

**Strategic Research on Marine  
Spatial Planning: A comparative  
analysis of Marine Spatial Planning  
policies and implementation in four  
countries**

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Strategic Research on Marine Spatial Planning: A comparative analysis of Marine Spatial Planning policies and implementation in four countries

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# 1 Introduction

## 1.1 Marine Spatial Planning: A concept in marine management

Marine Spatial Planning (MSP) emerged as a concept in marine management as a result of the intensifying anthropogenic pressure on the seas and oceans. UNESCO pioneered in documenting the MSP process in 2009 (Esher & Douvère), thereby supporting UN member states to effectively manage the resources of their oceanic- and coastal areas. An increasing number of countries around the world recognize, accept and implement MSP as an instrument to deal with a range of spatial problems at sea.

UNESCO focuses on the MSP-Process and states that, *“Marine spatial planning is a public process of analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic and social objectives that have been specified through a political process.”* (UNESCO, 2010). UNESCO has devised a set of principles to achieve a sustainable implementation of MSP. These principles are considered the fundamentals for designing an implementing an area based marine spatial plan.

Within the UNESCO concept, principles of MSP include the following:

- Ecosystem-based,
- Area-based,
- Integrated,
- Adaptive,
- Strategic and
- Participatory.

(UNESCO, 2010).

To promote a sound process and outcome of MSP, countries can incorporate these MSP principles in their national policy. If these principles are incorporated into the national policy framework of a country, it is to be expected that the national Marine Spatial Plan, which should ideally be based on this policy framework, also reflects these policy principles.

## 1.2 Research objective and questions

The main objective of this research is to find global MSP principles and abstract, general interpretations, or principles, used in MSP. Ways of implementation of these principles based on political or economical back ground are explored and analyzed. The knowledge obtained by Deltares from this research can be used in ongoing and up-coming EU projects (e.g. MESMA, PERSUES, MERMAID) about MSP, implementation of Directives (e.g. MSFD and the upcoming EU MSP-directive) and related ecosystem-based studies. In addition the results can be used to identify key countries to target for acquisition in non-EU continents.

This literature research will focus on the following questions:

How is MSP formulated and implemented in different EU and non-EU countries?

- Which countries have defined MSP principles?
- Do these MSP principles embody the UNCESO characteristics? – and if so, in what way?
- (How) are the MSP principles implemented in a management plan?
- What are the differences and similarities between policy and management plan in different countries?

## 2 Research methodology

### 2.1 General setup

This research aims to compare the MSP processes in countries with a different economical and political background, both by analyzing strategic as well as operational documents. Per country, an analysis is made of which of the UNESCO principles is incorporated into the national policy framework (strategic level), and how these principles are translated into the national Marine Spatial Plan (operational level). In those countries, which have multiple regional MSP, one overview will be analyzed. The results of these national analyses will be compared between the countries and to the UNESCO principles.

1. This research follows five steps (see fig. 2.1). Selection of four representative case studies (countries and plans);
2. Compilation of general characteristics of case countries;
3. Per case study comparison of principles implemented in case countries with the principles of MSP as defined by UNESCO;
4. Per case study analysis of the operationalization of principles and between case studies;
5. Meta Analysis: Comparison between case studies on principles applied and how they are operationalized in Marine Spatial Plans (based on results from step 1.4).

In the following paragraphs, these steps will be explained in more detail.

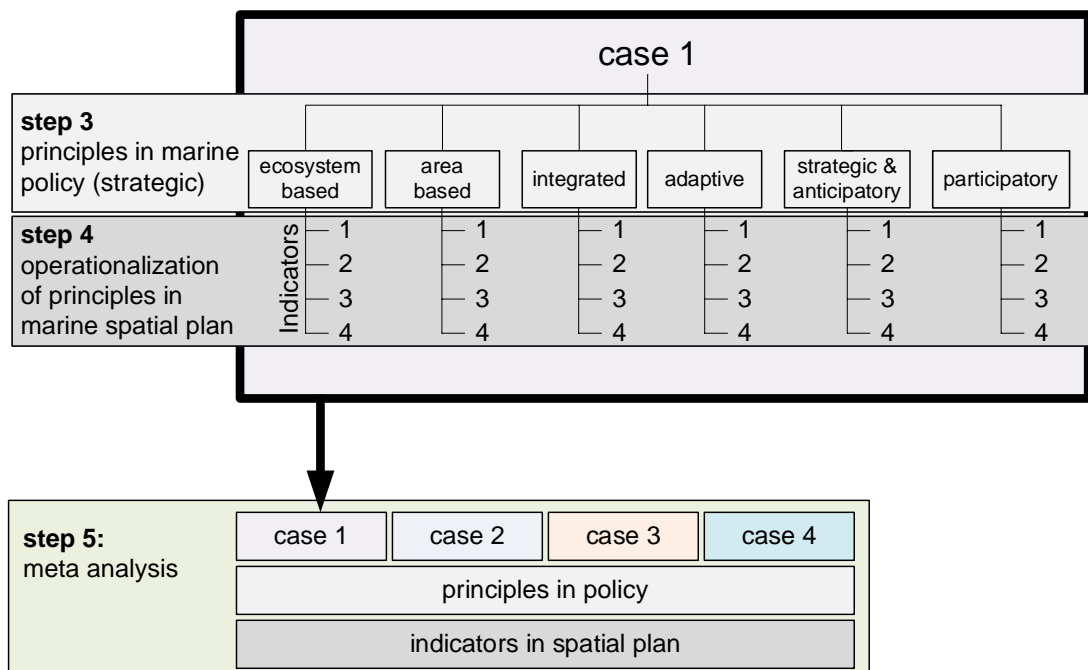


Figure 2.1: Overview of step 3-5. Please note that step 3 and 4 are conducted per case study. Step 5 is overarching, and is based on the results of step 1-4.

### 2.2 Selection and background description of four country case studies

Countries which are currently making use of MSP in the management of their coastal or off-shore areas were identified by a literature and website assessment.

The main sources used in this step were:

- (a) the UNESCO website on marine spatial planning
- (b) scientific literature, and
- (c) Official (policy) documentation of national ministries or agencies on marine policy, as posted on national websites.

*\* For references see, chapter 3 results & chapter 6 References*

The following criteria were applied in the selection of case studies:

1. Availability of sufficient material in the languages spoken among the researchers (i.e. Dutch, English, German or Spanish) for thorough analysis
2. Actuality of information
3. The implementation of MSP in policy and/or in management plans must be ongoing or completed
4. Cases should be spread across continents.

Due to the limited time frame and budgetary constraints, a total of four case studies were identified, based on the above-presented criteria.

### 2.3 General characteristics of case studies

In order to study the general context of a country in which MSP is carried out, background information was gathered of the selected case studies in fact sheets. The fact sheets included a general description of the case study (e.g. case study size, the economic capacity of a country, specific borders and other characteristics) and a description of the motivation/need for MSP (i.e. the apparent reason why MSP was adopted in location in the first place)

*\* For references see, chapter 3 results & chapter 6 References.*

The fact sheets will provide insight in the context in which MSP is conducted.

This context is relevant in the eventual comparison of case studies, since it may explain the differences and similarities found. For example, the fact that the management plan of a case study covers a very extensive area could be a reason for implementing a different organisational structure for the MSP process than in another case study in which the area covered is relatively small.

The factsheets are shown in paragraph 3.2.

### 2.4 Analytic framework: Comparison of the strategic principles implemented in the policy frameworks of case countries with principles of MSP as defined by UNESCO

An objective scientific method was applied to determine whether the principles of the UNESCO initiative for MSP are actually incorporated in a country's national policies. Such an objective method is also of paramount importance in the comparison of principles among countries. Therefore, a framework of analysis was developed, which is based on the MSP principles defined by the UNESCO Initiative for MSP.

As several of the UNESCO principles can be ambiguous or vague if taken loss from their definition, first of all, definitions were sought and related principles or "sub-principles" were identified.

Subsequently, for each case study country, the principles mentioned in the policy framework for marine spatial plans were matched with the UNESCO principles, and interrelated principles were identified. For example the principle 'ecosystem based' can be related to the precautionary principle in a MSP policy, or the fact that a principle is included on the ecosystem based management approach. This matching step gives insight into which of the UNESCO principles are embedded in marine policy framework, which are missing, and which

have been added. Based on this step an analysis can be made of whether a country has incorporated the basic principles of Marine Spatial Planning as defined by UNESCO in its strategic policy framework.

The following principles of UNESCO were used as a baseline for the development of the analytic framework for this study:

- Ecosystem based management
- Area based
- Integrated
- Adaptive
- Strategic and anticipatory
- Participatory

The results of this step are shown in paragraph 3.3.

## **2.5 Analyzing the operationalization of principles per case study and between case studies**

After the above described analysis of the MSP policy principles in the different case countries on a strategic level, focus was put on the operational, plan level. For this, one selected marine spatial plan for each of the four case countries was assessed.

