

# Balancing use and conservation in marine spatial planning

Perspectives of sustainability and the ecosystem approach in a Swedish context

Author

JULIA SANDBERG

Supervisor

MARIE STENSEKE

**MASTER thesis in Geography with major in Human Geography**

SPRING semester 2017

Department of Economy and Society  
Unit for Human Geography

School of Business, Economics and Law at  
University of Gothenburg



**UNIVERSITY OF GOTHENBURG**  
**SCHOOL OF BUSINESS, ECONOMICS AND LAW**

Student essay: 30 hec  
Course: GEO230  
Level: Master  
Semester/Year: Spring 2017  
Supervisor: Marie Stenseke  
Examinator: Mattias Sandberg  
Key words: Marine spatial planning, the Ecosystem Approach, Sustainable development

---

## **ABSTRACT**

The environmental concern and interest in marine resources are growing, which is reflected within marine policies in the European Union. In 2007 the Integrated Maritime Policy (IMP) was adopted, aiming at collecting and integrating marine policies in one framework. The Integrated Maritime Policy holds the long-term strategy Blue Growth and the Maritime Spatial Planning (MSP) Directive. Blue Growth aims at developing maritime industries to create job possibilities and economic growth, and the MSP Directive seeks to allocate maritime uses in the most optimal ways, presented in comprehensive plans with the objective to achieve ecological, economic and social goals. The Marine Spatial Framework Directive (MSFD) is connected through the ecological dimension as it aims at creating 'good environmental status' in the oceans. The share of how heavy the different dimensions influence the MSP is however up to each member state to interpret and decide. An ecosystem-based management is required, and a true ecosystem-based MSP is supposed to rest on a hard sustainability perspective. Yet the approach does not have a universal understanding ultimately making the approach adaptable. In Sweden, the Swedish Agency for Marine and Water Management (SwAM) are responsible for creating the plans in cooperation with the coastal municipalities.

The aim of this study is to investigate the planning process on the west coast of Sweden and how perspectives of sustainability and the balance of use and conservation differ depending on the local context. The study also investigates how the Ecosystem Approach is interpreted among involved practitioners and how it is applied on a national level. To perform the study interviews were conducted with practitioners in the field at different levels of governance, and planning documents were examined for each investigated body.

In the case of Västerhavet the varying activities in different areas has resulted in marine environments being included to different extents in local and regional planning processes as a result of path dependency, meaning that previous uses are reflected in plans towards the future. If the identity of a community is connected to marine environments, finding a balance between use and conservation weighs heavily on the agenda. In areas where activities are more diverse, and focus of planning is not specifically put to the ocean, perspectives of sustainability ultimately vary.

The SwAM interpretation of the Ecosystem Approach rests on a hard sustainability perspective. However, this is not clearly visible in the first draft presented of Västerhavet as most previous uses have been allocated space and few trade-offs seem to have been made. Nevertheless, the planning process has created a forum for perspectives and knowledge to be shared, and the encouragement and support provided to regional collaborations further enhances the objective of creating a holistic view of planning.

## **Preface**

This thesis has been conducted within the interdisciplinary master program *Geography* at the University of Gothenburg during the spring semester of 2017.

First of all, I would like to thank my supervisor Marie Stenseke, professor at the Human Geography Department of Gothenburg University. The knowledge and guidance you provided me with throughout the semester have been of most value for the completion of the thesis.

I also want to thank Charlotta Von Bahr and Gunnar Åkerlund at the County Administration of Västra Götaland for introducing me to the field of marine spatial planning; Jan Schmidtbauer Crona, Terje Selnes and Ida Lindbergh for the insights provided during the initiation phase of the study; Emma Sjögren and Felicia Falk for your support.

Last but not least I would like to thank the interviewees who participated from the Swedish Agency for Marine and Water Management, the County Administration of Västra Götaland, Tillväxt Norra Bohuslän, the City of Gothenburg, Kungälv Municipality and Strömstad Municipality. Thank you for partaking in the study.

Julia Sandberg, Gothenburg 22<sup>nd</sup> of May 2017.

## Contents

<b>1. Introduction</b>	1
1.1 Introduction and problem description	1
1.2 Aim and research questions	5
1.2.1 Delimitation	5
1.2.2 Concepts	6
1.3 Disposition	6
<b>2. Background</b>	7
2.1 Introduction	7
2.2.1 Marine spatial planning and the policy landscape	7
2.2.2 The ecosystem approach in marine spatial planning	7
2.3.1 Blue growth	9
2.3.2 Balancing the interests	9
2.4.1 Marine spatial planning in Sweden	10
2.4.2 Interest in Swedish waters	11
<b>3. Theory</b>	12
3.1 Introduction	12
3.2.1 Sustainable development	12
3.2.2 Soft and hard sustainable development	13
3.3 Trade-off thinking	14
3.4.1 Approaching marine spatial planning	15
3.4.2 The realities of MSP	16
3.5 Summary and frame of analysis	17
<b>4. Method</b>	19
4.1 Introduction	19
4.2.1 Qualitative analysis	19
4.2.2 Abductive approach	19
4.3.1 Interviews	19
4.3.2 Sampling	20
4.4.1 Qualitative text examination	21
4.4.2 Selection	21
4.5 Validity and credibility	22
4.6 Methodological discussion	23
<b>5. Results</b>	25
5.1 Introduction	25
5.2 Background	26

5.3 Swedish Agency for Marine and Water Management .....	27
5.3.1 Introduction.....	27
5.3.2 Objective – Aim in planning.....	27
5.3.3 Performance – Prioritization and trade-offs .....	28
5.3.4 Vision – Ideas about the future .....	28
5.3.5.1 The Ecosystem approach.....	29
5.4 The County Administration of Västra Götaland .....	32
5.4.1 Introduction.....	32
5.4.2 Objective – Aim in planning.....	32
5.4.3 Performance – Prioritization and trade-offs .....	33
5.4.4 Vision – Ideas about the future .....	33
5.4.5 The Ecosystem approach.....	33
5.5 Northern Bohuslän .....	34
5.5.1 Introduction.....	34
5.5.2 Objectives – Aim in planning .....	34
5.5.3 Performance – Prioritization and trade-offs .....	35
5.5.4 Vision – Ideas about the future .....	36
5.5.5 The ecosystem approach.....	37
5.6 The City of Gothenburg .....	37
5.6.1 Introduction.....	37
5.6.2 Objective – Aim in planning.....	37
5.6.3 Performance – Prioritization and trade-offs .....	38
5.6.4 Vision – Ideas about the future .....	38
5.6.5 The ecosystem approach.....	39
5.7 Kungälv Municipality .....	39
5.7.1 Introduction.....	39
5.7.2 Objective – Aim in planning.....	39
5.7.3 Performance – Prioritization and trade-offs .....	41
5.7.4 Vision – Ideas about the future .....	41
5.7.5 The ecosystem approach.....	41
5.8 Strömstad Municipality .....	42
5.8.1 Introduction.....	42
5.8.2 Objective – Aim in planning.....	42
5.8.3 Performance – Prioritization and trade-offs .....	42
5.8.4 Vision – Ideas about the future .....	43
5.8.5 The ecosystem approach.....	44

<b>6. Analysis</b> .....	45
6.1 Introduction.....	45
6.2.1 Perspectives of sustainable development.....	45
6.2.2 The SwAM perspective .....	46
6.2.3 Municipal perspectives.....	47
6.3.1 The Ecosystem approach.....	48
6.3.2 The SwAM interpretation of the Ecosystem Approach.....	49
6.3.3 The SwAM application of the Ecosystem Approach.....	49
6.3.4 Practitioners views on the Ecosystem Approach and the potentials of the concept .....	50
<b>7. Conclusions</b> .....	52
<b>8. Future research</b> .....	54
<b>9. References</b> .....	55
9.1 Informant interviewees .....	59
<b>10. Appendix - Interview guide</b> .....	60

## Abbreviations

IMP	Integrated Maritime Policy
MSP	Maritime Spatial Planning/Marine Spatial Planning
MSFD	Marine Spatial Framework Directive
SwAM	Swedish Agency for Marine and Water Management



# 1. Introduction

## 1.1 Introduction and problem description

As land is getting crowded and overexploited, the human eyes have at a growing rate turned to the oceans (Stojanovic & Farmer, 2013). This interest is expected to continue due to increased shipping, more fixed installations e.g. for energy production etc., while at the same time the marine environments are suffering from for example eutrophication and harmful emissions. The probability of conflicting interests are hence growing as well (Havs- och vattenmyndigheten 2016b:22).

According to the European Commission Europe has 70 000 kilometers of coastline along the oceans and seas (Atlantic and Arctic Oceans, Baltic North Sea, Mediterranean and Black Sea) (EC 2007:3). 23 out of 28 EU member states have coastlines in their territories and more than 40 percent of the population lives within 50 kilometers of the ocean or sea (Fairgrieve in Flannery et al. 2016). This has ultimately put the marine areas under pressure and the interest is expected to increase. For example, the European commission writes that growth within the maritime sectors offers “an opportunity to harness the untapped potential of Europe’s oceans, seas and coasts for jobs and growth” (EC 2012:3).

The growing interest in the oceans, and the environmental concern that has risen during the past decades has created a complicated policy landscape within the European Union (Qiu & Jones, 2013). The development of oceanic and coastal strategies and policies have shown an increase since the 1990s (Stojanovic & Farmer, 2013) and in July 2014 the European Union framework directive Maritime Spatial Planning (MSP) was adopted. This obligates the member states with coastal areas to create comprehensive plans covering the seas before 2021 (Havs- och vattenmyndigheten, 2016a:9). The framework directive is a result and a part of the Integrated Maritime Policy (IMP), which is an overarching framework for maritime policies (De Santo, 2010). The IMP includes the long-term strategy ‘Blue growth’ where MSP is considered an important tool to optimize “the use of marine space to benefit economic development and the marine environment” (EC 2008b:2). It could also be seen as a unifying framework between the economic and social dimensions of marine development as it promotes both blue growth of the IMP and achieving good environmental status of the Marine Spatial Framework Directive (MSFD) (Stojanovic & Farmer 2013). Maritime spatial planning, or marine spatial planning as mostly termed internationally (De Santo 2010, De Santo 2011) is defined by the EU as a process where the human activities are analyzed and

organized by the member states in order to achieve ecological, economic and social objectives (EC 2014:140). This is due to the increasing demand for marine resources which requires an “integrated planning and management approach” (EC 2014:135) where MSP can be seen as a tool to mediate different sectoral interests, improve decision-making (EC 2008b:2) and ultimately achieve sustainable use of the seas (EC 2008b:2, EC 2014:135).

Ecosystem-based management is a requirement to use when creating the marine spatial plans, and can be explained as taking into account entire ecosystems of human and non-human conditions, connections and activities. The ultimate goal is to keep the ecosystems “healthy, productive and resilient” (De Santo, 2011:34, Olsen, Olsen & Schaefer 2011) in order for them to sustain and continue to provide resources to humans (Katsanevakis et al. 2011). In the MSP directive it is stated that ecosystem-based management promotes sustainable use of marine resources and aims at “ensuring that the collective pressure of all activities is kept within levels compatible with the achievement of good environmental status” (EC 2014:137). The ecosystem approach is commonly known as assuring the ecological dimension to marine spatial planning (Santos et al. 2014a, Douvère 2008).

Marine spatial planning has in the past been planned in a sectoral method where management has been divided between certain species or sectors and looked upon separately. Ecosystem-based management on the other hand is place-based and aims to regard the processes and interactions in a holistic manner to get a full and integrated view of the ecosystems conditions (Douvère 2008, Katsanevakis et al. 2011, Santos, Domingos, Ferreira, Orbach, Andrade 2014a). Due to the place-based character, ecosystem-based management does not have a universal interpretation, yet the Convention of Biological Diversity has developed a number of principles which should be integrated in the approach (CBD, n.d.b).

Ecosystem-based management first developed as a result of terrestrial land use conflicts (Yaffee 1999). The approach has during the past 10 years been highlighted within marine planning as a holistic and integrated approach that enables ecological conservation, but according to Santos et al. (2014a) the origin of the approach in marine spatial planning might not be as simple to answer as a call for ecological conservation (Kidd & Ellis 2012). Even though marine spatial planning mainly has scientific roots (Kidd & Ellis 2012), and has risen due to environmental concerns (Jay et al. 2013, Jay, Klenke & Janßen 2016) conservation has not been seen as the explicit purpose to all and the relationship and prioritization between MSFD and IMP is unclear (Santos et al. 2014a, Jay et al. 2016). Conservation has also been

seen as a means to protect resources for future human use in comparison to preservation, where sustaining areas pristine is the objective (Robinson 2004).

How the shares of economic growth and ecological conservation are balanced could make the MSP process take different paths. Qui & Jones (2013) argue that a proper ecosystem-based marine management is established on ‘hard’ sustainability. In this perspective, the connection to the MSFD and reaching the goals of the framework, good environmental status, is prioritized (Santos et al. 2014a). However, if interpreting marine spatial planning as an integrated approach, as done in many countries according to (Santos et al. 2014a), prioritizing cross-sectoral cooperation only, which is the overarching aim of the IMP, the ecological aspect can get lost and this could according to Qui & Jones (2013) represent a ‘soft’ perspective of sustainable development. The planning then becomes a means to facilitate economic growth within the maritime sectors with less environmental considerations since natural capital is regarded as substitutable with man-made capital.

The responsibility of producing the marine spatial plans in Sweden has been assigned to the Swedish Agency for Marine and Water Management (SwAM) and these plans are produced in cooperation with the County Administrations and coastal municipalities to anchor the plans in local conditions (Havs- och vattenmyndigheten 2016b:11). The plans are then supposed to guide municipalities in their own planning processes (Havs- och vattenmyndigheten 2016b:13). SwAM is solely responsible for the planning of the exclusive economic zone but the responsibility overlaps both municipal and national jurisdiction in parts of the territorial sea. This overlap thus means that agreeing perspectives have to be found on how the territorial sea is to be planned for (Havs- och vattenmyndigheten 2016b:13).

The MSP process in Sweden has also encouraged municipalities to further include the coastal zone in their comprehensive plans and regional collaborations are advocated (Havs- och vattenmyndigheten 2016b:13). This creates an interesting research perspective as national, regional and local perceptions of marine areas and marine resources arguably should find consensus regarding use and conservation, in order for the plans to be followed and essentially have a positive impact. As the state plans are supposed to be produced according to an ecosystem-based approach further interest is found in the process of reaching consensus as ecosystem-based management puts the environmental limits to the fore. Whether this take is shared at other administrative levels is thus of interest, as well as the application of the approach since there is limited experience from implementation and guidelines are few and

vague. The aim of this thesis is therefore to explore how definitions (sustainability and the ecosystem approach) are understood and conceptualized and how this influences the planning process.

