

COMPENDIUM

on Maritime Spatial Planning Systems
in the Baltic Sea Region Countries



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As a result of co-operation within
the framework of Vision and Strategies
around the Baltic Sea
(VASAB 2010)



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PREFACE

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WG3 final report and other interim documents are available at <http://www.vasab.org/east-west-window/documents.html>

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This book is one of the results of three years' intensive effort of the Working Group on sea use planning and ICZM (WG3) of the intergovernmental co-operation *Vision and Strategies around the Baltic Sea* – VASAB 2010. From the start of its work in 2006 WG3 has been chaired by the Polish Ministry of Regional Development, with a short co-chairing period with Sweden. The book is the first of such type in Europe. It presents both the spatial planning systems covering sea space in the Baltic Sea Region (BSR) countries and a collective view on driving forces shaping spatial development of the Baltic Sea.



In the past, by providing access to important raw materials, new markets and new ideas, seas played a crucial role for the development of coastal countries. For instance, not so long ago, the building of the new sea port in Gdynia was a landmark for post first world war Poland, not only facilitating economical development of the country, but also focusing peoples' efforts, dreams and national pride. With technical progress, especially in passenger traffic and communications, it seemed that the seas are starting to lose their importance in global economy. But this is no longer true. Due to climate change, fast growth of sea transports, nutrition problems, fishery problems, growing demand for renewable energy, depletion of land-based mineral resources, and, at least in some regions, excessive density of land use, seas are again very high on the European and global developmental agenda. It is now obvious that coastal nations have to learn how to use the seas in a wise, sustainable, far-sighted manner. Maritime Spatial Planning (MSP) is one of the most important (maybe even the most important) tools for achieving this aim – as it was clearly shown by Commissioner Joe Borg in his speech during the Stakeholder Conference on BSR in Rostock.

It can be a matter of some satisfaction to all of us that, at least at European scale, the impetus to introduce maritime spatial planning came from the Baltic Sea Region (Interreg III B project BaltCoast), and from Germany and Poland because they were the first to advocate MSP.

Though the work of WG3 was completed quite recently, in October 2008, its thinking and results have already been widely used. For instance in Poland the WG3 heritage and experience has given an important impetus to formulation of the Spatial Development Concept of the Country (Koncepcja Przestrzennego Zagospodarowania Kraju). Sea space was fully integrated with the rest of Polish territory in this strategic document which will guide spatial development of Poland till 2033. Thanks to that Poland became the first European country with sea space covered by a long term strategy for spatial development. I hope that we will be joined soon by other BSR countries.

WG3 results have influenced the work on the implementation of the Baltic Sea Action Plan of the Helsinki Commission in its part related to the creation of common principles for marine and coastal broad-scale spatial planning to facilitate the protection and sustainable use of the Baltic Sea. They are also reflected in the European Commission's work on MSP.

Last but not least this book should be treated also as a joint contribution of the Baltic Sea countries to the EU Strategy for the Baltic Sea Region. Since the Baltic Sea is the central part of the BSR space, maritime spatial planning is an important part of this strategy, contributing to the achievement of its four priorities i.e., environmental protection, prosperity, accessibility and safety.

As a senior representative of the WG3 Chairing country, I would like to express my sincere thanks for those participating in the WG3 proceedings, especially to experts from Finland, Germany, Latvia, Poland, Russia and Sweden. In particular I am really grateful for the high quality input from Boverket. I am also pleased to remark on the excellent lead consultant services provided by the Maritime Institute in Gdańsk. WG3 is an example what can be achieved through BSR co-operation and dialogue even across EU borders.

VASAB plans to convene the Ministerial conference this year in order to adopt the long-term perspective (LTP) for the spatial development of the Baltic Sea Region. One of the prominent goals highlighted in the LTP is to have the Baltic Sea properly planned by the year 2030. I hope this book is the first step towards the achievement of this goal.

PART I

MARITIME SPATIAL PLANNING SYSTEMS - COUNTRY OVERVIEW

EDITORS: ANDRZEJ CIEŚLAK, KATARZYNA ŚCIBIOR,
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F – FOREWORD

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F.1 GENERAL

The ability to realise large-scale, long-term development concepts depends largely on the strength of spatial planning and spatial decision making systems. VASAB decided to include the sea space in its Long Term Perspective for the spatial development for the Baltic Sea Region (LTP). Consequently, the implementation of the sea as well as the coastal part of the LTP will depend largely on planning and decision making systems which each and all of the Baltic Sea Region (BSR) countries have for their sea areas.

The aim of this compendium was to survey existing instruments and tools for sea space management including Exclusive Economic Zones (EEZs) in each BSR country to allow assessing, among other aspects, whether the coastal BSR countries as a whole are prepared in terms of spatial management to realise the sea part of the LTP. Also to allow to assess what improvements may be needed in national and regional scale.

All coastal BSR countries have been asked for concise reports on their Maritime Spatial Planning (MSP) systems, and on decision making systems in place for sea space. An exemplary report was provided by Poland. Seven BSR countries (Denmark, Finland, Germany, Latvia, Poland, Russia, Sweden) responded, and a short description was obtained from Norway. These reports are presented below with editorial corrections. To date, two countries (Lithuania and Estonia) have not submitted reports.

F.2 DEFINITIONS

F.2.1 MARITIME SPATIAL PLANNING

Spatial planning refers to the methods used largely by the public sector to influence the future distribution of activities in space. It is undertaken with the aims of creating a more rational territorial organisation of land (space) uses and the linkages between them, to balance demands for development with the need to protect the environment, and to achieve social and economic objectives. Spatial planning embraces measures to coordinate the spatial impacts of other sector policies, to achieve a more even distribution of economic development between regions than would otherwise be created by market forces, and to regulate the conversion of land and property uses.¹

Throughout the texts the term "maritime spatial planning" is used instead of the quite popular "sea-use planning" or "marine spatial planning". This is to make it clear that MSP is not a sectorally biased tool for off-shore energy or nature conservation planning, but tries to consider all uses on equal terms. Moreover, the term Maritime Spatial Planning is officially supported by the EU in its recent Blue Book on Maritime Policy.

In this text, the term "territorial sea" is used instead of "12 nautical mile zone". This is:

- to stress that the 12-nm zone is an integral part of the territory of every coastal state, and
- because the term "12-nm zone" can be sometimes misleading: in some cases (the Danish Straits, Gulf of Bothnia, Gulf of Finland, around coastal islands) the width of the territorial sea zones is smaller than 12 nm since the sea area is narrower than 24 nm.

F.2.2 MARITIME MANAGEMENT

Management of space is a complex of passive and active actions, concerning the subjects and objects connected with the organization of space use. The aim of spatial management is both to protect the given values of space and to ensure the rational shaping of the space through the stimulation of economic processes. Protective actions include achieving a balance between the natural elements of the environment and the products of human activity. On the other hand, the shaping of space is a transformational action linked to new directions of social and economical development.

Management of space includes the following activities:

- coordination and regulation – realized by the State or self-government administration, consisting of making spatial decisions on matters of spatial designation and ways of using lots/areas on the basis of decisions of local spatial plans, or, if there are none, on the basis of the general law;
- investment – realized by State, self-government or private subjects in accordance with their objectives and tasks;
- inspection – realized in a supervisory mode by the State administration (voivodship or central) to ensure agreement with the law.

¹ European Commission 1997, Compendium of European Spatial Planning Systems, p.24

Space management can be defined as the process of managing the use and development of space resources in a sustainable way. Space resources are used for a variety of purposes which interact and may compete with one another; therefore, it is desirable to plan and manage all uses in an integrated manner.

F.3 SEA AREAS

According to the United Nations Convention on the Law of the Sea (UNCLOS), the following are the types of sea areas which remain, to varying degrees, under a coastal state's jurisdiction: internal sea waters, territorial sea, exclusive economic zone (EEZ) and continental shelf. Due to the size of the Baltic Sea, there is no continental shelf area. The Latvian and Russian reports mention the continental shelf, but in fact regulations for this type of sea area are significant only for other seas around the Russian Federation, and have no practical relation to the Baltic Sea.

All countries distinguish territorial seas and EEZs, but not all of them mention internal sea waters. Since, according to UNCLOS, territorial seas extend up to 12-nm seaward from the so-called baseline, it is not clear what the legal status is of areas located between the coastline and baseline in countries which did not mention the internal sea waters in their reports (Finland, Germany). It may be supposed that the Swedish Private Water Zone and the inside-the-baseline coastal zone water area planned by coastal municipalities in Norway, in fact, constitute the internal sea waters of these countries.

In the Russian report it is stated that "the territorial sea is a sea-belt of 12 nautical miles **adjacent to land territory** or inland sea waters". Does this mean that at least along some stretches of coast the baseline and coastline coincide?

F.4 OWNERSHIP OF THE SEA

The question of ownership relates to the problem of responsibility for the proper condition and use of the owned sea area. This does not necessarily mean that the owner should be exclusively responsible for planning and decision making, but at least implies significant participation in these processes. The authors of the Polish blueprint wrongly assumed that ownership of sea areas is uniformly regulated in all BSR coastal states, and therefore did not raise this issue. However, the picture appearing from the national reports seems to be quite diversified, and perhaps needs clarification in the final versions of the national reports.

According to UNCLOS regulations, the EEZ is an international sea area, and cannot have an owner, but in certain aspects a coastal state has competences and responsibilities **as if it were the owner**. It seems that all the BSR countries have arrived at more or less similar solutions, i.e., that rights and obligations for the EEZ belong to their central governments either directly or through various agencies/administrations of the central governments.

The situation in the territorial sea is more complex. All territorial sea areas are public property, but the owners vary from exclusively the state in Denmark, Poland, Russia and Sweden, through coastal Länder in Germany, to province or even municipality in other countries, or a mix of public owners.

In the internal sea waters the diversification of solutions and the mixture of owners seem to be even greater since sea areas in the Swedish "Private Water Zone" can be owned by a private person, a juridical person, a municipality or the state, or owned jointly. Would this also mean that the "Private Water Zone" can be divided into lots? At the other end of the spectrum, in Denmark, Poland and Russia, internal sea areas are by definition state-owned in the same way as territorial seas and cannot be divided into lots.

F.5 VISION

On land it is commonly accepted that since spatial plans should form the long-term framework for decision making, they should be based on a general vision of spatial development, setting general goals (and maybe, also more importantly, specific goals) and priorities. The same is also true for sea space. In fact, there are numerous reasons in favour of including sea space (including the EEZ) in national vision(s) of spatial development. However, most of the BSR coastal states have not yet developed such visions. The only exception is Germany, where all coastal federal states have developed their own visions for the 12-nm zone, and the central government is currently working on the ordinance called "Targets and principles of spatial planning for the German Exclusive Economic Zone". The Polish "National Spatial Development Concept", which is due for completion in 2009, shall include, for the first time, all Polish sea areas. Norway has planning guidelines for the Oslofjord.

F.6 PLANNING

F.6.1 LEGAL FRAMEWORK

No country has a specific legal act on MSP, and probably there is no need to develop such specific acts. Spatial planning of sea areas, if considered at all, is incorporated into acts dealing generally with spatial planning or with sea areas (e.g., Poland). With the exception of Germany, Poland and probably Norway, no country has specific regulations for MSPs. In Finland and Sweden, MSPs are simply an extension of terrestrial planning into the sea area. No legal framework for MSP presently exists in Denmark, Latvia or Russia.

The German, Norwegian and Polish laws allow for spatial planning in the EEZ. In Finland and Sweden, because of the simple extension from land to sea, including the jurisdictions of planning authorities (municipal and/or regional), spatial plans cannot extend outside national territory, and in effect the EEZ is not included.

It should be noted that Poland and Sweden are not satisfied with their legal frameworks for maritime spatial planning and management, and are preparing amendments. Some remarks on the proposed improvements are included in the Polish report. Recommendations for MSP legislation are also suggested in the Latvian report.

F.6.2 OBLIGATION TO PLAN

Only in Germany is spatial planning of sea space obligatory. In other countries, which have sea area planning in their legal systems (Finland, Norway, Poland, Sweden), MSPs are demand driven.

F.6.3 RESPONSIBILITY FOR PLANNING

With the exception of Poland, where MSP in all sea areas is the duty of the central government, responsibility for planning differs depending on the sea area:

- the EEZ is always under the jurisdiction of the central government;
- in territorial seas, the central government is responsible in Norway, the coastal states (Land) in Germany, and the local municipal or county authorities in Finland and Sweden; internal sea waters are under the jurisdiction of either municipal or county authorities (Norway, Sweden) or a central government agency (Germany).

F.6.4 LEGAL STATUS OF MSPS

In Germany and Poland, the resolutions of the MSPs are binding. This is clearly stated in German law, while the Polish law states that the plans **decide** about various uses. In the other countries, resolutions of the plan are probably binding or indicative depending on the type of planning document (indicative regional plan or binding local plan).

F.6.5 SCALES OF PLANS

The scale of German MSPs is 1:400,000 for the EEZ and 1:200,000 for the territorial sea. This suggests that these plans are of a strategic character. Although there is no provision for "nested" more accurate plans, detailed plans are sometimes used to show specific sections of the sea.

In Finland, Norway and Sweden, scale can vary widely depending on the type of planning document. In Poland, the scales are not decided yet, but it is proposed that they range from 1:10,000 to 1:200,000 or even 1:400,000 depending on the type of decisions/solutions to be arrived at. In effect, the approaches of all four countries allow for the nested approach.

F.6.6 COORDINATION AND PUBLIC PARTICIPATION

Coordination and public participation during the drafting and plan approval processes are of crucial importance. Most countries that allow for MSPs are satisfied with their procedures, at least as far as coordination between various authorities is concerned.

ned. Although not discussed in the reports, public **participation**, as opposed to public **consultation**, may be a problem both in terms of satisfactory legal solutions, and even more importantly, in terms of understanding the specifics of the sea and coastal areas and of their management by all involved authorities, including land-based planning authorities and other stakeholders. These problems were quite apparent in the process of producing the Polish pilot MSP for a part of the Gulf of Gdańsk. Consequently, since the Polish report finds its coordination and participation system too centralised, it recommends making some improvements.

Another problem is **cross-boundary coordination**, which is coordination between terrestrial and sea areas, and between territorial seas and EEZs. Spatial plans should allow for a continuity of uses and protective measures across these boundaries and provide for limiting possible negative effects. This requires setting up appropriate cross-boundary consultation mechanisms. All the countries doing MSP except Poland find, at least presently, their solutions satisfactory. However, it should be pointed out that only Germany and Norway in law and practice and Poland in law have seriously considered spatial planning of the EEZ.

F.6.7 COVERAGE

All German sea areas in the Baltic Sea are, or shortly will be, covered by maritime spatial plans. In Finland, demand-driven spatial plans have been developed for territorial seas to allow construction or other specific uses since according to Finnish law, no construction or use is possible without the existence of a spatial plan. Several spatial plans for parts of private coastal waters and territorial seas have been developed by coastal municipalities in Sweden, and Poland has produced a pilot MSP for the western part of the Gulf of Gdańsk, but it will not be legally binding until some amendments are made to the Polish law.

Outside the Baltic, 82% of Norwegian coastal municipalities have developed MSPs for internal sea waters, and the central government developed a management plan for the Barents Sea and the Lofoten Islands. The German part of the North Sea is covered by an MSP.

F.7 MANAGEMENT

The existence of maritime spatial plans alone does not guarantee that sea areas are used sustainably. MSPs must be backed by daily decision making and management systems, ensuring that the plans are properly implemented, and that in areas which have no spatial plans the allocation and use of space concurs with the general maritime vision and does not conflict with the goals and solutions of the MSPs. This is very much in agreement with the concept of Integrated Coastal Zone Management (ICZM), which inspired new solutions in BSR countries.

The information provided in the reports is insufficient for making generalizations about the complicated matter of the different aspects of these systems. While all the countries have legal frameworks for decision making on various uses of the sea, it seems that decision making generally remains very sectoral, and participatory procedures may be unsatisfactory, even if at first sight everything appears to be in good order. This is illustrated by the discussion on management in the Polish report.

As a rule, these procedures are based on regulations dispersed among many acts concerning numerous sectoral matters. Assuming that all BSR coastal states intend to implement the LTP and Helcom's Baltic Sea Action Plan, and that EU countries will be obliged to realise the EU maritime policy, it may prove quite worthwhile to analyse decision making and management systems in order to achieve the comprehensive, knowledge-based, properly participatory management of sea areas in the BSR.

F.8 INTERNATIONAL HARMONISATION

International instruments for harmonising MSPs and sea space related decision making should allow for a complex approach to all uses. There are some instruments harmonise single issues, e.g., the Espoo and Aarhus conventions, SEA, Water Framework Directive, Natura 2000 Directive (but methods still have to be developed and/or tested), IMO-based agreements concerning navigation. However, apart from possible voluntary action by the coastal states, there is no instrument or mechanism to allow and force proper comprehensive consultation and concertation of all maritime spatial uses. This may prove to be a serious drawback especially in strategic planning, and also in more detailed planning and management of the EEZs.



1 DENMARK

BY HELLE FISCHER
MINISTRY OF THE ENVIRONMENT

1.1 GENERAL INFORMATION

The responsibility for Danish sea territory, fishing territory and continental shelf is regulated by the State sovereignty over the sea. The Danish State is the only owner of the sea territory. Sovereignty gives the state the authority to grant permission for activities in sea territory, for example in relation to land reclamation and marine construction, etc. and to ensure that the public interest is not infringed upon. Overall, this sovereignty gives the State the authority to regulate and manage the sea in public interest.

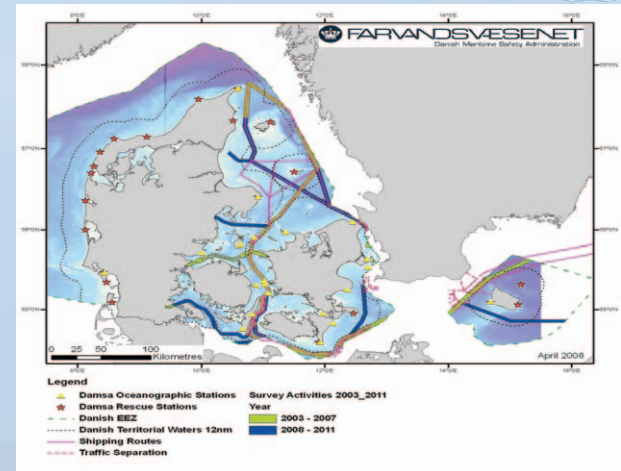


Fig. 1.1 Activity and data outline for the Danish Maritime Safety Administration (DAMSA)

In Denmark, the Ministry of Transport is the responsible authority for the state's sovereignty over sea territory if the authority to grant permission is not delegated by law to a sector ministry. This task, however, is delegated to the Danish Coastal Authority. Apart from this, a number of ministries are responsible for different sectors such as fishery, exploitation of raw materials, energy production, coastal protection, navigational safety, etc. These will be described in more detail in the following sections.

