Preventive action in the protection of the Baltic Sea

Do the HELCOM Baltic Sea Action Plan and An Agenda for the Baltic Sea Region – Baltic 21 advocate preventive action in protecting the Baltic Sea?

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**Sammanfattning**
Abstract

The Baltic Sea is a sensitive and unique ecosystem that has been strongly affected by human activity in the area. It is an important cultural and natural resource that contributes with several economic benefits. Among the many documents aiming to protect the Baltic Sea, this thesis concerns two of the action plans; An Agenda for the Baltic Sea Region – Baltic 21 and HELCOM Baltic Sea Action Plan, which are two of the most recognised documents aiming at protecting the Baltic Sea area. The two documents was analysed using three different types of text analysis.

As the main goal in all environmental protection is to urge preventive action in protecting the environment, the two documents will be analysed with the aim of investigating whether preventive action is advocated in the protection of the Baltic Sea, even though the region is threatened and have many problems from an environmental point of view.

The two documents differ structurally as their approaches differ. The HELCOM Baltic Sea Action Plan (BSAP) has an ecosystem approach, while the Baltic 21 has sustainable development as its primarily approach. The results of the study further show that preventive action is advocated in both documents. However, the BSAP presents a cleared preventive approach and suggests more preventive action than Baltic 21. Baltic 21 lack a clear connection to the Baltic Sea and instead focus in the whole Baltic Sea area. There are few clearly preventive action presented in the protection of the actual Baltic Sea in Baltic 21. Instead the Baltic 21 shows a vague argumentation and few actions aiming at preventing environmental harm to the Baltic Sea.

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1 Introduction
The Baltic Sea is a unique and sensitive sea that serves as an important natural and cultural resource in the area (Rydén et al. 2003, p. 136). The Baltic Sea has however been strongly affected and threatened but the human activity in the area (Ehlin 1999).

There are several conventions and documents aiming at protecting the Baltic Sea (Rydén et al. 2003, p. 623). Two important documents that both present an action plan for the Baltic Sea and the Baltic Sea region are the HELCOM\(^1\) Baltic Sea Action Plan and An Agenda for the Baltic Sea Region – Baltic 21.

The goal in all environmental management and protection internationally, regionally as well as locally, is to preserve the environment and the natural resources by urging preventive action (Mahmoudi & Rubenson 2004, p. 59). Damaged environment should however be improved. The importance of acting preventive is expressed in several international conventions of significant importance in the environmental policy, such as the Rio declaration and the Stockholm declaration. As it is hard and expensive to restore environmental degradation prevention is desirable (Kiss & Shelton 2000, p. 263).

1.1 Aim and question of issue
The aim of this thesis is to analyse whether preventive action is advocated in the protection of the Baltic Sea, even though the region is threatened and have many problems from an environmental point of view. This will be done by analysing two documents concerning the protection of the Baltic Sea; An Agenda for the Baltic Sea Region – Baltic 21 and HELCOM Baltic Sea Action Plan and investigate whether and, if so, how strongly they advocate preventive action in protecting the Baltic Sea. The fundamental EU principle of prevention will be the base for defining preventive action as a theoretical concept. The structural differences between the two documents will also be investigated briefly. For this aim the following questions have been formulated:

1. What differences are there between the two documents structurally?
   - What is the origin of the documents?
   - What are the visions for the respective documents?
   - What goals for meeting the vision of the documents are suggested?
2. How are preventive actions in protecting the Baltic Sea advocated in the two documents?
3. If preventive action is advocated, how strongly are they advocated?

The first question is mostly important for better understanding of the two documents. To investigate structural differences and answering the first questions should therefore be seen as a background for better understanding of the two other questions and will be discussed and presented in results and discussion. Question number two and three are the most important questions for the aim of this thesis.

1.1.1 Delimitations
The thesis is primarily delimited to the two documents and will therefore only consider the protection of the Baltic Sea suggested in these two documents. In the two documents chosen, the analysis is delimited to the actual action plans presented. In the HELCOM Baltic Sea

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\(^1\) HELCOM – Helsinki Commission
Action Plan the first 27 pages of the total of 101 will be analyzed, as those contain the actual action plan. The rest of the document is recommendations and other documents, such as annexes and lists of indicators. The analysis on the document An Agenda for the Baltic Sea Region – Baltic 21 will be performed on the action programme presented on page 17 to 29. The rest of the Baltic 21 is introduction and background material.

Secondly the thesis will look primarily at the preventive actions advocated in the documents. Other suggested action, such as restoring actions will only be looked at as a comparison or in relation to the preventive action suggested, as the aim is to see if and how preventive action is advocated.

2 Background
The background describes the Baltic Sea as an ecosystem and the protection of the Baltic Sea carried out by HELCOM and the local Agenda 21. The EU and the environmental policy within the region are described as a background for the theory, which has the EU fundamental principle of prevention partially as a base.

2.1 The Baltic Sea
The Baltic Sea is a very sensitive area, due to the special reigning condition (Ehlin 1999). The sea is shallow, semi-closed and the largest brackish water body in the world. The Baltic Sea therefore consists of a unique mix of aquatic and freshwater species (HELCOM 2003, p. 7). However, in comparison to other aquatic ecosystem the Baltic Sea is poor in species as few species have been able to adapt to the brackish conditions (HELCOM 2003, p. 7), as the organisms are constantly under salinity stress in brackish water (Rydén et.al 2003, p. 153). With a limited number of species each species receive a larger role in the structure and dynamics of an ecosystem and in the food chain (HELCOM 2003, p. 7). Some species, such as bladder wrack, are key species and the disappearance of such could threaten the whole functioning of the ecosystem. This makes the ecosystem sensitive and fragile as the species are more dependent on each other than in other aquatic ecosystems (Rydén et al. 2003, p. 153). Disturbances, such as pollution of hazardous substances or nutrients, increase the stress already existing in the Baltic Sea and therefore threaten the ecosystem (Ehlin 2000).

The Baltic Sea ecosystem furthermore contribute with a variety of economic benefits as the sea is used for seaborne transport, cooling water for energy production, fishing and recreation (Köhn 1998). The tourism activity alone contributes with 20 % of the total economic benefit from the coastal zone.

The human activity in the Baltic Sea and its catchment, which is over 1,7 million km² and house around 85 million people (HELCOM 2003, p. 8), threaten the marine environment intensively (Ehlin 1999). The Baltic Sea is affected by eutrophication, pollution of toxic and hazardous substances and extinction of species in such an extent that it is considered to be one of the most threatened seas in the world (Rydén et al. 2003, p. 623). As the Baltic Sea is semi-closed the exchange of water is limited and it can take up to 30 years for the water to be exchanged (HELCOM 2003, p. 6). Pollutants released into the water therefore remains in the sea for a long time.
2.2 The protection of the Baltic Sea

According to Köhn (1998) it can be presumed that there should be a shared interest within the countries close to the coast in protecting the Baltic Sea, as it is a source of economic benefits.