## 1.2 Aim and research questions

The aim of this study is to investigate the marine and coastal spatial planning process in Sweden and what perspectives of use and conservation are found in different geographical contexts and levels of planning. The realities of marine and coastal spatial planning will be explored through looking at a series of cases, investigating how perspectives can be seen in objectives, visions, and performances of each case. The cases include three municipalities, a regional collaboration, the County Administration and the state represented by a national governmental body. The study is based on the following research questions:

- How are the socio-economic and ecological dimensions of sustainable development understood and balanced in different planning contexts in Sweden?
- How does perspectives of sustainability influence interpretation and application of ‘the Ecosystem Approach’ in Swedish marine spatial planning and how is the approach regarded among practitioners?

The first question aims to explore what perspectives of sustainable development and sustainable use are present in the planning process and how this influences prioritization in decision making. The second question aims to address what implications the Ecosystem Approach brings to the planning process as well as the general opinions amongst practitioners.

### 1.2.1 Delimitation

The area chosen for investigation is Västerhavet, one of the three Swedish MSP districts. This delimitation was made due to logistical reasons as well as the progressed stage of marine and coastal spatial planning in northern Bohuslän where a regional collaboration exist.

The areas of the ocean included in this research are both the coastal zone falling under municipal jurisdiction and the area under state authority. The geographical areas will not be separated in this research or presented in isolation, but rather discussed in a general and theoretical manner, about what happens to the planning process when different levels of governance have to come together in the planning process.

### 1.2.2 Concepts

The concepts sustainability and sustainable development will be used throughout this thesis as if they hold the same definition. This is because the study does not go into the backgrounds and theories of interpretation behind the two definitions. (Robinson 2004:370). ‘Marine spatial planning’ will be used in this thesis as the term is common throughout literature and internationally. According to De Santo (2010, 2011) the concept ‘Maritime’ holds a connection to economic development rather than a one dimensional ecological interpretation that the concept ‘marine’ usually holds.

### 1.3 Disposition

The thesis consists of four parts. The first section provides a deeper understanding of the field of marine spatial planning in Background. This information is necessary to get a holistic perspective of the aim and research questions of the thesis and is followed by Theory in the second part, comprised of previous research and the framework needed for examining and analyzing the findings. The third part is Results containing the empirical findings derived from interviews and document examination. The results are thereafter elaborated in the fourth part, Analysis, in relation to theory and previous research, thus consisting of analysis and conclusions.

## 2. Background

### 2.1 Introduction

In this chapter the foundational European marine policies are presented followed by the implications to marine spatial planning and the basic idea about the process. The concept ‘blue growth’ is further explored as it constitutes a focus within EU strategies and the developmental perspective of the European Union. The Swedish planning process and context is also presented.

#### 2.2.1 Marine spatial planning and the policy landscape

Marine spatial planning seeks to allocate marine use in spatially and context specific spaces. The ambition is to minimize conflicts and create efficient use of marine space and resources, as well as establishing marine protected areas as MSP developed from environmental concern and nature conservation aspirations (Jay et al. 2013:173, Jay et al. 2016).

The MSP directive is found under the IMP and in 2007 MSP was acknowledged as a major tool to establish integrated policy making (Santos et al 2014a). In 2008 The EU MSP roadmap was published where MSP is presented as a “key instrument for the IMP” as it “helps public authorities and stakeholders to coordinate their action and optimizes the use of marine space to benefit economic development and the marine environment” (EC 2008b:2). The MSP roadmap is also linked to the EU Marine Strategy Framework Directive (MSFD) among other directives (e.g. Water Framework Directive, The Habitats Directive and the Birds Directive). MSFD is nevertheless presented as the environmental pillar (EC 2008b) and this framework, adopted in 2008, aims at achieving ‘good environmental status’ in marine environments through the use of ecosystem-based management (Santos et al. 2014a).

#### 2.2.2 The ecosystem approach in marine spatial planning

Ecosystem-based management or ecosystem based approaches are acknowledged in a number of directives and policies in both terrestrial and marine planning, (Douvere, 2008; Soma, von Tatenhoven & van Leeuwen, 2015) e.g. in the MSFD to achieve ‘good environmental status’ as presented above (Santos et al. 2014a). Ecosystem based management is considered a holistic environmental management approach of land and water (Katsanevakis et al. 2011; Scott et al. 2013) implying cooperation and integration between state, stakeholders and across sectors (Soma et al. 2015), including adaptive management and public transparency etc. (Scott et al. 2013; Pomeroy & Douvere, 2008).

Although the concept of ecosystem-based management has been prevalent for years, the approach does not have a universal definition, but has rather developed over time (Long, Charles & Stephenson, 2015:54). The Malawi principles, developed through the Convention on Biological Diversity, provides a foundation that tries to explain the approach and consists of 12 principles (Table 1) (CBD n.d.b). However, interpretations of the approach remains vague within EU policies (Soma et al. 2015:10).

Table 1: Malawi principles by the Convention on Biological Diversity (CBD n.d.a).

<b>Malawi principles</b>
1. The objectives of management of land, water and living resources are a matter of societal choices.
2. Management should be decentralized to the lowest appropriate level.
3. Ecosystem managers should consider the effects (actual or potential) of their activities on adjacent and other ecosystems.
4. Recognizing potential gains from management, there is usually a need to understand the ecosystem in an economic context. Any such ecosystem- management program should: <ol style="list-style-type: none"> <li>a. Reduce those market distortions that adversely affect biological diversity;</li> <li>b. Align incentives to promote biodiversity conservation and sustainable use;</li> <li>c. Internalize costs and benefits in the given ecosystem to the extent feasible.</li> </ol>
5. Conservation of ecosystem structure and functioning, in order to maintain ecosystem services, should be a priority target of the ecosystem approach.
6. Ecosystems must be managed within the limits to their functioning.
7. The ecosystem approach should be undertaken at the appropriate spatial and temporal scales.
8. Recognizing the varying temporal scales and lag-effects that characterize ecosystem processes, objectives for ecosystem management should be set for the long term.
9. Management must recognize that change is inevitable.
10. The ecosystem approach should seek the appropriate balance between and integration of, conservation and use of biological diversity.
11. The ecosystem approach should consider all forms of relevant information, including scientific and indigenous and local knowledge, innovations and practices.
12. The ecosystem approach should involve all relevant sectors of society and scientific disciplines.



### 2.3.1 Blue growth

The long-term strategy Blue growth is also found under the IMP. The strategy and concept has developed as a result of blue economy where blue economy can be seen as the economic exploitation of the oceans (Ehlers 2016), and as the usage of the marine resources are expected and intended to increase the term blue growth has been created (Ehlers 2016; EC 2012:6). The EC writes that blue growth is “an opportunity to harness the untapped potential of Europe’s oceans, seas and coasts for jobs and growth” and to alleviate the economic crisis that hit the EU in 2007-2008 (EC 2012:4-5, Jones, Lieberknecht & Qiu 2016). Five sectors of specific concern for development are mentioned in the Communication from the Commission (EC 2012); renewable energy (e.g. wind power), aquaculture (e.g. fish farms), blue biotechnology (e.g. discoveries connected to marine life that can be used within medicine) tourism and mineral extraction. These sectors are considered of specific interest for future growth but are supposed to develop in ways that are more sustainable and not put further pressure on the environment with the intention of reducing environmental degradation (EC 2012:6). Renewable energy, for example will gain importance and marine space for development. This is both due to the potential of the sector for economic growth and job production as well as an obligation to the Renewable Energy Directive, where the share of energy consumption in EU member states shall be 20 percent from renewables in 2020 (Qiu & Jones 2013). Aquaculture is viewed as a solution to overfishing (EC 20012:9) etcetera. Still, the exploitation of the oceans is growing and finding a sustainable way is needed, meaning a “careful weighing of the different user interests” (Ehlers 2016:202).

### 2.3.2 Balancing the interests

In order to achieve a sustainable use of marine resources a balance has to be found between development and conservation. Yet, the international policy landscape is complex and partly split in half due to the structures at EU level where different Commission departments are responsible for different fields and also “receive scientific advice from different advisory bodies”. Directorate-General Maritime Affairs and Fisheries (DG MARE) are responsible for the Common Fisheries Policy and implementation of the Integrated Maritime Policy. Directorate-General Environment (DG Environment) on the other hand handles implementation of the MSFD (Qiu & Jones 2013).

According to Stojanovic & Farmer (2013), the European Union marine policy landscape is divided and constituted by these two pillars. The MSFD constitutes the ecological perspective

aiming at creating strategies for reaching ‘good environmental status’ in the oceans. The IMP can be seen as representing the social and economic perspectives of the development of the seas, addressing economic growth and job production. (Stojanovic & Farmer 2013). The IMP was developed with the intention of being an overarching framework that facilitates a “coherent policy framework” among sectors and projects, aiming at the same vision (EC 2007:3). As expressed by the commission; “The first goal of an EU Integrated Maritime Policy is to create optimal conditions for the sustainable use of the oceans and seas, enabling the growth of maritime sectors and coastal regions” (EC 2007:7) and to integrate all objectives regarding the marine environment, such as developmental goals and nature protection goals (Qui & Jones, 2013). Since the MSP directive is connected to both the IMP and MSFD and their respective influence remains somewhat unclear and the “duties related to sustainability” are variously interpreted or legislated in different countries (Stojanovic & Farmer 2013:162). The designated governmental body responsible for producing the marine spatial plans is decided on a national level with the possibility to strategically plan according to national interests (Qiu & Jones 2013).

#### 2.4.1 Marine spatial planning in Sweden

In 2015 the Swedish Marine regulation was adopted under the department of environment and energy. In the regulation the contents of a plan are stated, e.g. it should include a map explaining the fundamental uses of the area, present national interests and public interests. The plan shall integrate economic, social and environmental goals and contribute to achieve and maintain good environmental status in the marine environment, accommodate a sustainable use of marine resources and allowing for maritime sectors to develop and promote the coexistence of different activities and uses (SFS 2015:400). In Sweden the Swedish Agency for Marine and Water Management (SwAM) is responsible for producing the comprehensive plans in cooperation with the municipalities, authorities and County Administrations (Havs- och vattenmyndigheten 2016a:9). The Swedish marine waters have been separated into three areas where one master plan will be created for each one (Havs- och vattenmyndigheten, 2014:8). According to the Swedish regulation, SwAM shall apply an ecosystem approach (SFS 2015:400).

The Swedish process of developing marine spatial plans included a status report that was published in 2014, a roadmap to MSP published in 2016 and six reports were published the same year with thematic deepening of areas of special interest. The reports considered

energy, defense and military services, nature conservation, regional growth, shipping and fishery, including future perspectives of each sector and possible areas of conflicts or synergies (Havs- och vattenmyndigheten 2016b:32-33). The first drafts of plans were published in December 2016 and shortly thereafter an environmental impact assessment (EIA) was published for each area. The first drafts will be processed through dialog and consultation before final plans are presented to the Swedish government in 2019, allowing for considered sectors and interests to give their opinions (Havs- och vattenmyndigheten 2016b:34).

#### 2.4.2 Interest in Swedish waters

Sustainable development is a “pronounced ambition” among most marine interests in Sweden. The challenge however rises in how to create a common perspective of what this means to different sectors in Swedish Marine spatial planning (Havs och vattenmyndigheten 2015:15).

The conditions differ between the three MSP districts and within them. The Västerhavet district holds a higher percentage of marine protected areas than the other two districts (Havs- och vattenmyndigheten 2016b:135). The northern part of Västerhavet (Skagerrak) has a great biodiversity due to oceanic conditions which make the richness of species unique to Sweden and the area is of interest to outdoor recreation and tourism. The shipping and fishing industries are important in this area as well. The southern part of Västerhavet (Kattegatt) is a smaller and narrower area, where a lot of shipping passes through. (Havs- och vattenmyndigheten 2015:19). The area also holds important areas for fishing reproduction and offshore banks with significant environments. The fishing industry is major and there are also energy and sand extraction interests in the area (Havs- och vattenmyndigheten 2015:119-20).

The increased interest to use the ocean is based on marine resources providing possibilities to create jobs, economic growth and essentially greater quality of life. (Havs- och vattenmyndigheten 2015:14). Simultaneously the marine environments are in poor states due to previous use and exposure, e.g. to emissions from land and air leading to for example eutrophication. (Havs- och vattenmyndigheten 2015:24). The marine biodiversity has decreased, both due to overfishing as well as the imbalance of species changing the ecosystems (Havs- och vattenmyndigheten 2015:28). This is why an organized and united framework of planning is needed regarding the marine environments (Havs- och vattenmyndigheten 2016a:9).

## 3. Theory

### 3.1 Introduction

In this chapter, previous research and the frame of analysis of the thesis is presented. Firstly sustainable development is presented as a point of departure because the concept provides the fundamentals of establishing a balance between economic, social and environmental perspectives. Since marine and coastal spatial planning is about allocating uses in marine space, prioritization has to be made and different perspectives of sustainable development and sustainable use might trickle down into the decision making. Sustainability thus becomes an analytical concept to answer the first research question regarding understanding views of development and conservation in terms of trade-offs in different marine environments. Perspectives of sustainability are also of importance to answer the second question since these may have implications on how the ecosystem approach is interpreted and applied on a national level.

#### 3.2.1 Sustainable development

The idea of sustainable development first evolved as a response to increased environmental awareness as well as the unequal distribution of resources between developed and developing countries. Concern had risen during the 1960s but it was not until the 1980s that the conflicting interest between economic growth and environmental protection was understood and environmental protection was acknowledged by governance forces (Purvis & Grainger 2004:3). The concept then developed as an effort to “bridge the gap” between ecological and socio-economic development issues (Robinson 2004:370).

Sustainable development was defined in the Brundtland report in 1987 as development that meets the demands of today without damaging the demands of future generations (WCED 1987:16) and has since the 1990s been adopted as policy goals across the world at different levels (Purvis & Grainger 2004:1). However, translation of the Brundtland definition into an idea to adopt has since been an occurring phenomenon in literature (Purvis & Grainger 2004:9). The Brundtlandt definition holds a focus on human well-being (Ang & van Passel 2012) but sustainable development could be found within the balance of social, economic and environmental perspectives or the balance between humans and nature (Robinson 2004). Yet how sustainability is used varies and different “systems of thought” have been identified in research, which could explain the “diversity of definitions behind these terms” (Stojanovic & Farmer 2013:164).

### 3.2.2 Soft and hard sustainable development

Two commonly used definitions of sustainable development are ‘soft’ and ‘hard’ sustainable development (Nilsen 2010; Purvis & Grainger 2004:16), or ‘weak’ and ‘strong’ sustainable development as usually referred to within ecological economics (Santos et al. 2014a). The soft sustainability perspective has its roots in neoclassical economic theories and attempts to find an ideal extraction rate of non-renewable resources in the 1970s, and the hard sustainability perspective developed as a response to soft sustainability (Ang & van Passel 2012).