This implies that the Danish Coastal Authority has the authority to grant permission to all constructions in the sea territory that are not established pursuant to other statutory rules.

1.1.1 AREA OF THE 12-NM ZONE

The area of the Danish sea is in total 105.000 km². The sea is divided in the territorial sea and the internal waters.

The **territorial sea** covers those areas of the sea which landward are delimited by the baselines and sea ward by lines drawn in such a manner that the distance from every point of these lines to the nearest point of the baseline is 12 nautical miles.

The **internal waters** cover areas of waters, such as ports, harbour entrances, roadsteads, bays, inlets, sounds and belts, which are within the baselines.

In the absence of an agreement to the contrary with foreign States whose coasts lie opposite the coasts of the kingdom of Denmark at a distance not exceeding 24 nautical miles or adjacent to Denmark, the outer limit of the external territorial waters shall not extend beyond the median line every point of which is equidistant from the nearest points of the baselines from which the territorial seas of each of the two States is measured, unless special circumstances may warrant another delimitation.

1.1.2 AREA OF EXCLUSIVE ECONOMIC ZONE (EEZ)

The Danish **exclusive economic zone (EEZ)** is the waters beyond and adjacent to the territorial sea up to a distance of 200 nautical miles from the baselines applicable at all time.

The delimitation line of the exclusive economic zones in relation to foreign States whose coasts lie opposite the coasts of the Kingdom of Denmark at a distance not exceeding 400 nautical miles or adjacent to Denmark shall in the absence of an agreement to the contrary be the equidistant from the nearest point of the baselines of the two States' coasts (the median line principle).

In the exclusive economic zones, Denmark has sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and its subsoil, and with regard to other activities for economic exploitation and exploration of the zones, such as the production of energy from the water, currents and winds. In the exclusive economic zones, Denmark also has jurisdiction with regard to the establishment and use of artificial islands, installations and structures, marine scientific research, as well as protection and preservation of the marine environment.

PLANNING

1.2 ADMINISTRATIVE ORGANISATION FOR MARITIME PLANNING

The management of the coastal zone can be divided into two different management regimes – one on land and another on sea.

On the **landside**, planning of the coastal zone is regulated by the Planning Act² and the Nature Protection Act.

Sea-based activities are regulated by a large number of sectoral laws, e.g., the Marine Environment Protection Act, the Raw Materials Act, the Subsoil Act, the Continental Shelf Act, the Electricity Supply Act, the Harbour Act, and the Fishery Acts.

Planning of Natura 2000 and the water quality is conducted according to Environmental Objective Act.

Consequently, coastal zone authority is dispersed among different sectors and different administrative levels of decision-making.

The Planning Act only regulates on the terrestrial part of the Danish territory. In the coastal zone there are specific paragraphs in the Planning Act that regulate the activities.

The Danish Agency for Spatial and Environmental Planning (as part of the Ministry of the Environment) has the overall responsibility for the Planning Act. The Agency is responsible for upholding national interests through national planning.

The municipal councils are responsible for comprehensive land-use regulation at municipal and local levels with legally binding guidelines for property owners.³

² www.blst.dk/NR/rdonlyres/27A9A483-802E-46E9-A073-DC864F0D7509/50763/planlovenpengsk2007.pdf

³ Description of the Danish planning system in English:

http://www.blst.dk/NR/rdonlyres/18E20859-E230-4E8F-98D5-23A956EC2ABB/49285/Planning_260907_NY.pdf

1.3 MARITIME SPATIAL PLANNING LEGISLATION

Denmark does not have a specific Planning Act for the sea space.

1.4 MAIN RULES OF COOPERATION AND PUBLIC PARTICIPATION AND CROSS SECTORAL COORDINATION OF THE PLAN

The principles for decision-making regarding planning matters are the same as the principles for the general administrative procedure, i.e., each authority takes the decisions within its province.

However, before a decision can be made, the authority must consult other authorities which may have knowledge concerning the actual matter or to whom it may have interest, all in accordance with administrative practise and procedures in the individual sector acts. Moreover, each authority is bound to meet the rules laid down in Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA).

Also, the authority must give private persons an opportunity to voice their opinion on the matter, if the private person has a vital interest in the decision, and again, all in accordance with the act of public administration.

In terms of **transnational coordination of MSPs**, Denmark follows the rules laid down by the ESPOO convention and EIA directive.

1.5 INSTRUMENTS FOR COORDINATION OF MSPS AND TERRESTRIAL SPATIAL PLANS

Denmark does not have an instrument to coordinate activities between land and sea, but public hearing may be used if needed.

1.6 MAIN POLICES TAKEN INTO CONSIDERATION WHEN PREPARING MSPS

In Denmark it is the individual sector authorities which are responsible for the main policies when preparing activities at sea. The Danish Maritime Safety Administration is considering the effects of climate change on navigational safety. A change in climate can easily affect the traffic ability of the present sea routes through Danish waters as well as have an effect on the use of the sea and coastal regions for other relevant purposes.

1.7 APPROVAL / CONCORDANCE OF MSPS

The plans would be approved by the authority under which responsibility for the planning subject resides.

1.8 VALIDITY OF MSPS, THEIR LEGAL IMPACT

The validity and the legal impact will vary according to the legal basis for the decision.

1.9 DISPUTES OVER PLAN PROVISIONS

Disputes between authorities will be solved at the political level.

Disputes between an authority and a private person will be solved with a judgement by court.

1.10 OBLIGATION TO MONITOR AND REVIEW ENFORCED PLANS

The plans are reviewed by the authority under which responsibility for the planning subject resides.

MANAGEMENT

1.11 ADMINISTRATIVE ORGANISATION FOR SEA USE MANAGEMENT

The regulations on the Danish sea territory are a mix of acts and orders regulated and managed by different sector ministries and agencies, among them:

- **Danish Coastal Authority** (Kystdirektoratet, www.kyst.dk) is part of the Ministry of Transport and is the national authority on coastal protection. The main tasks are construction and maintenance of the state coast protection of the west coasts of Jutland, harbour operation, dredging, storm surge alerts and the tidal flats.
- **Ministry of Transport** has delegated the responsibility of the state's sovereignty over the sea territory to the Danish Coastal

Authority. This implies that the Danish Coastal Authority has the authority to grant permission to all constructions on the sea territory that are not established pursuant to other statutory rules.

- **Danish Maritime Safety Administration** (Farvandsvesenet, www.fomfrvdk) is part of the Ministry of Defence. The tasks include among other things, buoyage (installations and work in Danish waters, wrecks, and coastal warnings), navigation (transit routes, light buoys, beacons), hydrographic surveys and the collection, validation and distribution of oceanographic data and products and last, but not least, pilotage. The Administration maintains several maritime databases with information about the properties and use of the Danish Waters.
- **Danish Maritime Authority** (Søfartsstyrelsen, www.dma.dk) is a part of the Ministry of Economic and Business Affairs. The main tasks of the Danish Maritime Authority include ship registration, social protection and training of seafarers, survey of ships (including port state controls), recognition of classification societies, safety of navigation, maritime health service, shipping policy and casualty investigation.
- **Ministry of Climate and Energy** (Klima- og Energiministeriet, www.kemini.dk) is responsible for tasks concerning climate and energy and for securing an integrated approach to the national and international climate and energy related policies of Denmark. The minister for climate and energy is responsible for granting licences conferring exclusive rights to explore and produce raw materials such as oil, natural gas, salt etc. within a defined area, and for granting licences for use of the subsoil for storage or other purposes than production in pursuance of the Subsoil Act.
- **Danish Energy Agency** (Energistyrelsen, www.ens.dk) is part of the Ministry of Climate and Energy. The Danish Energy Agency carries out tasks, nationally and internationally, in relation to the production, supply and consumption of energy and to the reduction of CO₂ emissions. The agency is responsible for the whole chain of tasks linked to the production of energy and its transportation through pipelines or cables to the stage where oil, natural gas, heat, electricity etc. are utilised for energy services by the consumer. The minister for climate and energy has empowered the Danish Energy Agency to administer and grant permissions in pursuance of e.g., the Subsoil Act, the Continental Shelf Act, the Electricity Supply Act, and the Act on Energinet.dk.
- **Energinet.dk** (Energinet.dk) is an independent public undertaking, established by law and owned by the Danish State as represented by the Danish Ministry of Climate and Energy. Energinet.dk owns the gas transmission grid and the 400 kV electricity transmission grid, is co-owner of the international connections between Denmark and the Nordic countries and Germany, has at its disposal the 132 kV and 150 kV electricity grids, and has access to natural gas storage facilities. Energinet.dk is responsible for maintaining the overall security of electricity and gas supply and planning and developing the Danish electricity and gas transmission infrastructure.
- **Danish Agency for Spatial and Environmental Planning** (By- og Landskabsstyrelsen, www.blst.dk/) is part of the Ministry of the Environment. The main focus is to handle issues regarding marine nature conservation through national implementation of the EU Habitats Directive and EU Bird Directive as well as a general protection of the marine environment through national implementation of the EU Water Framework Directive and the EU Marine Strategy Framework Directive. Further more the agency is the national authority for raw materials both on land and at sea and national authority for spatial planning (on land).
- **Danish Forest and Nature Agency** (Skov- og Naturstyrelsen, www.skovognatur.dk/) is part of the Ministry of the Environment. The main focus is to ensure opportunities for nature recreation, national parks and to develop, establish and restore nature and to undertake practical management measures for wild flora and fauna.
- **Danish Environmental Protection Agency (EPA)** (Miljøstyrelsen) is part of the Ministry of the Environment and is responsible for marine fish farms, dredging, dumping of dredged materials from harbours etc., regulation of ship-based pollution and pollution from off-shore activities.
- **Danish Directorate of Fisheries** is responsible for the protection and management of fish resources that are available to Danish fishermen. The administration includes issuing of fishing licences to fish Danish quotas, to control this fishery and to stop it, when the quota is exhausted.
- **Heritage Agency of Denmark** (Kulturarvsstyrelsen) is responsible for cultural heritage at sea.

1.12 LEGISLATION ON MARITIME MANAGEMENT

Main acts regulating the management of sea resources and sea space activities in Denmark:

- Act on Sea Territory (*Søterritoリエoven Act 200*) 07.04.1998;
- Admission Decree (*Adgangsordningen*) Royal Decree 224, 16.04.1999 regulates the admission of foreign ships to Danish territorial sea;
- Act on adjacent zones (*Lov om tilstødende zone*) Act 589, 24.06.2005;
- Ordinance on Buoy, Order 229, 04.04.1989;
- Act on Protection of the Marine Environment (*Havmiljøloven*) Act 925, 28.09.2005;
- Act on Protection of the Environment (*Miljøbeskyttelsesloven*) Act 1756, 22.12.2006;
- Act on Environmental Objectives (*Miljømålsloven*) Act 1757, 22.12.2006;
- Act on Nature Protection (*Naturbeskyttelsesloven*), Act 749, 21.06.2007;

- Subsoil Act, Consolidated Act No. 889 of 4.07.2007 applies to the exploration of oil, natural gas, salt, some other raw materials and geothermal energy, and the subsoil storage and scientific investigations. The Subsoil Act does not encompass raw materials, e.g., stone, gravel, sand, clay, lime, chalk, etc.;
- Act on Raw Materials (*Råstofloven*) Act 784, 21.06.2007 contains terms and conditions for obtaining extraction permits
- Act on Electricity supply (*Lov om elforsyning*), Act 1115, 08.11.2006. The act regulates both the Danish land and sea territory and EEZ;
- Act on Coastal Protection (*Kystbeskyttelsesloven*) regulates coastal protection and the states sovereignty over the sea territory. The responsibility has been delegated to the Danish Coastal Authority from which approval is necessary to make coastal protection or constructions within the Danish territory;
- Act on Harbours (*Lov om havne*);
- Act on the Continental Shelf (*Lov om kontinentalskeller*) Consolidated Act No. 1101, 18.11.2005, amended by Act No. 548, 06.06.2007;
- Act on Safety at Sea (*Lov om sikkerhed til søs*), Act 903, 12.07.2007 gives the Ministry of Economic and Business Affairs the right to lay down regulations, take measures and issue general and concrete prohibition or enforcement notices to safeguard navigation, maintain order and prevent danger and prevent hindrance of free navigation;
- Act on Fisheries (*Fiskeriloven*) provides the overall framework to regulate commercial fishery and recreational fisheries in marine areas as well as in fresh waters and aquaculture, including nature and environmental concerns. This law is the legal basis for implementation of the EU common fisheries policy and to follow up on EU decisions;
- Consolidated Act on Museums (*Museumloven*) Act 1505, 14.12.2006 regulates the administration of relics, shipwrecks and monuments on the seabed.

1.13 PROCEDURES OF ISSUING USE PERMITS

All activities in the Danish sea normally require permission. Permissions are regulated by sector laws, the most important of which are listed above. As part of the permission procedure the authority in charge of issuing use permits usually will organise a hearing process including relevant authorities and actors. Below are some examples which illustrate the Danish procedure of issuing use permits.

Any **construction** within the Danish sea territory (the 12-nm zone area) must be permitted by the Danish Coastal Authority. Energy supply systems (oil or gas pipelines, off-shore wind parks) are regulated and permitted by the Danish Energy Authority.

The Danish Coastal Authority coordinates the interests of the relevant authorities during the project approval process. Therefore it is necessary to consult with the Danish Agency for Spatial and Environmental Planning, the Danish Maritime Authority, the Danish Maritime Safety Administration, the Danish Directorate of Fisheries and the Heritage Agency of Denmark. The consultation procedure also prescribes consultation with NGOs and neighbouring land-owners.

It is part of the procedure of the Danish Coastal Authority to examine whether a project needs an EIA or other assessments of environmental effects. In these cases, the Danish Coastal Authority cooperates with municipal authorities to coordinate the assessments ashore as well as in the sea. Permission is not given for a limited period, but it can be withdrawn if the construction is not properly maintained, terms are not observed, or other conditions call for a withdrawal.

Raw material exploitation rights for specific areas can be granted by the Danish Agency for Spatial and Environmental Planning to one or more operations for a period of up to ten years.

Construction of **electric cables** on the Danish continental shelf must be approved by the Danish Energy Agency in pursuance of the Continental Shelf Act section 4.

Construction of **pipelines** for the transportation of hydrocarbons on the Danish continental shelf must be approved by the Danish Energy Agency in pursuance of the Continental Shelf Act section 4. Pipeline facilities for use in the activities comprised by the Subsoil Act are not subject to approval in pursuance of the Continental Shelf Act, see below 15.4.3.

Approvals for pipeline projects under the Continental Shelf Act that are assumed to have a major impact on the environment, may only be granted following an environmental impact study (EIA) and after the members of the public, authorities and organizations that are affected have been given an opportunity to express their opinion (cf. section 4 a (1) of the Continental Shelf Act).

If the project is thought to have a major impact on designated nature preservation areas, approval will only be granted following an environmental impact assessment of the project on the site, with due consideration paid to the objectives of site conservation.⁴

⁴ Continental Shelf Act, 4 a (1)

Approvals will only be granted if the project does not adversely affect the integrity of an international nature preservation area, or if weighty societal considerations make it imperative to implement the project because no alternative solution exists.⁵

In the case of an international nature preservation area with a priority natural habitat type or a priority species, approval for a project will only be granted if it is necessary in the interest of human health, public safety or significant beneficial effects on the environment, or other weighty societal consideration make it imperative to implement the project.⁶

If other weighty societal considerations make it imperative to implement the project, approval will be granted only after it is submitted to the European Commission and receives a positive opinion.⁷

Permits (without exclusive rights) for carrying out preliminary **investigations in order to explore for and produce raw materials** in the subsoil or to use the subsoil for storage or purposes other than the production of raw materials are granted by the Danish Energy Agency in pursuance of section 3 of the Subsoil Act. Permits can be granted for a term of up to three years, but are normally granted for a 1 year term. Programs for preliminary investigations are subject to the approval of the Danish Energy Agency in pursuance of section 28 of the Subsoil Act.

Licences conferring the exclusive right on the holder to **explore for and to produce raw materials** in the subsoil are granted by the Minister for Climate and Energy in pursuance of section 5 of the Subsoil Act. Licences will be issued upon being submitted to a committee set up by the Danish Parliament (The Energy Policy Committee). According to the current licensing procedure applications for licences are to be submitted to the Danish Energy Agency. Activities (e.g., seismic surveys, drilling of wells, etc.) carried out in pursuance of the licence are subject to the Danish Energy Agency's approval of equipment, working programme and working methods in each individual case (cf. section 28 of the Subsoil Act).

The Danish Energy Agency may permit exploration of the seabed or the mineral and other non-living deposits of its subsoil where non-commercial exploration is conducted without the intention of exploitation.

Establishing and operating **pipeline facilities** for use in activities comprised by the Subsoil Act are subject to the approval of the Danish Energy Agency in pursuance of section 17 of the Act.

Licences for use of the **subsoil for storage** or for purposes other than production are granted by the Minister for Climate and Energy in pursuance of section 23 of the Act. Licences will be issued upon being submitted to a committee set up by the Danish Parliament (The Energy Policy Committee). Programs for activities (e.g., drilling of wells) carried out in pursuance of the licence are subject to the approval of the Danish Energy Agency (cf. section 28 of the Act).

Licences and approvals for off-shore projects under the Subsoil Act that are assumed to have a major impact on the environment, may only be granted following an **assessment of the effects on the environment (EIA)** and after the members of the public, authorities and organizations that are affected have been given an opportunity to express their opinion, (cf. section 28 a (1) of the Subsoil Act).

According to good principles of administration appropriate **hearings and consultations** of relevant authorities will normally be carried out.

If a **dispute** arises between state/civil it will require a court decision. If the dispute arise between state/state it will require a political/governmental decision.