Subsequently, the relationship between the principles embedded in marine policy (strategic level) and the area based management plan (operational level) was studied in order to test the assumption that management plans generally reflect the principles stated in the marine policy on strategic level. It is understood that the translation of principles from a policy to the actual operationalization of these principles in a management plan is difficult, mainly due to the fact that principles are often general, vague and descriptive in nature. However, it can be argued that management plans are the closest possible proxy for a literature-based study on how MSP is actually carried out in practice in a respective country. If a management plan is actually based on a superordinate policy framework with strategic, stated policy principles, it is to be expected that these principles are reflected in the management plan and can thus be assessed by indicators.

Thus, operationalization indicators were formulated for each of the previously defined MSP principles, based on literature research. These indicators specify how exactly each principle manifests in management plan. For example, to determine whether the principle 'ecosystem based', is incorporated in a management plan, answers to the questions 'Are effects of (new) activities on the ecosystem considered in decision making?' and 'Are ecosystem services considered?' can be used to determine whether this strategic level principle is actually translated into operational level management plans.

In this manner, a connection is made between the principles on a strategic level and the operationalization in management plans.

The results of this step are shown in paragraph 3.4.

## **2.6 Meta Analysis: Comparison between case studies of how principles are operationalized in Marine spatial Plans.**

In the meta-analysis, the last step of this research, a comparison of the case studies with respect to principles and indicators was made. In the meta-analysis, the results obtained from the analytical framework (see paragraph 2.4 and 2.5) are analyzed and compared. Like in the previously outlined steps of analysis, the meta analysis is structured along UNESCO principles for MSP, which also formed the base for the analytical framework of this study.



The meta-analysis is essentially a general overview of which principles are incorporated in the strategic policy framework of which country, and which indicators were found back in the respective management plans. A general comparison between MSP in the four case countries is made, drawing also on information from the general background of the case studies. Insights into differences and similarities of how MSP is incorporated in policies and subsequently operationalized and translated into management plans in different parts of the world are provided.

In the following chapter, the results of the different analysis steps outlined in this chapter will be presented, following the different steps in the same order as discussed above.

The results of this step are shown in paragraph 3.5.

The effectiveness of this new developed methodology is discussed in paragraph 4.4.

### 3 Results

#### 3.1 Case study selection

An internet research showed that Marine Spatial Planning as a tool is adopted in the following countries:

Australia	Marine Bioregional Plans Great Barrier Reef Marine Park
Belgium	Master Plan for the North Sea
Canada	Large Ocean Management Area Integrated Management Plans Eastern Scotian Shelf Integrated Management Plan
China	Marine Functional Zoning
Germany	Spatial Plan for the North Sea and Baltic Sea Spatial Plan for the State of Mecklenburg-Vorpommern
Norway	Ecosystem Management Plan for the Barents Sea
New Zealand	Waikato Regional Plan
Mexico	Gulf of Mexico and the Caribbean Sea
Sweden	Marine Environment Inquiry
The Netherlands	Integrated Management Plan for the North Sea 2015
United Kingdom	Marine and Coastal Access Bill
United States	Florida Keys National Marine Sanctuary Massachusetts

Based on the criteria described in paragraph 2.2, four case studies were selected: Mexico, the USA, New Zealand and the Netherlands (see paragraph 3.2 for all relevant references) For each of the four case study countries the strategic marine policy framework establishing marine spatial planning was identified. Furthermore, per country, one marine spatial plan was selected to be researched in detail.

#### 3.2 Background information per case study

In this chapter, necessary background information for the four different case studies are shown, with respect to general characteristics of the country, its policy framework prescribing marine spatial planning and the marine spatial plan itself.

##### 3.2.1 Mexico – Gulf of Mexico and the Caribbean Sea

Table 3.1 shows the background information of Mexico. The general information on the management plan of the Mexican part of the Gulf of Mexico is shown in Table 3.2. The reason why a policy on MSP was installed in Mexico is described in Figure 3.1 and 3.2 give an impression of the Marine and Regional Ecological Plan of the Gulf of Mexico and the Caribbean Sea.



Figure 3.1: Location and extent of the Marine regional plan of the Gulf of Mexico and the Caribbean Sea

Several features of the *Mexican National Environmental Policy for the Sustainable Development of Seas and Coasts* (SEMARNAT, 2007) and the associated *Marine and Regional Ecological Planning Program of the Gulf of Mexico and the Caribbean Sea* (SEMARNAT, 2007) are listed below:

- The *Marine and Regional Ecological Planning Program of the Gulf of Mexico and the Caribbean Sea* plan is considerably delayed. While it has passed the stage of public hearing already, it has not yet been implemented (i.e. “decreed”), and is still awaiting formal approval (status 01/2012).
- The information on the planning programme is provided on the webpage of the national agency SEMARNAT. A program of public consultation and the results thereof are provided alongside the plan.
- The area of consideration of the plan includes terrestrial (coastal towns/cities), as well as marine parts.
- The management plan has a relative complex structure. The whole area which the plan incorporates is sub-distributed into 203 environmental management units (Unidades de Gestión Ambiental, UGAs), of which 23 are (partly) marine/terrestrial and nine are completely marine, without physical contact to the coast of the mainland). All other management units are completely terrestrial. The completely marine units are considerably bigger than the mixed units and the terrestrial units. For each of the 203 management units, a list of management measures is compiled. These measures are to be applied to the whole unit.

Table 3.1 Outline of Mexico case study categorised on basis of the MPA governance

Country	Mexico
Political system	Federal democracy
Economic status (per capita GDP)	\$15,100 (2011 est.) (ranking worldwide: 81) (CIA, 2012)
Name marine policy	Política Ambiental Nacional para el Desarrollo Sustentable de Océanos y Costas ( <i>National Environmental Policy for the Sustainable Development of Seas and Coasts, 2007</i> ), (and Estrategia Nacional para el Ordenamiento Ecológico del Territorio en Mares y Costas ( <i>National Strategy for Ecological Use Planning of Oceans and Coasts, 2007</i> ))
Responsible agency for marine policy	Mainly the national body SEMARNAT (Secretaría de Medio Ambiente y Recursos Naturales, <i>Secretariat of the Environment and Natural Resources</i> )

Table 3.2 Outline of case study categorised on the management of the Mexican part of the Gulf of Mexico (SEMARNAT,2007)

Management plan	Gulf of Mexico and the Caribbean Sea
Area and name of management plan	Area: Gulf of Mexico Name of Plan <sup>1</sup> : Programa de Ordenamiento Ecológico Marino y Regional del Golfo de México y Mar Caribe (2011) ( <i>Marine and Regional Ecological Planning Program of the Gulf of Mexico and the Caribbean Sea</i> )
Implementing and managing agency	Comité de Ordenamiento Ecológico Marino y Regional del Golfo de México y Mar Caribe (presided by SEMARNAT, Secretaría de Medio Ambiente y Recursos Naturales)
Status of management plan	Plan has not yet been implemented legally. (not yet decreed)
Date of validity of management plan	Dependant on when it will be in force
Size of area	Total: 995.486,2 km <sup>2</sup> , 827.023,8km <sup>2</sup> of which is marine area <sup>(2)</sup>
Bordering countries	Belize, USA, (Cuba)
Bordering federal states	Tamaulipas, Veracruz, Tabasco, Campeche, Yucatán, Quintana Roo
Duration of validity of plan/ period of revision	6 years, current plans were supposedly valid for 2006-2012. However, in this case the plan has not yet been decreed (see above)

<sup>1</sup> *Spatial ecological planning (Ordenamiento Ecológico del Territorio) is one of the instruments of the National Policy of Seas and Coasts of Mexico (Política Nacional de Mares y Costas de México)*

<sup>2</sup> *The reference area of the Programa de Ordenamiento Ecológico Marino y Regional del Golfo de México y Mar Caribe contains both marine, and coastal-terrestrial areas!*

Table 3.3 Incentives applied to address conflicts and provide governance steer of the Mexican part of the Gulf of Mexico (questions defined by UNESCO) (Pandsoc).