Both perspectives view development as long-term visions but the weight of the pillars (social, economic and environmental) have different shares (Purvis & Grainger 2004:16). Ang and van Passel (2012) writes that most environmentalists and economists share the ambition of sustaining and improving human-wellbeing, but that the split between the academic fields “yielded a fundamental disagreement about the relationship between nature and human well-being”. The conflicting perspectives evolve around natural capital and human-made capital and the discussion is based around the substitutability between them (Ang & van Passel 2012:252). Natural capital is defined as the ecosystem structures and processes that enable the ecosystem functions such as e.g. regulation and production, which in turn provide ecosystem services (De Groot, Wilson, & Boumans 2002). Human-made capital is represented by e.g. infrastructure and knowledge (Ang & van Passel 2012).

Soft sustainability represents a perspective where human-made capital and natural capital can at large be substituted by the other. This is possible through a capital surplus compensating for a capital reduction and does not, according to soft sustainability advocates, necessarily have to compromise on human well-being (Ang & van Passel 2012). In other words, development and economic growth are regarded as possible means to compensate for ecological loss (Nilsen 2010), e.g. through technological advances (Qiu & Jones 2013, Ang & van Passel 2012). This makes economy the foundational pillar of the soft sustainability perspective (Qiu & Jones 2013).

The hard sustainability perspective on the other hand, regards the environment as the foundation (Purvis & Grainger 2004:16) as human-made capital is created from natural capital. Technological development is generally not regarded as a solution for losses in natural capital or ecosystem services as the interchangeability between different forms of capital are not considered possible (Ang & van Passel 2012). Economic growth and use of natural goods should thus never exceed the ecological limits, referred to as carrying capacity.

Purvis and Grainger argue (2004) that estimating carrying capacity is difficult, which is why safe minimum standards are assessed to ensure that the natural capital never decreases (Purvis & Grainger 2004:16). The initial hard sustainability paradigm shared with its opponent the view of monetarily valuating natural capital, which later on has been contested, as “monetary valuation of the environment presumes commensurability of environmental values” (Ang & van Passel 2012:253). There are however few areas in society where hard sustainability controls a process and nature is superior to economy (Nilsen 2010).

### 3.3 Trade-off thinking

The sustainability perspectives can thus be found in how substitutability of capital is regarded. Current MSP processes are not designed for conflicts to dissolve through planning, instead trade-offs have to be made, and research shows that these decisions commonly are taken based on the strategic objective underlying the MSP process (Jones et al. 2016). The ambition of trying to improve human well-being and simultaneously preserving biodiversity or ameliorating the damage has been called win-win approaches to conservation. McShane et al. (2011) argue that this kind of outcome is more of an exception than reality. These approaches seem “ethical, efficient and highly marketable” as they respect both a socio-economic and environmental perspective aiming at finding synergies of visions across scales (e.g. local development goals and global environmental goals) and they therefore become marketable, as neither human needs or the environmental aspect is neglected (McShane et al. 2011:967). This is a case where sustainable development can become an empty signifier (Stojanovic & Farmer 2013).

Instead, it has been argued that there is a need to discuss conservation and development in terms of trade-offs and hard choices as this is more likely the actual process (McShane et al. 2011, Jones et al 2016). “The essence of trade-off thinking is the idea that, when some things are gained, others are lost. Acknowledging trade-offs thus implies acknowledging not only the gains but also the losses – real, potential, and perceived – incurred by various choices and actions in the domains of conservation and development”. The hard choices are thus the deciding on what trade-offs to make and what interest to prioritize and the authors argue that thinking in these terms will create more sustainable initiatives as they then are better communicated and designed (McShane et al. 2011:968). The importance of trade-offs in terms of negotiation has been urged in landscape management, as an essential part of integrative management (Stenseke 2016).

### 3.4.1 Approaching marine spatial planning

The perspective of sustainability and what trade-offs are made thus have implications to marine spatial planning and how a future use of marine resources for an area will look. It can also have implications regarding what approach is adopted. The ambition as for spatial planning, both on land and at sea, is “to control the adverse impacts of human development” (Kidd & Ellis 2012:51). It evolves around the arrangements and allocations of competing interests and activities in space in an integrative and holistic manner, moving away from planning as design, science or a communicative process (Kidd & Ellis, 2012; Scott et al. 2013). Even though marine spatial planning arguably has risen due to environmental concerns (Jay et al. 2013, Jay et al. 2016) the share of influence from MSFD and IMP is unclear (Santos et al. 2014a, Jay et al. 2016). Even though the Malawi principles exist, tools to implementation are lacking which leads to different results (Long et al. 2015, Domínguez-Tejo, Metternicht, Johnston & Hedge 2016). According to Merrie and Olsson (2013), there is a gap between the idea of MSP and how it is implemented, and this is due to the perspective of a country which “makes MSP highly adaptable to different socio-political contexts” (Merrie & Olsson 2013:373).

The ecosystem approach is viewed as a core principle to MSP and it is commonly known as assuring the ecological dimension to marine spatial planning (Santos et al. 2014a, Douvere 2008), and as a facilitator to stimulate conservation and sustainable use of natural resources (Soma et al. 2015; Scott et al. 2013). According to previous research establishing marine protected areas provides a foundation to ecosystem-based MSP (Qiu & Jones 2013) and the framework highlights the use of the precautionary principle. This type of MSP is tending to focus on achieving ‘good environmental status’ (Santos et al. 2014a). It has hence been argued that a genuine MSP should be based on the ecosystem approach thus reflecting a hard sustainability perspective. (Qiu & Jones 2013, Santos, Domingos, Ferreira, Orbach & Andrade 2014b).

It has been noted however that the ecosystem-based approach is not always followed depending on where focus is positioned. Merrie and Olsson (2013) calls this “path dependency” and points to previous use of the marine environments as possible primary objectives of future use (Merrie & Olsson 2013:372). This view is shared by Jones et al. (2016) as they say it is possible that the set of priorities that exist are brought into the initiating process of MSP resulting in a strategic sectoral planning (Jones, Lieberknecht & Qui 2016). According to Qiu and Jones (2013), the direction of the approach could therefore be

determined by the main sectors operating within a country, thus if a country has a large maritime industry e.g. within oil and gas, it will likely lean towards an integrated-use MSP (Qiu & Jones 2013). Either focus is put to achieving ‘good environmental status’ or blue growth (Santos et al. 2014a). The Great Barrier Reef is one example of where the conservation of biodiversity was a primary objective (Merrie & Olsson 2013), but the prioritization of interest is most likely to represent socio-economic aspects as they in reality are given focus (Qiu & Jones 2013, Jay et al. 2016). This leads to a process reflecting soft sustainability. In these cases, the environmental perspective is seen as one of the several interests competing for space and not the boundary. This is due to MSP being regarded as a mechanism for IMP through cross-sectoral cooperation and ultimately stimulating blue growth (Qui & Jones 2013, Jones, Lieberknecht & Qui 2016).

Both soft and hard perspectives of sustainability have been called extremes, where neither could be accepted without debate in reality, and it has been argued and urged that an intermediate interpretation of sustainability has to be applied in marine environments (Mee, Jefferson, Laffoley & Elliot 2008). Qui & Jones (2013) agrees and argues that MSP rather provides a forum for debate of these perspectives than a solution.

#### 3.4.2 The realities of MSP

The varying perspectives and ideas of what MSP can represent are further explored in the following section, as well as how previous research has been conducted.

Through a study of cases Jones et al. (2016:256-257) explored as they called it the “realities of marine spatial planning”. A “thematic empirical structure” was developed through which they analyzed master plans and management plans of different marine areas. Examples of themes analyzed are the main objective that the planning was focused on accomplishing, and other themes providing a general picture such as main conflicts and winners and losers of decision making. The MSP cases were either driven by establishing marine protected areas, both to ensure biodiversity and find suitable locations for developments or strictly driven by specific priorities. However the degree of having broader perspectives to the process varied, for example showing “formal and informal sectoral and cross-sectoral approaches” (Jones et al. 2016:260). Nevertheless, the authors state that their findings indicate that blue growth focused MSP processes (integrated-use MSP) are further diverging from protection oriented MSP (ecosystem-based MSP). This is because continued or further developments within “certain economic activities” were, to different extents, still prioritized in all cases where



marine protected areas were established. Blue growth initiatives are often acknowledged as §measures to recuperate from the global financial crisis that hit in 2007-2008 (Jones et al. 2016:262).

In order for MSP to work as a tool to alleviate problems regarding fragmented governance and conflicting sectoral objectives, integration is essential. Kidd (2013) investigated the level of integration (e.g. horizontal and vertical) in the Irish Sea through establishing a framework of forms of integration and analyzed these in relation to the output of stakeholder workshops. The governance arrangements and future plans were then summarized showing that different approaches and time scales for the planning were found among the administrative regions (Kidd 2013).

A study conducted within the UK shed light on the relationship between MSP and MSFD. A number of semi-structured interviews were conducted with personnel working within two industries, aggregate dredging and renewable energy. The interviews were recorded and transcribed and the themes were interpreted through a qualitative data analysis software. Even though MSFD was legally binding and MSP was not at the time, MSP was considered a more dominant initiative. One of the weaknesses identified with MSFD was the “opacity on how to implement the ecosystem-based approach”, arguably insinuating either ignorance of the approach or a conflicting perspective of how development is regarded. Weaknesses of MSP were also identified, for example “its fraudulent claim to neutrality” and “the unfairness of its prioritizations”. The study concludes with stating that the UK government has “chosen to interpret” MSP as to balancing the dimensions of sustainability rather than prioritizing achieving the aim of MSFD (Brennan, Fitzsimmons, Gray & Raggatt 2014:365).

### 3.5 Summary and frame of analysis

By studying previous research it becomes evident that MSP and the ecosystem approach, even though stemming from environmental conservation, has a heterogeneous application (Jay et al. 2013, Rodriguez 2017, Qiu & Jones 2013, Santos et al. 2014a). The process and focus of marine spatial plans can develop based on sectoral objectives of a country or region (Jones et al. 2016), weighing the objectives of directives differently (Brennan et al. 2014). This is of specific interest in Sweden as the development of the plans are conducted by the state (SwAM), municipalities and regional collaborations in cooperation.

Drawing on the work of Qiu & Jones (2013), Santos et al. (2014a), Jay et al. (2016) and Mee et al. (2008) part of what will be explored in this thesis will evolve around their

understandings of genuine ecosystem-based MSP, Integrative-use MSP and intermediates. Their ideas of sustainability perspectives (soft and hard) are thus of interest both to the application of the ecosystem approach and the prioritization between use and conservation at other levels.

The analysis in this study includes how substitutability between natural and human-made capital are debated, how and to what extent trade-offs are made between conflicting interest. Overall, the prioritization and strategies can tell what future is to be expected. The analysis will thus be structured around the themes presented in table 2. Objective and Performance are used as indicators of prioritization as in line with previous research where empirical frameworks have been developed to analyze the contents (see e.g. Jones et al. 2016). The theme Vision has been added as a means to investigate what future use is desired since this cannot be measured but still is of interest regarding future trade-offs. The Ecosystem Approach is an additional theme under which the perspectives amongst MSP practitioners are examined. The theme also holds a deeper examination of SwAM regarding their interpretation and application of the approach.

*Table 2: Empirical themes for examination and analysis, questions they aim to answer.*

<b>THEME</b>	<b>QUESTIONS</b>
<b>Objective</b>	The main aim the planning is designed for and how substitutability of capital is regarded.
<b>Performance</b>	How prioritization and decisions about trade-offs are being made within the planning process.
<b>Vision</b>	Desired future and likely future; how consistent are strategies with reality.
<b>The Ecosystem Approach</b>	Perspectives and application of the approach

## 4. Method

### 4.1 Introduction

This thesis aims to investigate the application and views of the ecosystem approach and how perspectives of sustainability influence the prioritization in the planning process. The study has been conducted through a set of semi-structured interviews and text examination of published documents regarding spatial planning in general and marine spatial planning in particular. The empirical results are then analyzed based on the frame of analysis that has been developed in this study.

#### 4.2.1 Qualitative analysis

The frame of analysis presented in section 3.5 and table 2 shows the themes that the examination and analysis are based on. The themes have been established as a means to ask questions to the text in order to fulfill the aim of the study and answer the research questions. The themes hence become the foundation of the analysis and the results were interpreted with an open approach as no potential answers or categories had been established in advance (Esaïsson, Gilljan, Oscarsson, Wängnerud 2012:216-217)

#### 4.2.2 Abductive approach

The results have been collected through the use of two methods which have spanned parallel during the process and informing each other at the same time as the theory was built. The method is abductive in the sense that interview questions were shaped by theory as well as theory was constructed from the answers (Esaïsson et al. 2012:276).

#### 4.3.1 Interviews

The informant interviews were of qualitative semi-structured character. Qualitative interviewing is desirable when in depth answers are wanted, and the flexible nature allows for additional questions to follow up a previous one. The semi-structured interviews were conducted as several themes needed to be answered. The themes were created based on previous case studies (Jones et al. 2016) and consider objectives, performance and visions to examine how use and conservation are regarded and handled in the planning process. Based on the themes an interview guide was prepared (Appendix) as common to semi-structured interviewing (Bryman 2012:470-471). Interviews were then conducted with six MSP practitioners, four of them face-to-face and two of them by telephone (Table 3), and the time range spanned between 45-75 minutes. All interviews were recorded and summarized post interview.

#### 4.3.2 Sampling

The sampling idea was to interview practitioners active at different levels regarding marine and coastal spatial planning within the Västerhavet district. The interviewees were selected due to their centrality to the field, thus through purposive sampling. Purposive sampling is a sampling method used when choosing participants in a strategic manner due to their knowledge of the topic (Bryman 2012:418). For example, interviewees were chosen through recommendation by informed personal contacts of different organizations and these contacts were not themselves included in the study. A list of participants at a dialogue meeting regarding the first MSP draft of Västerhavet was also used to find interviewees. A degree of snowball-sampling also occurred (Esaïsson et al. 2012:258) as the interviewee from the County administration of Västra Götaland provided names of other MSP practitioners, where one of these was interviewed later on. Information on the interviewed practitioners are found in table 3.

Table 3: Summarizing information of interviewed practitioners; where they are active, their position and date of interview. Additional comments were provided by some of the interviewees by e-mail and these dates are presented in parentheses.