Certain permits may be appealed, depending on the character of the permission, to the independent Nature Protection Board of Appeal and the Environmental Appeal Board. These boards of appeal are the boards for administrative decisions pursuant to a number of sectoral acts.

1.14 PREVENTING ILLEGAL SEA USES

Admiral Danish Fleet keeps Danish waters under surveillance.

The responsible authorities supervise the legal compliance of the activities. If the act in question has the necessary regulations for issuing enforcement notices or prohibitions, the responsible authority may use these instruments to prevent illegal sea uses. Offences committed under an act may be punishable according to statutory penalty.

⁵ Ibidem 4 a (2)

⁶ Ibidem 4 a (3)

⁷ Ibidem 4 a (4)

If construction within the Danish sea territory is carried out without permission, the construction is illegal. The Danish Coastal Authority will contact the owner of the construction. This will lead to either the owner removing the construction or applying for legalization. If the construction can not be legalized, the owner will be ordered to remove the construction. If the owner does not meet the order the case will be reported to the police. Daily penalties are authorized by the Act on Coastal Protection.

COMMENTS

1.15. CURRENT SITUATION AND MAIN PROBLEMS IN MARITIME SPATIAL PLANNING AND MANAGEMENT

Denmark does not have any common instrument to guide and plan for activities at and in the sea. Thus, there do not yet exist comprehensive plans or a maritime planning instrument which could enable authorities to foresee or to solve conflicts and to earmark the most favourable location for activities at sea. As it has been presented in this document the management system of the Danish sea territory is split into a large number of authorities, which separately have the responsibility to coordinate activities in accordance with the legislation they are in charge of.

The International Council for the Exploration of the Sea, ICES, coordinates and promotes marine research in the North Atlantic, including the Baltic Sea. The work within ICES includes information on spawning areas, nursery grounds, the seabed and fisheries and the fishing grounds. From the Danish point of view, the mapping of fisheries should be coordinated and provided by ICES rather than, separately country by country around the Baltic Sea. In this context Denmark provides information on the fisheries management system in Denmark.

The Danish management system normally works well, therefore no steps have been taken so far to change or reorganise it. However, it is known that EU has initiated and encouraged the member states to introduce **maritime spatial planning** as a part of EU Integrated Maritime Policy (the "Blue Book").

In 2008 DG Mare presented a proposal to prepare a roadmap concerning "maritime spatial planning", among these best practices and a mapping of the actors.

In April 2007 the Danish government submitted their contribution to the European Commission Green Paper *Towards a future maritime policy for the Union: A European vision for the oceans and seas*. A chapter of the Green Paper concerns maritime spatial planning. The Danish government's position concerning this specific issue is quoted below:

Green Paper: What are the principles and mechanisms that should underpin maritime spatial planning systems? How can systems for planning on land and sea be made compatible?

Danish government: "The EU should facilitate discussion and coordination between Member States sharing the same Maritime Region or Sub-region on maritime spatial planning, notwithstanding the principle of subsidiarity. This will result in offering guidance including principles as to how Member States carry out their maritime spatial planning. A way forward could be for the EU to facilitate the exchange of best practice between Member States and/or the development of best practice at national/regional/sub-regional level. A best practice should include guidance for coordination of data collection to improve planning and mapping of the marine environment. Another best practice would be the one-stop shop for the preparation of permission for large scale projects at sea. This includes a consultative procedure among the national authorities, which weighs up and counterbalances possible conflicting interests at sea. Denmark would be interested in participating in the formulation of such practices.

Maritime spatial planning activities must respect the international legislation – particularly UNCLOS, the SOLAS and COLREG Conventions, and the general principles in IMO's General Provisions on Ships' Routing (Res. A.572 (14), as amended). The Green Paper elsewhere points to the sea transport of energy by tankers as an area which raises concerns from the perspective of safety and potential environmental impacts of accidents. This is no doubt true, but when it comes to the proposed creation of guidelines for a dedicated Trans-European Network (TEN) for hydrocarbons there is reason for concern. Ships routings are to be based on UNCLOS with the IMO as the competent organisation. If sea transport of energy is to be regulated it has to be done by use of international rules. In addition: any action related to the establishment of (a network of) dedicated and/or mandatory traffic routes should be preceded by (1) a thorough analysis of the safety-effects of such a measure and (2) a comprehensive cost/benefit analysis. Efforts should be made to secure a balance between free passage and management of navigation in areas where there is an increased risk of accidents. EU Member States should support the work in the IOPC on promotion of quality shipping."

2 FINLAND

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2.1 GENERAL INFORMATION

Area of 12 nautical mile zone (territorial sea): 54130 km² (and 4330 km² islands, not included in water areas).
Area of Exclusive Economic Zone (EEZ): 29080 km².

The Finnish coastline has a much segmented geographical formation; therefore, the length of the coastline is some 40,000 kilometres including the coastlines of islands. If considered as a theoretical straight coastline, the length would be approximately 1,100 kilometres. A Finnish specificity is the constant change in the coastline along the Western coast. Once pressed down by the glacial plate, the land is now rising by 2 to 9 mm per year. The coastline is frozen from two to six months of the year, depending on the temperature in winter. The main issue in the Finnish Baltic Sea Policy is the deterioration of the condition of the Gulf of Finland. The probability of serious damage is growing because of difficult navigation conditions and because the gulf is increasingly a crossing area for East-West and North-South traffic.

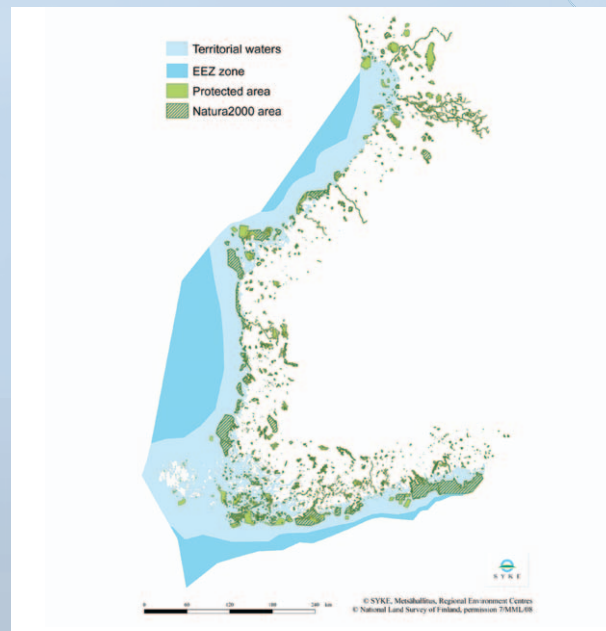


Fig. 2.1 Finnish Baltic Sea EEZ and 12-nm zone

PLANNING

2.2 ADMINISTRATIVE ORGANISATION OF MARITIME PLANNING

2.2.1 INSTITUTIONS RESPONSIBLE FOR MARITIME PLANNING

Regional councils and municipalities are in charge of drafting plans for their entire area including territorial waters. See point 2.2.

2.2.2 INSTITUTIONS RESPONSIBLE FOR COASTAL TERRESTRIAL SPATIAL PLANNING

The Finnish land use planning system has three levels: the regional land use plan, the local master plan, and the local detailed plan. In addition, the Government defines national land use guidelines, which should be taken into account throughout the country in all land use decisions and land use planning.

The land use planning system is hierarchical; the higher level plans steer the lower plans. Each level serves its own functions. The national land use guidelines are implemented mainly through regional plans. Regional and local plans are drawn up through participatory planning procedures, which give local residents the chance to become involved in affecting the planning processes.

Shores are covered at different planning levels. Land use and development along shores are controlled at the provincial level through regional land use plans, and at the municipal level through local master plans and local detailed plans.



Fig. 2.2 Finland's land use planning system

Regional land use plans and local master plans control development in shore areas on a larger scale, with regard to strategic objectives and wider conservation goals. Local master plans may also be drawn up to enable limited development along shores, and such plans are nowadays quite widely used in Finland. Local detailed plans are drawn up to control more intensive development along shores, and also to cover localities where built-up areas extend to the shore zone.

The Land use and Building Act: <http://www.ymparisto.fi/default.asp?contentid=65699&lan=en#0>

The National Land Use Guidelines: <http://www.ymparisto.fi/default.asp?contentid=294317&lan=fi&clan=en>

2.3 MARITIME SPATIAL PLANNING LEGISLATION

There is no specific, single legislative act for maritime spatial planning.

Basic principles and objectives guiding maritime planning

The following lay out the basic principles and objectives: the Land Use Planning and Building Act; EU directives and their national implementation such as the Natura 2000 network along the coastline, the Water Framework Directive, the EU Marine Strategy Directive; international agreements like United Nations agreements concerning seas; the Baltic Sea Action Plan; national nature protection programmes such as the coastline and birdlife protection programmes as well as programmes for developing national parks and nature parks; the National Baltic Sea Protection Programme; the Finnish Coastal Zone Strategy (2006) according to the ICZM-Recommendation of the European Parliament and Council of 2002.

2.4 PLANS

Regional land use plans are the most relevant planning means for the sea area. Regional land use plans are drafted by regional councils, whose members are the representatives of municipalities. Individual citizens and non-governmental organizations are fully entitled to participate in the planning process. Regional councils also approve regional land use plans. These plans are then submitted to the Ministry of the Environment, where the legality of the plans is assessed before final ratification.

A regional land use plan sets out a general framework for the more detailed local plans, which are prepared by the municipalities. Regional land use plans are legally binding, but nevertheless they leave plenty of scope for the municipalities to resolve local land use and development issues. The regional council must also ensure that the plan promotes the implementation of the national land use guidelines. When the plan is being drawn up, special attention is given to the following:

- appropriate regional and community structure of the region;
- ecological sustainability of land use;
- environmentally and economically sustainable arrangement of transport and technical services;
- sustainable use of water and extractable land resources;
- operating conditions for the region's businesses;
- protection of landscape, natural values, and cultural heritage;
- sufficient availability of areas suitable for recreation.

Regional Land Use Planning: <http://www.ymparisto.fi/default.asp?contentid=305141&lan=fi&clan=en>

2.5 MAIN RULES OF COOPERATION, PUBLIC PARTICIPATION AND CROSS-SECTORAL COORDINATION OF THE PLAN

Finland's Land Use and Building Act safeguards citizens' rights to participate in land use planning procedures and influence decisions related to land development.

Public announcements are made whenever the preparation of a new plan begins, to enable interested parties to become involved in discussions about the objectives and impacts of plans and possible alternatives. The extent and nature of public participation are defined, according to the nature of each plan, in specific participation and evaluation plans, which are publicised whenever announcements are made of the commencement of new planning processes. These participation plans also describe how the impacts of land use plans will be evaluated.

Participation in planning procedures is open to all parties with an interest in the plans, including landowners, local residents, and other people whose livelihoods or other interests may be significantly affected. This provision also encompasses other public authorities, enterprises or organisations whose activities may be affected, even if they are located in other municipalities. Meetings between officials of local and national authorities are organised regularly to discuss issues related to regional land use plans and local plans with wider implications. Such meetings aim to clarify and harmonise land use objectives at national, regional and local levels.

2.6 TRANSNATIONAL COORDINATION OF MARITIME PLANS WITH NEIGHBOURS

According to the Espoo Convention.

2.7 INSTRUMENTS FOR COORDINATION OF MARITIME PLANS AND TERRESTRIAL SPATIAL PLANS

Possible contradictions of building in the coastal zone are dealt with in the land use planning process. For example, the location of wind farms is decided in regional plans and local plans. All spatial plans in Finland are subject to impact assessment (SEA directive).

2.8 MAIN POLICIES INFLUENCING MARITIME PLANNING

These include the National Baltic Sea Strategy, Helcom's Baltic Sea Action Plan, the National ICZM Strategy, EU policies, and sectoral policies such as Fishing Policy and Nature Protection Programmes.

2.9 APPROVAL / CONCORDANCE OF MARITIME PLANS

See above.

2.10 VALIDITY OF MARITIME PLANS, THEIR LEGAL IMPACT

Land use plans that also cover sea areas are revised according to need. They are legally binding when approved as in point 2.2.

2.11 DISPUTES OVER PLAN PROVISIONS – LEGAL MECHANISM FOR DISPUTES

Plans are subject to wide rights of appeal. Objections may be submitted by local residents, organisations or authorities. Appeals calling for alterations to local master plans or detailed plans, approved by the municipal authorities, must be submitted to the administrative courts.

Appeals against regional land use plans or joint local master plans, drafted by more than one municipality, should be directed to the Ministry of the Environment. Further appeals may be taken to the Supreme Administrative Court.

2.12 OBLIGATION TO MONITOR AND REVIEW ENFORCED PLANS

Regional Environmental Centres monitor enforced plans. Changes are made by Municipal Councils (local plans) and Regional Councils (regional plans).

MANAGEMENT

2.13 ADMINISTRATIVE ORGANIZATION FOR MARITIME MANAGEMENT

The use of Finnish sea area is managed by several sea-related sectoral authorities.

2.14 LEGISLATION ON MARITIME MANAGEMENT

Territorial waters are managed by relevant national laws, regulations and programmes. The most important acts are: the Environmental Protection Act, the Water Act, the Act on Environmental Impact Assessment, the Land Use and Building Act, Waste Act, Fishing legislation and legislation on boat and vessel traffic.

In the Exclusive Economic Zone, the most important acts concerning environmental protection and building on waters are the Act on Environmental Impact Assessment, the Environmental Protection Act, and the Water Act. Pollution caused by vessels is regulated by relevant legislation, and the Waste Act is also implemented. Fishing, hunting and nature protection are regulated with relevant national and EU legislation. For mineral extraction, the Water Act and the Mining Act are applied.

2.15 PROCEDURE FOR ISSUING USE PERMITS (E.G., MINERAL EXTRACTION, PIPELINES, WIND FARMS)

Municipalities are in charge of permitting building in territorial waters. According to Finland's water legislation, water permits are required for all activities concerning construction in waters or water supply. These activities include the construction of jetties, bridges, cable crossings, pipelines, dams, hydropower plants, waterways, logfloating routes, drainage ditches, canals, weirs and sluices, and any other regulation or use of water reserves, including groundwater. Permits related to effluents and the risk of contamination are covered by environmental protection legislation.

Applications should be submitted in writing to the relevant Environmental Permit Authority. The authority will then make the application public as appropriate, giving the relevant authorities, and anyone affected by the plans, time to comment and make proposals concerning the requirements for the permit.

In the EEZ, a permit for exploiting natural resources or to build in waters must be obtained from the Council of State. For the carrying out of research, an announcement must be submitted to the Ministry of Employment and Economics.

2.16 DISPUTES – LEGAL MECHANISM FOR DISPUTES ON ADMINISTRATIVE DECISIONS CONCERNING MARITIME MANAGEMENT

See above (as in the case of planning procedures). Citizens, organizations, etc. can appeal against the plan to a Regional Administrative Court and finally to the Supreme Administrative Court.

Complaints against any permit decisions may be made to the Administrative Court of Vaasa, then to the Supreme Administrative Court.

2.17 PREVENTING ILLEGAL SEA USES – RESPONSIBILITY AND MAIN INSTRUMENTS

According to the Environmental Impact Assessment Act, Regional Environmental Centres are contact authorities. According to the Environmental Protection Act, the Nature Protection Act, the Water Act and the Waste Act, Regional Environmental Centres monitor to ensure that activities are carried out according to the law. The jurisdiction of Regional Environmental Centres extends to both the territorial waters and the EEZ. Border Guards continuously inspect water areas.

COMMENTS

2.18 MAIN PROBLEMS IN MARITIME PLANNING AND MANAGEMENT

Even if there is a comprehensive network of protection areas, nature parks and Natura 2000 areas along the entire coastline, the Gulf of Finland is probably the most endangered area of the Baltic Sea. Increasing sea transport and leisure cruising with more and bigger vessels requires careful risk management. Impacts of land-based activities, such as nutrients from agriculture, emissions from industry, and waste waters from large cities, ports and shipyards, are all issues that also have to be dealt with through cross-border and transnational cooperation. The lack of geographical information on underwater biodiversity is also a problem.

3 GERMANY

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3.1 GENERAL INFORMATION

German sea waters include the territorial sea (12-nautical mile zone) and the Exclusive Economic Zone (EEZ), which is an international territory managed by Germany. The German EEZ is split into a narrow strip of 4,500 km² on the Baltic Sea (Fig. 3.1) and a bigger patch of 28,600 km² on the North Sea (Fig. 3.2).



Fig. 3.1 German Baltic Sea EEZ and 12-nm zone

The responsibility for territorial waters management belongs to the coastal federal states of Germany. On the North Sea these are Lower Saxony, Hamburg, Bremen (both city-states) and Schleswig-Holstein. On the Baltic Sea these are the federal states of Schleswig-Holstein and Mecklenburg-Vorpommern.

The intensity of use in the German sea space is relatively high, with growing tendencies. Especially the shipping traffic and the associated harbour development are expected to increase rapidly.

Natura 2000 areas were designated by Germany and sent to the Commission in 2004 on the basis of the EU Habitats and Birds' directives. Currently 31% of the EEZ and 38% of the territorial waters are covered by Natura 2000 sites.

German sea bottom is covered by a dense network of telecommunication cables. In the North Sea several gas pipelines are laid, three of them (Norpipe, Europipe 1 and 2) have their landfall point in German harbours. Also in the Baltic new gas pipelines are planned. New off-shore uses such as energy generation create additional demand for cables and pipelines.

A relatively new sea-use with much potential for Germany is the off-shore wind parks, and 20 sites have recently been approved in the German EEZ, other approval procedures are running. In the coastal sea of Mecklenburg-Vorpommern and Schleswig-Holstein smaller wind parks have been licensed. Other relevant uses are sand dredging for artificial nourishment of the beaches, military training, recreation and fishery.



Fig. 3.2 German North Sea EEZ and 12-nm zone

PLANNING

3.2 ADMINISTRATIVE ORGANISATION OF MARITIME PLANNING

Unlike most other countries, in Germany the significant administrative and legal borderline for maritime planning is not between land and sea, but between the 12-nautical-mile zone and Exclusive Economic Zone (EEZ).

The 12-nm zone of the German sea area is under the jurisdiction of the coastal states (*Bundesländer*) and in particular their ministries responsible for spatial planning. For these areas the "ordinary" terrestrial spatial planning system is extended.