There are several conventions aiming to protect the Baltic Sea, covering all from protection from land-based pollution, sea-bed activities, shipping, radioactive substances to protection of endangered species (Rydén et al. 2003, p. 623-625). Regional conventions or agreements have been used as a complement to international agreements (Ugglö 2006) and one of them is the Convention on the protection of the marine environment of the Baltic Sea area, also known as the Helsinki Convention (Ehlin 1999). The Baltic Marine Environment Protection Commission, also called the Helsinki Commission (HELCOM), is responsible for implementing the convention. There is also a local Agenda 21 for the Baltic Sea region – the Baltic 21 – aiming to achieve a sustainable development in the region (Rydén et al. 2003, p. 726). The Helsinki Convention, HELCOM and the Baltic 21 are described separately below.

2.2.1 The Helsinki Convention and HELCOM

The first Helsinki Convention was formed in 1974 and entered into force in 1980, aiming at protecting the Baltic environment from pollution in all forms (Ehlin 1999). The convention was signed by seven states in the Baltic region; Denmark, Finland, German Democratic Republic, Federal Republic of Germany, Poland, Sweden and the Soviet Union. In 1992 the convention was revised to strengthen the protection of the Baltic Sea (Rydén et al. 2003, p. 719). The new convention advises that preventive action should be taken against pollution and principles such as the precautionary principle were included. The whole Baltic Sea area is included along with inland waters and the sea-bed (HELCOM 2004, p. 6) The convention entered into force in 2000 after it was signed by Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia, Sweden and the European Community.

HELCOM was constituted to monitor the implementation of the convention and review the content of the convention (Rydén et al. 2003, p. 719). HELCOM also formulates recommendations in relation to the convention and define criteria and objectives. The goal of HELCOM is to “protect the marine environment of the Baltic Sea from all sources of pollution, and to restore and safeguard ecological balance” (HELCOM 2007, p. 7). All decisions are made unanimously and are recommendations with no legal inflictions.

HELCOM has formulated the HELCOM Baltic Sea Action Plan (BSAP), which is a programme with strategies for restoring a good ecological status in the Baltic Sea (HELCOM 2007, p. 13). The BSAP was developed to reduce pollution of the Baltic Sea and is based on the foremost threatening problems to the Baltic Sea (HELCOM 2007, p. 13). The action plan is based on an ecosystem approach in protecting the Baltic Sea (HELCOM 2007, p. 14).

2.2.2 Baltic 21

In 1996 a project aiming to develop a local Agenda 21 for the Baltic Sea region started, resulting in the document An Agenda for the Baltic Sea Region – Baltic 21 (Rydén et al. 2003, p. 726). The project was launched by the ministers of environment in the region. The Baltic 21 is built on regional cooperation and the process involves not only the environmental ministers but organisations such as environmental movements, business, universities, intergovernmental organisations, industries and international development banks, which are all represented in the Baltic 21 steering group. The Baltic 21 aims to achieve a sustainable development in the Baltic Sea region and the three aspects of the concept is addressed; economic, social and environmental sustainable development (Baltic 21 2003, p. 7). Eleven
countries are embodied in cooperation; Denmark, Estonia, Finland, Germany, Iceland, Latvia, Lithuania, Norway, Poland, Sweden and the north-western part of Russia, as well as the European Union (Baltic 21 1998, p. 3).

The Baltic 21 is a complement for other initiatives and other work in the regions, such as activities performed by HELCOM (Baltic 21 1998, p. 4). It further takes into consideration the European Union work and dimensions.

An Agenda for the Baltic Sea Region – Baltic 21 present an action programme for the Baltic Sea region (Baltic 21 2003, p. 3). The programme addressed a number of action needed to be taken to change the development in the Baltic Sea region to a sustainable one. The three dimensions of sustainable development are invoked in the action plan.

2.3 EU and environmental policy

The protection of the environment in the European Union started after the Stockholm Conference in 1972 (Mahmoudi 2003, p. 37). The European member countries endorsed that intensive action should be taken in the international environmental protection, but was disappointed at the attenuate results from the conference. Therefore the European Community formulated an action programme, which was approved in 1973.

The European Community has formulated six action programmes. The first two programmes have a focus on pollution as the main problem and decreasing pollution has priority (Mahmoudi 2003, p. 40). The problem was seen as limited to the geographic area of the Community and targeted on solving acute problems within the European Community (Mahmoudi 2003, p. 42). In the third programme an increased attention towards environmental issues was expressed, with a change in attitude and prioritisation of such questions (Mahmoudi 2003, p. 40) and the problems were seen in a larger perspective and not limited to geographic boarders (Mahmoudi 2003, p. 42). The principle of prevention was also expressed in the third programme (Mahmoudi 2003, p. 60). The preventive approach was enhanced and evolved in the fourth action programme (Mahmoudi 2003, p. 41). In the last two action programmes sustainable development becomes an important concept (Mahmoudi 2003, p. 42).

The European Community has eight fundamental principles in the protection of the environment (Mahmoudi 2003, p. 50-62);
- sustainable development,
- subsidiarity principle,
- principle of integration,
- high level of protection,
- precautionary principle,
- principle of prevention,
- rectifying pollution at the source and
- the polluter pays principle.

The principles are not judicially binding but political declaration of intent and the environmental policy within the community should be based on the principles (Mahmoudi 2003, p. 49-50). Ergo, there is no obligation to apply these principles on a single arrangement. The member countries further have no responsibility to apply the fundamental principles on national environmental measures.
2.3.1 EU and the protection of the Baltic Sea

In 1977 the European Community initiated a discussion with the seven states that had signed the 1974 Helsinki Convention to accede the convention (Mahmoudi 2003, p. 167). The negotiations were opposed by the Soviet Union and the European Community was not able to participate in the work and apply the 1974 convention until the dissolution of the Soviet Union. When the convention was renewed in 1992, the European Community along with the twelve other states signed and affiliated the convention.

The European Union was also participants in the work with developing the Agenda 21 for the Baltic Sea Region (Baltic 21 1998, p. IV).

3 Theory: Preventive action in environmental protection

According to Kiss and Shelton (2000, p. 263) prevention should be the Golden Rule in protecting the environment. Prevention is desirable both from an ecological and an economic perspective, as it hard, or in some cases impossible, to repair damaged environment, such as species extinction or releasing of hazardous pollutants. The cost of restoration is often vast. A requirement for the preventive approach is that all states act reasonable with honest intentions of protecting the environment from being harmed by regulate public and private activities (Kiss & Shelton 2000, p. 264). There is no duty constraint to prevent all harm. The state is however obligated to prohibit activities that could harm the environment significantly, such as or example dumping of toxic waste. The state should also regulate allowed activities to minimize the prejudicial effects on the environment. There is often a need of implementing strategies or policies to effectively act preventive.

Integrated pollution prevention is a thorough approach and a recognised instrument in the preventive protection of the environment (Kiss & Shelton 2000, p. 191-192). Integrated pollution prevention aims to minimizing the risks or harming the environment by eliminating or reducing hazardous pollutants (Kiss & Shelton 2000, p. 192). The environmental impact of the polluting substance is considered in a “cradle to grave”-approach. The whole lifecycle and the origin of the substance are important when assessing the risks. The integrated pollution prevention requires limitations of substances according to formulated objectives. To act towards sustainable development is essential as well as using clean technology and less harmful substances. Public information and precipitation is moreover important when new substances or activities are proposed. According to Roviralta Moss (2007) pollution prevention has been proven to be one of the most effective ways of reducing risk of harming the environment and human health and is a cost-effective method in protecting the environment.