<b><u>Organization</u></b>	<b><u>Interviewee</u></b>	<b><u>Position</u></b>	<b><u>Date of interview</u> <u>(additional comments)</u></b>
<b>Swedish Agency for Marine and Water Management</b>	Jan Smidtbauer Crona	Environmental assessment investigator	2017-03-13 (2017-05-19)
<b>City of Gothenburg</b>	Martin Knape	Environmental planner	2017-03-14 (2017-05-10)
<b>Northern Bohuslän</b>	Carl Dahlberg	Process leader	2017-03-15 Telephone (2017-05-18)
<b>Municipality of Kungälv</b>	Pierre Rehnlund	Politician (The Liberal Party)	2017-03-21 (2017-05-11)
<b>County Administration Västra Götaland</b>	Ingela Isaksson	Regional coordinator	2017-03-31 (2017-05-10)
<b>Municipality of Strömstad</b>	Peter Dafteryd	Chairman of the municipal council	2017-04-04 Telephone

#### 4.4.1 Qualitative text examination

A qualitative text examination is based on highlighting the essentials of a document through detailed reading. This method is preferred when looking for information that is not necessarily written but can be read between the lines since the essence of a text might be different than the parts combined. The qualitative text analysis can thus be a search of unspoken and implicit meanings, asking questions to the text and either have the text answer the questions or interpret the answers yourself (Esaïsson et al. 2012:210). This method was used to complement and analyze the coherence with the results gained from interviews.

#### 4.4.2 Selection

Master plans, reports and in-depth documents focusing on water were chosen for analysis. Since the MSP directive was adopted in 2014 (EC 2014:135) and the Swedish MSP legislation in 2015 (SFS 2015:400) documents and comprehensive plans published or accepted before 2012 were not selected for analysis. 2012 was set due to the adoption of MSFD and IMP in 2007 and 2008 respectively, and the MSP roadmap in 2008 (EC 2010:3). The debate was ongoing in 2012 due to the Swedish MSP investigation that took place between 2009 and 2011 (Sveriges Riksdag, n.d).

The examined documents are provided in table 4. They consist of comprehensive plans for those municipalities where documents were published in 2012 or later. In addition the maritime strategy for the northern Bohuslän collaboration was examined as well as the assessment report of marine environments for Kungälv Municipality. In the case of the Swedish Agency for Marine and Water Management the first MSP draft and the roadmap to MSP were chosen for examination. Furthermore the document on the application of the Ecosystem Approach was examined. For the County Administration an annual report was chosen, as many documents have been published on specific themes, and an overall picture was wanted for the examination. The documents were chosen since they are guiding documents in spatial planning, providing an idea of the processes and perspectives of development in different planning contexts.

Table 4: A summary of the examined documents, where all areas but the City of Gothenburg had published relevant documents in 2012 or later.

<b>Municipality/organization</b>	<b>Level</b>	<b>Name of document/publication year (Swedish name)</b>
<b>Swedish Agency for Marine and Water management</b>	National	MSP – Västerhavet, 2016 <i>(Havsplan – Västerhavet)</i>
		Roadmap marine spatial planning, 2016 <i>(Färdplan havsplanering)</i>
<b>County Administration Västra Götaland</b>	Regional	Annual Report 2016, 2017 <i>(Årsredovisning 2016)</i>
<b>Growth Northern Bohuslän</b>	Regional	Blue Comprehensive plan, 2017 <i>(Blå översiktsplan för norra bohuslän)</i>
		Maritime business strategy, 2016 <i>(Maritim näringslivsstrategi)</i>
<b>City of Gothenburg</b>	-	-
<b>Municipality of Kungälv</b>	Local	Comprehensive plan 2010, 2012 <i>(Översiktsplan 2010 för Kungälv's Kommun)</i>
		Marine areas – assessment report, 2012 <i>(Havsområdet – Underlagsrapport)</i>
<b>Municipality of Strömstad</b>	Local	Comprehensive plan part 1, 2 & 3, 2013 <i>(Översiktsplan Strömstad – Del 1, 2 &amp; 3)</i>

#### 4.5 Validity and credibility

Validity is commonly used within measurements of the quality of quantitative research (Bryman 2012:389). It refers to whether an indicator truly measures the concept it is intended to measure on a theoretical level (Esaïsson 2012:57, Bryman 2012:171). Validity in qualitative research could be translated and referred to as whether the observations, identifications or measurements have been conducted as stated (Bryman 2012:389-390), which is the case in this study. Since the use of several methods and sources of data, referred to as triangulation, was used it provides credibility to the study. Each interviewee was then provided a summary of their interview with quotes, giving them the opportunity to give their

approval and additional comments. Respondent validation further gives credibility to a study (Bryman 2012:390).

#### 4.6 Methodological discussion

The field of marine and spatial coastal planning is fairly young in Sweden, and there is thus no abundance of practitioners available within the Västerhavet district. It is also a contemporary process which could explain why several of the practitioners contacted did not find the time to partake in the study. Even though the number of interviews conducted are few, the combination of extensive answers from the ones conducted and the number of documents to analyze gave a sense of theoretical saturation. Further interviews would have provided more information but perhaps not any new insights (Esaïsson et al. 2012:261). The selection of documents to analyze is a difficult choice. It is always preferable to analyze as much relevant information as possible, though this was not possible during this thesis due to time restrictions. The risk of missing pieces that could have been essential is thus an overhanging threat (Esaïsson 2012:220) as always in research. What can be said is that if this thesis was written in a few years' time, the material strictly concerning marine planning would have been greater since some municipalities have not yet deepened in the field, however this gives the contemporary study extra interest.

Despite the purposive sampling, the depth of answers varied due to their diverse expertise and experience amongst the practitioners. This was also due to the semi-structured form where interviewees are allowed to speak freely resulting in some topics getting more attention than others. This also points to the importance of being objective when analyzing the information that has been gathered.

Two of the interviews were conducted by telephone instead of in person. There are both advantages and disadvantages to conducting telephone interviews. The pros are that they could be less time consuming or costly (Bryman 2012:488), which is why the two interviewees furthest away were interviewed by telephone. Since the interviewees were informants answering questions about their municipality or organization the contact a face-to-face conversation can bring was not considered of essence. However, the line was poor at occasions giving some recording less quality, though this did not interfere with the overall findings.

It has been argued that the discussion around soft and hard sustainability is a too limited approach to describe the complexity of reality (Ang & van Passel 2012). Nevertheless, the decision was made in this thesis, that the concepts serve a purpose when analyzing the ambitions of the development of an area, whether economic growth is compromised on the behalf of nature or the other way around.



## 5. Results

### 5.1 Introduction

In this chapter the empirical results from the qualitative text examination and interviews are presented. It is arranged by organization, municipality and collaboration namely the Swedish Agency for Marine and Water Management, the County Administration of Västra Götaland, Northern Bohuslän, The City of Gothenburg, Kungälv Municipality and Strömstad Municipality (Figure 1). Under each body the results are presented according to the themes Objective, Performance, Vision and The Ecosystem approach presented in section 3.5. The results also present a deepened examination of SwAM regarding the Ecosystem Approach.



Figure 1: The Västerhavet district – County Administrations and municipalities (Länsstyrelsen n.d).

## 5.2 Background

In the following section the investigated bodies are briefly presented. The background includes how SwAM and the municipalities are connected through the County Administration and the two collaborations that exist within the Västerhavet district, where one of these was investigated as a case in the study.

The Swedish Agency for Marine and Water Management is a national governmental body responsible for the three national marine spatial plans (Havs- och vattenmyndigheten 2016a:9). The County Administration of Västra Götaland, as a State Representative Board, is responsible for the contact between SwAM and municipalities within the Västerhavet district. Their role is to guide and support the planning and coordinate with the other County Administrations in the district (Länsstyrelsen 2017:12).

The coastal planning in the City of Gothenburg (Gothenburg Municipality) is currently not far progressed. The Gothenburg comprehensive plan is from 2009 but the work of creating a new one is to be initiated. The municipality is also part of the regional collaboration 'Inter-municipal coastal planning', including municipalities in the Gothenburg region, but this collaboration is in an early stage and no plans have been published yet, besides a pre-study of the planning process (personal communication 2017-03-14). The Municipality of Kungälv is also a part of the inter-municipal collaboration of the Gothenburg region. Kungälv is furthermore a part of the regional collaboration 8-fjordar (8 fjords), a project investigating the environment and its values in the coastal waters (Kungälvs Kommun, 2012b:9, personal communication 2017-03-21).

Four municipalities from northern Bohuslän (Strömstad, Tanum, Sotenäs and Lysekil) started in 2013 a collaboration with the steering committee Tillväxt Norra Bohuslän and have together produced and adopted a maritime business strategy and a marine comprehensive plan which is now out for consultation (Norra Bohuslän 2017:5). Strömstad municipality has not yet included the oceans to any greater extent in their comprehensive plan, however they are a part of the collaboration of northern Bohuslän. The mutual plans will provide a base for the municipalities to include in future comprehensive plans (Strömstads Kommun 2013a:14).

## 5.3 Swedish Agency for Marine and Water Management

### 5.3.1 Introduction

An environmental assessment investigator was interviewed from the Swedish Agency of Marine and Water Management. In addition the Roadmap to marine spatial planning and the MSP draft were examined and constitute the material for this section.

Besides the two examined documents, several documents have been published by the Swedish Agency for Marine and Water Management since the MSP process was initiated. , for example the status report and thematic reports. The first draft of the Västerhavet MSP was published in December 2016 and is now a base for discussion of the process and an updated MSP is expected to be out for consultation in December 2017. The ambition is then to provide the MSP proposition to the Swedish government during 2019 (Havs- och vattenmyndigheten 2016b:32-33).

### 5.3.2 Objective – Aim in planning

According to the Swedish legislation, the MSP should integrate the economic, social and environmental goals. The overall objective is to contribute to and create good marine environments and sustainable growth and this is articulated as “marine resources shall be used so that maritime businesses can develop and grow simultaneously as ecosystems are preserved and restored” (Havs- och vattenmyndigheten 2016b:39). The plans are aiming at contributing to the Swedish environmental quality goals, particularly ‘A Balanced Marine Environment, Flourishing Coastal Areas and Archipelagos’, and also to the MSFD and achieving ‘good environmental status’. Growth is promoted, including blue growth, and is defined as sustainable when all dimensions needs are fulfilled without compromising future needs. A sustainable growth requires functioning ecosystems, which is why “the ecosystem approach’s holistic perspective is accounted for” (Havs- och vattenmyndigheten 2016b:39-40). Even though the approach is based on the environment, the objective is to create a sustainable use, move away from a narrow focus on preservation alone and see the “benefit from ecosystem services while protecting them” (personal communication 2017-03-13).

Since the MSP responsibility has been designated to an environmental agency under the Swedish Ministry of Environment and Energy, the environmental dimension has been a clear focus from the beginning. Where the responsibility has been put can tell something about a country, as the designation of responsibility is “*some kind of marking*” of the objective of the planning (personal communication 2017-03-13).

### 5.3.3 Performance – Prioritization and trade-offs

Six themes of different uses are presented in the draft, namely; Attractive living environments (for people to experience and live in); Natural resource extraction including fishing; Communication (shipping and data and telecom cables); Swedish defense; and Energy and Nature conservation (Havs- och vattenmyndigheten 2016a:6-7). The MSP is supposed to support and create opportunities for all of these themes (Havs- och vattenmyndigheten 2016b:39).

The draft of Västerhavet contains several maps, one general with the combined uses and detailed maps presented sector-wise. All maps come with explanatory texts about the interests and if trade-offs were made. There are also two areas with ‘alternative uses’ where further investigation is needed before deciding on what interests are allocated space. (Havs- och vattenmyndigheten 2016a:17). The first alternative use (Northern Bohuslän) considers the possibility for energy development to coexist with fishing and Swedish defense. In the second alternative use (Skottarevet) wind power has been allocated space from fishing and shipping (Havs- och vattenmyndigheten 2016a:19-20). Even though the energy alternatives could impact the areas negatively they are of a renewable character and the long-term positive impacts should be regarded (personal communication 2017-03-13). In some cases nature and energy interests have been prioritized before shipping and sea routes in the draft plan (Havs- och vattenmyndigheten 2016a:40). A smaller part of an area of use for Swedish defense has been set aside to nature values (in Bratten, a Natura-2000 area and marine protected area), and in a few cases energy has been prioritized before defense (Havs- och vattenmyndigheten 2016a:47).

Locations for aquaculture, sand and gravel extraction and CO<sub>2</sub> storage are not presented in the plan due to a lacking or limited knowledge basis (Havs- och vattenmyndigheten 2016a:32-33).

### 5.3.4 Vision – Ideas about the future

The SwAM vision stated in the plan is aiming at the year 2050, where the marine ecosystems are in balance, coastal and marine environments are in good state and rich in biodiversity. The marine resources and ecosystem services are preserved and used to create attractive living environments and competitive maritime businesses (Havs- och vattenmyndigheten 2016a:12-14). According to the interviewee there is a risk of conflicting interests while the vision

pictures a future where all dimensions are in balance. Since municipalities are handling both conservation and development perspectives, which is not completely the case of SwAM, the visions might differ (personal communication 2017-03-13).

#### 5.3.5.1 The Ecosystem approach

The ecosystem approach is described by the interviewee as a challenging approach due to several reasons. The concept is based on the Malawi Principles which leave room for interpretation. SwAM has hence focused on increasing the understanding of the Ecosystem Approach by developing a document in Swedish, and they have also been involved and lead the work of developing guidelines for implementation of the approach in projects with neighboring countries of the Baltic Sea. This is because SwAM has seen a need to contribute to a harmonized interpretation of the Ecosystem approach as a step towards coherent plans among the neighboring countries. The approach has likewise been discussed on a national level regarding how “*strong*” it is and there is still a gray area around this (personal communication 2017-03-13).

The twelve Malawi principles constitute a base for the Swedish translations done by the Swedish Environmental Protection Agency and the state investigation for MSP. In 2012 SwAM published “Application of the ecosystem approach in marine spatial planning”. This document describes how the ecosystem approach “could be applied in Swedish MSP”, and explains that the approach is open to interpretation since the existing definitions are broad and aims to explain the relations between different dimensions which is a complex matter (Havs- och vattenmyndigheten 2012:5).