The German EEZ is entirely under the responsibility of the federal government, represented by the Federal Ministry of Transport, Building and Urban Affairs (*Bundesministerium für Verkehr, Bau und Stadtentwicklung*, short *BMVBS*). Its executive arm responsible for management in the EEZ (e.g., permit issuing, cartography, navigation support) is the Federal Maritime and Hydrographic Agency (*Bundesamt für Seeschifffahrt und Hydrographie*, *BSH*). In terms of maritime planning in the EEZ, the *BMVBS* provides the legislation, carries out the approval process with other ministries and neighbouring countries. The *BSH* drafts the plan and carries out the preparatory procedural stages, particularly the Strategic Environmental Assessment (SEA) and public participation.

The German Federal Agency for Nature Conservation (*Bundesamt für Naturschutz, BfN*) is the authority responsible for the designation and management planning of Natura 2000 sites in the EEZ on behalf of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (*Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit, BMLU*).

3.3 MARITIME SPATIAL PLANNING LEGISLATION

In Germany there is no specific legal act dealing with maritime planning. Maritime planning has been incorporated into the federal Spatial Planning Act⁶ of 1998, last updated in 2006 (*Raumordnungsgesetz*, in short *ROG*).

Maritime planning in the 12-nm zone is additionally ruled by the state spatial planning legislation of the federal states, e.g.:

- Mecklenburg-Vorpommern State Planning Act (*Landesplanungsgesetz Mecklenburg-Vorpommern, LPG-MV 1998*),
- Schleswig-Holstein State Planning Act (*Landesplanungsgesetz Schleswig-Holstein, LPG-SH 1996*)
- Lower Saxony Spatial Planning Act (*Niedersächsisches Gesetz über Raumordnung und Landesplanung, NROG 2007*).

As indicated above, Germany is a federal republic of sixteen states (*Bundesländer*). While they are entitled to make their own legislation, they are, however, at the same time subject to legislation of the federal government in certain specific areas. Federal legislation is either directly binding or binding within a framework character, i.e., to be concretised by the *Bundesländer* with more detailed regulations.

Until recently the *ROG* was a good example of such **framework law**. It laid down the all-German principles and objectives of spatial planning thus providing the framework, within which the *Bundesländer* created the legal basis for spatial planning within their respective areas, as long as they were in line with the federal spatial planning law.

Since the federalism reform of 2006, spatial planning has been proclaimed a sole *Länder affair*, and thus subject of so-called **concurrent legislation**. The new federal *ROG* planned for end of 2008 will have a guiding character only, instead of providing binding objectives for the federal states. The *Bundesländer* have been thus given the **right of exemption** from provisions of the federal *ROG*⁶. In this way the traditional fixed hierarchy of nested spatial plans has been destabilised and important coordination mechanism on the federal level will be missing.

The authorities responsible for sectoral planning, as well as other public bodies, are involved in the plan preparation procedure at every level. The binding effects resulting from this are defined in the Federal Regional Planning Ordinance (*RoV*) and the Federal Building Code (*BauGB*). The strategic environmental assessment, as defined by *Directive 2001/42/EC* (which by the way must be performed also to evaluate the environmental effects of state development programmes and regional plans as well), is ruled by the Act on Environmental Impact Assessment (*UVPG 2005*).

Other legal acts of relevance for sea-use planning are the Federal Zoning Ordinance (*BauNVO 1990*) and the federal and state nature conservation acts (*NatSchG*) (read more in section 14).

Planning principles and objectives as well as the right of designation of special areas stated in the *ROG* apply both to terrestrial and maritime spatial planning, therefore deserve a closer look at this point.

- **Principles of spatial order** (*Grundsätze der Raumordnung*): general statements describing the intended development, organisation and protection of areas as standards with which subsequent judgements and policy papers have to comply obligatorily.
- **Targets of spatial order** (*Ziele der Raumordnung*): binding standards in the form of texts or drawings in regional plans which are governed by or can be reconstructed on the basis of area-specific or functional features and which have been finally decided upon by state authorities responsible for regional or subregional planning.

The guiding principle is sustainable spatial development that harmonises the social and economic with ecological functions of space and steers it towards a balanced development of the greater region. In this process, the natural resources must be protected and "developed" i.e., improved, the operational conditions for economic development must be created and the possibilities for shaping spatial use must be secured.

⁶ All terms translations according to COMMIN BSR spatial glossary (www.commin.org/en/bsr-glossaries)
⁷ *BMVBS* online

However, in the new planned federal ROG the principles of spatial order will be replaced with "guidelines for spatial order" (Leitbilder der Raumordnung) and will not be legally binding for the federal states planning. Similarly, exemptions from the objectives will be allowed for a "good reason".

The next important instrument of the German spatial planning system, also applicable on the sea, is the possibility of designation of special areas:

- (1) Priority areas (Vorranggebiete): intended for certain spatially significant functions or uses and excluding other uses in this area where they are inconsistent with the priority functions, uses or targets of regional planning. Priority areas of different types are only allowed to overlap where this does not give rise to conflicts of use.
- (2) Reserve areas (Vorbehaltgebiete): where special importance is to be attached to certain functions or uses when compared with competing spatially significant uses.
- (3) Suitable areas for development (Eignungsgebiete): particularly recommended for certain uses, such as wind farms. The implication of such a designation is that these uses will not be permitted outside the suitable areas. This is a difference to priority and reserve areas, where a certain use is granted privileged status over others without being prohibited outside the designated area¹⁰.

Important recommendations concerning Maritime Spatial Planning and ICZM in the Baltic Sea were also provided by the Interreg project **BaltCoast**, in which Mecklenburg-Vorpommern was a lead partner.

3.3.1 MARITIME PLANNING LEGISLATION IN THE GERMAN 12-NM ZONE

As early as 2001, a decision of the Conference of the Federal and state ministers responsible for regional planning (**MIKRO**) requested the German coastal states to extend the scope of their state spatial planning to Germany's territorial sea (12-nautical-mile zone) and to adapt their regional planning objectives and principles to the specific conditions at sea. This laid an important foundation for integrated off-shore/on-shore planning with particular regard to available surface area and competition between uses.

3.3.2 MARITIME PLANNING LEGISLATION IN THE GERMAN EEZ

The §18a of the ROG, amended in 2004, rules the spatial planning in the German EEZ.

- (1) The Federal Ministry of Transport, Building and Urban Affairs (BMVBS) settles the objectives and principles of spatial order for the EEZ, taking into consideration the economic and scientific use, the safety and efficiency of shipping and protection of the marine environment.
- (2) The Federal Maritime and Hydrographic Agency (*Bundesamt für Seeschifffahrt und Hydrographie in short BSH*) carries out with permission of the BMVBS the preparatory measures for a maritime plan, in particular the Strategic Environmental Assessment and public participation. The BMVBS establishes the cross-border cooperation.

When, in accordance with (1), priority areas for wind parks are settled as principle of spatial order, their approval process in relation to the location choice and SEA is still a subject to an approval procedure due to the Marine Facilities Ordinance (*Seeanlagenverordnung, SeeVO*)¹¹. Within the framework of United Nations Convention on the Law of the Sea (UNCLOS) the planning targets and principles for the EEZ have been produced, concerning:

- economic activities and scientific research,
- safety and efficiency of shipping,
- protection of the marine environment.

3.4 PLANS

Besides the designation of special areas, the most important instrument for implementation of the above-mentioned all-German spatial order principles prescribed by the Federal Spatial Planning Act (ROG) is the quite sophisticated hierarchical system of correlated spatial and regional plans. Although on the terrestrial side there exists no single plan at the federal level, by law the entire territory of Germany is covered by some sort of plans. The most important plans in the context of maritime planning are:

¹⁰ ROG 2004 Art. 7 § 4

¹¹ ROG 2004 §18a translation and simplification by K.S.

- The **state development programme/plan** (*Landesentwicklungsprogramm, -plan*)¹², LEP) is the key planning instrument on the Bundesland level. It covers the entire state territory and through the definition of the state spatial planning goals both in text and graphic form, it is the basis of all subsequent planning in the given state.
- The **regional plan** (*Regionalplan*)¹³ is drawn for defined sub-regions within a state. Regional plans are drawn up on the basis of the state development plan. The most important purpose of regional plans is to set concrete spatial planning goals for the given region. City-states of Bremen and Hamburg are not required to draw up regional plans.

Further two kinds of local plans will be mentioned here that are important for terrestrial planning, but not for sea-use planning: the preparatory land-use plan (*Flächennutzungsplan, F-Plan*) and the binding land-use plan or local development plan (*Bebauungsplan, B-Plan*).

Parallel to the above-listed spatial planning instruments, the peculiarity of the German plan-making system is **landscape planning** (*Landschaftsplanung*) that was introduced in 1976. It is a cross-sectoral planning instrument for attaining the goals of nature conservation and landscape management in both settled and natural areas. The Federal Nature Conservation Act (*Bundesnaturschutzgesetz, BNatSchG*), which guides landscape planning requires describing and assessing the current and desirable future state of nature and landscapes and to lay down the necessary measures to be taken, in both text and thematic maps, e.g., on soil, climate, water conditions, flora and fauna etc. The provisions of the landscape plans have to be integrated into the spatial plans of the respective level. Landscape plans have to be taken into full account while weighing public against private interests in day-to-day decision-making.

- As comprehensive spatial planning, landscape plans of the following three levels cover the entire territory of the country:
- (1) Landscape programme (*Landschaftsprogramm*) covers the entire territory of a state;
 - (2) Landscape outline plan (*Landschaftsrahmenplan*) covers sections of the state territory (regions);
 - (3) Landscape plan (*Landschaftsplan*) covers the territory of one municipality.

Table 3.1 Hierarchy of spatial plans in Germany, with indication of maritime plans

Source: own compilation

Landscape plans and programmes are relevant for the 12-nm zone, in combination with the spatial plans and programmes (see

Level	Scale	Overall planning	Landscape planning
Federal + EEZ	1: 400 000	Spatial plan for the EEZ	~ Environmental report
Bundesland + 12 nmz	1: 200 000	State development programme	Landscape programme
Part of Bundesland	1: 100 000	Regional plan	Landscape outline plan
Local	<1: 50 000 <1: 10 000	Preparatory land-use plan Binding land-use plan	Landscape plan Green structures plan

Table 3.1). Although in the EEZ there is no obligation for a landscape plan, the German Federal Agency for Nature Conservation (*Bundesamt für Natur-schutz – BIN*) has voluntarily worked out a contribution regarding nature protection planning to the draft spatial plan¹⁴. The *BIN* is also collaborating on the environmental report for the SEA procedure.

As mentioned in section 3.1, maritime planning within the 12-nm zone has recently become an option for the German coastal states. In consequence, the federal states of Mecklenburg-Vorpommern in 2005 and of Lower Saxony in 2006 extended their state development programmes into the 12-nm zone.

Land Schleswig-Holstein elaborated in 2005 a spatial planning report on coast and sea (*Raumordnungsbericht Küste und Meer*), the results of which will be incorporated into a new, state development programme that will extend into the territorial waters of North Sea and Baltic Sea scheduled for the end of 2009.

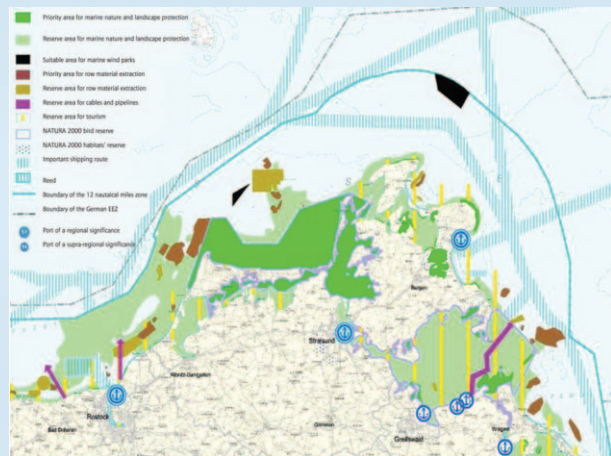
The city-states of Hamburg and Bremen only have a small proportion of Germany's total coastal sea area. Nevertheless, both are involved in various projects dealing with ICZM and marine planning in cooperation with the neighbouring states. Thus, for example, Bremen was involved in the development of Lower Saxony's spatial planning concept for its part of the territorial sea (ROKK).

¹² Different terms are used by some of the Bundesländer e.g. 'Landesraumordnungsprogramm' in Lower Saxony or 'Landesraumentwicklungsprogramm' in Mecklenburg-Vorpommern

¹³ Also called *Regionale Raumordnungsplan* - terminology differs from state to state

¹⁴ in the framework of the HABITAT MARE project, BIN 2008 online

Fig. 3.3 State development programme (LEP) of Mecklenburg-Vorpommern 2005



3.4.1 THE MARITIME SPATIAL PLAN FOR THE GERMAN EEZ

By analogy to the 12-nm zone, in the spatial plan in the EEZ shall be issued as an ordinance and paraphrased with the term “targets and principles of spatial order for the EEZ”. These targets and principles with regard to economic and scientific use, safety and efficiency of maritime traffic and the protection of the marine environment, will also be determined in graphic form as a Maritime Spatial Plan as an attachment to the ordinance (Fig. 3.4).

The first German Plan for the EEZ is also currently under preparation. At the moment, the draft is available on the BSH website for public consultation¹⁵. It will contain zones designated for shipping (priority and reservation areas), pipelines (priority and reservation areas), marine scientific research (reservation areas) and wind energy generation (priority areas). Overall, the designated areas and zones comprise about 50% of the German EEZ territory¹⁶.

3.5 MAIN RULES OF COORDINATION AND PUBLIC PARTICIPATION AND CROSS-SECTORAL COORDINATION OF THE PLAN

A public consultation process is mandatory in both the EEZ and the territorial sea according to the SEA directive and federal spatial planning legislation¹⁷, as well as in greater detail by the states' own spatial planning legislation.

¹⁵ www.bsh.de/en/The_BSH/Notifications/Spatial_Planning_in_the_German_EEZ.jsp

¹⁶ OSPAR Overview on National Spatial Planning, Questionnaire

¹⁷ ROG 2004 §15 (6)

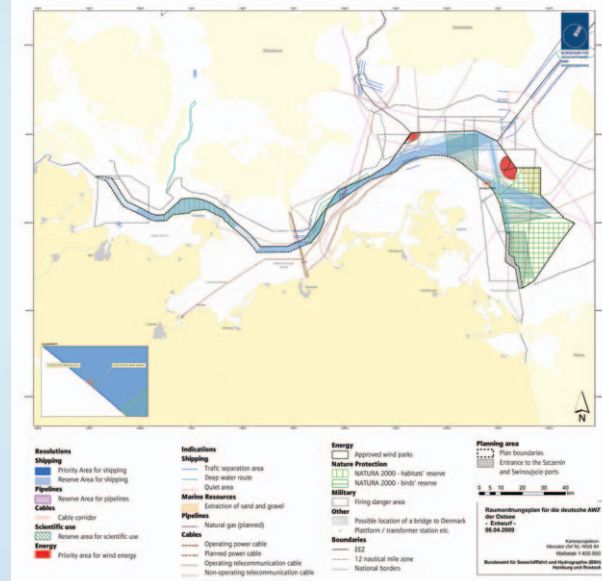


Fig. 3.4. Draft Maritime Spatial Plan for the German EEZ (Baltic part)

Rules and practice of public participation in spatial planning differ slightly among the federal states. In Schleswig-Holstein, for example, a broad public consultation process for the new state development plan including the 12-nm zone started in early 2008 and will take at least 6 months. All relevant federal, state, regional and local authorities and institutions, non-governmental organisations, associations, neighbouring states and countries will receive a draft which they can comment upon. It will also be possible, for the first time, to comment via Internet. A number of information events were planned for February and March 2008.

The amendment of the Lower Saxony state development plan (i.e., its extension to the 12-nm zone) started in February 2005 with the announcement of planning intentions. Then, the plan was drafted and in November 2006 the stakeholder and public participation process began. For the next three months, the public and stakeholders could take a position on the draft. This period was far longer than the statutory one month required in Lower Saxony¹⁸. The comments received were taken into account. During the process of elaborating the plan and the related decision making procedures, an intensive political consultation process took place as well. Here also, Internet participation (e-government) is gaining popularity.

¹⁸ e.g., NROG 55

¹⁹ ROG 2004, §18a (2)

As mentioned in section 3 of this paper, the §18a of the German Spatial Planning Act regulates, among other issues related to maritime planning in the EEZ, the conditions for public participation and transboundary coordination. The first is the responsibility of the Federal Maritime and Hydrographic Agency (BSH), and the latter is the responsibility of the federal ministry of transport (BMVBS)¹⁹.

The draft spatial plan for the German EEZ as well as its environmental report shall be subject to both national and cross-border public participation. This process started in the first half of 2008. It shall be accomplished by publishing the draft spatial plan and environmental report on the internet and making them available for public inspection in the BSH offices.

Cross-sectoral coordination shall be achieved by sending the above-mentioned documents to the interested ministries/authorities, non-governmental organisations and stakeholders, including the German coastal states and the neighbouring countries. All stakeholders will have a certain period of time prescribed by the SEA regulation (UVPG 2005) to take a position on this draft. Furthermore, it is planned to schedule a public hearing after the expiration of this period to allow all stakeholders to present their remarks on the plan and the environmental report.

3.6 TRANSNATIONAL COORDINATION OF THE MARITIME PLANS WITH NEIGHBOURS

Since the German EEZ is an international planning area that is not part of the sovereign territory and borders with the EEZs of several neighbouring countries, an international trans-boundary consultation process is deemed necessary. Good planning practice and international regulations, such as the Espoo Convention, also require efforts for cross-border cooperation. The German spatial planning act states that transnational coordination of maritime plans in the EEZ should be carried out by the federal ministry for transport (ROG 2006, §18a (2)). However, there is no prescribed procedure for such coordination; therefore, what is taking place at the moment is largely a “learning-by-doing” process.

Traditionally, there is a close relationship between Schleswig-Holstein and Denmark, including partnership agreements between Schleswig-Holstein and the region of South Denmark.

The consultations are habitually conducted in English, although translations into national languages are sometimes necessary.