Another important aspect in the preventive principle is to make a prior assessment of possible hazardous activities, which is illustrated in the Convention of the law of the sea, as well as in the Rio declaration and in the Agenda 21 (Kiss & Shelton 2000, p. 263). The Rio declaration states in principle 17 considering prior assessments (United Nations 1992, p. 4):

Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.

To perform environmental risk analysis and assessments is further a proactive way to minimize the risk of harming the environment (Wessberg et al. 2008). Wessberg et al. (2008) further describes the steps of environmental risk analysis, based on an example from
environmental risk analysis for accidental emission in industrial activity used in Finland. The method is based on identifying the risk to the environment and defining the risk of accidental pollution. The risk assessment is then prefaced by estimating the risk investigating the consequences of an eventual accident and to estimate the probability of it to occur. The risk assessment is concluded by evaluating the risk bases on the consequences and the probability. Based on the risk evaluation proposal for action can be formed to avoid the risk and thereby prevent it from happening.

The precautionary principle is an important instrument when acting preventive in protecting the environment and is considered to be the most developed and advanced forms of prevention (Kiss & Shelton 2000, p. 265). The precautionary principle emerged as an answer to the increase risk of environmental harm that arose from the human technical development (Rogers et al. 1997). The principle can be seen as a tool for dealing with risks and uncertainties in management of the environment. The precautionary principle was in 1997 a feature of the environmental legislation in more than 40 countries and it is advocated in several international agreements. In principle 15 of the Rio Declaration the precautionary approach is presented and advocated (United Nations 1992, p. 4):

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

The precautionary approach aims to avoid harm to the environment in conformity with the preventive approach (Kiss & Shelton 2000, p. 265). The precautionary approach does however furthermore apply when no acting at all can have serious consequences for the environment. The precautionary principle is also used as a complement in integrated pollution prevention (Kiss & Shelton 2000, p. 192).

3.1 The principle of prevention and related principles in the EU environmental policy

The principle of prevention is one of the eight fundamental principles in the European Union and has a significant priority (Mahmoudi 2003, p. 60). The principle means that instead of acting when damage to the environment already has occurred, the focus is on preventing it from happening, as it is intricate and expensive to restore a damaged environment, as mentioned before. Preventive action is a wide concept and can be implemented through a number of instruments. The most commonly used within the European Union are emission limitations, permission requirements and economic means of control (Mahmoudi 2003, p. 61). The preventive approach has also contributed to the development of environmental impact assessment and environmental auditing, with the aim of combining economic development without negative environmental impact.

There are foremost two other principles in connection to the principle of prevention; the precautionary principle (Mahmoudi 2003, p. 59) and the principle of rectifying pollution at the source (Mahmoudi 2003, p. 61).

The precautionary principle was introduced in 1980s, but was already then a part of the national legislation in some of the member countries (Mahmoudi 2003, p. 59). The precautionary principle changed the traditional approach, where action was taken to prevent, minimize and control proved and investigated environmental degradation (Mahmoudi 2003, p. 58). The precautionary principle should be applied even when scientific evidence and
support is inconclusive or vague. The precautionary principle is by some considered to be a reinforcement of the principle of prevention, while others consider it to be a requirement of taking action although no scientific evidence reign concerning the effect on the environment (Mahmoudi 2003, p. 59). In Sweden and Germany, for example, the precautionary principle is implemented in connection to a preventive approach and is therefore accentuate the support for taking stronger preventive action. The European Commission stress the need of remarking the precautionary principle in structuralised methods for risk assessing. The precautionary principle can be especially useful in risk management.

The principle of rectifying pollution at the source is also in close connection to the principle of prevention and advocates that pollution should be stopped from spreading from the source to the surrounding environment (Mahmoudi 2003, p. 61). To prevent the pollution at the source as soon as possible minimizes the risk of spreading it and thereby harming the environment.

4 Empiri

The empirical material for the analysis are the two actions programmes for protecting the Baltic Sea expressed in two documents HELCOM Baltic Sea Action Plan and An Agenda for the Baltic Sea Region – Baltic 21.

There are some differences between the documents that are worth mentioning. One significant difference between the two documents is that the focus in Baltic Sea Action Plan (BSAP) is directly on the Baltic Sea; whereas the Baltic 21 has principal focus on the activities in the Baltic Sea area. That makes the comparison between the two documents harder and it is therefore important to have in mind when performing the analysis and presenting the results, as well when reading and interpreting them. The documents are further produced with ten years in between, which might be an explanation to the differences in actions proposed. These are some factors that aggravate the interpretation and comparison between the documents. The documents are, however, two of the most recognised action plans for the region and the actual applied documents, which is the reason for the choice.

5 Method

Text analysis are methods for analysing and interpreting texts and see what they say and how they say it (Hellspong & Ledin 1997, p. 11). In this thesis three different types of text analysis are used; ideational structural analysis, qualitative content analysis and argumentation analysis, which are all described below.

The ideational structural analysis is used to answer the first of the three questions of issue and is foremost a tool for compiling a background and general differences between the documents. The content analysis will be the foundation for the aim and finding preventive action advocated in the text. The argumentation analysis will help interpreting the results from the content analysis and understanding how strongly preventive action is advocated.

5.1 Ideational structural analysis

To briefly analyse the differences between the two documents structurally and determining the origin, overall vision and goals of the action programme, the ideational structure will be analysed. To analyse the ideational structure can help understanding the pattern of the content (Hellspong & Ledin 1997, p. 115). This will be done by using a structural analysis which aims
to give a broad picture of the structure of the text and can be used on all types of texts (Hellspong 2001, p. 61). The ideational structural analysis is performed by finding the overall theme of the text, the overall meaning or topic for the text (Hellspong & Ledin 1997, p. 118-119). The overall theme is also called the macro theme. The next step is to find the underlying themes, the so called micro themes. However, to only define the macro and micro themes gives a shallow description of the content (Hellspong & Ledin 1997, p. 122). Therefore the meaning of the themes is analysed, trying to answer the question: “what does the theme tell us?”. The meaning of the themes is called propositions and the macro theme and micro themes are described by the macro proposition and the micro propositions.

The exact themes and propositions will however not be presented in the results and discussion as it is not important for the aim or questions of issue to do so. The ideational structural analysis will be used as a tool for answering the first question and determining differences in origin, overall vision and goals. The structural analysis is furthermore a good tool for the analyser to get familiar with the text and makes further analysis and interpretation of the text easier to perform. The analysis therefore serves more as background analysis for the content analysis and the argumentation analysis.

5.2 Qualitative content analysis

Content analysis can be described as an analysis aiming to describe the content of a text systematically and can be performed both as quantitative and as qualitative (Bergström & Boréus, p. 44). A quantitative content analysis aims to quantify certain phenomena in a text (Bergström & Boréus 2005, p. 43), whiles a qualitative content analysis do not measure or quantify anything (Bergström & Boréus 2005, p. 44). The qualitative content analysis instead needs a deeper interpretation of the results, which in this thesis will be done by using an argumentation analysis.