The Swedish translation has categorized the principles into six different groups (Table 5). The first group ‘Mutual goals and participation’ is based on principle 1, 2 and 12 and is summarized as an “open and broad planning process with cross-sectoral perspectives”. This includes a decentralization of power and enabling dialogue across scales (Havs- och vattenmyndigheten 2012:9-10). The second group is ‘Nature’s capability to produce products and services is superior; the precautionary principle shall be applied’. This group is based on principle 5, 6 and 10 and comprises obtaining environmental assessments, analyzing gaps of knowledge and working with different alternatives and scenarios (Havs- och vattenmyndigheten 2012:11-12). The third group ‘All kinds of knowledge should be considered’ is based on principle 11 and 12. This entails collecting information and knowledge and making it available to enable a holistic perspective (Havs- och

vattenmyndigheten 2012:12). The fourth category ‘Valuating ecosystems socio-economically’ is based on principle 4. This regards identifying the services, starting with the “initial assessment” according to the MSFD directive and then integrating a socio-economic assessment presenting the “economic implication” of the plan (Havs- och vattenmyndigheten 2012:13). The fifth group ‘Delimitations in time and space’ is based on principle 3, 7 and 8. This group presents the need to have clear delimitations in order for conditions and impacting forces to be well described, as well as a need to see the bigger picture by planning in different scales. It presses on the need for cooperation and collaboration across administrative borders, analyzing cumulative impacts and focusing on the essentials (Havs- och vattenmyndigheten 2012:14). ‘Flexible and adaptable’ is the last category based on principle 9. This includes following up and evaluating the plans, learning by doing and enabling adaptive management (Havs- och vattenmyndigheten 2012:15).

Table 5: A summary of the Swedish groups of interpretation with the associated Malawi principles within parenthesis.

<b>1</b>	‘Mutual goals and participation’  (principle 1, 2 & 12)
<b>2</b>	‘Nature’s capability to produce products and services is superior; the precautionary principle shall be applied’  (principle 5, 6 & 10)
<b>3</b>	‘All kinds of knowledge should be considered’  (principle 11 & 12)
<b>4</b>	‘Valuating ecosystems socio-economically’  (principle 4)
<b>5</b>	‘Delimitations in time and space’  (principle 3 & 7)
<b>6</b>	‘Flexible and adaptable’  (principle 9)

The document also holds an interpretation of the approach and a discussion about the concept of ecosystem-based management. The approach is considered a strategy for “conservation of natural values, sustainable use and a fair distribution of nature resources” with the aim of securing the ecosystem services in a long term perspective (Havs- och vattenmyndigheten 2012:16). Meanwhile, there are several definitions of the approach internationally, such as ecosystem-based management etc. SwAM considers ‘the ecosystem approach’ to signify a specific approach, as to avoid the components getting lost and not diminishing the concept (Havs- och vattenmyndigheten 2012:18).

#### *5.3.5.2 Implementation of the Ecosystem approach in Swedish MSP*

The Swedish MSP process is described in the SwAM publication ‘Roadmap marine spatial planning’ published in September 2016. In a description of the planning based on the ecosystem approach, two aspects are mentioned. It is stated that the MSFD is reflected in the Swedish MSP legislation, making MSP a facilitator of achieving ‘good environmental status’. Another part of the process is the valuation of ecosystem services, as the “analysis comprises an important base for the trade-offs to be made” (Havs- och vattenmyndigheten 2016b:15). No documentation with socio-economic analysis has been published but it is stated that this will happen in relation to drafts and finished plans (Havs- och vattenmyndigheten 2016b:38).

The planning process is spanning over several years, as the status report (Nuläge 2014) was published in 2015 and the aim is to present a finished plan in 2019. The ambition is to allow new knowledge into the process, and collecting opinions from different interests to anchor the plans in reality. This is done through continuous dialogue and consultation meetings (Havs- och vattenmyndigheten 2016b:31-32) and a cross-sectoral working group has also been created (Havs- och vattenmyndigheten 2016b:36). It is stated that SwAM will develop cooperation with the academia, as this could enhance “local and regional perspectives in marine spatial planning” (Havs- och vattenmyndigheten 2016b:38). It is also important for the sake of using updated knowledge and to implement adaptive management. This is why the plans should be evaluated every eight years (Havs och vattenmyndigheten 2016b:50) and a half-time evaluation has been initiated by two researchers (personal communication Marie Stenseke 2017-05-16). A tool called Symphony has been developed by SwAM (personal communication 2017-03-13). It calculates the cumulative environmental impacts from human activities on ecosystems and visualizes the spatial distribution (Havs- och vattenmyndigheten 2016b:50).

## 5.4 The County Administration of Västra Götaland

### 5.4.1 Introduction

The interview was conducted with a regional coordinator from the County Administration. . As a state representative board the County Administration of Västra Götaland is involved in several different areas, and publishes detailed investigations and documents on specific marine questions, an annual report of 2016 was examined for this study. In the Västerhavet MSP process they are responsible for guiding municipalities as an extension of SwAM and they are also the designated water agency for the Västerhavet district.

### 5.4.2 Objective – Aim in planning

Marine and coastal spatial planning is defined by the County Administration as to plan towards a long term sustainable society (personal communication 2017-03-31). The environmental goals are essential to all activities the County Administration are operating (Länsstyrelsen 2017:90). Marine questions have always been a responsibility of theirs with the purpose of balancing interests, both terrestrial and oceanic. Before the Swedish MSP investigation started not many municipalities had made an effort to plan the coastal waters, and this is due to limited capacity and competence but also due to the lack of push and planning material provided by the County Administrations. Today municipalities are successively increasing their resources (personal communication 2017-03-31).

The County Administration is guiding and supporting municipalities and encourage inter-municipal collaborations. Eventually they examine the comprehensive plans. They also provide knowledge bases which the municipalities should take into consideration. The knowledge should include all aspects, both regarding conservation and development so that job opportunities are created. The interviewee mentions that environmental aspects and preconditions are often used as the foundation but future scenarios which the planning is aiming at are important as well and this regard is perhaps not always included according to the interviewee. Conservation values do not have to be in conflict with other values, which makes relevant and updated knowledge essential, along with dialogue. Activities have to be able to exist even though the ecosystem capacities are setting the limits. Scale also has to be regarded, the example of sand extraction is mentioned here. If sand is needed to create cement this has to be considered, evaluated and discussed as it is not reasonable to allow unsustainable extraction in e.g. another country (personal communication 2017-03-31).



The interviewee shares the SwAM interviewee's belief that the department responsible of MSP can tell something about the driving force of a country (personal communication 2017-03-31).

#### 5.4.3 Performance – Prioritization and trade-offs

As a state representative board the County Administration is responsible for several areas of expertise e.g. environment, climate adaptation, cultural heritage, rural affairs, societal sustainability, energy, nature conservation, fishery etc. They are also responsible for the water quality as the County Administration of Västra Götaland is the assigned water agency of the Västerhavet district (Länsstyrelsen 2017:11, personal communication 2017-05-10). Due to this authority they are responsible for updating the basis of knowledge and establishing action programs to enhance water quality (Länsstyrelsen 2017:82). During 2016 focus of the board was put on urban and regional planning, rural development and environmental goals (Länsstyrelsen 2017:4). Since the first draft of Västerhavet MSP was published the County Administration is now deepening the coordination and dialogue among coastal communities and stakeholders to collect opinions and suggestions for the continued process (Länsstyrelsen 2017:11).

#### 5.4.4 Vision – Ideas about the future

The work by the County Administration is to support the vision "*the sustainable society*". Yet the interviewee says "*what do we mean with sustainable?*" and adds that collaboration, mutual visions and working with milestones are key elements. The ideas of how the future will look are perhaps not agreeing in all cases due to the perspectives each municipality or region have within their own boundaries. Bridging is needed and this is where the role of the County Administration is important. A big threat to a future sustainable society could according to the interviewee be the increased shipping and associated accidents with leakages, and that the eutrophication problematics have not been solved (personal communication 2017-03-31).

#### 5.4.5 The Ecosystem approach

With the role of guiding municipalities the County Administration get to look into the planning processes. According to the interviewee the concept of ecosystem approach is not particularly used on a municipal level. The approach has earlier led to resistance as "*people think a lot of the environment when they think about the ecosystem approach*" and not that the

approach should include socio-economic questions. There has been a general concern at municipal and regional level that the approach only aims at protection and not allowing resources to be utilized. The County Administration has thus “repackaged” the concept and instead presented it as a basis that has a purpose to supporting, coordinating and contributing. The plans made locally have to regard the long-term perspective and support a future use of resources regardless of what name is put on the process. According to the interviewee Integrated Coastal Zone Management and ecosystem-based MSP are the same things, and that the principles of the ecosystem approach still are incorporated in the municipal work. Both approaches are supposed to be including and not excluding of different interests and their perspectives but the interviewee adds that *“not all can be done correctly right away”* (personal communication 2017-03-31).

## 5.5 Northern Bohuslän

### 5.5.1 Introduction

The interview was conducted with a process leader from the steering committee Tillväxt Norra Bohuslän. The collaboration includes the four municipalities Strömstad, Tanum, Sotenäs and Lysekil and the maritime business strategy and comprehensive plan produced by the collaboration were examined in this study.

The municipalities have somewhat different sectors active in their coastal zones and waters, but tourism and fishing are two common industries which contribute to the identity of the region and the trade-mark of Bohuslän.

### 5.5.2 Objectives – Aim in planning

The interviewee believes there are good prospects to create job opportunities, and blue growth is mentioned both by the interviewee (personal communication 2017-03-15) and in the maritime strategy. Blue growth is described as a possibility to develop the maritime business and increase the attractiveness of the coastal communities (Norra bohuslän 2016:9).

Development prospects within tourism are highlighted by the interviewee, e.g. increased routes covered by ferry transportation (personal communication 2017-03-15). However, the number of employed within tourism grows faster than the profitability. Aquaculture and marine energy are also highlighted in the strategy as potential industries to grow (Norra

Bohuslän 2016:22), but these businesses are young and potentially risky to invest in (personal communication 2017-03-15).

It is acknowledged that the nature values comprises the base of all marine development but “they also constitute a claim” of space that has to be “weighted against other claims” (Norra Bohuslän 2017:24). It is stated that “pristine areas in the archipelago shall remain untouched” and that new establishments are not allowed in areas where earlier exploitation does not occur today (Norra Bohuslän 2017:20-21). Still, possible locations for aquaculture establishments presented in the comprehensive plan fall within areas of protected nature mainly in the coastal zone and partly in the open sea (Norra Bohuslän 2017:75). Clam and oyster aquaculture could however improve the water quality due to the nutrition uptake and compensatory nutrition uptakes are demanded for fish aquaculture in the open sea (Norra Bohuslän 2017:82).

#### 5.5.3 Performance – Prioritization and trade-offs

Traditional sectors such as shipping and fishing are a part of the cultural identity, and even though the fish stocks have changed the income is still of importance to the region. The interviewee mentions the value of sustaining a fishing industry covered by many small units rather than a few larger ones. This gives an added value to the consumers, both to locals and tourists, and adds to the identity of the local community (personal communication 2017-03-15).

During the past 20 years, the number of boat houses and docks have increased by 30 percent and 50 percent due to high demands (Norra Bohuslän 2016:54). Today it is stated that new establishments should “to the greatest extent be avoided”. Instead an expansion of existing marinas are prioritized and the municipalities are also striving towards becoming “forerunners in the development of environmental friendly ports” (Norra Bohuslän 2017:37,39). Marine energy and associated research are considered a future possibility and areas should be designated as test sites with this purpose, besides the ones that already exist (Norra Bohuslän 2017:40). This is both due to the opportunity of producing energy locally and to develop techniques of floating stations, providing a product to export (Norra Bohuslän 2016:58). Research in marine biology also has a strong tradition in the area, providing job opportunities and developments that are well anchored in local conditions (Norra Bohuslän 2017:67, Norra Bohuslän 2016:70).

Regarding valuation and prioritization of interests the interviewee acknowledges the complexity in weighing interests against each other and making decisions about trade-offs (personal communication 2017-03-15). The tourism sector is mentioned as an area that “perhaps most clearly points to conflicts that can arise between different interests”. This is perhaps due to the “trade mark-strategy” adopted by the municipalities, including the archipelago, sea food and humans as the profiles (Norra Bohuslän 2016:42-43). In the comprehensive plan aquaculture has been given priority before nature protection in some cases, but new areas for protection are also proposed. Prioritization between aquaculture and fishing has been made to both sectors advantages in different areas (Norra bohuslän 2017:47-48). Nature protection in shallow areas with eelgrass beds have limited or relocated boating routes (Norra Bohuslän 2017:50)

Compensatory measures mentioned by the interviewee and the comprehensive plan are to increase water flows by cleaning overgrown sections (Norra Bohuslän 2017:27, personal communication 2017-03-15) and nutritional uptakes in relation to aquaculture (Norra bohuslän 2017:84, personal communication 2017-03-15).

#### 5.5.4 Vision – Ideas about the future

The aim of the comprehensive plan is to facilitate a planning that creates opportunities to sustain the attractiveness of the region in a long term perspective (Norra Bohuslän 2017:11). According to the interviewee, coastal zone planning comes naturally to the region as the coast and ocean is integrated into the inhabitants’ everyday lives (personal communication 2017-03-15). As stated in the comprehensive plan, the development in the region is based on the understanding that the ecosystem services are of essence and the base of “identity and attractiveness” to the municipalities (Norra Bohuslän 2017:19,24). The interviewee believes that in comparison to the state draft of Västerhavet the municipalities in northern Bohuslän perhaps have a greater focus on the economic development. This has understandable reasons, as the planning zones cover different areas, but also because the municipalities are dependent on the tourism sector (personal communication 2017-03-15).

The four municipalities have agreed that a sustainable and lasting maritime development is a facilitator to the traditional relationship regarding the oceans. The potential of marine resources should be encouraged and valued (Norra Bohuslän 2016:4). The interviewee expresses a certain concern of future fishing due to patterns of commercialism and trade.

Fishing should be regarded as a kind of craftsmanship. Regarding future residents, the population growth is rather stagnant in the region but a growing trade with Norway provides important resources (personal communication 2017-03-15).

#### 5.5.5 The ecosystem approach

The maritime strategy includes an Environmental Impact Assessment where themes (e.g. marine foods) have been put in relation to the ecosystem services needed. What perhaps has not been done is to place the totality into an ecosystem approach, even though the importance of seeing the whole picture is known and mentioned by the interviewee (personal communication 2017-03-15).

The interviewee also says that the “*environmental aspect is one of many pieces*” in the marine and coastal spatial planning and they “*try to include many different perspectives*”. This could perhaps get extended into the national plans according the interviewee, however stating that SwAM also have “*a broad angle of approach*” (personal communication 2017-03-15).

### 5.6 The City of Gothenburg

#### 5.6.1 Introduction

The interview was conducted with an environmental planner from the City of Gothenburg. The marine and coastal spatial planning is currently not far progressed within the municipality and in documents. The comprehensive plan was published in 2009 and was not examined due to the time range that was set for the publishing of documents in this study. The information and quotes presented concerning the City of Gothenburg are thus based on the interview conducted with the environmental planner from the municipality.

The interests of today are well established in the marine environment, namely fishing and the harbor with related industries in addition to the Swedish defense. The municipality has a restricted view of developing in the coastal zone and this area is valued for tourists and outdoor recreation.