<b>Conflicts by human activities</b>	<b>Incentives to improve MSP governance</b>
Are there human activities (expected) that adversely affect important natural areas in the marine area?	Yes, the main activities are: Tourism, Energy (mainly oil production), Fishery, Transport and Agriculture (see also footnote 1), but also urban contamination.
Are there incompatible human activities (expected) that conflict with one another in the marine area?	Yes, see above
Is/ was there a need to streamline policies and licensing procedures affecting the marine environment?	Yes. The policy clearly specifies the promotion of one policy for the integrated management of land and coast as one of its main objectives.
Is/ was there a need to decide on which space is most suitable for the development of new human activities such as renewable energy facilities or offshore aquaculture?	Renewable energy is mentioned, but not (yet) dealt with in the plan. The plan proposes that public authorities promote the use of wind energy in some of the coastal zones. Zones for the promotion of coastal aquaculture (main species are shellfish and shrimp) are assigned, aquaculture in general is discussed as a new, but rapidly expanding use.
Is there a need for a vision of what the marine area could or should look like in 10, 20, 30 years from now?	Need for a general vision is expressed in plan, reasoning with increasing use pressure. However, visioning is not done in a structured way (i.e. not based on different temporal steps, different scenarios)

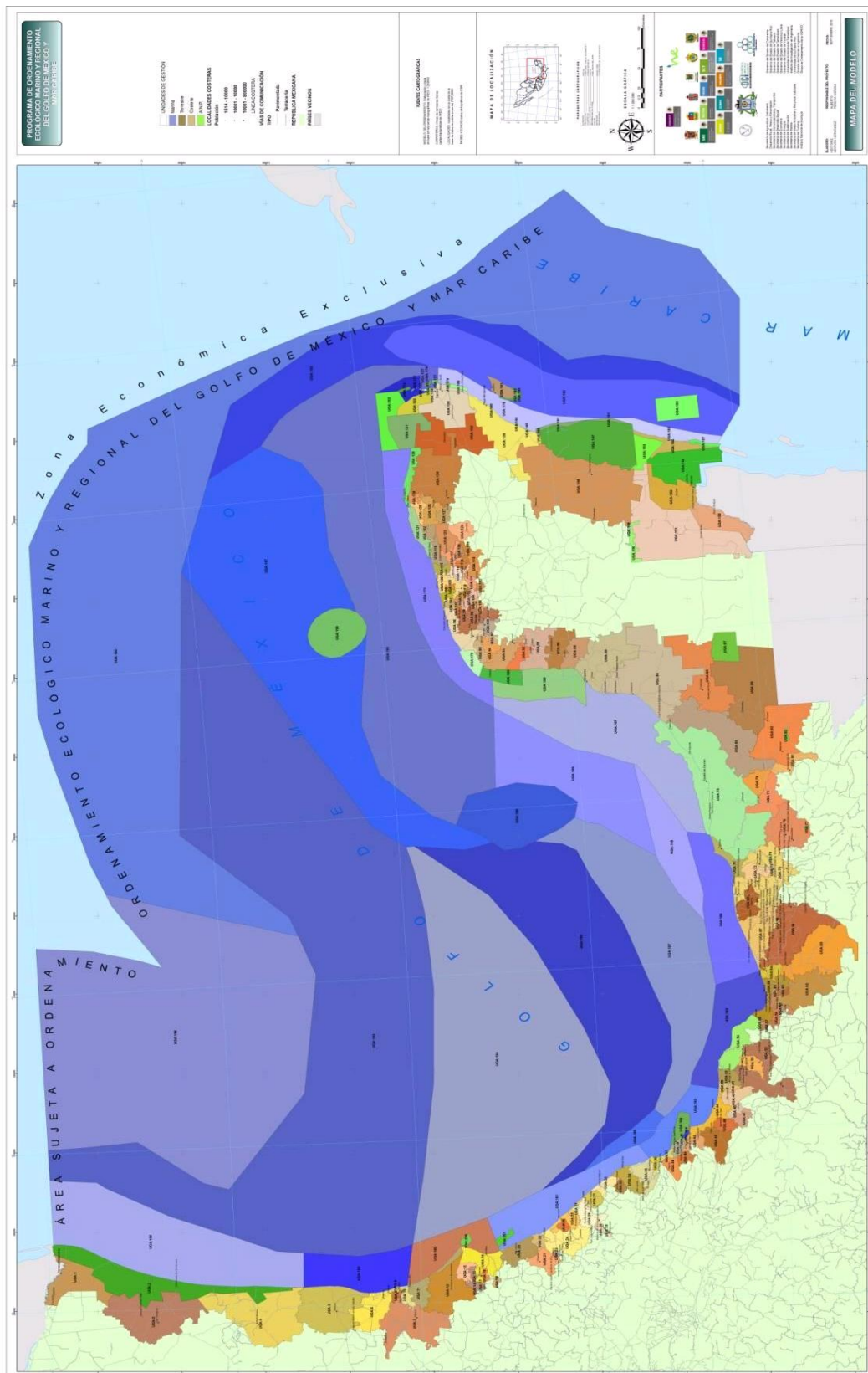


Figura 3.2 Imagen del Plan Ecológico Marino y Regional del Golfo de México y el Mar Caribe. Fuente: Programa de Ordenamiento Ecológico Marino y Regional del Golfo de México y Mar Caribe, SEMARNAT, 2007

### 3.2.2 USA – Florida Keys Marine Sanctuary

Table 3.4 shows the background information on the USA and its policy establishing MSP. The general information on the management plan of the US-American Florida Keys Marine Sanctuary is shown in Table 3.5. The reason why a policy on MSP was installed in the USA is described in Table 3.6. An impression of the Florida Keys Marine Sanctuary management plan can be obtained from Figure 3.3.

General remarkable features of the national policy which introduced Marine Spatial Planning and the Florida Keys National Marine Sanctuary Revised Management Plan are the following:

- The Florida Keys National Marine Sanctuary Revised Management Plan originated already in 1996 and its latest update was made in 2007. Hence, the plan is considerably older than policy to which it belongs, which only dates back to 2010. The degree to which policy and plan overlap with respect to the principles they build on will be subject of the following chapters.
- The plan covers coastal waters, as well as open ocean areas. Overlaps exist with a range of sanctuaries, refuges, state parks, etc.
- As for the status of the plan, it seems that the plan is written as an updated version of the plan from 1996. This served to ‘update readers on the accomplishments of successfully implemented strategies, and to distribute useful information about the Sanctuary and its management strategies, activities and products.’  
(<http://floridakeys.noaa.gov/mgmtplans/2007.html>)

Table 3.4 Outline of USA case study categorised on basis of the MPA governance

<b>Country</b>	<b>United States of America</b>
Political system	Democracy
Economic status (per capita GDP)	\$48,100 (2011 est.) (ranking worldwide: 11) (CIA, 2012)
Name marine policy	Final Recommendations of the Interagency Ocean Policy Task Force (2010)
Responsible agency marine policy	Interagency Ocean Policy Task Force

Table 3.5 Outline of case study categorised on management plan USA –Florida Keys Marine Sactuary

<b>Management plan</b>	<b>Florida Keys Marine Sanctuary</b>
Area and name of management plan	Florida Keys, Plan: Florida Keys National Marine Sanctuary Revised Management Plan (2007)
Implementing and managing agency	U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Ocean Service, National Marine Sanctuary Program
Status of management plan	Not specified
Date of validity of management plan	The plan is reviewed every 5 years
Size of area	2900 nm <sup>2</sup> (5370 km <sup>2</sup> )
Bordering countries	None
Bordering federal states	None
Duration of validity of plan/ period of revision	This plan is a review of the plan of 1996, but no duration of validity is mentioned in the plan

Table 3.6 Incentives applied to address conflicts and provide governance steer of USA (questions defined by UNESCO)

<b>Conflicts by human activities</b>	<b>Incentives to improve MSP governance</b>
Are there human activities (expected) that adversely affect important natural areas in the marine area?	Yes, 'Demands for energy development, shipping, aquaculture, emerging security requirements and other new and existing uses are expected to grow.'(p. 2)
Are there incompatible human activities (expected) that conflict with one another in the marine area?	Conflict is mentioned in the policy, but there are no activities specified that are at risk of causing conflict.
Is/ was there a need to streamline policies and licensing procedures affecting the marine environment?	Yes
Is/ was there a need to decide on which space is most suitable for the development of new human activities such as renewable energy facilities or offshore aquaculture?	This is not mentioned
Is there a need for a vision of what the marine area could or should look like in 10, 20, 30 years from now?	Not mentioned