3.7 INSTRUMENTS FOR COORDINATION OF MARITIME PLANS AND TERRESTRIAL SPATIAL PLANS

As said before, in Germany the greatest division and thus also the coordination challenges appear between the border of the 12-nm zone and the EEZ plans. According to the federal ROG these have to be harmonised on the “mutuality and equivalence principle”²⁰. The coastal states and the Federal Hydrographic Agency meet on a regular basis in order to harmonise sea-use plans.

The question of coordination of the 12-nm zone plans and terrestrial plans appears obfuscated since they are both integral parts of a single plan, i.e., the state development plan/programme. The harmonisation of land and sea is one of the main planning tasks. The so-called regional plans for part of state territory, either land or sea, naturally must be based on the overarching state development plan.

3.8 MAIN POLICIES TAKEN INTO CONSIDERATION WHEN PREPARING MARITIME PLANS

These are listed in section 3 of this report. New specific regulations are planned for shipping, resource exploitation, laying and operation of pipelines and submarine cables, marine scientific research, power generation including wind energy, fishing and mariculture, and the protection of the marine environment²¹.

3.9 APPROVAL/CONCORDANCE OF MARITIME PLANS

Maritime plans for the 12-nm zone, as part of the state development plan, are approved by the ministry responsible for spatial planning. For example in Schleswig-Holstein it is the Ministry of Interior, in Mecklenburg-Vorpommern it is the Ministry of Transport, Building and Regional Development.

Maritime plans for the EEZ are approved by the Federal Ministry of Transport, Building and Urban Affairs.

¹⁹ *Ibidem*, §16
²⁰ OSPAR Workshop, MASMA 07/4/1 Add.1-E
²¹ *Ibidem*

3.10 VALIDITY OF THE MARITIME PLANS, LEGAL IMPACT AND DURATION

Maritime plans both in the EEZ and the territorial sea are formally adopted legal documents (see above).

The objectives of the state development plan have the character of legal regulations, although there is no definite legal form for it. According to §4 ROG, they are legally binding for public authorities on federal, state, regional and local levels. Also, in some cases, they could be legally binding for specific private persons.

State development plans have different time spans according to state legislation. In Schleswig-Holstein, the state development plan is intended to come into force at the end of 2009 and last until 2025. The Mecklenburg-Vorpommern plan duration is 2005-2020. According to Lower Saxony's Spatial Planning Act (NRQG) there is no designated lifespan for spatial plans, and they can be amended whenever “the situation requires this”. The process for amendments and revisions is basically the same as for the original adoption of the plan. Minor amendments can be conducted without an SEA, if negative impacts on the environment are not to be expected (only the screening phase is required).

There are no legal requirements concerning the duration of maritime plans for the EEZ. Decisions on revisions and amendments will be made based on necessity due to developments in the EEZ.²²

3.11 DISPUTES OVER PLAN PROVISIONS

Here again the federal states differ in their provisions. In Schleswig-Holstein, all authorities and persons affected by the plan have the right to initiate a judicial review procedure at the Superior Administrative Court. In Lower Saxony, it is decided on case to case basis²³.

Concerning the EEZ plan, details are not clear yet, due to the current progress of the planning process. Experience on land has shown though, that under certain circumstances, affected parties can appeal to the administrative court.

3.12 OBLIGATION TO MONITOR AND REVIEW ENFORCED PLANS

Based on the spatial planning legislation, there is no obligation to monitor and review the enforced spatial plans in Germany. Amendments are to be made according to need on ad-hoc basis. However, due to the SEA directive ratified by the Law on Environmental Impact Assessment (UVP Gesetz 2004), it is compulsory to monitor the serious effects of the spatial plan on the environment. This can be organised by using existing sources of information on the current state of the marine environment.

Since 1997, the marine environment is constantly monitored on the basis of Federal-State-Monitoring Programme for the North and Baltic Sea (Bund/Länder-Messprogramm für die Meeresumwelt von Nord- und Ostsee, BLMP)²⁴.

MANAGEMENT

3.13 ADMINISTRATIVE ORGANISATION FOR MARITIME MANAGEMENT

Besides the respective spatial planning authorities on federal and state levels (see section 3.2), different technical authorities are responsible for permission for different sectoral uses on the sea. In the EEZ, it is anticipated that, in future, these activities will be in line with the newly adopted spatial plan. The Federal Maritime and Hydrographic Agency (BSH), the agency responsible for drafting the EEZ plan, is responsible in the EEZ for granting permission for underwater cables and pipelines (together with the state mining agencies), off-shore wind parks as well as research activities²⁵.

The regional Waterways and Shipping Directorate (Wasser und Schifffahrtsdirektion, WSD) is responsible for checking if the project does not impair the safety and efficiency of navigation, in accordance with Art. 6 of the SeaAnIv and the UN Convention on Law of the Sea.

²² *Ibidem*
²³ BSH 2008 online
²⁴ SeeAnIv Art. 2, and Art. 5, §1.4
²⁵ COMMIN Baltic Spatial Conceptshare online

3.14 LEGISLATION ON MARITIME MANAGEMENT

The so-called approval procedure (Planfeststellungsverfahren) is the key tool in German sectoral planning law. Its purpose is to determine whether a particular development project with spatial impacts (mostly infrastructural projects) is viable. This procedure involves weighing and balancing both the interests of the developer and any public or private interests which might be affected by the development project. It concludes with a legally binding decision.

In addition to planning approval procedure, sectoral planning law permits sectoral area designation according to spatially relevant sectoral planning laws.

The legal basis was created for each of these types of sectoral planning (e.g., Federal Highways Act, Federal Nature Conservation Act, the Federal Water Act, the Federal Maritime Responsibilities Act, etc.), laying down the tasks and jurisdictions of each authority and regulating planning approval procedures. The relevant legislation contains what are referred to as "spatial planning clauses" with the purpose of safeguarding the requirements of federal and state spatial planning. The umbrella of state and regional planning is necessary, since sectoral planning generally goes beyond the territory of a single local authority²⁵.

Laws guiding the approval procedure for constructing and operating installations in the EEZ for commercial purposes are:

- Art. 2 and 5 of the Marine Facilities Ordinance (SeeAnIV);
- Art. 1 §10a of the Federal Maritime Responsibilities Act (Seeaufgabengesetz, SeeAufG);
- Federal Mining Act (Bundesberggesetz, BBergG) guiding sand and gravel extraction.

3.15 PROCEDURES OF ISSUING USE PERMITS AND SOME PROPOSALS ON IMPROVEMENT

The procedure of issuing use permits in Germany will be described here based on the example of wind-farm project approval in the EEZ. This procedure has proved to be adequate so far, so there are no significant proposals for improvement.

Approval for a wind farm project in the EEZ will be denied if it is likely to impair the safety and efficiency of navigation or poses a threat to the marine environment without there being any suitable measures, either in the form of a time limitation or by imposing requirements, to prevent or compensate the detrimental effects. In the absence of both of the above reasons, the applicant has a legal claim to approval²⁷.

The permit issue procedure will be explained based on an example of an off-shore wind farm approval procedure. According to the Marine Facilities Ordinance (SeeAnIV) it consists of several phases:

- 1) Upon receipt of a planning application, it is first checked for completeness. If incomplete, the applicant has the opportunity to correct and complete it. At the same time, in the first round of participation, the competent authorities (including the regional Waterways and Shipping Directorates, mining authority, Federal Environmental Agency, Federal Agency for Nature Conservation) are informed about the project application and asked to comment.
- 2) After evaluation of the first comments, a larger number of stakeholders take part in the second round of participation. It also involves associations (e.g., nature protection, commercial and small craft shipping, fisheries, wind energy associations) and the public, which has the opportunity to inspect the planning documents.
- 3) An important aspect of the approval procedure is the early involvement of the German coastal states, which have to approve the laying of land feeder cables through the territorial sea for the transport of electricity to on-shore substations. Offshore wind farms normally have to be connected to the on-shore grid through feeder cables. Cables to be laid on the seabed in territorial seas have to be approved by the German coastal state in whose jurisdiction the proposal is located.
- 4) Subsequent to the second round of participation, an application conference is held during which the applicant has the opportunity to give a presentation on the project. Conflicting interests and uses are discussed, and the scope of investigations required to study possible effects on the marine environment is determined. On the basis of the environmental studies, the applicant prepares an Environmental Impact Assessment (EIA). A risk analysis dealing with the probability of vessels colliding with wind farm installations is also mandatory.
- 5) After having received the documentation from the applicant, the BSH passes it on to the appropriate authorities and associations, asking them to comment. This is followed by a discussion, during which the comments and information concerning the marine environmental features to be protected, the subject of navigational safety, and other interests and uses are discussed with all stakeholders. Parallel to this, the documents are once more available for public inspection and comment at the BSH.

²⁷ SeeAnIV Art. 3

²⁸ BSH 2008 online

- 6) Then, the BSH reviews whether the requirements for granting approval have been met. At the same time, the competent regional Waterways and Shipping Directorate reviews whether consent can be granted in light of the safety and efficiency of navigation.
- 7) If the BSH receives several applications for the same site, the application which first meets all requirements for approval (i.e., whose documents are completed first) is decided first.
- 8) After both authorities have consented to the application, a notification of approval is issued. An important part of each approval granted by the BSH for an off-shore wind farm is the incidental provision, which is issued as a largely standardised form. It includes, among others:
 - a limitation of approval to a 25-year period;
 - requirement to start building the installations within 2.5 years after receiving the notification of approval;
 - requirements concerning safety in the construction phase;
 - requirement of a geotechnical study;
 - use of state-of-the-art methods in the construction of wind turbines;
 - prior to start-up, presentation of a safety concept;
 - installation of lights, radar, and the automatic identification system (AIS) on the turbines;
 - use of environmentally compatible materials and non-glare paint;
 - foundation design minimising collision impact;
 - noise reduction during turbine construction and low-noise operation;
 - presentation of a bank guarantee covering the cost of decommissioning.
- 9) The decision on the development application is published in the German notices to mariners (NfS) and in two national papers and is available at the BSH for public inspection. It is sent to all authorities and associations involved in the approval procedure²⁸.

COMMENTS

3.16 CURRENT SITUATION AND MAIN PROBLEMS IN SMARTIME PLANNING AND MANAGEMENT

The German legislation on maritime planning is fairly new (since 2004). Hence, practical experience in this field is yet insufficient to allow critical evaluation. Time will show the gaps, especially after the first EEZ plan is approved and starts to be implemented.

The lack of knowledge concerning some important marine parameters is more disturbing. In the coming years, the most time-consuming and expensive task will probably still be data collection in order to thoroughly research and examine the effects of the sea structures and activities on the marine environment. This information from the project level will be used to monitor the spatial plan. Obtaining data from commercial sea operators is reportedly among the greatest problems currently encountered²⁹.

²⁹ Heinrichs 2007, PlanCoast Berlin Documentation p. 37

4 LATVIA

BY ANDRIS ANDRUŠAITIS,
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4.1 GENERAL INFORMATION

According to the "Law on the Continental Shelf and Exclusive Economic Zone of the Republic of Latvia (02.02.1993)", Latvian sea waters include the internal sea waters and the territorial waters (12-nm zone), which together constitute the national sea territory and the Exclusive Economic Zone (EEZ)³⁰. Latvian territorial waters in the Gulf of Riga border with the internal sea waters of Estonia. In the Baltic Proper (Eastern Gotland Basin), Latvian sea waters border with Estonian territorial waters, the EEZs of Sweden and Lithuania, and the territorial waters of Lithuania (Fig. 4.1).

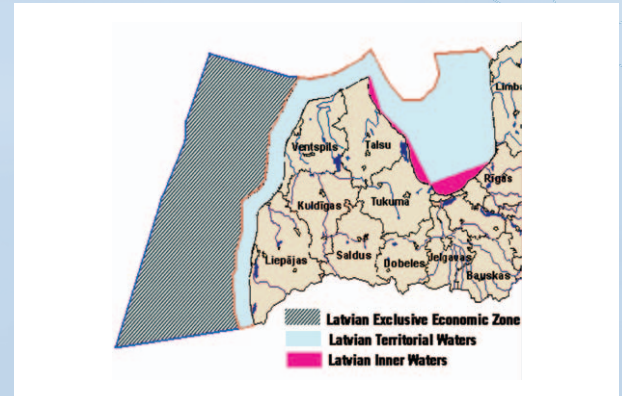


Fig. 4.1 Parts of the Latvian Sea Waters³¹

Area of the Latvian sea waters is approximately 28 000 km², and the length of the coastline – 494 km.

The coasts are predominantly sandy typically with broad sandy beaches and dune formations along the sea shore. The sea bottom in the erosion depths is also predominantly sandy with outcrops of dolomite plate, clay-gravel moraine and boulder/pebble reefs. The accumulation bottom (deeper than 20 m) is covered mostly by mud and silt.

PLANNING

4.2 ADMINISTRATIVE ORGANISATION

In accordance with the "Law on Territorial Planning (22.05.2002)"³², the territory of Latvia is subdivided into five Planning Regions, two of which, the Kurzeme Planning Region and the Riga Planning Region, border the Baltic Sea (Fig. 4.2).

4.3 MARITIME PLANNING LEGISLATION

The Latvian spatial planning system consists of four hierarchic levels of planning documents:

- National plan;

³⁰ 02.02.1993. Likums "Par Latvijas Republikas kontinentālo šelfu un ekonomisko zonu" http://www likumi.lv/doc.php?mode=KDOC&id=5685&version_date=04.03.1993

³¹ Modified from www.jkpp.gov.lv/images/LatvijaLab31.gif

³² Teritoriju plānošanas likums (22.05.2002) http://www likumi.lv/doc.php?id=63109&menu_body=KDOC

- Territorial plan of the Planning Region;
- Territorial plan of the District;
- Territorial plan of the Local Government.

Latvian sea space is subject to national level governance (see the next chapter for more details); therefore, theoretically the national level planning documents should cover elements of the sea space. The current National Development Plan 2007-2013 (approved 4.07.2006) recognizes the potential and risks associated with the seaside location of the country and even proposes to develop Riga city as a business, science and culture metropolis on the Baltic Sea Region scale, but it does not contain any vision of future territorial organization or zoning of the sea space³³.

The Strategic EIA based on this planning document generally mentions the pollution emissions from the territory of Latvia and transboundary pollution from neighbouring countries as the main causes negatively influencing the quality of the marine environment, and marine transportation and fisheries as the most important maritime pollution sources. It also stresses the importance of sustainable fisheries and the establishment of a network of protected areas, as well as the mitigation of biotic invasions among the most prominent aspects of marine biodiversity preservation. For instance, the potential of internationally important wetland areas (Ramsar sites) may extend seaward to a depth of 6 m. The Strategic EIA related to the National Development Plan also recognizes the vulnerability of buildings from the erosion of the Baltic Sea coast; still, no spatially bound implications relevant to the planning of the sea use follow from this document.

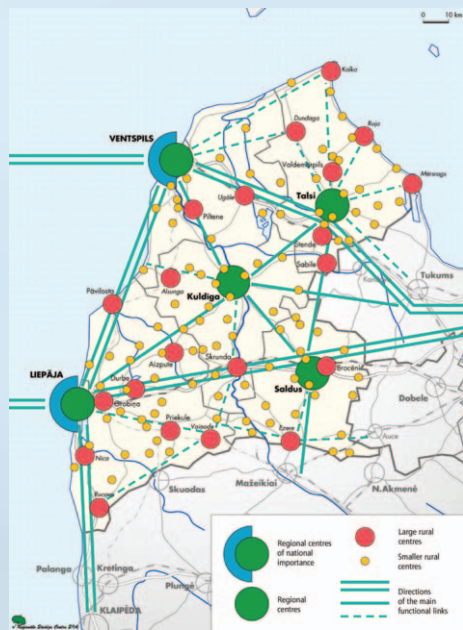


Fig. 4.2 Future spatial structure of Kurzeme planning region. Green lines denote main functional links between the major centres³⁴

³³ Latvijas Nacionālais attīstības plāns 2007 – 2013. RAPLM 2006 http://www.nap.lv/lat/nacionalais_attisibas_plans/normative_akti/?doc=472&page=
³⁴ From Spatial (Territorial) Plan of the Kurzeme Planning Region, Part II, Perspective of Spatial development 2006-2026, Kurzemes plānošanas reģiona teritoriālais plānojums. II daļa. Telpiskās attīstības perspektīva, 2006-2026 (2005) <http://www.kurzeme.lv/index.php?&>



Fig. 4.3 Potential directions of inter-regional cooperation interests of the Riga Planning Region³⁵

As prescribed by the Regulation on Spatial Planning of Planning Regions³⁶, the set of the planning documentation at the planning region level consists of four main documents:

- 1) description of the current status of spatial structure;
- 2) perspective of the development of the spatial structure (20-year horizon);
- 3) spatial planning guidelines (for district and local governments);
- 4) overview of the development of the planning documents.

Analysis of the descriptions of current spatial structure of both the Kurzeme and Riga planning regions reveals the importance of the seaside location of both these areas of Latvia. Kurzeme planning region, for instance, recognizes the Baltic Sea coast and harbours as a development advantage compared to the other regions. The Baltic Sea and its resources are the main shaping factors of the specific economic profile of Kurzeme region:

- fisheries and fish processing; marine transportation and related services; valuable recreational resource;
- economic potential of off-shore oil deposits.

In the Kurzeme planning region are two large international ports Ventspils and Liepāja (Fig. 4.2). Ventspils is the largest ice-free harbour in the Baltic specializing in oil and chemical products, while Liepāja port is of lesser prominence now, but has one of the fastest development rates in the whole of the Baltic region. The three smaller harbours of Pāvilosta, Roja and Mērsrags serve mainly for exports of timber goods and as the bases of fishing fleets. Ports located on the coast of the Baltic Proper are ice-free throughout the year which makes them particularly competitive compared to the harbours of Finland, Estonia, Russia (Gulf of Finland) and Sweden. The Kurzeme region also recognizes that its ports stimulate the development of transit business throughout the country, thus raising a substantial part of national revenues from the export of goods and services. At the same time, the whole coastline of the Kurzeme region is a problem territory that may affect the region's future development.