The content analysis is performed by first designing an analysis instrument for what is supposed to be analysed in the text, ergo the presence of something in the texts such as words, themes, arguments or a certain phenomena (Bergström & Boréus 2005, p. 49), which in this thesis are statements advocating preventive action. The analysis instrument is called a coding scheme when the analysis is performed manually. The coding scheme is a scheme of what should be noted or marked in the text, the so called recording units. If the coding scheme is advanced or comprehensive a coding instruction can be made, to describe how to evaluate in difficult cases. Sections of the text where recording units are found are called sampling units (Bergström & Boréus 2005, p. 50). The sampling units are processed separately.

When a text is analysed in this way, it is important to make a double coding of the text (Bergström & Boréus 2005, p. 50-51). A double coding means doing the same analysis on the same text twice, to make sure that the person who performs the analysis makes the same evaluation at two different junctures. The time in between should be enough for the analyser to forget the exact evaluation that was formulated at the first analysis. A double coding can also be performed by another, independent, person. If the evaluation is not the same at the two different analysis the coding scheme and the coding instructions needs to be developed further to make sure that the coding scheme is a foundation for unequivocal judgments.

Statement advocating preventive action will be noted in the text. The recording units are in other words arguments or statements advocating preventive action. The recording units are described in the coding scheme (see Table 1), which is composited based on the theory of
preventive action in protecting the environment and the principle of prevention and compile the characteristics of preventive action.

<table>
<thead>
<tr>
<th>Recording unit</th>
<th>Coding instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statements advocating preventive action</td>
<td>Examples or description</td>
</tr>
<tr>
<td>Pollution Prevention</td>
<td>- Eliminating or reducing hazardous substances</td>
</tr>
<tr>
<td></td>
<td>- Clean technology</td>
</tr>
<tr>
<td></td>
<td>- Use of less harmful substances</td>
</tr>
<tr>
<td>A precautionary approach</td>
<td>- Acting when non-acting can have significant effect on the environment</td>
</tr>
<tr>
<td></td>
<td>- Acting even though scientific certainty is absent</td>
</tr>
<tr>
<td>Rectifying pollution at the source</td>
<td>- Stop the spreading of pollutant or substances from the source to the surrounding environment</td>
</tr>
<tr>
<td>Prohibit activities that could significantly harm the environment and regulate activities that are harming the environment</td>
<td>- Permission requirements for proposed activities</td>
</tr>
<tr>
<td></td>
<td>- Emission limitations</td>
</tr>
<tr>
<td>Assessing the risk of harming the environment</td>
<td>- Prior assessment of possibly harmful proposed activities</td>
</tr>
<tr>
<td></td>
<td>- Environmental impact assessment</td>
</tr>
<tr>
<td></td>
<td>- Environmental auditing</td>
</tr>
<tr>
<td>Economic means of control</td>
<td>- Economic means of control with the aim of preventing environmental harm is presented</td>
</tr>
<tr>
<td>Public information or education</td>
<td>- For e.g. prevent pollution or in other ways prevent harming the environment</td>
</tr>
</tbody>
</table>

Table 1. Coding scheme of the recording units used in the qualitative content analysis.

The sampling units, the text units containing recording units, will be analysed using an argumentation analysis, to see how strongly the preventive actions are advocated within them.

5.3 Argumentation analysis

Arguments are important features in all texts, such as in political, cultural or scientific contexts (Hellsppong 2001, p. 108). Arguments are in an interpersonal structure a rhetorical approach for convincing the reader in a certain matter or point of view (Hellsppong & Ledin 1997, p. 168). An argumentation analysis is a tool for investigating if the arguments are reliable, by looking at what types of reason a text gives for a certain opinion (Hellsppong 2001, p. 108). The objective is to investigate or reinforce a certain attitude or point of view (Hellsppong 2001, p. 109), which in this case is the preventive approach or attitude in the sampling units.

There are many ways to approach the argumentation in this type analysis and many dimensions that could be considered, such as the argumentation issue, the point of view, the reasons or the starting-point (Hellsppong 2001, p. 109-113). In this analysis the argumentation issue and the reasons the text gives in the argumentation will be analysed.

Argumentation issues can be described as an opinion on what or how something is (Hellsppong 2001, p. 109). In this context the argumentation issues are preventive actions advocated in the texts, which has been outlined by the content analysis. The objective is to analyse if the
argumentation issue in the sampling units is distinct or diffuse, for example if the argumentation issue is clearly defined or if it is envelop in many, intersecting issues (Hellspong 2001, p. 109).

Reasons for arguments are given to describe why a certain opinion is reasonable (Hellspong 2001, p. 110). To analyse the reasons that the text gives for its arguments will be a way of analysing the support or legitimacy in the argumentation in the sampling units (Hellspong 2001, p. 110). This is done by looking at how the reason are motivated or exemplified. Reasons that are strongly motivated are evaluated with a higher legitimacy than arguments with no or limited motivations or exemplification.

In summary the two following questions will be asked and looked to when analysing the sampling units, assembled by the content analysis:

1. Is the argumentation issue (preventive action) expressed distinct or diffuse?
2. How strong is the support or legitimacy for the reasons in the arguments for preventive action?

6 Results and discussion
The results are presented and discussed below. The structural differences between the documents are firstly presented, which has been outlined by the ideational structural analysis. The results from the qualitative content analysis and the argumentation analysis of the two documents are then presented, each document individually. A concluding discussion considers the result from the analysis of the two documents in comparison or relation to each other.

6.1 Ideational structural analysis
The structural differences are compiled using the ideational structural analysis as a base. There are, as has been hinted in the background, differences in the structure of the documents. Primarily this is because of their different ways to approach the problem, where the HELCOM Baltic Sea Action Plan (BSAP) pictures the problems from the environmental effect and the Baltic 21 describe them from the source of the problem. The visions and goals presented in the documents consequently differ.

Other important differences that can be seen are that Baltic 21 is an action plan for the whole Baltic Sea region, which becomes obvious in the document and its way of advocate protection of the Baltic Sea. The fundamental approaches in the documents also differ, where sustainable development is the key concept in Baltic 21 and the ecosystem approach is essential in the BSAP.

6.1.1 Origins of the texts
As mentioned the two documents have different approaches for managing the problems in the area. The BSAP has its starting point in the actual environmental problem in the Baltic Sea and focuses on four issues, considered to be the most important issues to work with; eutrophication, hazardous substances, biodiversity and nature conservation and maritime activities. Action needed to be taken are describes based on the problem, for example: “In order to reach the goal towards a Baltic Sea unaffected by eutrophication WE AGREE on the principle of identifying maximum allowable inputs of nutrients...” (HELCOM 2007, p. 8)
The Baltic 21 on the other hand have based their actions on different sectors; agriculture, energy, fisheries, forests, industry, tourism, transport and spatial planning sector, that all together have around 30 different actions described (Baltic 21 1998, p. 1). There are also seven joint actions, where the sectors are to cooperate in the proposed actions. The problems are in the Baltic 21 approached from a sector perspective, where you for example in the agriculture sector should implement programmes aiming at “at reducing nutrient losses and the use of growth promoters…” (Baltic 21 1998, p. 21). The environmental problems that nutrient losses possibly could cause are however not mentioned or reflected on.