#### 5.6.2 Objective – Aim in planning

The territorial ocean that now is included in the MSP has “*perhaps not been as highly prioritized*” within the Gothenburg municipality as the “*focus of planning towards the [city] center*”. Neither is the coastal planning far progressed even though included in the

comprehensive plan of the municipality from 2009. In general the area is used as intended even though conditions could improve but there is no explicit purpose formulated for the planning of the marine areas.

The harbor and its industries are and have always been an important sector to the municipality. The ambition is that it shall continue to be the logistic center of Northern Europe and continue to develop.

#### 5.6.3 Performance – Prioritization and trade-offs

The importance of compensatory actions is mentioned by the interviewee. For example, artificial reefs for lobster populations have been built when the harbor expanded, and replanting of eelgrass beds will occur. The City of Gothenburg has an agreement according to an “*ecosystem-thinking*”, where compensatory measures are required if nature values are impacted.

There is a restricted view to developing in the coastal zone. The establishments that already exist might develop e.g. expanding current marinas, but no new ones will be established. Much work has been done to improve the accessibility to the coastal areas, however the marine environments of further distance to the coast have perhaps not been prioritized as much.

#### 5.6.4 Vision – Ideas about the future

The collaboration of municipalities in the Gothenburg region will create a common structural vision for the coastal area in which the City of Gothenburg will be involved as much as possible. Regarding the national plans covering the Gothenburg marine areas, they are concordant with the Gothenburg vision where the main three interests are presented namely fishing, shipping and defense. Even though the shipping industry is of great importance to the municipality the interviewee believes that the shipping lanes in the national plans have been allocated more space than required and in general that all interests claiming space have been given space. The ocean is covered by the three main sectors and there is not much room left for future developments. Even though no locations are pointed out as of interest for energy production this will likely happen further and a future within aquaculture could also become relevant.

### 5.6.5 The ecosystem approach

Regarding the ecosystem approach, the interviewee is familiar with the basics but not all the principles. He believes it is a “diffuse” concept that often results in debates regarding biodiversity but forgetting the ecosystem services. It is a complex approach that regardless of how it is applied always can be improved. Nevertheless, it is a suitable approach for dealing with marine environments. The interviewee adds that a valuation of ecosystem services perhaps should be the first step, however acknowledging the complicity in doing so. The municipality of Gothenburg is currently not working according to the approach as they are lacking the holistic perspective. Still, an ecosystem-thinking is present according to the interviewee, through the compensatory measures taken if nature values are compromised. The interviewee adds that a new comprehensive plan will be created in which the approach could become an important working tool.

## 5.7 Kungälv Municipality

### 5.7.1 Introduction

The interview was conducted with a Kungälv politician from the Liberal Party who handles sustainability and developmental questions. The examined documents are the comprehensive plan accepted in 2012 and a marine assessment report also from 2012.

The coastal area of Kungälv municipality is in its totality covered by national interest of outdoor recreation, natural and cultural conservation. Developments are only allowed if not significantly threatening the national interests, however not hampering the development of urban areas and local business (Kungälvs Kommun 2012b:22). In general the municipality is in an expanding phase and focus is put on social sustainability according to the comprehensive plan (Kungälvs Kommun 2012a:7)

### 5.7.2 Objective – Aim in planning

To achieve sustainable development in a time when growth is expected, ways to success are mentioned in the comprehensive plan, and besides the importance of developing the public transportation, dialog with citizens and cross-sectorial cooperation are examples of areas that are mentioned (Kungälvs Kommun 2012a:75). Yet the interviewee considers a holistic perspective to be missing when it comes to planning within the municipality. The planning is still mostly made sector wise, where tensions can be found between interests. Questions regarding exploitation and development are urged and there is a need to find balance. The interviewee believes that in many cases the knowledge basis is lacking and even though the

coast and ocean are covered properly in the comprehensive plan this is not the case in reality (personal communication 2017-03-21).

In the comprehensive plan of Kungälv from 2012 it is stated that the municipality “shall grow and develop with housing and business (tourism) as a part of the region’s housing and labor market, simultaneously as natural and cultural values are conserved, shore protection is upheld and outdoor recreation is promoted” (Kungälv Kommun 2012a:4). The vision of development includes the business sector, infrastructure, service and housing as the ambition is to reach a population of 50 000 in 2020 (Kungälv Kommun 2012a:4-5) from today’s 43 000 (personal communication 2017-03-21). Overall there is a “*large hunger for expansion*” in the municipality (personal communication 2017-03-21). Besides housing and infrastructure, the municipality has an ambition of becoming self-sufficient regarding the production of renewable energy, mainly from wind power but also solar and wave energy, as a means to reduce the CO<sub>2</sub> emissions. Development of water and sanitation systems is also urged to reduce harmful emissions (Kungälv Kommun 2012a:5).

The tourism sector is gaining importance in the municipality as the fishing industry has decreased (Kungälv, 2012b:30). There is consequently a great need to further develop existing marinas as well as establish new ones, both to meet the increasing demand as well as to avoid crowding and related issues (Kungälv, 2012b:28-29). In shallow marine areas the developments of ports and marinas are competing for space with eelgrass beds (Kungälv Kommun 2012a:55). It is known that exploitation in coastal areas, as well as eutrophication, affect the eelgrass beds negatively (Kungälv, 2012b:14) and the municipality is therefore working on expanding the water and sewage systems (Kungälv 2012b:36).

The problems boating can cause, such as human waste and emissions, are thought and hoped to be solved through finding environmentally friendly solutions and improved human behavior and awareness (Kungälv 2012b:30).

The interviewee believes the interest and concern of environmental issues were raised when e.g. the awareness of declining fish stocks and diminishing eelgrass beds surfaced during the 1990s (personal communication 2017-03-21). In the waters of Kungälv it is estimated that 80 percent of the eelgrass beds have disappeared (Kungälv, 2012b:13) and according to the interviewee this number is 98 percent (personal communication 2017-05-11). The importance and presence of eelgrass beds were unknown during the past 20-30 years when e.g. a great



expansion of docks and marinas took place. The lack of knowledge has also allowed for mud tipping in sensitive areas (personal communication 2017-03-21).

#### 5.7.3 Performance – Prioritization and trade-offs

The municipality does not have a set of compensatory programs but certain measures can take place when exploitation is planned. The 8-fjordar project has created an artificial reef and introduced fishing-free zones (personal communication 2017-03-21). Actions have been made in most of the streams in Kungälv to support and secure the sea trout reproduction with good results (Kungälv, 2012b:16, personal communication 2017-05-11).

#### 5.7.4 Vision – Ideas about the future

It is stated that the “the overall strategy for the development of Kungälv is that Kungälv shall grow” (Kungälv Kommun 2012a:7) and “the development in Kungälv shall be sustainable and strive towards a society in balance (Kungälv Kommun 2012a:4). Regarding sustainable development however it is stated that “all dimensions of the sustainability concept shall be considered with a certain focus on the social dimension” (Kungälv Kommun 2012a:7). Sustainable development is defined according to the Brundtland definition but the comprehensive plan states that some questions need to be in focus to achieve sustainability (Kungälv Kommun 2012a:10). The greatest investments to be made during the time period covered by the comprehensive plan are an expansion of water and sewage systems and infrastructure (e.g. public transportation) as these are necessary for the planned and expected population growth (Kungälv Kommun 2012a:75).

The ocean and coast are acknowledged as of great importance to the municipality and its inhabitants, both due to its natural and cultural values and the different sectors and actors using or wanting to use the marine resources, e.g. the fishing industry and energy production. Finding a balance and sustainable use is urged in the master plan, but it is acknowledged that many of the areas to be developed are found within the coastal zone and “it is inevitable” that values connected to the coastal areas will be affected (Kungälv Kommun 2012a:49).

#### 5.7.5 The ecosystem approach

The ecosystem approach is not used by the municipality according to the interviewee. An environmental program exists but an integrated planning approach is absent and hence planning is still made sector-wise, dialogue with citizens is lacking and in general, there is no holistic perspective. The interviewee believes that competence and resources are lacking (personal communication 2017-03-21).

## 5.8 Strömstad Municipality

### 5.8.1 Introduction

The chairman of the municipal council of Strömstad was interviewed for this study. The comprehensive plan published in 2013 was also examined.

The Koster National Park is of great value to the municipality, both for tourism and due to the fishing that takes place within its water. Overall the nature values constitute an important part of the municipality's economy.

### 5.8.2 Objective – Aim in planning

The tourism industry is called the “economic engine” of the Strömstad municipality, however it includes both regular tourists and visitors who come to do shopping, mainly from Norway (Strömstads Kommun 2013a:11). Still, the ocean is regarded as the greatest asset, and the establishing of Kosterhavet National Park provides a “particular potential” as it is Sweden's first marine national park (Strömstads Kommun 2013b:14,28) and also because it is being utilized. The fishing industry has decreased from a historical perspective. This is both due to overfishing in the past (reduced fish stocks) and also due to today's more sustainable fishing through improved fishing equipment. However, fishing, tourism, aquaculture and the nature values of the national park are the most important sectors and interests to the municipality. When all the interests are put on a map it becomes evident that the oceans need to be planned as properly as has been done on land according to the interviewee (personal communication 2017-04-04).

### 5.8.3 Performance – Prioritization and trade-offs

Trawling has been prohibited in some areas of the national park (however governed by the County Administration) but is allowed in others with certain equipment. Much effort during 15 years has been put to adjusting the tools through communication and cooperation between fishermen and research. Even though conflicts may have been present, these have been solved through exchange of knowledge, e.g. when awareness about a coral reef was raised, leading to its current status as a fishing prohibited area. Other conservation values exist, for example reproductive fish areas in the coastal zone and eelgrass beds (personal communication 2017-04-04). Shallow and unexploited areas are in general of conservation value but have not been “evaluated in an integrated manner” which is why they are not all presented in the comprehensive plan (Strömstads Kommun 2013c:38). The interviewee says that coexistence of conservation values and other interests potentially is possible (personal communication 2017-04-04). There are no plans to replant eelgrass beds within the municipality's water but

the topic has been up for discussion of protecting the ones that still exist and hope for a natural re-growth. The municipality does not have a set of action plans but the national park however covers great parts of the municipality's marine space and is governed by the county administration. They are thus responsible for action programs within its area (Strömstads Kommun 2013a:29, personal communication 2017-04-04).

Improving water quality (adding to the Water framework directive) is to be prioritized. If actions are made that worsen the status, compensatory measures must be taken (Strömstads Kommun 2013b:34). What kind of measures are not mentioned. Expansion of marinas should occur in proximity to already established ones (Strömstads kommun 2013b:24) and new establishments are not proposed in the comprehensive plan (Strömstads kommun 2013a:23). However it is stated that the municipality should continue with supporting the outdoor recreation and "more marinas" is one example given as to increase the prospects (Strömstads kommun 2013b:30).

#### 5.8.4 Vision – Ideas about the future

The ambition is that tourism and coastal fishing can continue to coexist in harmony with nature. In a hundred years nature should still hold the same conservation values, if not more and better sustained (personal communication 2017-04-04). The comprehensive plan states that natural resources are setting the limits for economic growth and that "new ideas must be applied to solve the equation" Strömstads Kommun 2013b:31). The biggest threat to the municipality would be some sort of natural disaster eliminating the natural values.

Maintaining a living in the area should still be possible in the future as a balance is what they aim for. No dimension should dominate and hence it becomes "*extremely important for us to plan and create this balance between what we utilize and what we preserve*". The interviewee states that if the marine resources cannot be used there will be no tourism and if the marine resources are not preserved, they have nothing to offer the tourists. "*We need to handle both sides of the same coin*" (personal communication 2017-04-04).

The four municipalities in the regional collaboration do not have the same nature values or the same main sectors and their visions may therefore differ. Still, they have managed to balance these despite "*different objectives with different input values*" (personal communication 2017-04-04).

*“In terms of managing and preserving the environment we surely have a similar picture”* the interviewee says about their vision and the vision of SwAM. However, he adds that regarding sustainable fishing and tourism his opinion is that SwAM partly has lost this aspect and says *“we constantly have to repeat the importance of seeing the whole picture”* (personal communication 2017-04-04).

#### 5.8.5 The ecosystem approach

The interviewee does not have knowledge about if the ecosystem approach has been applied in the municipality’s planning. Yet the plans are based on an integrated process where representatives from different sectors have been presented. If adaptive management and the precautionary principle had not been applied the Kosterhavet National Park probably would not exist today (personal communication 2017-04-04).

The collaborative planning process is presented as Integrated Coastal Zone Management (Strömstads kommun 2013a:14). The interviewee believes that MSP and connected concepts such as the ecosystem approach might frighten participants in a way that does not happen when talking about Integrated Coastal Zone Management and using other terms. Even though the carrying capacity of nature is setting the limits of development the other dimensions need to be included in the evaluation and it is important that representatives from all sides are contributing and participating in the process (personal communication 2017-04-04).

## 6. Analysis

### 6.1 Introduction

In this chapter the results from the text examinations and interviews are analyzed based on the frame of analysis, where the range of soft and hard sustainability perspectives constitute a base. This is done to answer the research questions and the aim of the study, which is to investigate the marine and coastal spatial planning process in Sweden and what perspectives of use and conservation are found in different geographical contexts and levels of planning.

The chapter is organized according to the research questions where a summary first is presented, followed by deeper analyzes for each research question.

#### 6.2.1 Perspectives of sustainable development

*How are the socio-economic and ecological dimensions of sustainable development understood and balanced in different planning contexts in Sweden?*

By studying the objectives of the different municipalities and regions a pattern could be identified. The municipalities that are identifying themselves as marine and coastal areas with their main sectors connected to the oceans seem much aware of the importance of balancing the different interests of use and conservation, as their futures depends on healthy and productive ecosystems. The overall objective for the municipalities in northern Bohuslän is arguably to offer a holistic concept to visitors in which most maritime sectors become intertwined. The areas with other types of industries do perhaps not include the oceans to the same extent in their planning, as the future on land is and have been prioritized. Still, this does not have to imply that marine environments are being neglected but rather that the debate around marine sustainable development is not as progressed as in other coastal areas. Path dependency (Merrie & Olsson 2013) is thus visible at different levels of planning. The road to a balanced future might thus unfold in different ways depending on the regional or local context regardless if marine environments are included in the planning.

As the County Administration works with many different thematic areas, and has a main responsibility of supporting municipalities by guiding and providing knowledge, a sustainability perspective is hard to interpret. What can be said is that environmental aspects are often used as a foundation according to the County Administration interviewee even though future scenarios of socio-economic dimensions should be considered. This is in line with the performance of SwAM that, as an environmental agency, is working towards a sustainable development within the limits of the environment.