The spatial structure of the Riga planning region as well as its current agenda and future plans are dominated greatly by the vicinity of the national capital. Issues related to the mitigation of the adverse effects of over-centralization are the main focus

³⁵ From Spatial (Territorial) Plan of the Riga Planning Region, Part II, Perspective of Spatial development 2006-2026 Rīgas plānošanas reģiona teritoriālais plānojums. II daļa. Perspektīva, 2006-2026 (2005) <http://www.rigaregion.lv/pub/main.php?Tapa=238&oid=270>
³⁶ Plānošanas reģiona teritoriālais plānošanas noteikums, MK Nr. 236, 05.04.2005.



Fig. 4.4 Existing and perspective nature protection areas in the Kurzeme Planning Region
From *Spatial (Territorial) Plan of Kurzeme Planning Region, Part II, Perspective of Spatial Development 2006-2026 (2005)*

of the region's development plan. Nevertheless, it is recognized that the sea port and its related services constitute the dominating economic function of the city of Riga. The small harbours of Salacgrīva, Skulte, Engure and Lielupe now service mostly timber exports and fisheries, but they have the potential to be developed as busy yacht harbours. Generally, the whole Gulf of Riga coast is seen by the planning region as a valuable resource for development of international tourism. Simultaneously, it is recognized that about two-thirds of the coastline suffers from coastal erosion. In this respect, the Riga region calls for the development of a Protection Strategy for Towns and Villages Threatened by Coastal Erosion.

In the twenty-year perspective, the Kurzeme region expects that the potential of ports to support competitive transit and logistic businesses will be fully developed, and technologically up-to-date fisheries will not lose their importance. Ventspils will maintain its competitiveness and Liepāja will continue to grow, occupying one of the leading positions in east-west transit. Recreational and tourism businesses will be supported by the seaside resorts and a chain of yacht harbours. Interestingly, the Kurzeme planning region's vision includes strengthening functional links (and cooperation) between the two main centres and also to Riga, Kļaipeđa and overseas (Fig. 4.2). The Riga region presents a similar perspective by the proposal to agree on a joint development strategy for the three large harbours of Latvia in the future. Moreover, the Riga Planning Region sees the Gulf of Riga and its coast as its main sphere of interest in terms of inter-regional and international cooperation (Fig. 4.3).

In recognition of the strategic importance of nature values for the development of the planning region, Kurzeme plans to broaden its network of protected areas to also include Marine Protected Areas (Fig. 4.4)¹⁷. In this respect, the Kurzeme Planning Region proposes, as one of the activities, to develop a national level concept of integrated territorial plan for the development and protection of the coast of the Baltic Sea and the Gulf of Riga, paying attention not only to the terrestrial part of the coast, but also (a) to the importance of the protection of the marine area, and (b) linking into one system the activities and protective measures taken on land and in the sea.

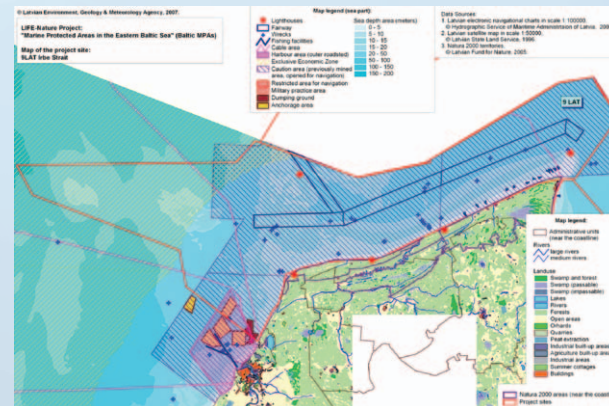


Fig. 4.5 Spatial plan of the sea uses of the southern Baltic Proper zone of Latvia. Life NATURE Project Marine Protected Areas in the Eastern Baltic Sea, Latvian Environment, Geology & Meteorology Agency (2007)
From *Spatial (Territorial) Plan of Kurzeme Planning Region, Part II, Perspective of Spatial Development 2006-2026 (2005)*

¹⁷ Interest in the participation in planning of coastal sea space is also manifested in spatial plans prepared by some local coastal authorities of the Kurzeme region - e.g. Pāvilosta.

MANAGEMENT

4.4 ADMINISTRATIVE ORGANISATION FOR MARITIME MANAGEMENT

The **Ministry of Transportation** provides general governance over Latvian maritime affairs. It is authorised to identify areas to install ship traffic systems and information infrastructure such as lighthouses to secure safe shipping in areas of dense traffic.

The Latvian **Maritime Administration** is authorised to carry out and supervises official hydrographic measurements such as depth measurements, search for sunken objects, collection and systematization of data on sea currents, variations of sea-level, bottom sediments, earth magnetism, geodesic measurements of maritime structures and other investigations. It also organizes the publishing of paper and digital sea charts and other navigation publications. The Maritime Authority issues orders to remove obstacles to navigation in the sea, and authorizes the Port Authority to issue such orders concerning navigation obstacles in harbours.

The **Coastal Guard** monitors compliance with national and international regulations that define sea-use procedures in Latvian waters.

4.5 LEGISLATION ON MARITIME MANAGEMENT

The most important Latvian act regulating the management of maritime areas is the *Law on the Continental Shelf and Exclusive economic Zone of the Republic of Latvia* (02.02.1993)³⁸. It defines the exclusive rights of Latvia to explore, exploit, protect and regulate living and non-living natural resources in the EEZ, and jurisdiction of Latvia concerning the installation and exploitation of devices, constructing and exploiting artificial islands, conducting scientific research and protecting the marine environment.

The *Law on continental shelf and EEZ* defines activities permitted in the Latvian EEZ and continental shelf, as follows:

- exploitation of natural values;
- extraction of living resources;
- installation and exploitation of devices, and construction and exploitation of artificial islands;
- installing underwater cables and pipelines;
- blasting operations.

In order to carry out these activities, physical and legal persons have to receive appropriate permits and licenses.

The Ministry of Environmental Protection is an authority responsible for issuing permits for dumping dredged soil in the EEZ.

Other important laws related to the Latvian sea space are:

- Law on protecting belts (*Aizsargjoslu likums*) 05.02.1997,
- Law on fisheries (*Zvejnniecības likums*) 12.04.1995,
- Law on Maritime Administration and Maritime Safety (*Ūrlietu pārvaldes un jūras drošības likums*) 31.10.2002,
- Law on Harbours (*Likums par ostām*) 22.06.1997,
- Law on Environmental Impact Assessment (*Likums par ietekmes uz vidi novērtējumu*) 14.18.1998,
- Law on Water Management (*Ūdens apsaimniekošanas likums*) 12.09.2002,
- Law on protecting belts (*Aizsargjoslu*) 05.02.1997,
- MK No. 296 Regulation on industrial fishing in territorial waters and EEZ (*Noteikumi par rūpniecisko zveju teritoriālajos ūdeņos un ekskluzīvās ekonomiskās zonas ūdeņos*) 02.05.2007,
- KM Regulation No. 508 On procedures of use and shipping in waters of Latvia. (*Noteikumi par Latvijas ūdeņu izmantošanas kārtību un kuģošanas režīmu tajos*) 12.07.2005,
- KM Regulations No. 475 On procedure of cleaning and dredging in the surface water bodies and ports (*Virszemes ūdensobjektu un ostu tīrīšanas un padziļināšanas kārtība*) 13.06.2006.

³⁸ Par Latvijas Republikas kontinentālā šelfu un ekonomisko zonu www.likumli.lv/doc.php?id=56856&mode=KDOC

4.6 PROCEDURES FOR ISSUING USE PERMITS

Specific building regulations for construction works in territorial waters and the EEZ do not exist in Latvia. According to the Law of Building, these regulations are issued case-by-case by the **Cabinet of Ministers**. As an example, the possible procedure for building a hydrotechnic port structure is given below.

During the project preparation phase, in addition to the documentation required by General Building Regulation³⁹, the developer is required to receive technical regulations from the **Maritime Administration** and the respective **Port Authority**. The project task has to be prepared in accordance with the General Building Regulation and approved by the **Port Authority, Maritime Administration and Marine Environmental Board**⁴⁰.

The Building Permit (*būvatļauja*) is issued by the respective territorial **Building Administration (būvvalde)** on behalf of the **Ministry of Transportation**. For deepening fairways, ship manoeuvring basins or canals, a Building Permit is given by the respective **Port Administration and Marine Environmental Board** after approval by the **Maritime Administration**. Supervision of the construction process is carried out by the **State Building Inspection (būvinspekcija)** and **Maritime Administration**.

COMMENTS

4.7 CONCLUDING REMARKS AND RECOMMENDATIONS

The development of the MSP system in Latvia has not yet been started. Although various services and goods provided by the Baltic Sea or related to it are one of the foundations of the national economy and the welfare of the population, elements of MSP have not been found in any of the inspected planning documents either on the national or planning region levels.

Both Kurzeme and Riga planning regions recognize the decisive importance of their seaside location for their competitiveness, and are also aware of the sea coasts as specific risk zones. Both planning regions are highly interested in the future development of activities related to the use of marine space, including maritime transportation, harbours, coastal protection engineering, and establishing a marine protected area network.

A unified regulation of the procedures of performing spatially-significant maritime activities does not exist. Apparently, in the case of each substantial initiative, the national government has to issue a specific regulation. The administrative framework is basically ready for extensive development of sea-use in the future. Still, jurisdiction is scattered among the institutions of at least four ministries. The legislation and regulatory basis is fragmented and complicated, which poses possible risks of legislative gaps, controversies and overlaps.

The jurisdiction of a broad-scale national level MSP shall be established and corresponding planning documentation augmented to an existing national development plan.

The absence of MSP means that there is no subject for SEA on the development of activities in the sea. The combination of 'no planning/no strategic EIA/no uniform description of clearing procedure' can potentially lead to a chaotic development of spatially-significant commercial activities in the sea, e.g., construction of wind parks, extraction of minerals, carrying out of coastal counter-erosion protection, installing pipelines and cables, oil and gas prospecting and extraction etc., as well as claiming of sea space for nature protection. Local, district and regional authorities, which seem to be among the most interested stakeholders in all these activities, are kept away from the planning process of off-shore sea-use. Territorial waters and EEZ are under the national governance, therefore it would be practical to keep their planning competence on the national level, and moreover, the current sectoral legislation stipulates that decisions about use of space are adopted on national level, still the planning regions and local governments must be partners in the process of MSP. This would allow initiating a more strategic approach to the development of sea space and help to avoid various kinds of governance and management discordance between the neighbouring terrestrial and marine areas which constitute, in essence, inseparable natural and socioeconomic systems.

³⁹ Vispārīgie būvnoteikumi, MK No.112, 01.04.1997 online at www.likumli.lv/doc.php?id=42807

5 NORWAY

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5.1 GENERAL INFORMATION

The situation in Norway is characterised by increasing pressure on, and competition for space and resources in the coastal zone⁶⁰. This is mainly caused by the development within three industries:

- 1) recent developments in aquaculture (fish and shellfish farming) and the expected growth in this industry in the near future;
- 2) the development of the tourist industry;
- 3) an enduring tendency to build new homes, the extension of second homes or holiday houses in the immediate proximity of the shoreline.

PLANNING

5.2 ADMINISTRATIVE ORGANIZATION FOR MARITIME AND COASTAL SPATIAL PLANNING

In Norway, the **municipalities** have the main responsibility for coastal zone planning, which includes sea areas out to the baseline (i.e., a straight line between the outer islets and reefs). However, to plan the sea areas is an opportunity for the municipalities, not an obligation. By the end of 2005, 82% of Norway's 280 coastal municipalities had made such plans. The strong growth in the aquaculture industry is considered to be the most important single reason why the municipalities have integrated the sea areas into their spatial planning⁶¹. The municipal coastal zone can either be integrated in the municipal master plan or be a separate plan for the coastal and/or sea areas.

The terrestrial and the sea part of the coastal zone are intended to be integrated parts in the planning activity, where the objective is to regard terrestrial and marine areas together. The municipalities have an obligation to make an overall master plan for all their terrestrial areas, and this plan shall be revised every four years. This plan is legally binding. Many municipalities have included the sea areas into their plans. It is the elected local council which makes the final planning decisions.

Other important actors regarding coastal zone planning in Norway is the **County Council** (the elected government at the regional level), the **County Governor's Office** (state representative in the county) in particular the environmental agency, and the regional branch of the **Directorate of Fisheries**. The County Council and the various state agencies represented at the regional level can raise objections to a municipal plan if the plan is considered to be in conflict with national guidelines and priorities. In the event of this kind of objection, the municipality cannot approve its own plan. If the parties do not manage to reach an agreement, the final decision is made by the **Ministry of Environment**. The Ministry of Environment has the main responsibility for spatial planning and gives general guidelines and priorities to the municipalities and other relevant actors. One national instruction is the prohibition against building on or partitioning off a property inside a 100-metre-wide belt along the shoreline to the sea.

The municipalities are not given the responsibility for resource extraction in the coastal zone, as fisheries, kelp, seaweed, shell sand, etc. These subjects are regulated by particular legislation where different state agencies have responsibility. The municipalities have no responsibility to plan outside the baseline. The Ministry of Environment, in cooperation with other ministries and authorities, has made a management plan for the Barents Sea and sea area of the Lofoten Islands. The management plan sets the overall framework for both existing and new activities in these waters, and facilitates the co-existence of different industries, particularly the fisheries industry, maritime transport and petroleum industry. The aim of the plan is to establish a holistic and ecosystem-based management of the activities in the Barents Sea – Lofoten area.

The **County Council** is responsible for regional planning, including the coastal zone. In order to meet the coordination requirements of ICZM in Norway, a system of regional (county) coastal zone planning was introduced in 1996⁶². These plans have to be approved by the Ministry of Environment. The county plan is not legally binding, as the municipal spatial plan.

5.3 MARITIME PLANNING LEGISLATION

In Norway, the integrated management of the coastal areas is intended primarily to be achieved through spatial planning carried out at the local level in accordance with the Planning and Building Act (PBA). The PBA was adopted in 1985. The opportunity to plan the sea areas out to the baseline was realised in 1989, after a revision of the PBA. In the new PBA from July 2008 the opportunity will be extended to one nautical mile outside the baseline.

⁶⁰ Bennett, 2001; Ministry of Environment, 2002

⁶¹ Stokke et al. 2006

⁶² Hovik & Stokke 2007

5.4 MAIN POLICIES GUIDING MARITIME PLANNING

An important national guideline is T-1048 National Policy Guidelines for planning in coastal and marine areas in The Oslofjord region from 1993, from the Ministry of Environment. The objective is to ensure that natural resources, outdoor recreation and cultural heritage in the Oslofjord region shall be managed as a national resource and to preserve the area for future generations.

Another guideline is the T-4/96 Guidelines for planning and resource extraction in the coastal zone, from the Ministry of Environment and the Ministry of Fisheries. The guidelines in this document are quite general. It is emphasised that the relevant state agencies at regional level shall participate in the coastal zone planning processes in an early stage.

Important guidelines to municipality spatial planning are the objections decided by the Ministry of Environment. These decisions set precedents for similar planning situations.

5.5 PLANS

Following types of spatial plans are produced in Norway: municipal coastal zone plans. As mentioned, by the end of 2005 82% of Norway's 280 coastal municipalities had made such plans; regional coastal zone plans – nine counties have made such plans; management plan for the Barents Sea and Lofoten; management plan for water regions according to the Water Framework Directive are now upcoming, and some of them include coastal waters.

The main legal basis for municipal planning in the sea is authorized by §20-4 no. 5 in the Planning and Building Act. This section gives the municipalities the authority to designate given sea areas for specific use or protection of specific interests, as traffic, fisheries, recreation, nature conservation or aquaculture, combined or isolated. Since the municipalities have the right, and not the obligation, to plan at sea (in opposition to the obligation to plan on land) they can alternatively leave some areas unplanned. How the sea areas are distributed between different purposes or different combinations of purposes varies a lot between regions as well as between municipalities within the same region.

The most important reason why most municipalities plan in the sea is to be able to locate the fish and shell farming industry in places where the industry is given optimal natural conditions, and at the same time reducing the conflicts with other interests to a minimum.

5.6 PRIORITISATION AMONG SEA USES

Research from Norwegian Institute for Urban and Regional Research (NIBR) indicates that the interests of the fisheries and aquaculture are well taken care of in the coastal zone plans in the 15 selected case-municipalities in spite of large variations. Larger sea areas are designated to fish- and shell-farming, either as single-purpose aquaculture areas or multi-purpose areas, indicating that the industry has gained greater influence over years⁴¹.

The study indicates that municipal coastal zone planning has the potential of being an effective instrument for promoting development that balances the interests of the fisheries and the aquaculture industry, as well as the interests of these two industries with other interests in local communities. The key element here is active participation of individuals and organisations representing important stakes, as well as of actors representing the state and county governments. The Planning and Building Act puts emphasis on open and democratic planning processes as methods for achieving a good balance between the interests of economic activities and nature conservation, as well as between different user interests.

⁴¹ Stokke et al. 2006

6 POLAND

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6.1 GENERAL INFORMATION

According to Polish law, Polish sea waters include (Fig. 6.1) the internal sea waters and the territorial sea (12-nm zone), which together are the national sea territory, and the Exclusive Economic Zone. According to a recently prepared amendment of the Act on Sea Areas of Poland and Maritime Administration, the internal sea waters are a narrow strip between the baseline and coastline along the open sea coast.

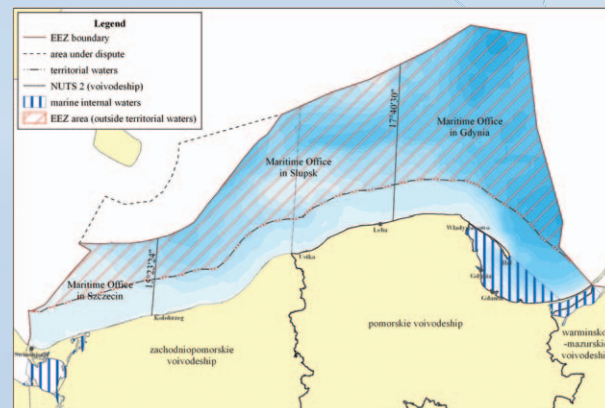


Fig. 6.1 Polish sea area delimitation

The total area of the internal sea waters is about 1,991 km² and includes the Vistula Lagoon, the Szczecin Lagoon, the Gulf of Gdańsk and port waters. The territorial sea area is 8,682 km², and the area of the EEZ is 22,634 km². South of Bornholm there is a disputed area with unresolved claims by Denmark and Poland.