6.1.2 Visions of the texts
Neither of the Baltic 21 and the BSAP have a clear defined purpose or aim. However they both present a vision for Baltic Sea Region. The BSAP has an ecological objective with a vision of achieving a good environmental status in the Baltic Sea (HELCOM 2007, p. 7). The Baltic 21 has a comprised vision based on the three aspects of sustainable development; the economic, the social and the environmental (Baltic 21 1998, p. 12):

The economic differences in the region have vanished, unemployment is reduced to a minimum, the economic dependence on non-renewable energy and material is substantially reduced, greenhouse gas emissions are significantly reduced, acidification of soils and waters are reduced to levels where the productivity and diversity of ecosystems are secured and, finally, the state of the Baltic Sea marine environment is improved and capable to sustain healthy marine ecosystems. Consumers and different actors in society are widely aware of social and environmental factors related to sustainable development.

The different approaches; sustainable development and the ecosystem approach are obvious in the respective vision.

6.1.3 Goals of the texts
For working towards their vision, the BSAP has one overall goal for each segment;

- “towards a Baltic Sea unaffected by eutrophication” (HELCOM 2007, p. 7)
- “towards a Baltic Sea with life undisturbed by hazardous substances” (HELCOM 2007, p. 13)
- “towards a favorable conservation status of marine biodiversity” (HELCOM 2007, p. 18)
- “towards a Baltic Sea with maritime activities in the Baltic Sea carried out in an environmentally friendly way” (HELCOM 2007, p. 23)

In terms of preventive action neither of the goals expresses a clear preventive approach. In fact the goals for eutrophication and biodiversity and nature conservation are presenting a clear approach with restoration and preservation. The goal for maritime activities could be interpreted as having a preventive approach.

The Baltic 21 has an overall goal in achieving a sustainable development in the Baltic Sea region (Baltic 21 1998, p. 7):

The essential objective of Baltic Sea Region co-operation is the constant improvement of the living and working conditions of their peoples within the framework of sustainable development, sustainable management of natural resources, and protection of the environment.

The goal does not clearly present a preventive approach and it does not specifically concern the Baltic Sea, which actually is the area connecting the countries. Each sector henceforth presents several goals for what is to be achieved in the specific sector.
6.2 Qualitative content analysis
The results from the qualitative content analysis on the respective documents are presented below. The results from the qualitative content analysis is further described and discussed in the argumentation analysis.

6.2.1 Preventive action in the HELCOM Baltic Sea Action Plan
The result from the analysis of the BASP are presented based on the framing of the document, which is four sections describing the different segments. A summarizing discussion is conducted lastly, considering general results and connections between the different segments of the document.

6.2.1.1 Eutrophication segment
Several of the recording units used for the analysis are found in the segment; regulate activities that are harming the environment, pollution prevention, rectifying pollution at the source and a precautionary approach.

The actions proposed in the eutrophication segment is based on five ecological objectives that describe a Baltic Sea unaffected by eutrophication; “Concentrations of nutrients close to natural levels”, “clear water”, “natural level of algal blooms”, “natural distribution and occurrence of plants and animals” and “natural oxygen levels” (HELCOM 2007, p. 7). The objectives have a clear restoring approach. However, the content analysis shows that to achieve the ecological objective the remaining segment advocate a number of actions that would be classified as preventive according to theory presented in this thesis.

A general preventive approach is seen in the statement and stresses the need to regulate the agriculture activities, which are harming the Baltic marine environment (HELCOM 2007, p. 19):

...within the given deadline to make a joint submission stressing the need to integrate better the specific environmental concerns of the Baltic Sea, and the need to adopt additional and targeted agricultural measures in particular to reduce eutrophication of the Baltic Sea.

The statement further suggests that pollution of nutrients should be stopped at the source, which is agriculture. This is in line with the EU fundamental principle of rectifying pollution at the source, preventing it to spread to the surrounding environment (Mahmoudi 2003, p. 61). The amount of nutrient reaching the Baltic Sea should be limited, which indicates pollution prevention that according to Kiss & Shelton (2000, p. 192) means eliminating or reducing hazardous pollutant. Nutrients are not poisonous or hazardous per se, but have a negative effect in the Baltic Sea and are therefore hazardous if released. The BSAP states “WE AGREE on the principle of identifying maximum allowable inputs of nutrients in order to reach good environmental status of the Baltic Sea” (HELCOM 2007, p. 8). Exact numbers for regions are presented based on estimations, which enhance the pollution prevention approach. To prevent pollution from agriculture is henceforth mentioned specifically (HELCOM 2007, p. 10):

WE AGREE to /.../ Prevention of pollution from Agriculture /.../ and EMPHASISE the need for proper implementation of its requirements and to apply agricultural Best Environmental Practice (BEP) and Best Available Technology (BAT).

Clean technology is according to Kiss & Shelton (2000, p. 192) essential in preventing pollution, wherefore the requirement to use best available technology can be considered to be another indication of pollution prevention.
Agriculture is not the only activity that is to be regulated by the BSAP. Waste water treatment should be regulated by “Recommendations on wastewater treatment which – if fully implemented – have an estimated capacity to reduce the current total nutrient input to the Baltic Sea…” (HELCOM 2007, p. 9). Other actions for improved wastewater treatment are also suggested. This concur with the preventive approach described by Kiss & Shelton (2000, p. 264) that states should regulate activities to minimize the threat and effects on the environment. The activity is in this case not regulated by the state; instead regulation is claimed by HELCOM. Pollution prevention can also be seen in the statement, as the goal is to reduce the pollutants.

Pollution of nutrients is treated from the source. For example “WE AGREE on the need to address also other sources which can have significant eutrophication impacts…” (HELCOM 2007, p. 10) is in line with the EU fundamental principle of rectifying pollution at the source. To rectify pollution at the source is according to Mahmoudi (2003, p. 61) a preventive approach for minimizing the risk of harming the environment.

The precautionary principle can also be seen in the segment, for example in the quote mentioned in the last paragraph, where sources that can have an effect are to be considered. The sources should ergo be considered even though it might not have a significant effect. The precautionary principle should be applied when scientific evidence is inconclusive or vague (Mahmoudi 2003, p. 58) and the statement therefore indicates a preventive approach.

6.2.1.2 Hazardous substances segment
The content analysis shows that the segment considering hazardous substances has several features implying a preventive approach, where pollution prevention is particularly considered and advocated. The recording unit rectifying pollution at the source is also found in the text.

The ecological objectives in the hazardous substances segment are partly restoring, as two of the four objective states “Concentrations of hazardous substances close to natural levels” and “Radioactivity at pre-Chernobyl level” (HELCOM 2007, p. 13). The two objectives indicate that the situation of today is not considered to be the natural desirable state. The other two “All fish safe to eat” and “healthy wildlife” are harder to interpret in terms of prevention or restoration in relation to the coding scheme. However, the means for reaching the ecological objective emphasizes the preventive approach presented in the theory and comprised in the coding scheme.

Pollution prevention is, as mentioned, substantially advocated in proposed acting in the hazardous segment of the document. An example of activity where pollution prevention is advocated is small-scale combustion where recommendations for “...environmentally friendly practices for the reduction and prevention of emissions of dioxins and other hazardous substances…” (HELCOM 2007, p. 14) should be adopted. When hazardous substances are used or pollution of such may occur, best available technology (BAP) and best environmental practice (BEP) should also be applied (HELCOM 2007, p. 15), which further emphasize the preventive approach. The most distinct indication of pollution prevention is that the BSAP suggest several substances that should be banned or the use should be strongly restricted (HELCOM 2000, p. 15-16), as it contributes to a reduction or elimination of the hazardous substances (Kiss & Shelton 2000, p. 192). In two different sections the use of less hazardous substitute substances are advocated, which is essential in integrated pollution prevention (Kiss & Shelton 2000, p. 192). Raised awareness by consumers of environmentally friendly
products is also proposed in the document (HELCOM 2000, p. 14). According to Kiss & Shelton (2000, p. 192) public information is an important tool in pollution prevention.