## Florida Keys National Marine Sanctuary

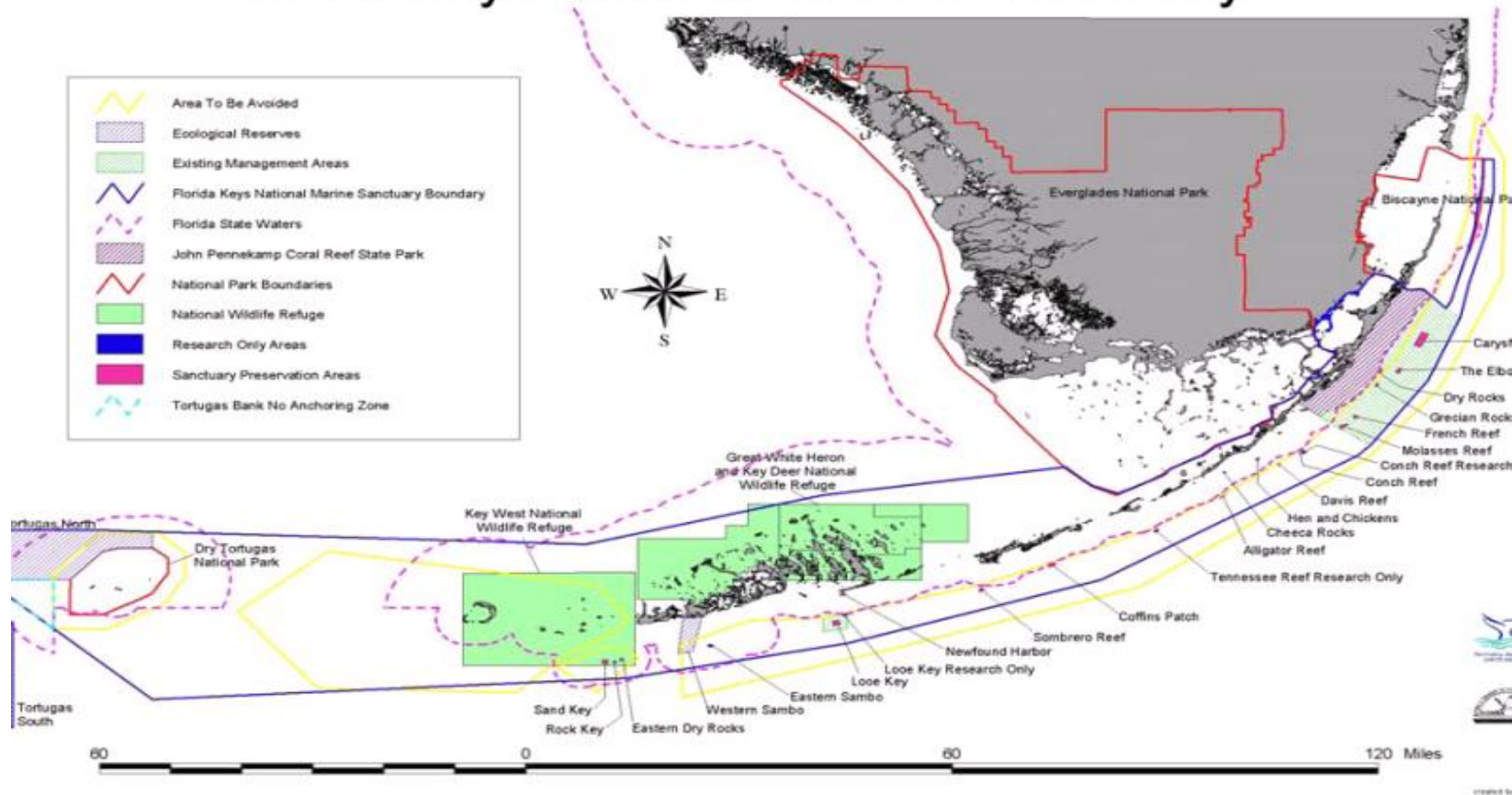


Figure 3.3 Image of the Florida Keys National Marine Sanctuary plan

### 3.2.3 New Zealand – Waikato Regional Coastal Plan

Table 3.7 shows the background information on New Zealand and its policy establishing MSP. The general information on the Waikato Regional Coastal Plan is shown in Table 3.8. *The reason why a policy on MSP was installed in New Zealand is described in Table 3.9.* General remarkable features of the national policy which introduced Marine Spatial Planning and the New Zealand National Coastal Policy Statement include the following:

- The Waikato Regional Coastal Plan is only valid from the Mean High Water Springs outbound until the 12nm limit of the territorial sea, and hence does not incorporate the coastal zone. For this zone, a regional coastal plan exists (pers. comm. Graeme Silver).
- The plan is relatively old and was revised twice. The latest version is in place since October 2011.

Table 3.7 Background country information of New Zealand

Country	New Zealand
Political system	Democracy
Economic status (per capita GDP)	\$27,900 (2011 est.)(ranking worldwide: 48) (CIA, 2012)
Name marine policy	New Zealand National Coastal Policy Statement (1994) <sup>3</sup>
Responsible agency marine policy	Government of New Zealand

Table 3.8 Background information management plan

Management plan	Waikato Regional Coastal Plan
Area and name of management plan	Waikato Regional Coastal Plan (2005)
Implementing and managing agency	Environment Waikato
Status of management plan	Fully operative
Date of validity of management plan	2005-2015 (The plan does not expire, but will be updated every 10 years)
Size of area	The whole region (including land) is 25.000 km <sup>2</sup>
Bordering countries	None
Bordering federal states	Not applicable
Duration of validity of plan/ period of revision	The plan is revised every 10 years.

<sup>3</sup> Apart from the 'NZ Coastal Policy Statement', which was the subject of this study, also a 'Regional Policy Statement' exists, which deals with the management of this area

Table 3.9 Incentives applied to address conflicts and provide governance steer of New Zealand (questions defined by UNESCO). Answered based on New Zealand National Coastal Policy Statement

<b>Conflicts by human activities</b>	<b>Incentives to improve MSP governance</b>
Are there human activities (expected) that adversely affect important natural areas in the marine area?	Yes, land reclamations, structures, extraction of resources, depositing substances, discharges.
Are there incompatible human activities (expected) that conflict with one another in the marine area?	No
Is/ was there a need to streamline policies and licensing procedures affecting the marine environment?	Yes, it turned out that the free market principle installed by the NZ government to solve spatial issues was not sufficient to ensure appropriate allocation (pers. comm. Graeme Silver)
Is/ was there a need to decide on which space is most suitable for the development of new human activities such as renewable energy facilities or offshore aquaculture?	No
Is there a need for a vision of what the marine area could or should look like in 10, 20, 30 years from now?	No

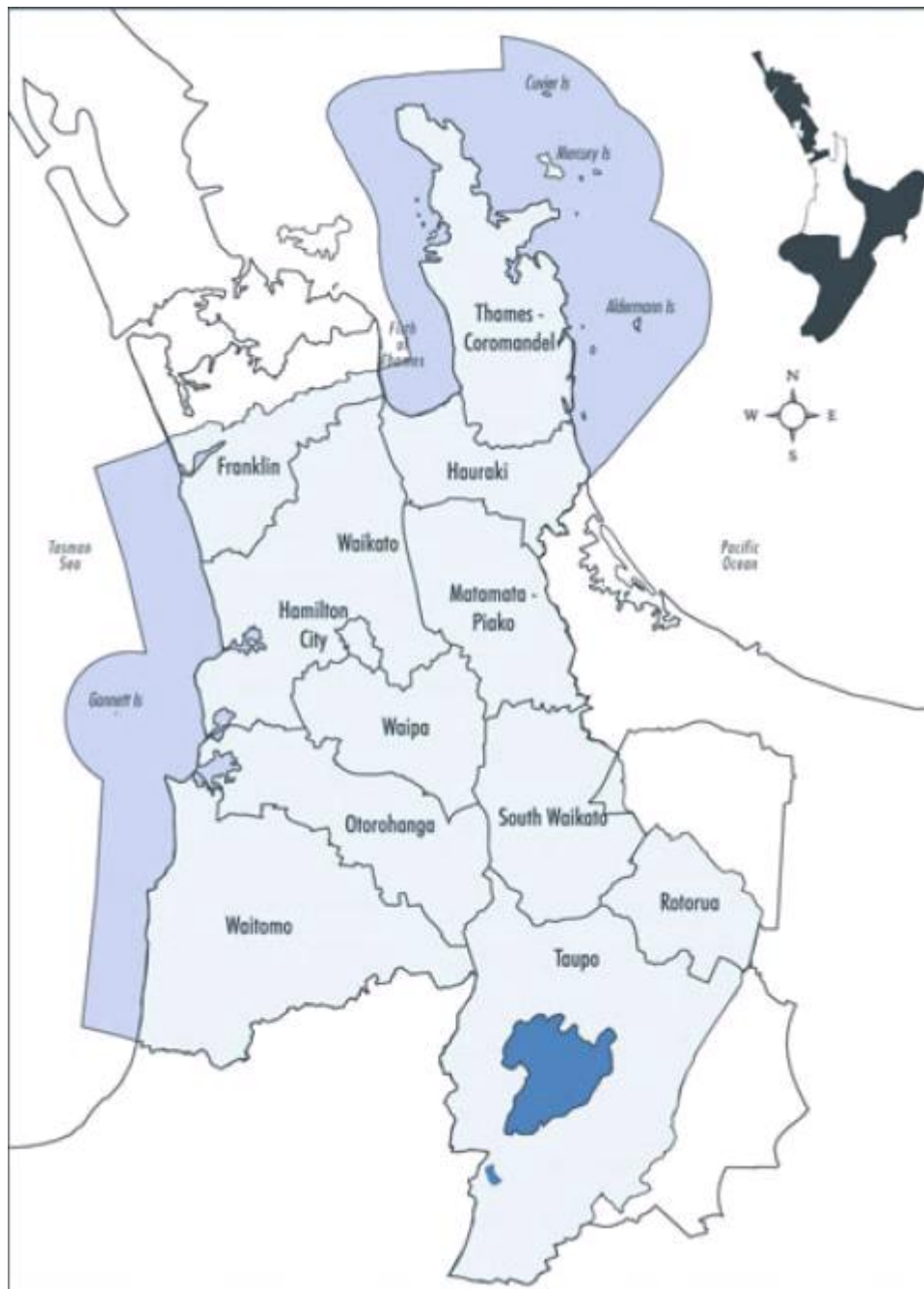


Figure 3.4: Image of the Waikato Regional Coastal Plan (2005).