All sea areas within national territory belong to the Treasury, and in its name ownership rights are executed by the Minister of Infrastructure, who is the head of Polish maritime administration. Ownership does not extend into the EEZ, but in the name of the State, the Minister of Infrastructure acts, as far as solutions of the United Nations Convention on Law of the Sea allow, as if he was the owner.

At present, the intensity of Polish sea space use is rather low, especially when compared with some other sea areas (e.g., German, Danish, Dutch, Belgian or some UK areas). However, the increasing trend to use sea space for the needs of industry (wind farms, other energy production installations, future production/processing plants), various types of mining, communications, power, oil and gas transfer, transports, storage, dumping, recreation, waste water and sewage discharge, together with the extensive newly established and planned nature protection areas, and fishing and national defence requirements, is already driving towards the very intense use of Polish sea space, demanding careful, farsighted spatial management.

Except for a narrow strip along the coast and most port areas, data and knowledge are rather patchy, and are based on broad generalisations, and therefore insufficient for detailed spatial planning. This is especially true of information on geology, currents, dynamics of the seafloor in the deep sea and biology.

PLANNING

6.2 ADMINISTRATIVE ORGANISATION FOR MARITIME PLANNING

Responsibility for planning is uniform over all sea areas (i.e., internal sea waters, the territorial sea zone and the EEZ). The plans should cover sea areas only with no extension onto coastal land. Draft spatial plans are to be prepared by the territorially competent Director of Maritime Office (i.e., maritime administration). The costs of preparing the spatial plan of the sea area and the environmental impact study are covered by the State budget or by the investor if determinations of the plan are a direct consequence of the realisation of his investment.

On coastal land, responsibility for spatial planning is divided, depending on the type of plan, among the self-governmental authorities of municipality and voivodship (province)⁴⁴. The plans should end at the coastline/waterline with no extension into the sea area.

Spatial plans at the municipality level are drafted by the Mayor of the Municipality and accepted by the Municipality Council. They are of two types:

- the so-called "study of conditions and directions of spatial management of municipality" (*studium uwarunkowań i kierunków zagospodarowania przestrzennego gminy*), which covers the whole area of a municipality and is indicative, and
- the "local land use plan" (*miejscowy plan zagospodarowania przestrzennego*), which covers only a selected area within the municipality, and is an act of local law.

The Spatial Management Plan of the Voivodship (*plan zagospodarowania przestrzennego województwa*) is drafted by the Marshall of the Voivodship and accepted by the Voivodship Assembly. This plan is of an indicative character, although the aforementioned studies prepared by municipalities should be agreed upon with the Marshall to avoid conflicts with the main conclusions of the voivodship spatial management plan.

At the national level a Concept (outline) of Spatial Development of the Country (*Koncepcja Przestrzennego Zagospodarowania Kraju*) is elaborated and approved by the government and presented to the Parliament. This is a strategic document and is non-binding. However, the main conclusions from this document should be taken into consideration in voivodship and municipality spatial management documents, and also in central, voivodship and municipality level policies and strategies. So far, the sea space is not covered in this document. Work on a new Concept was started in 2006. This Concept will also contain indications and guidelines concerning the use of, and development in, Polish sea areas, including the EEZ.

6.3 MARITIME PLANNING LEGISLATION

Regulations concerning spatial planning of sea areas are contained in Chapter 9 (articles 37a and 37b) and in Chapter 8 (article 37, §4) of the Act on Maritime Areas of Poland and Maritime Administration of March 21, 1991. They were added to the Act in 2003 and slightly amended in 2005. They regulate planning of the sea space and of the neighbouring terrestrial strip called the "coastal belt" (*pas nadbrzeżny*). The relevant chapters of the act are quoted in the annex. However, it is rather clear that there are some serious drawbacks in the existing law on maritime spatial planning. For example the Act does not satisfactorily describe the main objectives and principles of such planning, which is important for possible conflict settlement and prioritization between different sea users. There is also no hierarchy of the maritime plans envisaged. Thus, it is not clear whether maritime plans are more likely to be a kind of regional spatial management plan (additional planning "sea" region) of a strategic and indicative nature, or rather a kind of local land use plan that are strictly binding; perhaps both are necessary for different purposes.

The degree of generalisation/accuracy of solutions and stipulations contained in the spatial plan depends on the scale of the plan and on the quality of available data. The scales and other matters of planning procedure should be regulated by ministerial ordinance. A draft of this ordinance was prepared and sent to a first round of consultation, but after that work on the ordinance stopped.

The Act "On Spatial Planning and Management" of 17 March 2003 (with several later amendments) is also of some importance for maritime planning. This Act has only a minor provision for maritime planning ensuring the participation of the Maritime Administration as an important stakeholder in the coordination process of local land use plans, municipal studies of

⁴⁴ Municipalities are fully self-governmental. At the voivodship there are two structures: self-governmental (Voivodship Parliament – Sejmik, and Marshall of Voivodship – both elected), which govern the voivodship, and the Voivod (Governor – appointed by the government), who represents the central government and basically supervises observance of law and national policies in the voivodship.

conditions and directions of spatial development and of voivodship spatial management plans for planning in the technical belt, protective belt and harbours and ports. The relations between maritime plans and terrestrial plans are not covered in this document.

6.4 PLANS

The maritime plans decide about:

- the destined use of the sea areas;
- prohibitions or limitations in the use of the sea areas, taking into account the requirements of nature protection;
- distribution of public investment;
- directions of development of transport and technical infrastructure;
- areas and conditions of protection of environment and cultural heritage.

The draft spatial plan of the sea area must include an environmental impact study.

The Minister responsible for matters of building, spatial management and housing shall determine by ordinance the required scope of plans of spatial development of marine internal waters, territorial sea and EEZ in their textual and graphic parts, taking into particular account requirements concerning planning materials, type of cartographic elaborations, the designations, nomenclature, standards and methods used to document the progress of planning work. Because the ministerial ordinance has not yet been issued, there is no possibility of producing a legally binding maritime spatial plan. The result of this is that there are no plans. However, work on a test draft plan has been recently started. This work should provide experience to improve the existing law on maritime planning and to finalise the work on the ministerial ordinance.

The test plan covered the western part of the Gulf of Gdańsk, excluding port waters. The graphic part was on a scale of 1:25,000. The decisions of the plan concerned the water surface, water column, sea bottom and air above. Safety zones and permanent and periodical limitations of use of identified sea areas were stipulated. The plan also took into account the existing and planned use and development of neighbouring coastal lands.

It is assumed that the basic objectives of the plan have been:

- a. ensuring sustainable development of coastal communities;
- b. ensuring good state of marine and land/sea ecosystems;
- c. ensuring safe and sustainable use of the sea;
- d. economic use of space, leaving as much room as possible for future uses of the sea as yet unknown;
- e. maintenance and protection of historical heritage;
- f. where possible, using solutions concerning not only space but also time.

6.5. MAIN RULES OF COORDINATION AND PUBLIC PARTICIPATION AND CROSS-SECTORAL COORDINATION OF THE PLAN

Regulations on maritime planning do not provide for broad public participation. Cross-sectoral coordination is required only at central, inter-ministerial level because a spatial management plan for a sea area is accepted in agreement with the specified Ministers. If the plan concerns the territorial sea and/or an internal sea area, agreement (i.e., coordination) is required with the neighbouring coastal municipality.

The existing regulation does not require broad public participation, but neither does it exclude it. The approach used in the test plan mentioned is different from the very beginning. Over 50 central, regional and local authorities, economic and social stakeholder organisations and NGOs have been directly informed and asked for proposals for the plan. The information and call for proposals has been also published on the web page of the Maritime Office. The resultant stakeholder network was maintained throughout the process of work on the plan.

6.6. TRANSNATIONAL COORDINATION OF THE MARITIME PLANS WITH NEIGHBOURS

There is no specific procedure for transnational coordination of maritime plans.

6.7. INSTRUMENTS FOR COORDINATION OF MARITIME PLANS AND TERRESTRIAL SPATIAL PLANS

There is no legal provision that the Concept (outline) of Spatial Development of the Country or the regional spatial management plans should be taken into consideration when developing maritime plans. Legal provisions for coordination between land and sea are provided in Chapter 8 of the Act on Sea Areas of Poland (§3 and §4 of Art. 37), but these concern only the local level. These regulations require that the terrestrial (local level) and sea planning authorities must seek agreement with each other when developing maritime plans. It is important to stress that an agreement is required, not just an opinion. The plans can become valid only when agreed. Since no maritime plan has been developed, no good practice or examples for coordination of the sea plans with terrestrial plans can be given.

The same procedure applies to terrestrial plans, but only as far as the technical and protective belt and space of the harbours and ports is concerned. Thanks to this coordination, such plans will contain solutions and requirements for such sea-related issues as: predicted sea level rise due to climate change, coastal protection, sea flood safety, safety of navigation, proper location and parameters of structures and infrastructure crossing the coastline.

However, in general, in the Polish law there is no general requirement that maritime plans as such should be taken into consideration when developing their terrestrial counterparts, i.e., terrestrial plans at different administrative levels such as local or regional (and vice versa). In terrestrial planning, there is a clear provision that regional plans must be taken into consideration in the study of conditions and directions of spatial management of municipality or National Spatial Development Concept in the regional plans. With maritime plans, the principle should be similar, but should cover both horizontal and vertical relations.

For horizontal coordination, the National Spatial Development Concept should encompass both sea and terrestrial spaces. Then, either both types of plans of similar planning level such as the maritime strategic plan of territorial and internal waters and terrestrial regional plans should be developed simultaneously or in cooperation, or the development of a new plan should be taken into consideration and be able to influence the existing plan, be it terrestrial or maritime (this should be achieved by installing/improving/extending the legal mechanisms of participation). The same applies to local land use plans and detailed plans covering some parts of the territorial and internal sea waters.

For vertical coordination, maritime strategic plans should take into consideration conclusions of the National Spatial Development Concept (objectives, principles, priorities) in the same way as regional terrestrial plans. At the lower planning level, strategic maritime plans should influence local terrestrial plans via regional terrestrial plans, and vice versa regional terrestrial plans should influence maritime detailed plans via maritime strategic plans⁴⁵.

6.8. MAIN POLICIES TAKEN INTO CONSIDERATION WHEN PREPARING MARITIME PLANS

At present, except (i) the long-term strategy for coastal protection, and (ii) guidelines towards an ICZM strategy, Poland has no policy or strategy which would seriously consider the sea area and/or the economic, social and environmental sea-land interactions.

The coastal protection strategy was developed in 2000, and takes into account the effects of predicted climate change (sea level rise, increased storminess, disadvantageous change of prevailing wind direction, rise of groundwater table). The strategy has two decision parameters: position of coastline and level of safety of hinterland provided by the coastal system (together with possible coastal defence structures). A policy of selective controlled retreat of the coastline is assumed. Coastline position in 2000 shall be maintained along about 30% of total coastline length. The strategy prohibits mining sand or aggregate from sea bottom closer than 5 km from shore and from water depths less than 20 m. The preferred method of coastal defence is sand nourishment; therefore, all resources of sand fit for nourishment should not be used for other aims and should be kept accessible.

The guidelines towards a national ICZM strategy were developed in 2005. It is stressed that the use and planning of the sea space should be ecosystem based. Ample space should be ensured for newly appearing and for future, yet unknown, uses of the sea. Coastal and sea recreation and tourism are seen as important sources of income. But the most important driver of growth should be proper cooperation between seaports and port towns and regions.

Natura 2000 must also be observed when developing maritime plans. Some other policies are also relevant but there is no legal provision requiring that they should be taken into consideration when developing maritime plans. Among the policies that can be mentioned are national policies for energy, transportation, environment, and climate change which should provide guidelines for sea area management. Some of these policies still have to be developed or improved to contain the sea element.

⁴⁵ An example can be an attempt to allow for building a new wind farm on the sea. This requires a sufficient high voltage power line capacity (for transmission of energy) which should be foreseen in the regional terrestrial plan, and through this plan transferred to the local terrestrial plans as well.

6.9. APPROVAL/CONCORDANCE OF MARITIME PLANS

The plans of spatial development of marine internal waters, territorial sea and EEZ, are to be accepted by ministerial ordinance by the Minister responsible for matters of building, spatial management and housing, in agreement with the Ministers responsible for matters of maritime economy, agriculture, environment, internal affairs and the Minister of Defence. When accepting the plan, the Minister should take into account EIA and valid permissions issued prior to the acceptance of the plan [these are permits for building and the use of structures/installations located in the sea area issued, depending on type, location and existence of a spatial plan, by the Minister responsible for matters of maritime economy or by the Director of the Maritime Office who has jurisdiction in the area].

6.10. VALIDITY OF MARITIME PLANS, LEGAL IMPACT AND DISPUTES

After publishing the ministerial ordinance, the plan comes into force. There is no time limit for its validity.

The Act on Maritime Areas of Poland and Maritime Administration of 21.03.1991 does not provide a clear indication of the legal status of spatial plans of sea areas. However, the use of the word "decides" in §2 of Article 37a, suggests that they are binding law rather than merely indicative documents.

6.11. DISPUTES OVER PLAN PROVISIONS

Possible disputes can be settled in the Central Administrative Court (*Naczelny Sąd Administracyjny*) in accordance with the Code of Administrative Procedures (*Kodeks Postępowania Administracyjnego*) and in the Constitution Tribunal (*Trybunał Konstytucyjny*).

6.12. OBLIGATION TO MONITOR AND REVIEW ENFORCED PLANS

Polish law does not provide any regulations on monitoring and review of sea-use plans. This is one of many weaknesses of existing law on sea-use planning.

MANAGEMENT

6.13. ADMINISTRATIVE ORGANISATION FOR MARITIME MANAGEMENT

In the name of the state, sea areas are managed by the minister responsible for matters of maritime economy (at present Minister of Infrastructure) and by his regional administration, i.e., the Directors of Maritime Offices⁴⁶.

6.14. LEGISLATION ON MARITIME MANAGEMENT

Management of the sea space according to existing legislation should follow the provisions of maritime plans. Specific decisions on the use of the sea area, issued by the maritime authorities or any other legally competent authority, in principle must be conformant with the decisions/solutions of the plan. This has been decided in Chapter 9 (Art. 37a §2) and indirectly in Chapter 4 (Art. 23 §1) of the Act on Maritime Areas of Poland and Maritime Administration of 21.03.1991. However, according to the same Act, some type of uses is exempted from planning regulations since they are regulated by international law. Among them are navigation, laying of cables and pipelines in the EEZ and navigation in the navigation corridors established in territorial waters.

Some allocation of (or rather encroachment on) the sea space for specific uses may also be done according to Polish law by ordinance of the sectoral ministers and authorities, i.e., closed military areas are enforced by the Navy, and Natura 2000 areas are enforced by the Minister of Environment outside the planning system/regime. This is contradictory to the idea of integrated, comprehensive planning and management.

In addition to the Act on Maritime Areas of Poland and the Maritime Administration of 21.03.1991, the Act "Construction Law" of 07.07.1994 (with later amendments) is also relevant for maritime management concerning approval of projects located in the Polish sea areas. It regulates the process of issuing construction permits.

⁴⁶ According to Polish law, the Minister and the Director of Maritime Office (MO) are organs of maritime administration. The Ministry and the Maritime Office, respectively, are structures supporting the organs. In some countries the legal solution is different: the ministry and office are the organs. There are three Maritime Offices: in Gdynia, Sopot and Szczecin.

6.15 PROCEDURES OF ISSUING USE PERMITS AND SOME PROPOSALS ON IMPROVEMENT

If an accepted spatial plan exists for the sea area in which the project is to be located, then the planning and approval process for a project is as follows:

- a. **Permit for Erecting and Use** (*pozwolenie na wznoszenie i wykorzystywanie sztucznych wysp, konstrukcji i urządzeń*), i.e., a permit for erecting structures in a selected part of sea area and for using it for aims of the project must be obtained from the Director of the Maritime Office with jurisdiction in that area after consultation with the Ministers of Agriculture, Culture and National Historical Heritage, Defence, Economy, Environment, and the Minister of Internal Affairs and Administration; however the scope of consultation does not include coastal municipalities, NGOs or public consultation. The permit has the status of an administrative decision; the maximum period of validity of the Erecting and Use Permit is 5 years;
- b. next, if the project site is located in the territorial sea or internal marine waters, a **Contract of Use** (*umowa o użytkowaniu*) of the given part of sea area for the project must be signed by the Minister of Infrastructure and the applicant (developer) and, finally,
- c. a decision on giving a **Permit for Construction** (*pozwolenie na budowę*) is issued by the Voivod/Governor; the Decision on a Permit for Construction must be issued in agreement with the Director of the Maritime Office, based on the spatial plan (if it exists) and on the Erecting and Use Permit; the Director of the Maritime Office (MO) establishes safety zones around/along the objects.

When there is no approved spatial plan for the area, the Erecting and Use Permit is issued exclusively by the Minister of Infrastructure (except cables and pipelines in the territorial sea and internal sea waters for which the Erecting and Use Permit is issued by the Director of the Maritime Office) after consultation with the Ministers of Agriculture, Culture and National Historical Heritage, Defence, Economy, Environment and Internal Affairs and Administration; and the scope of consultation does not include coastal municipalities, NGOs or public consultation.

A list of reasons for which the Erecting and Use Permit may be refused is provided; however, there is still no procedure for granting the Permit to one applicant when there are several applications for the same area.

The Contract for Use is in fact a lease contract. By definition, all Polish sea areas within the territorial sea and internal sea waters are the property of the State and cannot be sold, therefore the lease is given for a limited period. The contract contains the amount of the annual rent, the calculation of which is defined by law. Stipulations of the Erecting and Use Permit are an integral part of the Contract. Of course, the Contract cannot be drawn for sea areas located in the EEZ, since by international law, although their use is controlled by the coastal State, they are not a part of its territory.

When the project concerns any kind of mining, a mining licence must be obtained. This licence is issued by the Minister of Environment in agreement with the Minister of Infrastructure. The holder of the licence must also obtain an Erecting and Use Permit and sign a Contract for Use.