To manage pollution of hazardous substances, the pollution should be managed at the source; “WE AGREE to further identify, estimate and reduce the discharges, emissions and losses from sources within the identified potential sectors…” (HELCOM 2007, p. 15), which agrees with the principle of rectifying pollution at the source (Mahmoudi 2003, p. 61).

The precautionary principle is not clearly displayed in the segment, which could be perceived as surprising. The absence of a pronounced precautionary principle might be because scientific evidence is not absent but instead clearly indicate the hazard of the substances, wherefore a precautionary is not necessary. To act is a matter of course in such case.

**6.2.1.3 Biodiversity and nature conservation segment**
The content analysis indicates that the biodiversity and nature conservation segment presents a rather vague preventive approach. *Pollution prevention* and a precautionary approach can however be seen in the segment.

Actions suggested in the segment are mostly restoring or conserving, which is the approach in the ecological objectives. However, the preventive approach is seen in “actions aiming at prevention of pollution from ships as well as the prevention of introduction of alien species are needed to reach favorable conservation status” (HELCOM 2007, p. 19). To prevent pollution is expressed clearly. The statement further suggests preventing introduction of alien species. Introduction of alien species are according to Horan & Lupi (2004) possibly one of the most important threats to biodiversity in the world. The statement is therefore considered to have a precautionary approach, as it aims to prevent a possible threat to the environment.

The restoring and conserving approach is on the other hand more prominent. For example, as a base for the ecological objectives refers to “restoring and maintaining sea floor integrity at a level that safeguards the functions of the ecosystems” (HELCOM 2007, p. 18), which indicates both of the two approaches. The documents suggest clear conserving actions such as agreeing on “the active conservation of at least ten endangered/threatened wild salmon river populations in the Baltic Sea region…” (HELCOM 2007, p. 21).

Considering the restoring approach the document suggests restoration of damaged environment. Agreement to “development of restoration plans (including restoration of spawning sites and migration routes) in suitable rivers to reinstate migratory fish species…” (HELCOM 2007, p. 21) is presented. Further it also suggests a number of actions of reintroducing species into the ecosystem, such as salmon and valuable phytobenthos species.

The biodiversity and nature conservation segment differs from the previous two segments. Biodiversity is linked to the other objectives and is therefore dependent on the actions suggested in the other three segments. This will be considered more specifically in the summarizing discussion.

**6.2.1.4 Maritime activity segment**
All the recording units, except from *public information or education*, are found in the segment and the advocating of preventive action is versatile.
The maritime activity segment has no ecological objective in opposition to the other three segments. Instead the goal of maritime activities carried out in a safe way is to be achieved by eight management objectives. The objectives are evaluated as including several features of preventive actions according to the coding scheme such as: “...No illegal discharges”, “safe maritime traffic without accidental pollution” and “no introductions of alien species from ships” (HELCOM 2007, p. 23). Preventive actions are suggested through the whole document, but there are also restoring actions proposed in the document.

To regulate activities that are harming the environment is obvious as the shipping activities should be regulated to e.g. prevent pollution and minimize the threat to the environment.

Pollution prevention is frequently advocated in this segment of the document too. For example the development of environmentally friendly antifouling systems should be promoted (HELCOM 2007, p. 24), which would contribute to use of less harmful substances and therefore reduce the use of the hazardous substance. That is in line with the pollution prevention approach mentioned before. More stringent requirement for emission from shipping should be applied by contributing to the work carried out by the International Maritime Organization (IMO) (HELCOM 2007, p. 27). A plan for protecting the marine environment from activities on offshore platforms should also be achieved by a “zero-discharge”-principle. These two actions further support the pollution prevention approach, as well as regulating activities that are harming the environment, which decreases the risk of harming the environment (Kiss & Shelton 2000, p. 264).

The pollution prevention is processed from the source, for example: “...eliminate the discharge of sewage from ships, especially from passenger ships and ferries” (HELCOM 2007, p. 26). The principle of rectifying pollution at the source is here considered.

The prevention of introduction of alien species is described in the segment and is also one of the management objectives: “No introductions of alien species from ships” (HELCOM 2007, p. 23). According to Horan & Lupi (2004) commercial shipping is a major contributor to the spreading of alien species. As mentioned in the biodiversity and nature conservation segment to prevent introduction of alien species is considered to be a precautionary approach to avoid possible environmental harm.

Economic means of control are also suggested to prevent harm to the environment. For example (HELCOM 2007, p. 24):

**WE AGREE** to extend the “no-special-fee” system for ship-generated wastes in the Baltic Sea region to cover also wastes caught in fishing nets and to consider adequate incentives to encourage delivery by fishermen of such waste to onshore port reception facilities.

Economic means of control is a commonly used instrument within the preventive acting against environmental harm in the European Union (Mahmoudi 2003, p. 61). Emission from ships should also be minimized by economic means of control: “WE AGREE by 2009 to investigate and when appropriate take into consideration introduction of feasible and effective economic incentives in the Baltic Sea for reducing emissions by ships” (HELCOM 2007, p. 27).

Risk assessments are further a feature described in the segment in managing for example oil or chemical pollution (HELCOM 2007, p. 25). The assessment of risk of harming the environment is a proactive way of minimizing it (Wessberg et al. 2008). The mentioned risk
assessments should lead to the defining of emergency resources and response (HELCOM 2007, p. 25), which is further emphasized in Wessbergs et.al (2008) statements where the risk should be evaluated and action should be taken to minimize the risk.

A commonly suggested action is development of emergency plans or plans for reacting on pollution of e.g. oil spills. These types of actions are hard to interpret as the preventive approach leads to restoration and reaction to already damaged environment. For example: “WE ALSO AGREE to encourage ships in need of assistance to accept in time the most appropriate response to a threat of pollution” (HELCOM 2007, p. 26). The aim is to prevent environmental harm, which would indicate that it is a pollution prevention approach. However, the mean is to restore and react, wherefore it is hard to interpret how strongly preventive actions actually is advocated.

Actions suggested that are merely restoring is removal of litter from the coastal and marine environment (HELCOM 2007, p. 24). However HELCOM notes “the leading role of the voluntary sector in such activities”, which indicates that limited resources is distributed to such activities although they are considered important.

6.2.1.5 Summarizing discussion

Even though most of the goals and objectives presented in the document is restoring or conserving, the preventive approach in the suggested actions is prominent according to the coding scheme used in the content analysis. Pollution prevention is especially advocated, which according to Roviralta Moss (2007) is one of the most effective ways to reducing the risk of harming the environment.

