating local and regional perspectives with cross-border cooperation. This involves increasing the land-based capacity to respond to maritime oil spills and working to prevent pollution from maritime transport. The project runs from January 2009 to January 2012.