### 3.2.4 The Netherlands – A Marine Spatial Plan of the Dutch EEZ in the North Sea

Table 3.10 shows the background information on the Netherlands and its policy establishing MSP. The general information on the marine spatial plan of the Dutch EEZ is shown in Table 3.11. The reasons why a policy on MSP was installed in the Netherlands are described in Table 3.12. An impression of the Marine Spatial Plan of the Dutch EEZ can be obtained from Figure 3.5.

General remarkable features of the national policy which introduced Marine Spatial Planning to the Netherlands are the following:

- The National Marine Spatial plan of the Netherlands starts from the 12nm line and stretches over the whole Exclusive Economic Zone of the country.

Table 3.10 Background information country

Country	Netherlands
Political system	Democracy
Economic status (per capita GDP)	\$42,300 (2011 est.) (ranking worldwide: 16) (CIA, 2012)
Name marine policy	National water plan (including the Policy Document North Sea)
Responsible agency marine policy	Ministry of Infrastructure and Environment (I&M) together with Ministry of Economic affairs, Agriculture and Innovation (EL&I) <sup>4</sup>

Table 3.11 Background information on the management plan

Area and name of management plan	Integrated Management Plan for the North Sea 2015 (IMPNS 2015)
Implementing and managing agency	The plan was set up in a cooperation between the IDON, Rijkswaterstaat and the Ministries of I&M, EL&I and Defense. Implementing agency is RWS
Status of management plan	In force
Period of validity of management plan	2009-2015
Size of area	Approx. 58.000 km <sup>2</sup>
Bordering countries	Germany, Belgium, UK, Denmark (in terms of EEZ)
Bordering federal states	not applicable
Time frame	6 years

<sup>4</sup> During the making of the plan, the responsible Ministry was called Ministry of Agriculture, Nature and Food Quality.

Table 3.12 Incentives applied to address conflicts and provide governance steer of The Netherlands (questions defined by UNESCO). Answered based on National water plan (including the Policy Document North Sea) Dutch version

<b>Conflicts by human activities</b>	<b>Incentives to improve MSP governance</b>
Are there (or expected) human activities that adversely affect important natural areas in the marine area?	Yes, wind energy and sand extraction are mentioned
Are there (or expected) incompatible human activities that conflict with one another in the marine area?	Yes, mainly fisheries, nature conservation and wind farms are difficult to combine
Is/ was there a need to streamline policies and licensing procedures affecting the marine environment?	This need is not specified in the policy.
Is/ was there a need to decide on which space is most suitable for the development of new human activities such as renewable energy facilities or offshore aquaculture?	Yes, MSP was implemented as a response to the overall increase of spatial pressure on the Dutch part of the North Sea, and the expected expansion of offshore wind parks
Is there a need for a vision of what the marine area could or should look like in 10, 20, 30 years from now?	This is not mentioned in the policy.

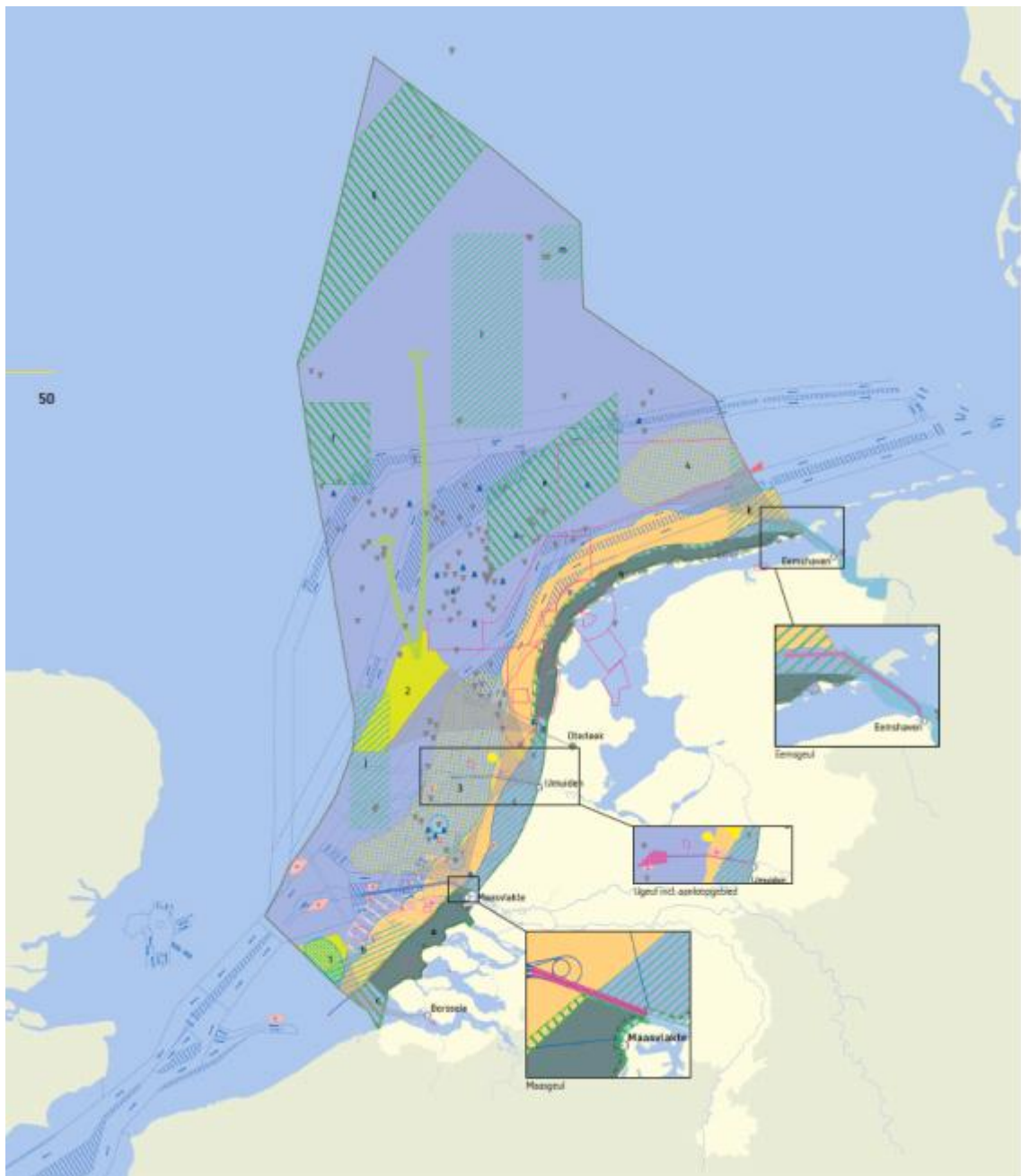


Figure 3.5: National Marine Spatial Plan of the Dutch EEZ

### 3.3 Existing principles and framework of analysis

3.3.1 Extension of the framework of analysis, based on principles found in literature  
There are a range of principles for carrying out MSP specified, among others, by:

- UNESCO
- International conventions
- International soft law (e.g. the 10 key principles of MSP by the EC)
- The legal frameworks of the case countries (Netherlands, Mexico, USA, New Zealand).

In assembling the framework of analysis for this research, we started from the principles of UNESCO, which were used as a baseline. If any principles were found in the case studies which were missing / not mentioned in the list provided by UNESCO, they were added to the list. As principles are oftentimes general, vague and open in nature, and, depending on their definition/ interpretation may overlap considerably, the decision was made that those principles which could be associated or interpreted as subordinate to one of the main UNESCO principles were sorted below that principle. See Table 3.13 for an overview of the principles and subordinate principles found.

As explained above, the framework of analysis used in this research was based on the main principles for MSP as defined by UNESCO. However, principles which were found relevant in the policies of the case study countries and could not be attributed to any of the main principles specified by UNESCO were added in the list of main principles. This concerned only one principle: The use of best available information.

Table 3.13 An overview of the main principles and subordinate principles, based on UNESCO and the principles used in the four case studies

Main (UNESCO) Principle	Associated/ subordinate principles
<b>Ecosystem based</b>	Ecosystem based
	Precautionary principle
	Sustainability principle
	Integrity principle
	Protection of indigenous species/habitats
<b>Area based</b>	Regionality
<b>Integrated</b>	Partnerships
	Linkages
	Alignment
	Interests
	Streamlining
<b>Adaptive</b>	Evaluation
	Adaptation
<b>Strategic and anticipatory</b>	Strategic
<b>Participatory</b>	Participation
	Transparency
<b>Best available information</b>	Best available information
	Rigour and validity of data

Which principles are implemented in the national policy frameworks for marine spatial planning in Mexico, the Netherlands, the USA and New Zealand, will be discussed in paragraph 3.5.2.