The connection between the four different segments is described in the document, to show the importance of achieving improvements in all four areas. For example: “Failure to reach the objectives for eutrophication will impair the achievement of favorable status of biodiversity” (HELCOM 2007, p. 7). To fail in the hazardous segment will also impact the achievement of the biodiversity segment (HELCOM 2007, p. 14). The maritime activity affects all other three areas, as “failure to reach the objectives for maritime activities will impair the achievement of a healthy Baltic Sea unaffected by eutrophication, with its life undisturbed by hazardous substances and with favorable status of biodiversity” (HELCOM 2007, p. 23). The biodiversity segment is affected by activities in all three other segments. Biodiversity in the Baltic Sea is affected by human activities, wherefore biodiversity serves as a controlling element for results from the whole action programme (HELCOM 2007, p. 18). This fact further calls for stronger actions in the other three segments.

The biodiversity and nature conservation segment is the segment advocating most restoring and conserving actions and although there are preventive actions suggested, the content analysis indicated few suggested action in line with the recording units. This might be because of the special role of the biodiversity outlined by the action programme. The restoring and conserving actions would however have no effect if the actions in the other segment is not strong and leads to significant results, which might be the reason for the strong preventive actions in the other three segments. The preventive approach is important to avoid impair on the biodiversity.
6.2.2 Preventive action in An Agenda 21 for the Baltic Sea Region – Baltic 21

The results are presented based on the joint sector actions and the specific sector actions all together. The summarizing discussion consider, as in the results from the BSAP, general results and connections between the different segments of the document.

The Baltic 21 is presenting an action plan for the whole Baltic Sea region wherefore the Baltic Sea is not considered specifically as it is in the BSAP. The presentation of preventive actions advocated in the document is therefore only action aiming at protecting the Baltic Sea.

6.2.2.1 Joint actions

The joint actions presented in the documents are, according to Baltic 21, formed because many activities depend on several sectors (Baltic 21 1998, p. 17). A preventive approach can be seen in the joint actions. However, the joint actions do not consider the Baltic Sea directly and it is therefore hard to say which of the recording units that are presented in the protection of the Baltic Sea.

Some of the action that probably would have an effect on the Baltic Sea is discussed below, representing the recording units; Public information or education and clean technology which is a feature of pollution prevention.

To increase the public awareness is considered to be important (Baltic 21 1998, p. 20):

Since one of the main driving forces for sustainable development initiatives in industry and other sectors is market development, the view and awareness of the public concerning regional sustainable development issues and the industrial and product impact on environment is of great importance.

This could be interpreted as a preventive approach for avoiding environmental degradation in the Baltic Sea, as public information can be an important tool in e.g. integrated pollution prevention (Kiss & Shelton 2000, p. 192). It can also lead to use of less harmful substances if consumers actively choose other products then those that are harmful to the environment. The action is, as mentioned, not directed towards the Baltic Sea and it is therefore hard to see if the public awareness aims to prevent pollution in the Baltic Sea or in general.

The joint actions aim at demonstrating sustainable development in practice is also proposed (Baltic 21 1998, p. 18). Agriculture is one area where sustainable practices should be demonstrated (Baltic 21 1998, p. 19):

In the agricultural sector, in order to demonstrate to farmers and the public what sustainable agriculture is and how it could be performed under different conditions, such areas should be based on watersheds, and at least one demonstration area should be established in every country.

It might be possible that reformed agriculture activity would decrease the negative effects with eutrophication in the Baltic Sea. That is however not mentioned or reflected upon. The industry sector should also be demonstrated in a sustainable way: “…aiming at environmentally sound processes and clean technologies and practices for sustainable industrial development should be promoted” (Baltic 21 1998, p. 19). Clean technology could result in pollution prevention of hazardous substances to the Baltic Sea, which is not reflected upon either.

Altogether the joint actions show few signs of a preventive approach in addressing the protection of the Baltic Sea.
6.2.2.2 Sector actions
As mentioned Baltic 21 focuses on the whole Baltic Sea Region wherefore many of the actions suggested in the different sections have no connection or an indirect connection to the Baltic Sea. A few of the actions do however have a clear connection to the Baltic Sea, which are the ones most important for this thesis. The content analysis shows that the sector actions further have a combination of preventive, restoring and conserving actions proposed. However, all of the recording units are presented in the joint actions more or less clearly.

The document suggests regulation of activities that is harming the environment where transportation on sea is one area where action should be taken to prevent environmental harm with the aim of achieving sustainable transports. Ways of reducing the emission and use of less hazardous substances are promoted (Baltic 21 1998, p. 28), which is in line with the pollution prevention approach. Introduction of alien species from ballast water should further be prohibited (Baltic 21 1998, p. 28), which could indicate the precautionary approach. To achieve the changes in the shipping activity economic means of control are suggested, emphasizing the preventive approach presented in this thesis. Pollution should further be prevented by using environmental management system (Baltic 21 1998, p. 27). The environmental management system should include the life-cycle perspective, which could indicate that the principle of rectifying pollution at the source is considered.

To act for supporting aquaculture in the area should be done by a number of actions such as minimizing water pollution and spreading of diseases from reared fish to wild ones (Baltic 21 1998, p. 24). These actions indicate a preventive approach with pollution prevention.

A precautionary approach can be seen for example in the management of fish stocks: “Although the herring and sprat stocks are considered to be within safe biological limits, ICES has been requested to give advice on biological reference points relevant for a long term management strategy for the exploitation of these stocks” (Baltic 21 1998, p. 23). The possible harm of non-acting and acting when scientific evidence is not certain is considered, which are in concurrence with the precautionary principle according to Kiss & Shelton (2000, p. 265) and Mahmoudi (2003, p. 58).

To achieve a sustainable tourism the “action programme focuses on achieving a common understanding and awareness of the requirements needed for sustainable tourism in the BSR, both among customers and within the industry” (Baltic 21 1998, p. 26). Public awareness can be a way to e.g. prevent pollution, which is mentioned before, wherefore the action is considered to have a preventive approach. Sustainable development should further be achieved in the tourism activity by enforcing the work with spatial planning especially in sensitive coastal areas, which could be seen as a preventive approach as it regulates activity that is harming the environment.

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2 ICES - International Council for the Exploration of the Sea
3 BSR – Baltic Sea Region
Some actions proposed are combinations of different approaches. For example (Baltic 21 1998, p. 24):

> Measures taken should prevent further degradation of inland water fisheries and should be performed on the basis of a catchment area strategy aiming at protecting estuaries, shallow water areas and recruitment habitats for coastal freshwater species.

The prevention suggested is a mean for conserving the shallow water areas, wherefore the preventive approach is vague.

A number of restoring actions are proposed among the sector actions, such as restoring spawning and nursery areas (Baltic 21, p. 24). Baltic 21 further suggest, in similarity to the BSAP, that salmon should be reintroduced in protected salmon rives, which further confirm the restoring approach. Some actions are also conserving, such as maintaining the cod stock in good condition (Baltic 21 1998, p. 23).

There are further a few actions suggested with a preventive approach that partly has a connection to the Baltic Sea. For example promote the use of renewable materials and to change consumption patterns and avoid wasteful consumption (Baltic 21 1998, p. 25). Such actions could lead to a prevention of waste dumped in the Baltic Sea and change the leakage of nutrients, but such a connection is not mentioned. In the industry sector measures should be taken “for monitoring the effects on environment, and on promoting investments having favorable effects on sustainable development” (Baltic 21 1998, p. 25), which could also have a positive effect for the marine environment as it could e.g. decrease use of hazardous substances. That aspect is likewise not considered. These two actions are examples of propositions that are also hard to interpret in relation to the suggested theory and the coding scheme of this thesis. The connection to the Baltic Sea is not clearly expressed, which further makes the interpretation even harder.