### 6.2.2 The SwAM perspective

In the SwAM planning, trade-offs seem to be few if looking at the Västerhavet draft. As presented in the results, nature values and energy were in some cases prioritized higher than shipping, the same goes for energy prioritized before Swedish defense. There are no indications of nature values being set aside for other interests, although arguably coexistence is allowed in some cases. Yet the interviewee from the City of Gothenburg argues that e.g. shipping has been given more space than perhaps necessary. The first draft could therefore be interpreted as trying to fit all claims and interests onto the map, avoiding negotiation of space and presenting an intermediate perspective of sustainability (Mee et al. 2008) as both use and conservation has been allocated space in the plan. Integration thus seem to dilute a hard sustainability perspective. Technological solutions are advocated within soft sustainability as a means to compensate losses in natural capital with human-made capital (Qiu & Jones 2013, Ang & van Passel 2012). In the case of Sweden, floating energy installations could represent these technological advances. The alternative uses presented in the first draft of Västerhavet regarded energy installations and the SwAM interviewee stated that some impact should be accepted regarding renewable energy as there is a positive outcome in the long run. However, renewable energy has more or less moved from being a future technology to a requirement of sustainability.

The hard sustainability perspective regards the environment as the foundation (Purvis & Grainer 2004:16) and the ambitions of the SwAM work is arguably based on the same understanding. However, there seems to be a careful negotiation in the first draft which could be explained by the fact that it is just a draft from which consequences were, and will be, analyzed. The final MSP will most likely have been adjusted in some cases due to the results of the Environmental Impact Assessment and the cumulative analysis. The interviewee at Strömstad Municipality says “*we constantly have to repeat the importance of seeing the whole picture*” and the interviewee from northern Bohuslän also states the need to see the totality. This could arguably mean that SwAM appears to hold a hard sustainability perspective which in the first draft is not truly visualized. A hard sustainability perspective could place less developed areas in vulnerable positions since these places might have more nature values preserved whereas already exploited areas are more likely to be further exploited. It however offers a possibility to lead the way to a sustainable use and development, which was expressed in the comprehensive plan of northern Bohuslän considering environmental friendly marinas.

### 6.2.3 Municipal perspectives

Northern Bohuslän, including Strömstad Municipality, are depending on tourism and the industries that relate to the trade-mark of Bohuslän. The marine environmental status thus becomes the core of the economy. As expressed by the Strömstad interviewee; “*we need to handle both sides of the same coin*” since the socio-economic and the environmental aspects goes hand in hand and constitutes the foundation of their livelihoods and identity. Balancing the dimensions of sustainability is thus essential to the future of the municipalities in northern Bohuslän, where Strömstad Municipality is included. The local perspectives hence become very important and of essence to incorporate in the national plans. Partly because the plans should be anchored in reality and because expert knowledge could have a “homogenizing effect” (Stenseke 2016). The municipalities of northern Bohuslän could thus be found in the range between an intermediate and hard perspective of sustainability (Mee et al. 2008, Qiu & Jones 2013) since the interests of use and conservation are carefully evaluated before decided upon. This will likely be the continued process unless a major change takes place regarding what main industries are operating in the region.

In Gothenburg and Kungälv Municipality the industries are more diverse and tourism does not constitute the base of the economies, even though it is important. In Gothenburg the greatest maritime sectors, shipping and fishing, are well established and they are arguably given priority in strategies towards the future. Still, nature values and outdoor recreation are important, which is illustrated in the compensatory measures that take place and the improved accessibility to the coast and archipelago as stated by the interviewee. The City of Gothenburg thus, according to the knowledge gathered from the interview, seem to balance developments and conservation due to the restrictive view of developing in the coastal areas as the coast is regarded an important asset for people to experience. This could imply that the City of Gothenburg has an intermediate perspective of sustainability (Mee et al. 2008). If the marine environments are further included in future plans and assessments, and as long as a drastic growth of maritime business does not occur, a balanced view will hopefully be kept.

In Kungälv the desire for expansion and development could possibly pose a threat to the environmental dimension. Establishments of new marinas are promoted due to the risk of crowding during the summer season, and the comprehensive plan states that it is inevitable that values in the coastal areas are impacted. It is also stated that the social dimension of

sustainability is given an extra focus. This could explain why touristic accessibility seem to be highly prioritized.

The environmental and socio-economic aspects appear to be further separated and less harmonized in Kungälv municipality than in the other municipalities. This is why the today sector wise planning needs to be integrated so that knowledge amongst interests can be shared. The interviewee believes that the municipal documents provide a picture that is not truly implemented which is why it is difficult to express anything about the overall perspective of sustainability and how trade-offs in the marine environment are being made or will be made in the future. However, the expressed focus on the social dimension And the statement that some questions need to be in focus in order to achieve sustainability could imply a soft sustainability perspective. Though balancing the dimensions of sustainability will always be an overhanging concern and the state of all dimensions could arguably always improve. If not performing sustainably but still using the concept it loses its meaning and becomes an empty signifier (Stojanovic & Farmer 2013).

### 6.3.1 The Ecosystem approach

*How does perspectives of sustainability influence interpretation and application of ‘the Ecosystem Approach’ in Swedish marine spatial planning and how is the approach regarded among practitioners?*

The academic debate and research concerning the ecosystem approach reveal the vagueness of the concept. The Malawi principles constitute an international explanation, nevertheless several Swedish interpretations have been developed. SwAM also acknowledges that different understandings are possible due to the vagueness of the approach and are thus aiming at concretizing the implications to Swedish planning. The SwAM interpretation is called ‘The Ecosystem Approach’ as this should signify a specific approach. In this case it reflects an ecosystem approach where ecosystem services are considered superior to the use and the precautionary principle has been given added value. The Swedish interpretation of the approach thus reflects a hard sustainability perspective and if it is followed through it should reflect a genuine ecosystem-based MSP.



### 6.3.2 The SwAM interpretation of the Ecosystem Approach

A few differences were identified between the Swedish interpretation of the approach and the Malawi principles of the Convention on Biological Diversity. An extra emphasis on environmental questions has been added to the alignment of principles in ‘Mutual goals and participation’ through the recommendation of integrating environmental assessments in this phase of the process. This is also the case for the ‘Nature’s capability to produce products and services is superior; the precautionary principle shall be applied’ as it is stated that the precautionary principle shall be applied (Havs- och vattenmyndigheten 2012:10-11), where it is not mentioned in the Convention on Biological Diversity definition (CBD, n.d.a). The ecosystem functions are also given superiority (Havs- och vattenmyndigheten 2012:11) while the Malawi principle 5 states that maintaining ecosystem services “should be a priority target of the ecosystem approach” (CBD, n.d.a). The group ‘Delimitation in time and space’ is further developed by SwAM by incorporating cumulative impacts on ecosystems (Havs- och vattenmyndigheten 2012:15).

### 6.3.3 The SwAM application of the Ecosystem Approach

The current MSP process is spanning over several years and has allowed for municipalities and sectors to give inputs of knowledge and opinions regarding context-specific conditions. Consultation and dialogue are continuously taking place. An Environmental Impact Assessment have been published in regard to the MSP draft but a socio-economic analysis is lacking, though this will be published according to the roadmap. The Swedish interpretation has a connection to MSP which the Malawi principles do not. This could explain why MSFD is included in the SwAM translation, providing an idea of the SwAM MSP foundation. The Swedish MSP legislation also includes the objective of MSFD, achieving good environmental status, as well as stating that all goals (economic, social and environmental) should be integrated.

Since the first cycle of the Swedish MSP is still ongoing and not “completed” it is difficult to determine whether the interpretation of the Ecosystem Approach will be kept throughout the process. What can be stated is that at the moment the approach is well incorporated in the process. The ecosystem approach is evidently inherent to MSP as it was produced for the MSP process explicitly. The connection to the MSFD and the precautionary principle adds to the SwAM ambition of applying a ‘genuine’ ecosystem-based MSP with a hard sustainability

perspective, even though the ambition perhaps has not been realized in the first draft where an Integrated-use MSP arguably is presented today (Qiu & Jones 2013, Santos et al. 2014a).

The emphasis of the planning could be found in the designation of the MSP responsibility to an environmental agency, as stated by the interviewee from the County Administration and the interviewee from SwAM. This confirms to the theory of the prioritization of a country being brought into the MSP process (Jones et al. 2016) and path dependency (Merrie & Olsson 2013), as the previous uses have been allocated space in the MSP. Yet it opposes the understanding that socio-economic aspects by and large are given priority (Qiu & Jones 2013, Jay et al. 2016) as the current uses are of mixed character, namely represented by both development and conservation aspirations. However, the SwAM interpretation of the ecosystem approach reveals the ambition of both being based on the carrying capacity of nature, as well as the societal opinions on what the future should look like. This is where a tension between soft and hard perspectives of sustainability could be found and where the discussion about future scenarios and related trade-offs needs to be briefed. As shown in the Strömstad Municipality the exchange between academia and fishermen eventually led to an increased understanding of the other parts perspective and agreements could be found. Of course, this will not always be the outcome, but perspectives from different levels and sectors are essential for the plans to be anchored in reality and not only reflect the views of expertise (Stenseke 2016). Since the 'ecosystem approach' still is considered fussy and sometimes intimidating, there is perhaps a purpose of not keeping the reins tight. However, the problem arguably lies in unawareness of the understanding of the concept in general. If knowledge about the overall objective and the components of the approach existed among all stakeholders and participants it would probably gain acceptance. As has been argued the marine spatial planning process does possibly not offer a solution to resolving conflicts between use and conservation, but creates debate about the components of sustainability (Qiu & Jones 2013). The debate then has the possibility to connect to terrestrial land-use planning,

#### 6.3.4 Practitioners views on the Ecosystem Approach and the potentials of the concept

It should be stated that regardless what the various analyzes and assessments show, or what stance to MSP is taken, the planning process fills a purpose by creating awareness and a forum for debate (Qiu & Jones 2013). The complexity of the ecosystem approach is acknowledged among many of the interviewees and the difficulty is arguably acceptable since the MSP in its essence is adaptive management and learning by doing. As argued by Jones et

al. (2016) the current MSP process is not designed to dissolve conflicts as all decision cannot create win-win situations, which is why awareness about trade-offs sheds light on the reality of balancing use and conservation (McShane et al. 2011) and thus the realities of what sustainable development is. Agreeing with Robinson (2004) who likes to view the sustainability discussion as a process in which perspectives are “expressed and evaluated”, deepens the debate (Robinson 2004:382). This could imply that irrespective of what focus is chosen in a country, the MSP process in itself is an eye-opener that enhances the possibilities of integration and sharing of knowledge, among sectors, regions or countries. With this regard, the complexity of the marine policy landscape of EU becomes less important. What the Marine Spatial Framework Directive has done is to deepen the debate on sustainability in regard to marine environments.

The municipalities are not obligated to plan according to the ecosystem approach and the knowledge about the concept varied amongst the interviewees. In general it is considered a complex and frightening approach. The interviewee from the Strömstad Municipality reasons that using other terms could increase participation. This view is shared by the interviewee from the County Administration who explained this as *“people think a lot of the environment when they think about the ecosystem approach”*. Nevertheless, the interviewee believes that the principles of the ecosystem approach are well integrated into Integrated Coastal Zone Management, regardless of referring to the approach or not. Collaborative arrangements seem to improve the prospects, as the municipalities of northern Bohuslän have managed to create a mutual comprehensive plan despite their local perspectives and input values. This could be explained by the continuous sharing of ideas and knowledge, thus merging multiple perspectives and seeing past jurisdictional borders. Even though collaborations add another layer to the process, they become another forum for debate which increases the chances of reaching agreements or leastways understanding each other.

Including municipalities in the planning process, and having an overlapping zone of planning responsibility in the ocean can thus enhance the chance of further looking beyond borders. It could also connect human actions from land to the ocean and from the ocean to land.

## 7. Conclusions

The perspectives of use and conservation vary to a certain extent among the investigated cases. In the municipalities where the relation to marine environments constitute the foundation of the economy and identity, e.g. like in the municipalities of northern Bohuslän, the ocean has been included more in planning and debate. This is due to the intertwined relationship between the dimensions of sustainability that has facilitated the identities of the regions and preferably continues to do so in the future. When the ecosystem services and functions constitute the livelihoods and identities of a place an intermediate or hard sustainability perspective could thus be found. In municipalities where more diverse activities and sources of income exist, focus has not been put to the ocean to the same degree, as marine resources are not the priority. This could lead to a soft sustainability perspective, but the perspectives of sustainability seem to vary regardless in accordance to how different interests are balanced and compensated in the local planning context depending on what values and sectors are prioritized in the municipality or region. In the case of the City of Gothenburg an intermediate perspective seem to be found but in the Kungälv Municipality the overall perspective is hard to deduce. What can be said is that socio-economic developmental aspirations are highly prioritized in the Kungälv Municipality.

The Swedish Agency for Marine and Water Management, as both an environmental agency and a national governmental body, has initiated the MSP process based on the objective of contributing to good marine environments where sustainable growth is enabled. This view is shared by the County Administration in their role of supporting the process. A certain focus of the national planning could be found in the interpretation and articulation of the Ecosystem Approach, where ecosystem functions and services are considered the foundation of the planning and future use. The final MSP of Västerhavet will tell what trade-offs ultimately were made and if a hard sustainability perspective and an ecosystem-based MSP was kept throughout the process. A hard sustainability perspective within the national MSP plans could place less developed areas at risk if preventing future developments. However, the intertwined relationship between use and conservation arguably make the municipalities that are depending on marine resources aware of the importance of finding balance. Still

The previous use of marine areas are in the investigated cases brought into the planning processes and to different extents represents path dependency, making the connection

between different levels of governance especially important. This is where the MSP process becomes not just a planning tool but a forum for debate which can be seen as one of the greatest achievements of the directive.

## 8. Future research

As the Swedish marine spatial planning process is in its first cycle future research is needed for investigating the realities of the phase. The Swedish municipalities are increasingly including the marine environments in their planning documents which further on will provide deeper knowledge on how perspectives of sustainability are interpreted and actualized.

As the inclusion of perspectives from different levels and sectors are essential to understanding different contexts, the planning phase needs further attention as to invite more perspectives to the process. Since planning is politics, and thus influenced by power, further research is needed in the planning process as to investigate whether the decision making reflects a democratic process.