### 3.4 From principle to management plan

*Description per case study, of how policy principles are operationalized in area based management plans.*

In this chapter the comparison of principles for MSP in the national policies is related to the indicators found in the area based management plans of the respective country. By this, we want to assess the relationship between strategic policies and operational plans with respect to the implementation of principles within each of the four case countries.



#### 3.4.1 Mexico

When comparing the principles outlined in the national *Política Ambiental Nacional para el Desarrollo Sustentable de Océanos y Costas* (National Environmental Policy for the Sustainable Development of Seas and Coasts, 2007) with the way these are operationalised in the area based management plan (*Programa de Ordenamiento Ecológico Marino y Regional del Golfo de México y Mar Caribe* (2011)), the general impression is, that many of the policy principles are not reflected in the plan. The policy document is relatively sophisticated and the principles on which it is built correspond well to the current international legislation in the field of marine spatial planning. When it comes to the area based management plan, however, principles such as “Strategic and anticipatory”, “Best Available Information”, and “adaptive” cannot really be found back. With respect to ocean-land integration, this plan can be seen as relatively progressive, since it includes both marine and terrestrial territory along the coastline, as well as further offshore. On the other hand, it remains still unclear how the institutional integration (which was stated as being one of the main reasons for establishing MSP) is expected to take place, and how this plan relates to the other MSPs of the country. On paper, one of the principles which is reflected best in the plan is “participation”: the participative process for developing this plan seems to have been quite extensive, a conclusion which is also supported by the extensive documentation on the webpage of SEMARNAT. However, the plan itself shows a deficiency in communicating when and how stakeholders were involved.

#### 3.4.2 USA

In comparing the principles stated in the *Final Recommendation of the Interagency Ocean Policy Task Force* (2010) with how these are operationalized in the *Florida Keys National Marine Sanctuary Revised Management Plan* (2007), the general impression is that some principles (e.g. ‘ecosystem based’ and ‘area based’) are well reflected in the Florida Keys plan, whereas others (e.g. ‘integrated’ and ‘strategic and anticipatory’) are not very well operationalised in the area based management plan.

While reading the plan itself seems relative elaborate and concrete in the way in which the principles are operationalized.

The zones are well defined, following the ecosystem borders (e.g. pre-existing marine parks) in which each type of zone has specific regulations for certain activities. On the other hand, there is not much mention of new, space consuming activities such as aquaculture.

One of the principles that is included in the policy, but not specified in the area based management plan, is transparency. Even though the plan states that stakeholders will be included by informing them, it is not specified when and how this will take place.

One of the striking aspects in this case study is that the strategic and anticipatory principle is not included in either the policy or the plan.

Overall, it seems that the area based management plan is mainly based on a conservation objective/aim for the nature area of the Florida Keys, in which some zones are closed for human activities and others allow restricted or full access. Most of the principles stated in the policy return in a concrete manner in the plan.

#### 3.4.3 New-Zealand

In comparing the principles stated in the *New Zealand National Coastal Policy Statement* with how these are operationalized in the *Waikato Regional Coastal Plan*, the general impression is that even though some principles are very explicitly included the Regional Coastal Plan (e.g. ‘participatory’, and ‘ecosystem based’) some others are hardly specified (e.g. ‘area based’ and ‘strategic and anticipatory’).

Many of the MSP principles can be found in the policy. However the actual concrete manner in which these principles are operationalised is not specified in the plan. For example, it is

stated that key stakeholders will be involved in the plan, however it is not mentioned which stakeholders will be included or during which phase.

The plan is quite advanced in terms of integration of different policies and the inclusion of the native people, however, the plan does not include an integrated MSP map; the different zones are depicted in different maps. Furthermore, the plan does not include uncertainties or space for new activities to be developed in the area, even though special attention is paid to Marine Farms.

Overall, it seems that the plan is based on the need for nature protection (ecosystem based), rather than the need to more effectively plan and integrate activities in the coastal zone due to lack of space resulting from emerging human activities such as off-shore wind energy production. Even though the principles in the policy are described quite extensively, the area based management plan remains very general.

#### 3.4.4 The Netherlands

In comparing the principles stated in the policy '*National water plan*' (including the Policy Document North Sea) with how these are operationalized in the *Integrated Management Plan for the North Sea 2015* (IMPNS 2015), the general impression is that the principles mentioned in the policy are more or less reflected in the plan. Furthermore, the structural vision map that is included in the National Water Plan is advanced in the MSP process and multiple uses, as well as cumulative effects of certain activities are mentioned in the plan. The concrete execution of weighing these uses against each other is, however, not specified.

Some principles are not found in either the policy or the plan, such as 'area based', so in that respect, policy and plan are in line. One of the principles which is mentioned in the policy, but not reflected in the plan is 'Adaptive'; even though adaptive management is specified in the policy, the plan makes no explicit references to monitoring or evaluation programs to review the MSP process itself. Another aspect that is not specified in the plan is at which stage in the process the involvement of stakeholders has taken place, and in which manner this was executed. The plan is quite advanced in the integration of international policies, and in terms of international cooperation with neighboring countries.

However, it is not clear from either the policy or the area based management plan what the long-term vision behind the structural vision map is; 'Streefbeelden' (utopian visions) are included in the National Water Plan (policy) for the different areas on which water has to be managed, but this is not translated in detail into the plan.

Overall, the plan reflects the increasing spatial demand on the North Sea, in which future activities and changes in the intensity of activities are mentioned and regulated. Even though the principles in the policy are reflected well within the plan, the specific execution and operationalisation of some principles remains general in the plan.

### 3.5 Meta Analysis: Comparing the case studies

In this chapter, the results of the four case studies are compared with each other. This means that the background information, the need for MSP and the way in which principles are operationalized are compared and differences and similarities are identified.

#### 3.5.1 Comparison of background information on countries and management plans

The background information and the need for MSP set the context for this study. Even though this information is not related to principles or indicators for operationalization, differences in context could explain differences found between countries in terms of principles and indicators.

Comparing the background information of the different countries, a number of similarities and differences can be observed:

### Similarities

- All case studies chosen are democratic countries. This means that the political circumstances in which MSP is carried out are similar.

### Differences

- The Netherlands and New Zealand are democratic monarchies, whereas the USA and Mexico are federal democracies. This difference could have effects on the way in which policies are set up.
- Out of the four case studies, only the Netherlands has a plan that incorporates the whole of the national EEZ, whereas the other countries have regional management plans.
- The sizes of the areas that the plans in the different case countries envelop are very different: The Marine and Regional Ecological Plan of the Gulf of Mexico and the Caribbean Sea encompasses the largest area (827.023 km<sup>2</sup>), followed by the Marine Spatial Plan for the EEZ of the Netherlands (58.000 km<sup>2</sup>), the Waikato Regional Coastal Plan in New Zealand (Size of Waikato Region 25.000 km<sup>2</sup><sup>5</sup>), and the Florida Keys Sanctuary Marine Spatial Plan in the USA (5370 km<sup>2</sup>). The size of an area could have great implications on the way plans are drafted, implemented and enforced. For example, in marine management, the enforceability of zones which are closed for fisheries is strongly dependant on the size of the area. The spatial and temporal resolution of the satellite-dependant monitoring and enforcement system used in European offshore waters, for example, is only applicable to a limited degree on zones which are too small. However, the above-provided figures have to be interpreted with great care, since some plans exclusively refer to offshore areas, while others also include terrestrial areas or coastal zones.
- The management areas which the case studies refer to are not identical, and hence, the management plans can only be compared with great care, keeping in mind that, while the plans of New Zealand and the USA start at Mean High Water Springs and stretch outwards for not more than 12 nm, the marine spatial plan of the Netherlands starts after 1 nm and stretches to the end of the EEZ (which, in its widest parts, stretches out to 200 nm). In contrast to the previous three case countries, the MSP of Mexico also incorporates terrestrial and coastal areas.
- In terms of economical status (based on GDP per capita), Mexico is the only country in transition, whereas the other countries are more developed.
- In the Mexican marine spatial plan, the total planning area is subdivided into 203 management units, each with their own set of measures. In comparison with, for example, the Netherlands, it becomes clear that the Mexican plan only assigns general management measures/restrictions, and not specific use functions to management units, whereas the Netherlands has assigned use functions to space. This shows that there are differences in the way, marine management is approached in the different countries.
- The time frame for which the plan is 'valid'<sup>6</sup> differs; the MSP of the Netherlands or the Mexican case study for example is valid for 6 years, whereas that of New Zealand is reviewed every 10 years. This can have important consequences for the capacity of the plan to adapt to unforeseen changes

<sup>5</sup> This includes also terrestrial areas which are not part of the marine plan. The total size of the area of the plan could not be found.

<sup>6</sup> None of these plans 'expire' but they are subjected to a periodic review, which means that the content can be altered and updated.