**6.2.2.3 Summarizing discussion**

Many of the actions suggested in Baltic 21 are hard to interpret in relation to the recording units. As the document focuses on the whole Baltic Sea region it is especially hard to find and interpret proposed actions in protecting the Baltic marine environment, as it is not expressed specifically most of the times.

Sustainable development is, as mentioned, an important feature in the Baltic 21. There are consequently many actions suggested to increase the economic growth or to achieve social benefits. Environmental concern of the Baltic marine environment seems to be considered secondary. Social or economic factors appear to be prioritised before preventing environmental harm, which might be the reason for the vague preventive approach. Actions restoring or conserving the environmental might also be more motivated if it is more beneficial in a social or economic point of view, which may also be a reason for the vague preventive approach.

There is however some preventive notions in the text outlined by the content analysis. Pollution prevention, for example, is advocated, which confirms the theory of prevention of environmental harm. There are also economic means of control suggested to achieve preventive actions, which is a commonly used method in the European Union (Mahmoudi 2003, p. 61).
6.3 Argumentation analysis

The sampling units were analysed using the argumentation analysis, as described under the heading Method. The results from the analysis are however presented and discussed general as the analysis of the sampling units gave rise to a homogeneous picture in both documents. To present the argumentation in every sampling unit was therefore considered to be unnecessary.

6.3.1 Argumentation for preventive action in the HELCOM Baltic Sea Action Plan

The argumentation analysis shows that the argumentation in the document is generally strong and clear. The exemplifications of suggested actions are detailed, which indicates that the argumentation has a strong legitimacy. Some actions are to be performed in the future. That is however not outlined in this thesis as something affecting the legitimacy and the argumentation is still considered to be based on substantial support. The argumentation issue, preventive action, is advocated in a clear and distinct way. The statement and actions proposed are easily related to the coding scheme and the theory, although they might not be enunciated as preventive action in the document. The document is therefore considered as advocating preventive actions in a clear and strong way, with exception of the biodiversity and nature conservation segment, although the goals and objectives in general are restoring or conserving.

6.3.2 Argumentation for preventive action in An Agenda for the Baltic Sea Region – Baltic 21

The argumentation analysis indicates that the argumentations in the statements advocating preventive action are in general rather weak. Many actions are suggested with no exemplification or motivation to why a certain matter is important. The argumentation therefore is considered to lack legitimacy in suggesting actions for protecting the Baltic Sea. The argumentation issue, preventive action, is further not expressed clearly. The preventive actions suggested and presented in the results are not easily interpreted in relation to the theory and the coding scheme in the content analysis. Preventive actions in protecting the Baltic Sea are therefore considered to be advocated in a diffuse way and to a limited extent.

6.4 Concluding discussion: Differences in preventive approach in the two documents

As the Baltic Sea is a very sensitive area and as the ecosystem is unique, protecting the Baltic Sea should be considered important. The sensitivity of the Baltic Sea calls for stronger actions than in other, more resistant, ecosystem. The Baltic Sea is also already threatened and the environment is considered to be degraded, which is another reason to protect the area. As the Baltic Sea contribute with several economic benefits, Köhn (1998) assumes that a common interest of protecting the area should reign, which actually seems to be the case.

Both documents take into consideration the special conditions and sensitivity of the Baltic Sea. The BSAP has an ecological objective in managing the Baltic Sea and in the preamble the uniqueness of the Baltic Sea is expressed (HELCOM 2007, p. 3):

...Especially BEING CONSCIOUS of the indispensable values of the unique marine ecosystem of the Baltic Sea area, its exceptional hydrographical and ecological characteristics and the particular sensitivity of its living resources to changes in the environment.

The ecological objective results in a high level of protection in the BSAP. The Baltic 21 state: “One of the most important, and threatened, environmental resource is the Baltic Sea. It is a
highly sensitive ecosystem and for the past forty years it has had to withstand extensive amounts of water and airborne pollution” (Baltic 21 1998, p. 3). Both documents do agree upon the uniqueness and the importance of the Baltic Sea ecosystem.

As the Baltic Sea is threatened it seems natural to suggest restoring and conserving actions in the area. According to Mahmoudi & Rubenson (2004, p. 59) the overall goal is to prevent environmental harm but to improve damaged environment. As the Baltic Sea is considered to be degraded from an environmental point of view, it is not that strange if restoring actions is proposed.

The content analysis shows that the two documents do advocate different kinds of action and the preventive approach is different between the documents. However, the documents have different approaches; the ecosystem approach and sustainable development, which seem to be affecting what types of actions that are proposed. As mentioned, the Baltic 21 suggest actions for economic or social reasons, which might affect the number of preventive environmental actions for protecting the Baltic Sea that is suggested. There are however some similarities to the preventive actions suggested in the two documents. To prevent pollution and to protect and work for biodiversity is two of the actions accentuated as important in both documents.

All different features of preventive actions outlined in the coding scheme are suggested in the documents. Pollution prevention is especially advocated. Emissions should also be limited using economic means of control and other types of regulation. Pollution is most of the times rectified at the source, which is important in the preventive approach. The precautionary approach can further be seen, although it is not distinctly expressed at all times.

The two documents present different preventive approach, different protection of the Baltic Sea and different argumentation. The content analysis indicates that the Baltic 21 altogether present fewer actions protecting the Baltic Sea. The focus is on the whole Baltic Sea area and it therefore presents less preventive actions in connection to protecting the Baltic Sea. The BSAP present a substantial protection of the Baltic Sea, with many preventive actions proposed, as well as some restoring actions.

7 Conclusions
The aim of this thesis was to investigate whether preventive action is advocated in the protection of the Baltic Sea and, if so, how strongly preventive action is advocated, by analysing the action programmes presented in the two documents An Agenda for the Baltic Sea Region – Baltic 21 and HELCOM Baltic Sea Action Plan.

- most of the objectives in the BSAP are based on a restoring approach, with exception of the maritime activity segment,
- actions proposed in the BSAP are however mostly preventive,
- pollution prevention and to rectify pollution at the source are the most apparent features of preventive actions suggested in the BSAP,
- Baltic 21 has no clear focus on the Baltic Sea in particularly, instead the focus is on the whole Baltic sea region,
- the joint actions suggested in the Baltic 21 has no focus on protecting the Baltic Sea, the sector actions in Baltic 21 shows a vague preventive approach,
- the BSAP has more and clearer preventive actions proposed,
- the argumentation for advocating preventive action is stronger in the BSAP.
7.1 Suggestions on further studies

Further studies in this area would be to analyse the difference between goals and proposed actions. What it actually mean that e.g. the goals are restoring, while the actions proposed are still preventive, as is the case in the BSAP. The role of action plans in international or regional context would also be an interesting study, investigating what role action plans, such as BSAP and Baltic 21, plays in the protection of the environment. Another interesting study is of course to further analyse the differences between preventive action and restoring action, to understand what e.g. a preventive approach leads to in the longer term.
8 References