## 9. References

- Ang, F., & van Passel, S. (2012) Beyond the Environmentalist's Paradox and the Debate on Weak versus Strong Sustainability. *BioScience*, 62(3), 251-259.
- Brennan, J., Fitzsimmons, C., Gray, Tm, & Raggatt, L. (2014) EU marine strategy framework directive (MSFD) and marine spatial planning (MSP): Which is the more dominant and practicable contributor to maritime policy in the UK? *Marine Policy*, 43, 359-366.  
<http://dx.doi.org/10.1016/j.marpol.2013.07.011>
- Bryman, A. (2012) *Social Research Methods*. Oxford University Press Inc., New York.
- CBD (n.d.a) Principles. Retrieved 2017-05-02 from:  
<https://www.cbd.int/ecosystem/principles.shtml>
- CBD (n.d.b) Background. Retrieved 2017-05-02 from:  
<https://www.cbd.int/ecosystem/background.shtml>
- De Groot, R., Wilson, M., & Boumans, R. (2002). A typology for the classification, description and valuation of ecosystem functions, goods and services. *Ecological Economics*, 41(3), 393-408. [http://dx.doi.org.ezproxy.ub.gu.se/10.1016/S0921-8009\(02\)00089-7](http://dx.doi.org.ezproxy.ub.gu.se/10.1016/S0921-8009(02)00089-7)
- De Santo, E. (2010). 'Whose science?' Precaution and power-play in European marine environmental decision-making. *Marine Policy*, 34(3), 414-420.  
doi:10.1016/j.marpol.2009.09.004
- De Santo, E. (2011). Environmental justice implications of Maritime Spatial Planning in the European Union. *Marine Policy*, 35(1), 34-38. doi:10.1016/j.marpol.2010.07.005
- Domínguez-Tejo, Metternicht, Johnston, & Hedge. (2016). Marine Spatial Planning advancing the Ecosystem-Based Approach to coastal zone management: A review. *Marine Policy*, 72, 115-130. <http://dx.doi.org/10.1016/j.ocecoaman.2015.03.010>
- Douvere, F. (2008). The importance of marine spatial planning in advancing ecosystem-based sea use management. *Marine Policy*, 32(5), 762-771. doi:10.1016/j.marpol.2008.03.021
- EC (2007) *An Integrated Maritime Policy for the European Union. Commission of the European Communities. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions*. COM 2007/575 final.
- EC (2008a) *Establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive)*. Directive 2008/56/EC. OJ L 164: 19-40.
- EC (2008b) *Roadmap for Maritime Spatial Planning: Achieving Common Principles in the EU*. European Commission. Communication from the commission. COM, 2008/791.
- EC (2010) *Maritime Spatial Planning in the EU – Achievements and Future Development*. European Commission. Maritime Affairs and Fisheries. COM 2010/771. doi:10.2771/81687

EC (2012) *Blue Growth. Opportunities for marine and maritime sustainable growth*. European Commission. COM 2012/494. doi:10.2771/43949

EC (2014) *Establishing a framework for maritime spatial planning*. Directive 2014/89/EU. OJ L 357: 135-145.

Ehlers, P. (2016). Blue growth and ocean governance—how to balance the use and the protection of the seas. *WMU Journal of Maritime Affairs*, 15(2), 187-203. DOI 10.1007/s13437-016-0104-x

Esaiasson, P., Gilljam M., Oscarsson H., & Wängnerud L. (2012). *Metodpraktikan. Konsten att studera samhälle, individ och marknad*. Norstedts juridik, Stockholm.

Flannery, W., Ellis, G., Nursey-Bray, M., Van Tatenhove, J., Kelly, C., Coffen-Smout, S.,”...” O’hagan, A. (2016). Exploring the winners and losers of marine environmental governance/Marine spatial planning: Cui bono ?/“More than fishy business”: Epistemology, integration and conflict in marine spatial planning/Marine spatial planning: Power and scaping/Surely not all planning is evil?/Marine spatial planning: A Canadian perspective/Maritime spatial planning – “ ad utilitatem omnium ”/Marine spatial planning: “it is better to be on the train than being hit by it”/Reflections from the perspective of recreational anglers and boats for hire/Maritime spatial planning and marine renewable energy. *Planning Theory & Practice*, 17(1), 121-151. <http://dx.doi.org/10.1080/14649357.2015.1131482>

Havs- och vattenmyndigheten (2012) *Tillämpning av ekosystemansatsen i havsplaneringen*. Havs- och vattenmyndigheten: Göteborg.

Havs- och vattenmyndigheten (2015) *Havsplanering – Nuläge 2014. Statlig planering i territorialhav och ekonomisk zon*. Havs- och vattenmyndigheten: Göteborg.

Havs- och vattenmyndigheten (2016a) *Havsplan – Västerhavet. Statlig planering i territorialhav och ekonomisk zon. Första utkast 2016-12-01. Diskussionsunderlag i tidigt skede*. Havs- och vattenmyndigheten: Göteborg

Havs- och vattenmyndigheten (2016b) *Färdplan havsplanering*. Havs- och vattenmyndigheten: Göteborg (2016:21).

Havs- och Vattenmyndigheten (2016c) *Regional tillväxt. Rapport från havsplaneringens tematiska arbete från oktober 2015 till mars 2016*. Havs- och Vattenmyndigheten: Göteborg

Havs- och vattenmyndigheten (2017) *Miljökonsekvensbeskrivning. Havsplan – Östersjön. Diskussionsunderlag i tidigt skede*. Havs- och vattenmyndigheten: Göteborg.

Jay, S., Klenke, T., & Janßen, H. (2016). Consensus and variance in the ecosystem approach to marine spatial planning: German perspectives and multi-actor implications. *Land Use Policy*, 54, 129-138. <http://dx.doi.org/10.1016/j.landusepol.2016.02.015>

Jay, S., Flannery, W., Vince, J., Liu, W., Xue, J., Matczak, M.,” ...” Dean, H. (2013). International Progress in Marine Spatial Planning. *Ocean Yearbook*, 27(1), 171-212.



- Jones, P., Lieberknecht, L.M., & Qiu, W. (2016). Marine spatial planning in reality: Introduction to case studies and discussion of findings. *Marine Policy*, 71, 256-264. <http://dx.doi.org/10.1016/j.marpol.2016.04.026>
- Yaffee, S. L. 1999. Three Faces of Ecosystem Management. *Conservation Biology*, 13:713-725. DOI: 10.1046/j.1523-1739.1999.98127.x
- Katsanevakis, S., Stelzenmuller, V., South, A., Kirk Sørensen, T., Jones, P.J.S., Kerr, S.,”...” ter Hofstede, R. (2011). Ecosystem-based marine spatial management: Review of concepts, policies, tools, and critical issues. *Ocean and Coastal Management*, 54(11), 807-820. doi:10.1016/j.ocecoaman.2011.09.002
- Kidd, S., & Ellis, G. (2012). From the Land to Sea and Back Again? Using Terrestrial Planning to Understand the Process of Marine Spatial Planning. *Journal of Environmental Policy & Planning*, 14(1), 49-66. <http://dx.doi.org/10.1080/1523908X.2012.662382>
- Kungälv Kommun (2012a) *Översiktsplan 2010 för Kungälv Kommun*. Antagen av Kommunfullmäktige 2012-01-19.
- Kungälv Kommun (2012b) *Havsområdet*. Underlagsrapport godkänd av kommunfullmäktige 2012-01-19.
- Long, R., Charles, A., & Stephenson., R. (2015). Key principles of marine ecosystem-based management. *Marine Policy*, 57, 53-60. <http://dx.doi.org/10.1016/j.marpol.2015.01.013>
- Länsstyrelsen Västra Götaland (n.d) *Havsplanering*. Retrieved 2017-05-07 from: <http://www.lansstyrelsen.se/VastraGotaland/Sv/samhallsplanering-och-kulturmiljo/planfragor/fysisk-planering/havsplanering/Pages/default.aspx>
- Länsstyrelsen (2017). *Årsredovisning 2016*. Länsstyrelsen Västra Götaland.
- Mee, L., Jefferson, R., Laffoley, D., & Elliott, M. (2008). How good is good? Human values and Europe’s proposed Marine Strategy Directive. *Marine Pollution Bulletin*, 56(2), 187-204. doi:10.1016/j.marpolbul.2007.09.038
- McShane, T., Hirsch, P., Trung, t., Songorwa, A., Kinzig, A., Monteferri, B., “...” O’connor, S. (2011). Hard choices: Making trade-offs between biodiversity conservation and human well-being. *Biological Conservation*, 144(3), 966-972. doi:10.1016/j.biocon.2010.04.038
- Nilsen, H.R. (2010). The joint discourse 'reflexive sustainable development' -- From weak towards strong sustainable development. *Ecological Economics*, 69(3), 495. DOI: 10.1016/j.ecolecon.2009.11.011
- Norra Bohuslän (2016). *Maritim Näringslivsstrategi för Strömstad, Tanum, Sotenäs och Lysekils kommuner*. Antagen 2016-10-17
- Norra Bohuslän (2017). *Blå Översiktsplan för Norra Bohuslän gällande havsområdena i Strömstad, Tanum, Sotenäs och Lysekils kommuner*.

- Olsen, S.B., Olsen, E., Schaefer, N. (2011). Governance baselines as a basis for adaptive marine spatial planning. *Journal of Coastal Conservation*, 15(2), 313-322. doi:10.1007/s11852-011-0151-6
- Purvis, M., & Grainger, A. (2004). *Exploring sustainable development geographical perspectives*. London: Earthscan Publ.
- Qiu, W. & Jones, P.J.S. (2013). The emerging policy landscape for marine spatial planning in europe. *Marine Policy*, 39(1), 182-190. doi:10.1016/j.marpol.2012.10.010
- Regeringskansliet (2015). *En svensk maritim strategi – för människor, jobb och miljö*. Näringsdepartementet:
- Robinson, J. (2004). Squaring the circle? Some thoughts on the idea of sustainable development. *Ecological Economics*, 48(4), 369-384. doi:10.1016/j.ecolecon.2003.10.017
- Rodriguez, N. (2017). A comparative analysis of holistic marine management regimes and ecosystem approach in marine spatial planning in developed countries. *Ocean and Coastal Management*, 137, 185-197. <http://dx.doi.org/10.1016/j.ocecoaman.2016.12.023>
- Santos, C., Domingos, T., Ferreira, M., Orbach, M., & Andrade, F. (2014a). How sustainable is sustainable marine spatial planning? part I-linking the concepts. *Marine Policy*, 49, 59-65. doi:10.1016/j.marpol.2014.04.004.
- Santos, C., Domingos, T., Ferreira, M., Orbach, M., & Andrade, F. (2014b). How sustainable is sustainable marine spatial planning? part II - the portuguese experience. *Marine Policy*, 49, 48-58. doi:10.1016/j.marpol.2014.04.005
- Scott, A.J., Carter, C., Reed, M.R., Larkham, P., Adams, D., Morton, N., “...” Coles, R. (2013). Disintegrated development at the rural-urban fringe: Re-connecting spatial planning theory and practice. *Progress in Planning*, 83, 1-52. <http://dx.doi.org/10.1016/j.progress.2012.09.001>
- SFS 2015:400. *Havsplaneringsförordningen*. Stockholm: Miljö- och energidepartementet.
- Soma, K., Van Tatenhove, J., & Van Leeuwen, J. (2015). Marine Governance in a European context: Regionalization, integration and cooperation for ecosystem-based management. *Ocean and Coastal Management*, 117, 4-13.
- Stenseke, M. (2016) Integrated landscape management and the complicating issue of temporality, *Landscape Research*, 41(2), 199-211, DOI:10.1080/01426397.2015.1135316
- Stojanovic, T.A., & Farmer, C.J.Q. (2013). The development of world oceans & coasts and concepts of sustainability.(Report). *Marine Policy*, 42, 157. <http://dx.doi.org/10.1016/j.marpol.2013.02.005>
- Strömstads kommun (2013a). *ÖP Strömstad. Översiktsplan för Strömstads Kommun. Del 1 Användning av mark- och vattenområden*. Laga kraft 2013-12-10.

Strömstads Kommun (2013b). *ÖP Strömstad. Översiktsplan för Strömstads kommun. Del 2 Utgångspunkter och framtida utmaningar*. Laga kraft 2013-12-10.

Strömstads Kommun (2013c). *ÖP Strömstad. Översiktsplan för Strömstads Kommun. Del 3 Översiktsplanens underlag*. Laga kraft 2013-12-10.

Sveriges Riksdag (n.d.). *Havsplaneringsutredningen (2009:03)*. Retrieved 2017-05-20 at: [https://www.riksdagen.se/sv/dokument-lagar/dokument/kommitteberattelse/havsplaneringsutredningen-m-200903-\\_GXB2M03](https://www.riksdagen.se/sv/dokument-lagar/dokument/kommitteberattelse/havsplaneringsutredningen-m-200903-_GXB2M03)

WCED (1987). *Report of the World Commission on Environment and Development: Our Common Future*. Oxford: Oxford University Press.

### 9.1 Informant interviewees

Jan Schmidtbauer Crona, 2017-03-13, Havs- och vattenmyndigheten (Swedish Agency for Marine and Water management).

Ingela Isaksson, 2017-03-31, Länsstyrelsen Västra Götaland (County Administration of Västra Götaland).

Carl Dahlberg, 2017-03-15, Tillväxt Norra Bohuslän.

Martin Knape, 2017-03-14, Göteborgs Stad (City of Gothenburg).

Pierre Rehnlund, 2017-03-21, Kungälv Kommun (Kungälv Municipality).

Peter Dafteryd, 2017-04-04, Strömstad Kommun, (Strömstad Municipality).

Marie Stenseke, 2017-05-16, Göteborgs Universitet (University of Gothenburg).

## 10. Appendix - Interview guide

### Introducing questions

- What is your background?
- What position do you have as employee?
- In what ways are you involved in marine and coastal spatial planning?
- How long have you've been involved in marine and coastal spatial planning?

### Marine and coastal spatial planning

- What is the perceived purpose to your organization of spatially planning the oceans?
- What does marine and coastal spatial planning represent to you and your organization?
- How does your organization regard the development potentials of the area?
- How does your organization regard the nature protection needs in the area?
- How have questions regarding development and protection been addressed and handled before?

### Ecosystem based management

- How do you regard the approach to the planning process? (The EA)
- How are the following principles used in your planning:
  - Mutual goals and participation (principle 1, 2 &10)
  - The ecosystems capacity and precautionary principle (principle 5, 6 & 10)
  - Knowledge (principle 11 & 12)
  - Ecosystem through and economic perspective (principle 4)
  - Connectivity, time and geographical scale (principle 3, 7 & 8)
  - Adaptive/flexible management (principle 9)

### Sustainable use/development

- What is the desired future for the area?
  - What does it take to get there?
  - What possible obstacles can be found towards this future?
- How does a realistic/likely future look?
- Do you think your vision coincides with visions at other levels?
- How close is the cooperation/collaboration with other levels of planning?
  
- What directives/frameworks/strategies are most important to you?

### Final remarks

- Is there anything you would like to add?