- Mexico is the only country in which the plan is not yet implemented.
- Only the Netherlands has a clear temporal frame in which activities are envisioned further into the future (this is called 'streefbeeld' and provides insights into where the Netherlands want to be in 40-90 years).

### Identifying the need

In comparing the need for MSP of the different countries, a number of things can be observed:

- MSP has been set up mainly from a nature conservation perspective in all countries, apart from the Netherlands. This can also be seen in the name of the plans and in the responsible agencies for implementation: in all countries except the Netherlands the responsible agencies for implementation are environmental and conservational agencies.
- The policy in the Netherlands was motivated by the increased need for space for off-shore wind farms, which is similar to the USA where the main reason was demands for space for new activities. In Mexico, however the motivation for introducing MSP was of a very different nature: The need for streamlining policies and licensing procedures, are identified as important drivers for the creation of the marine spatial planning policy, but also envisaged conflicts between future use expansions apparently played a role. In New Zealand the main reason was that the effects-based approach for the execution of activities in the marine environment lead to confusion and arguments over every development.

### 3.5.2 Comparison of principles (including UNESCO principles)

Table 3.14 shows a matrix of the principles that were studied in the policies on MSP. In this table, it can be seen that most of the principles are included in all four case studies. No clear pattern emerges with respect to differences between countries.

Table 3.14 Matrix of principles and subordinate principles included in national MSP policies of Mexico, USA, New Zealand and the Netherlands. MEX = Mexico, USA = United States of America, NZ = New Zealand, NL = the Netherlands. X = the (subordinate) principle is explicitly mentioned in the strategic policy framework for MSP of the respective country. (X) = the (subordinate) principle is implicitly/indirectly mentioned in the strategic policy framework for MSP of the respective country.

Main principle	Subordinate principle mentioned in policy	MEX	USA	NZ	NL
<b>Ecosystem based</b>	Ecosystem based	X	X	X	X
	Precautionary principle	(X)	X	X	X
	Sustainability principle	X		X	
	Integrity principle			X	
	Protection of indigenous species/habitats			X	
<b>Area based</b>	Regionality	X	X		
<b>Integrated</b>	Partnerships		X		
	Linkages				X
	Alignment	X			
	Interests	X			
	Streamlining	X			
<b>Adaptive</b>	Evaluation	(X)	X	X	
	Adaptation	(X)	X		X
<b>Strategic and anticipatory</b>	Strategic				X
<b>Participatory</b>	Stakeholder participation	X	X	X	X
	Transparency	X	X		
<b>Best available information</b>	Best available information	X		X	
	Rigour and validity of data	X		X	

(National Environmental Policy for the Sustainable Development of Seas and Coasts, 2007: IenM, 2009: SEMARNAT, 2007: New Zealand Coastal Policy Statement, 1994.)

#### *Ecosystem-based*

The “Ecosystem based” principle is incorporated in the policies of all case studies, even though some countries phrase this principle in a different manner. The precautionary principle for example, is included in all countries, whereas only New Zealand states principles for integrity and the protection of indigenous species.

#### *Area-based*

Area-based is only included in Mexico and the USA, whereas New Zealand and the Netherlands do not approach MSP in a regional manner.

#### *Integrated*

The principle ‘Integrated’ is included in the policies of all case studies, apart from New Zealand, however the manner in which these principles are described in the policies differ. The USA for example talks of partnerships between different authorities, e.g. state, tribal and local authorities, whereas the Netherlands refers to linkages between policy, decision making and costs. Mexico also includes the principle ‘integrated’ in their policy, but discusses alignment between juridical and administrative authorities, integration of stakeholders and coordination between institutions.

*Adaptive*

Two subordinate-principles were associated with adaptiveness: the period of (re-) evaluation of the policy and the general adaptiveness of the policy. The Netherlands is the only country that has not included text on adaptiveness or how the effectiveness of the policy will be evaluated. Adaptation on the other hand is included in terms of reacting to changes in economy and knowledge base. Mexico has specifically included learning, whereas in the USA changes in the natural system are also included. New Zealand does not include adaptation in its policy.

*Strategic and anticipatory*

Only the Netherlands has included a long-term strategy in their policy.

*Stakeholder participatory*

Participation of stakeholders is included in all policies, with the specification of the inclusion of the Maori, the indigenous people in New-Zealand.

Transparency on the other hand is only mentioned in Mexico and the USA.

*Best available information*

The last principle, that of 'Best Available Information' which says something about the quality of information on which the decision for ex- or inclusion of an activity is based, is included in the policies of Mexico and New-Zealand. The USA and the Netherlands have not included this principle.

3.5.3 Comparison of operationalization of MSP principles

The indicators for operationalization of the principles in area based management plans are shown in Table 3.15. This matrix demonstrates which countries have translated the principles from the policy into an area based management plan. The table shows a diverse picture, however, no clear differences between countries emerge.

*Table 3.15 Matrix of operationalization indicators which reflect the translation of principles from the policy into a management plan in the different case study countries. MEX = Mexico, USA = United States of America, NZ = New Zealand, NL = the Netherlands. X= area based marine management plan incorporates indicator of principle. (X) Area based marine management plan only incorporates indicator to a limited degree.*

Main principle	Indicators	MEX	USA	NZ	NL	
<b>Ecosystem based</b>	Effects of new activities taken into account	X		X	X	
	Tools to protect special areas of interest	Zoning	X	X	X	X
		MPAs				X
	Monitoring & evaluation programme for effect of new activities		X	X	(X)	
	Ecosystem services considered			X		
Nature conservation embedded	X	X	X	X		
<b>Area based</b>	Management actions carried out at scale reflecting ecosystem borders		X			
	Effects of coastal and land use considered	X	(X)	X		
<b>Integrated</b>	Coastal/regional spatial planning considered	X			X	
	Cooperation/ interaction of relevant		?	X	X	

	government/ administrative agencies				
	Connection to international laws and treaties			X	X
	Cross border cooperation			X	X
	Are uses weighted				X
	Intersectoral cooperation				
	Multiple use	?	?		X
<b>Adaptive</b>	Existence of monitoring & evaluation plan for plan		X	X	
	Elements of the plan monitored	?	X	X	?
	New knowledge fed into plan	?	X	X	X
	Applied period for plan renewal/ Cycle restarted	6	5	10	10
	Research agenda specified				
<b>Strategic and anticipatory</b>	Plan based on future developments			X	X
	Uncertainties with respect to future developments incorporated	(X)			X
	Cumulative effects uncertainties incorporated				X
	National policy on MSP	X	X	X	X
<b>Participatory</b>	stakeholders involvement in planning process	X	X	X	X
	phase during which stakeholders were involved	explorati on & planning	not specifie d	not specifi ed	not specifi ed
<b>Best available information</b>	Best available information				
	Rigour and validity of data	(X)			

(Florida Keys National Marine Sanctuary Revised Management Plan, 2007: IenM, 2009: SEMARNAT, 2007: Waikato Regional Coastal Plan, 2005)

## 4 Discussion

### 4.1 Which countries have defined MSP principles?

In this paragraph, the most common characteristics of a MSP country are described. The description is based on the results of four case study areas. The results and discussion can therefore be seen as a first indication and a base for recommendations for future research (see chapter 5.2).

#### *Democratic?*

One could argue that MSP, (partly) defined by UNESCO as a '*.. public process of analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic and social objectives that have been specified through a political process...*' is by nature a democratic activity which requires an open and transparent attitude from all parties involved.

From all countries identified as working with MSP, only China has no democratic political system. Studying the MSP process of China would greatly benefit the results of this research. The lack of sufficient, recent documentation and language limitations made it impossible to study the Chinese MSP process. Whether the non- democratic Chinese MSP process lives up to the UNESCO definition can not be concluded based on this research.

#### *Federal states versus unitary states*

From the four case studies selected, Mexico and the USA have a federal government. Although this does not seem to have an effect on the principles of MSP, it might have an effect on the way principles are implemented in the management plans. Since the principles are stated on a national level, the political steps that need to be taken to get from policy to an area specific management plan are relatively large and supposedly more frequent in a federal state than in unitary states such as the Netherlands. Especially the practical implementation of the principle 'Area-based', and its implication for the marine spatial plan can differ, since the plan ends at the state border.

#### *Economical status*

Most of the countries practicing MSP are considered economically developed. Mexico is the only case study country in transition. Unlike the other case studies, Mexico's need for MSP does not come from the desire to protect or organize current or future use(s). Mexico states a need for MSP in order to synchronize the different legislation and policy documents in the case study area. The reason for this could be that in the Gulf of Mexico and the Caribbean, the competition between different uses for maritime space is not yet as fierce as for example in the Netherlands. Perhaps with an increasing economic stability in Mexico, and the shift from fossil energy to renewable resources, the focus of the MSP process might also shift more towards to the organization of uses.

### 4.2 Do these MSP principles embody the UNESCO characteristics? – and if so, in what way?

UNESCO states six MSP principles.

- Ecosystem based management
- Area based
- Integrated
- Adaptive



- Strategic and anticipatory
- Participatory

The interpretation of MSP principles depends on the underlying definitions. These definitions are strategic, general and abstract in nature, and hence, their interpretation is open for discussion. Another factor which complicates the use of these principles in scientific analysis is that, since the principles remain vague, also the boundaries between them are blurry. This can be also seen in the way principles and subordinate principles were clustered for this research (compare Table 3.14). The principle ‘use best available information’, which was found in the Mexican case study, could not be easily placed next to one of the UNESCO principles, and hence it was added to the principles list. The principle for best available information is a recurring principle in international policy and soft law, and it is thus not surprising to see this principle mentioned also in the marine policy of one of the case countries. It remains unclear however, why Mexico is the only of the four case study countries which incorporated this principle also in its MSP policy.

The analysis of the policy principles incorporated in Marine Spatial Planning Policy of four case countries (table 3.14) showed that the MSP principles defined by UNESCO are integrated in the national policies on MSP of all four countries, though the interpretation of these principles and their implementation may vary per country.

#### 4.3 MSP principles and the management plan

Most MSP principles be found back in the different management plans (table 3.15). On the other hand, not all principles mentioned in the management plan are also found in the policy. This happened most in the case study New-Zealand. A possible explanation for this could be that the New Zealand policy is much older than the management plan, however, according to personal communication with Graeme Silver, the Waikato Regional Coastal Plan was based on the policy of 1994. It could be that revisions made to the policy after 1994 *have indeed* been incorporated in the plan.

As stated above, the interpretation of MSP principles depends on the underlying definitions. These are not straightforward. The way the principles are implemented in the management plan is therefore often related to the goal for which the plan was written. For example, Mexico focused on the harmonization of policies in policy. In the Dutch management plan, the economy is mentioned often, while New Zealand and the USA focus on nature and environmental protection. As a result, a principle like ‘Integrated’ is implemented in different ways and on different levels in the four case studies. There can be integration between authorities, between processes, between industries and other uses and between institutions. Also, the resolution of plans (the size of the area covered) and the level of abstraction are different between the four case studies.

The principle Adaptive is not mentioned in the policy of New Zealand. Policies and management plans of all other case studies do consider adaptiveness as an important issue. The New Zealand policy was written in 1994, before climate change and the financial crises dominated public debate and politics. Perhaps the urgency for adaptive management was not felt yet at that time.

Another striking result of the comparison of policy and plan is that participation is mentioned in the policies of all case studies and are also incorporated in the management plans. How this participation will take place, and which stakeholders will be explicitly invited to participate is, however, not mentioned in the case studies. When we look at this from a sceptical point of

view, this could be a conscious decision of the responsible agencies; if relevant stakeholders are not explicitly mentioned, they cannot claim to be included in the decision-making process. If a more optimistic view is taken, it could be said that in the time frame of the validity of these policies and plans (at least 5 years), socio-economic developments may have caused shifts in the importance of different stakeholder groups. Including specific stakeholders could therefore interfere with the longevity of the accuracy of the plan.

#### 4.4 Comments on research methodology

In this chapter, the background characteristics of the case study are described. The descriptions are based on the results of four case study areas. Due to this limited number, the results of this qualitative research can only be seen as indicative. More case study countries need to be included to test the validity of the discussion and conclusions drawn from this research.

The research methodology was based on the hypotheses that a management plan gives a good reflection of implementation of the principles. However, this was not always the case. An example for this is the principle of public participation, which was mentioned in the policies of all four countries, but could not really be found back in the management plans. This research has shown that in none of the plans, the decision making procedure is specified as such. Who decides about the implementation of the area based management plans, and which criteria are used in the decision-making process remains unclear.

It is up to debate whether all policy principles always have to be implemented in every management plan. Existing legislation and current administrative practice in the different countries may already incorporate some of the principles, so that these may not necessarily have to be repeated in the plan/policy. Due to time and budgetary constraints, however, it was out of the scope of this research to investigate other documents than the policies and management plans mentioned, and to explore current administrative practice in the case countries.

In this context, it is also important to note that this research was mainly restricted to the study of policy documents. Only in the case of New Zealand email contact could be made with an expert on the area based management plan in question, in order to clarify some fundamental questions. In this research, the area based management plans were taken as a proxy for assessing the implementation of strategic policy principles, by making use of a set of indicators.

However, seeing how Marine Spatial Plans differ from the national policies in scope of which they were created, it is debatable, whether the area based management plans indeed reflect sufficiently well, how MSP is implemented in practice, since day-to-day practice on the ground may divert from what the management plans prescribe. Hence, it would be very interesting to explore, how these plans are implemented in practice, for example by running an interview series with users and decision-makers in the respective areas.

With the methodology used in this research, it is not possible to check whether the principles stated in the text are lived up to in reality.

Furthermore, it must be mentioned that the researchers executing this research have a much stronger insight into Marine Spatial Planning in the Netherlands, than in the other countries. Being acquainted with relevant background information may have influenced the way in which we assessed and compared policy documents and plans between countries. Furthermore, the documents of Mexico, New Zealand and the USA had to be assessed in a foreign language. The linguistic skills of the researchers are considered excellent. However, none of the researchers is native speaker in English or Spanish.

In addition, a document needs to be read in the context of the political and cultural background of the country in question. Therefore, there is no guarantee all nuances were picked up on or understood correctly.

## 5 Conclusions and recommendations

The main objective of this research was to find global MSP principles and to abstract general interpretations, or principles, used in MSP. Ways of implementation of these principles based on political or economical background were explored and analyzed. The knowledge obtained by Deltares from this research can be used in ongoing and up-coming (EU) projects about MSP. In addition, the results can be used to identify key countries to target for acquisition in non-EU continents

In this chapter, conclusions are drawn regarding the main objective and research questions. Subsequently, recommendations on future research are given.

### 5.1 Conclusions

Marine Spatial Planning seems to be a democratic activity by nature. In all four case studies UNESCO MSP principles were followed. Principles like 'participatory' can be considered a core value of a democratic political system.

In economically developed countries, the need for MSP as a planning tool derives from a (anticipated) lack of space. The focus can be either

- 1) the need for an integrated planning process to make sure limited space is used at its' full economic potential, or
- 2) a sense of urgency to protect the marine environment for the upcoming maritime economic development.

This focus seems to depend on the history of environmental-/ nature protection in a country. Countries that have had Marine Protected Areas (MPA) for many years are more likely to use MSP as a way to safeguard the MPA in the future. Mexico, the only country in transition in our research, uses MSP as a means to streamline the many existing legislations and policies.

While different case study countries seem to define different needs for MSP, this also means that the principle 'Integrated' is interpreted differently in all four case studies.

The level of detail/abstraction of a management plan can depend on several factors: size of the area, the main objective of the plan or whether the plan is located in a federal state or a unitary state. This will have effect on the way principles are implemented in a management plan.

### 5.2 Recommendations

Based on the research conclusions above we recommend considering the following when acquisition for MSP projects in new non-EU countries:

- Focus on democratic countries, the need for MSP (as stated by UNESCO) seems higher in democratic countries than in other political structures.
- Investigate the need for MSP: Is it environmental protection, economically efficient use of available space, a way to streamline currently fragmented legislation and policies or other? Use this 'need' as the focus for formulating the overall project objective.
- Gather insight into the specific expertise needed for the MSP process in the country at hand. Depending on area size or whether your case study lies in a federal states or an unitary states, a more in-depth MSP will probably require more technical expertise (morphologists, ecologists etc), while a more abstract MSP will probably require more expertise on governance issues.

As said before, this research was limited to four case studies. To gain more insight in the different ways MSP can be used, we recommend to extent this research to more case studies and/or to do a more in-depth study on the four case-countries which were the subject of this research. In addition to the literature research, it would be very valuable to conduct interviews with several of the parties involved in the case study area. None of the documents describes exactly who decides what, and which criteria are used for in the decision-making process. Only with interviews, we can get a grip on whether the principles stated in the documents are lived up to in reality.

Deltares can directly use results of this research in the ongoing EU projects like MESMA, MERMAID and PERSUES. At date of publication of this report several MSP related EU tender are developed and there are strong indications that the EU will develop a MSP directive. A EU MSP directive will no doubt result in more MSP related work.

In all current EU projects and future calls, 'monitoring and evaluation' plays an important role. In addition to the basic information on MSP from documents and interviews, a focus on monitoring and evaluation cycles can lead to valuable information that Deltares can directly use in ongoing projects.

The Dutch management plan, the Integrated Management Plan for the North Sea, will be revised in 2015. The first steps to develop the new management plan were taken at the time of this research. Lessons learned from other case studies can be valuable for the Dutch situation, for instance concerning how to better integrate nature conservation in the plan, which institutions and parties to include in decision making, or how to deal with informing the general public.

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Answers based on the Programa de Ordenamiento Ecológico Marino y Regional del Golfo de México y Mar Caribe, and the National Environmental Policy for the Sustainable Development of Seas and Coasts (PANDSOC)