In case of projects located in the EEZ, for which an Erecting and Use Permit is required, but other than cables and pipelines, a fee equal to 1% of value of the planned project must be paid before the Permit is given to the applicant. In summation, the procedural path is as follows:

- for cables and pipelines in the territorial sea and internal sea waters: Spatial Plan (if it exists) → Erecting and Use Permit (Director of the Maritime Office) → Contract for Use (Minister) → Permit for Construction (Voivod);
- for most of the projects located in the EEZ: Spatial Plan (if it exists) → Erecting and Use Permit (Director of the Maritime Office when plan exists, Minister when there is no plan) → Permit for Construction (Voivod);
- for projects located in the territorial sea and internal sea waters: Spatial Plan (if it exists) → Erecting and Use Permit (Director of the Maritime Office when plan exists, Minister when there is no plan) → Contract for Use (Minister) → Permit for Construction (Voivod).

The system has attempted to remove some of the negative elements of the earlier law. Consultation with Ministers important for the sea areas is now required by law during the project approval process, a list of reasons for refusing an Erecting and Use Permit is provided, there is a time limit for the expiration of the Permit, and by removing the "Decision on the Conditions of Development and Management" (DCDM)⁴⁵, which existed in earlier law, from the process and leaving the Erecting and Use Permit, the procedural road of investors from first application to obtaining the Permit for Construction is significantly shortened in comparison with the previous procedure, especially for projects located in the territorial sea and internal sea waters.

6.16 DISPUTES

Disputes on specific decisions on sea area use and on issuing Erecting and Use Permit, Contract for Use and Permit for Construction can be settled in accordance with the Code of Administrative Procedures.

⁴⁵ The DCDM was issued by the Director of the Maritime Office and fulfilled the role of a binding local sea use plan for the area of proposed investment/activity. The process included an extensive network of agreement and consultation. Like any spatial plan, it did not provide the applicant with rights to the site.

6.17 PREVENTING ILLEGAL SEA USES

Actions or decisions in conflict with the solutions of the plan would be illegal. The same concerns sea investments foreseen in the plans but executed without a Permit for Construction. If such illegal actions appear, the Director of the Maritime Office with jurisdiction can, by administrative decision, fine the offender up to an amount of 1,000,000 SDR (Art. 55 of the Act on Sea Areas of Poland). The decision has the rigour of immediate enforcement. Activities can be stopped and court proceedings started in accordance with provisions of the general law and Construction Law.

COMMENTS

6.18 CURRENT SITUATION AND MAIN PROBLEMS IN MARITIME PLANNING AND MANAGEMENT

There are some basic points which should be treated as cornerstones of the Polish maritime planning system, which should be maintained despite all institutional and legal changes:

- a. keeping the Maritime Administration responsible for maritime planning not only because of the accumulated experience and specific knowledge of water related processes indispensable for proper maritime planning (e.g., water space is three-dimensional, with more active interlinkages between different economic and biological processes), but even more so because the sea area requires one manager to govern and coordinate all possible uses in the name of the State, and planning is one of the most important tools of management and governance;
- b. maintaining the relation between terrestrial and maritime plans at all administrative levels starting from Concept (outline) of Spatial Development of the country (as envisaged in the new concept) and ending at local land use plans (as stipulated by existing legislation).

Key issues to be discussed and decided are as follows:

- main objectives and principles of maritime planning;
- the structure and hierarchy of the maritime plans (do we need only legally binding maritime plans or also strategic plans of indicative character);
- need of differentiation between plans for EEZ and internal and territorial waters (different types of plans may be required);
- the legal status of the maritime plans and their enforcement;
- public participation of sea stakeholders beyond the public administration level (here private sector is important)⁴⁶, and also of land stakeholders;
- time of validity of the Erecting and Use Permit (now it is issued for a maximum of 5 years, but the projects located especially in the EEZ as a rule will be very costly, and will be planned for rather long-term operation, exceeding several times the 5-year time limit of the Permit).

It is also necessary to develop clear criteria and transparent procedures for the selection of the successful applicant for an Erecting and Use Permit and Contract for Use when there is more than one application for the same location or partly overlapping locations, or even neighbouring locations (if the proposed uses exclude some types of use of the neighbouring areas). The development of regulations on these criteria and procedures may prove quite difficult and may require some time. Firstly, such situations have already appeared and will occur with increasing frequency with the development of searioriented technology and economy. In light of the appearance of extensive marine nature protection areas, the sea space resource available for other uses will be reduced significantly.

There is also a need for a better fitting of the Polish planning system to the existing situation in which:

- A. there is a lack of proper information allowing for accurate spatial planning, and/or;**
B. maritime plans are simply missing.

Ad. A.

Due to the generally much lower (than on land) level of knowledge of seafloor topography, hydro- and morphodynamic conditions, geology, resources of seabed etc., for most sea areas, the plans will have to be based on very broad generalisations. Before final spatial use decisions are made, areas selected for development will have to be studied in more detail to provide sufficiently complete information to allow proper designing. This more detailed information, including special technical and environmental requirements and necessary additional investigations and studies, and the information that a certain kind (or

⁴⁶ For example, the Erecting and Use Permit must be consulted with the relevant Ministers, but no provision for public consultation is given. The Contract for Use may be signed without any consultation, even when no spatial plan exists.

⁴⁷ The Erecting and Use Permit and the Contract for Use do not provide such a possibility, since they are at once given to (drawn up with) one selected applicant. In practice this may become a "first come – first served" process. The development of the Permit or the Contract does not involve a sufficiently wide range of consultation (see previous footnote).

kinds) of projects may be located in the area should, after a comprehensive range of discussion, be publicly accessible long before¹⁹ a site is allotted to any one applicant. This is important both to the State and to the applicant(s):

- To the State, because the first applicant may not necessarily be the best, and sufficient time should be left for other bids to appear. Especially since by means of the Erecting and Use Permit or the Contract for Use the applicant will become the sole or main user of the area for a significant time span.
- To the applicant, because he can plan and assess the feasibility of his project more accurately at an early stage, before he is obliged to carry the cost of the fee (Erecting and Use Permit) or annual rent (Contract for Use). This means that after obtaining the Erecting and Use Permit and paying quite a large fee (especially when the project is located in the EEZ), the applicant may be faced with additional significant costs of examining the sea space he is allowed to use.

Ad. B.

It is certain that quite a long time will pass before the first spatial plan of a sea area will be finally approved, and still much more time before all important sea areas will have spatial plans. This is especially true as the development of the plans will be a "do and learn while doing" process since spatial planning of sea areas is quite a new problem globally, and expertise and experience to be drawn on both in national and international scale is rather limited. Also, due to their importance as basic documents for sea space management, the plans should not be approved before reasonable certainty is achieved that their solutions and requirements are sufficiently correct and complete. This also refers to future uses that are currently unknown. This means that the no-spatial-plan-exists procedural path will be used for many years to come.

The no-spatial-plan-exists procedure starts with the Erecting and Use Permit. This instrument contains an insufficient consultation network, and is oriented towards a single, selected applicant. Therefore, it cannot be seen as a local substitute for a spatial plan. Without any prior information, the procedure starts at once from giving the use of the sea space to an applicant.

The Contract for Use in every case, and the Erecting and Use Permit when there is no spatial plan, are respectively drawn or issued by the Minister of Infrastructure. The Ministry also does not have the workforce (in terms of numbers) to cope with all the work. It may be worth pointing out that even if spatial plans existed and the Erecting and Use Permits are issued by the Directors of the Maritime Offices, quite a large bulk of the work will stay with the Ministry since the Minister has to draw up the Contracts for Use.

However, these negative aspects described at point A and B can be resolved in a relatively simple way by:

- bringing back into the procedural path the Decisions on the Conditions of Development and Management (DCDM), issued by the territorially competent Director of the Maritime Office. Except the situation, when a given sea area has a detailed local spatial plan (on a scale of not less than e.g., 1:10,000), the DCDM should be required even though an accepted spatial plan exists. The process of preparing an application for a DCDM and its content should conform with the general regulations for such applications;
- for the EEZ, leaving the Erecting and Use Permit issued by the Minister of Infrastructure after consultation with the Ministers presently cited in the law. However, the Permit should not contain the technical and environmental requirements for technical design, construction, operation and decommissioning of the project, since these will be given in the DCDM or the detailed local plan. The Permit gives the successful applicant the right of using the defined part of the sea area for a limited time (it seems that the present maximum of 5 years should be reconsidered and extended). The application for the Permit should contain general information about the project, including economic and social information, with the enclosed DCDM or the relevant part of the detailed local spatial plan;
- for the territorial sea and internal sea waters, removing the Erecting and Use Permit while leaving in place the Contract for Use, but only as a lease contract. The content of an application for the Contract for Use should be the same as for the Erecting and Use Permit in the EEZ. A consultation network, corresponding to the one required for the Erecting and Use Permit, should probably be established. Nearly all projects placed in the sea are, and will be, located in these areas, and most of these projects are relatively small, often requiring rather short term Contracts for Use. Therefore, it is suggested that Contracts for Use concerning projects valued below a certain sum (e.g., 3 mln €) should be drawn up with the appropriate Director of the Maritime Office.

These changes will require another, although relatively straightforward, amendment of the Act on Sea Areas of Poland and Maritime Administration and of related regulations in two other acts: the Act on spatial planning and in the Construction Law. Finally, as mentioned earlier, procedures for a transparent process of selecting the winning applicant for a given sea space must be developed as quickly as possible to avoid the "first come – first served" situation.

FROM THE ACT ON SEA AREAS OF POLAND AND MARITIME ADMINISTRATION OF MARCH 21ST 1991

Chapter 8

The Coastal Belt

Art. 36.

1. The Coastal Belt is the land area connecting with the coastline.

2. The Coastal Belt consists of:

- 1) the Technical Belt – which is the zone of direct interaction between sea and land; it is and area designated for maintaining the coast in a state consistent with the requirements of safety and environment protection;
 - 2) the Protective Belt – consisting of the area in which human activity has direct influence on the state of the Technical Belt.
3. The Coastal Belt runs along the seacoast.
4. The Board of Ministers shall determine by Ordinance the minimum and maximum width of the Technical and Protective Belts, and the way of determining their boundaries, taking into account local conditions, relief of the land, character of development and the action of sea on the coast.
5. The director of territorially competent Maritime Office shall determine by an order:

- 1) the boundaries of the Technical Belt, after consultation with appropriate municipal councils, and in areas under administration of units subjected to the Minister of Defence – after consulting these units, the Director of Maritime Office marks also these boundaries in terrain;
- 2) the boundaries of the Protective Belt in agreement with the appropriate Voivod and appropriate municipal councils, and in areas under administration of units subjected to the Minister of Defence – after consulting these units, the Director of Maritime Office defines the boundaries of the Protective Belt.

Art. 37

1. The Technical Belt may be used for other aims than specified in Art. 36 §2 point 1 after obtaining agreement of the territorially competent organ of maritime administration, which at the same time defines the conditions of such use.
2. Hunting areas are prohibited in the Technical Belt.
3. Water Use Permits, decisions on conditions of construction and site development, construction permits and decisions concerning changes in forestry, installing new hunting areas, also drafts of studies of the conditions and directions of spatial management of municipalities, local spatial development plans and voivodship spatial plans which concern the Technical Belt, Protective Belt and seaports and harbours require agreement of the territorially competent Director of Maritime Office
4. All plans and designs connected with the development of marine internal waters and territorial sea are approved by competent organs of maritime administration in agreement with appropriate coastal municipalities.

Chapter 9

Spatial planning and development of the areas of marine internal waters, territorial sea and EEZ

Art. 37a

1. The Minister responsible for matters of building spatial management and housing may accept, by ordinance, in agreement with the Ministers responsible for matters of maritime economy, agriculture, environment, internal affairs and the Minister of Defence, a plan of spatial development of marine internal waters, territorial sea and EEZ, taking into account determinations of §2 and valid issued permissions described in articles 23 and 23a [these are permissions for building and use of structures/installations located in the sea area, issued, depending on type, location and existence of a spatial plan, by the Minister responsible for matters of maritime economy or by the territorially competent Director of Maritime Office].
2. The plan, mentioned in §1, decides about:
 - 1) the destined use of the sea areas;
 - 2) prohibitions or limitations in the use of the sea areas, taking into account the requirements of nature protection;
 - 3) distribution of public investment;
 - 4) directions of development of transport and technical infrastructure;
 - 5) areas and conditions of protection of environment and cultural heritage.

Art. 37b

1. The draft plan of spatial development of a sea area is prepared by the territorially competent Director of Maritime Office.
2. The draft spatial plan of sea area must have attached a forecast of environmental impact.
3. Costs of preparing the spatial plan of the sea area and of preparing the forecast of environmental impact are covered by the State budget, or by the investor realising and investment if determinations of the plan are a direct consequence of the realisation of the investment.
4. The Minister responsible for matters of building spatial management and housing shall determine by ordinance the required scope of plans of spatial development of marine internal waters, territorial sea and EEZ in their textual and graphic parts, taking especially into account requirements concerning planning materials, type of cartographic elaborations, used designations, nomenclature, standards and methods of documenting the progress of planning work.

7 RUSSIA

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7.1 GENERAL INFORMATION

The Russian part of the Baltic Sea has two sectors: one adjacent to the Kaliningrad Oblast and the other to the Leningrad Oblast. The sector adjacent to the Kaliningrad Oblast (Fig. 7.1) includes the Exclusive Economic Zone (EEZ) of the Russian Federation of 6,787 km², a territorial sea of 3,132 km², and the Russian parts of the Curonian Lagoon (1,177 km²) and Vistula Lagoon (491 km²).

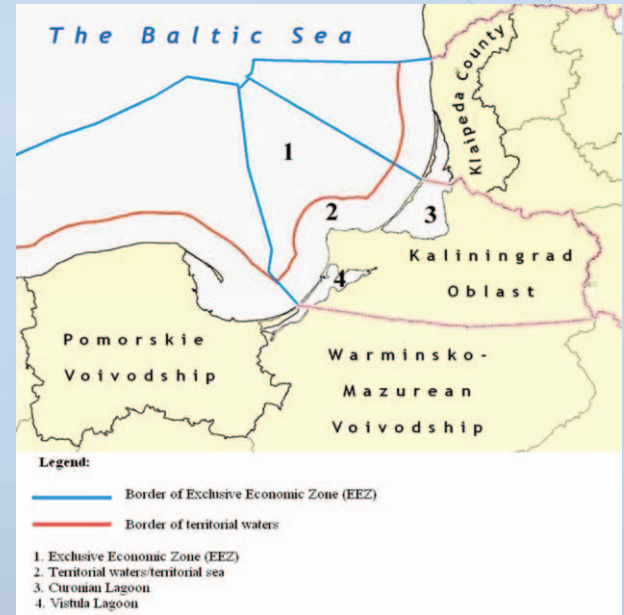


Fig. 7.1 Russian marine sector adjoining the Kaliningrad Oblast⁶⁰

Source: Recommendations on integrated coastal zone management and marine spatial planning in the South East Baltic, 2008

The analysis of normative materials connected with maritime activities shows that the term "maritime spatial planning" does not appear in any of the documents. However, these same documents contain fields of activity in which maritime spatial planning appears to be an important instrument for solving the tasks and problems of maritime activities.

⁶⁰ Recommendations on integrated coastal zone management and maritime spatial planning in the South East Baltic, Adopted on 27.03.2008 in Kaliningrad (Russia) on the international forum of representatives of regional and federal authorities, local authorities, NGOs, and organizations dealing with coastal zone management, Kaliningrad, Publishing house Jurek, 2008.

PLANNING

7.2 ADMINISTRATIVE ORGANISATION OF MARITIME PLANNING

Governmental organisations of the Russian Federation connected with sea use management, operate on a legal basis in which MSP is not mentioned. At present, maritime spatial planning is under discussion in the scientific community, especially in the Atlantic Department of the P.P. Shirshov Institute of Oceanology, the Immanuel Kant State University of Russia and the Kaliningrad State Technical University.

7.3 LEGISLATION ON MARITIME SPATIAL PLANNING

There are no regulations concerning maritime spatial planning in Russian legislation.

Issues of terrestrial spatial (territorial) planning are regulated in detail in the Town Planning Code of the Russian Federation. Chapter 3 of this Code is entirely devoted to spatial planning. Spatial planning is the planning of territorial development, including establishing functional zones, zones where it is planned to place the objects of capital construction for state or municipal needs and zones with special conditions of land-use. The planning is aimed at determining in spatial planning documents the dedication of territories to ensure sustainable territorial development, development of engineering, transport and social infrastructure, for ensuring the interests of citizens and their communities, and the interests of the Russian Federation, regions of the Russian Federation and municipalities, taking into account a complex of social, economic, ecological and other factors.

7.4 PLANS – DESCRIPTION OF THE CONTENT OF THE MAIN EXISTING PLANS

No maritime spatial plans exist. The following information on the content of terrestrial plans is given since it may be expected that the possible future maritime spatial planning could be regulated based on existing solutions for terrestrial planning. The content of terrestrial spatial plans is regulated in the previously mentioned Chapter 3 “Territorial planning” of the Town Planning Code of the Russian Federation. Planning documents include textual and graphical documents, and are divided into:

- documents on spatial planning of the Russian Federation;
- documents on spatial planning of the subjects of the Russian Federation;
- documents of spatial planning of municipalities.

The content of spatial planning documents of the subjects of the Russian Federation is regulated in Art. 14 of Chapter 3:

1. Spatial plans of the subjects of the Russian Federation are territorial planning documents of the subjects of the Russian Federation. The plans may be prepared in the form of one or several documents.
2. A spatial plan of a subject of the Russian Federation may cover the whole territory of the subject or only a part of it.
3. Spatial plans may include maps of planned development and distribution of specially protected nature areas of regional importance, changes of borders of agricultural space and borders of crop land amounting to agricultural space, and also maps of planned distribution of capital structures of regional importance including:
 - a) objects of power systems of regional importance;
 - b) objects of transport, communications, informatics and connections of regional importance;
 - c) linear objects of regional importance needed for the operation of objects of natural monopolies;
 - d) other objects which must be located in order to realise obligations of subjects of the Russian Federation defined by Federal law and by the law of the subjects of the Russian Federation.
4. A spatial plan contains planning regulations and corresponding maps.
5. The planning regulations include:
 - a) goals and objectives of the spatial plan;
 - b) list of spatial activities and order of their execution.
6. On the maps included in a spatial plan the following are depicted:
 - a) borders of municipalities – urban districts, metropolitan regions and settlements regulated by the law of a subject of the Russian Federation;
 - b) borders of forestland, borders of specially protected nature areas of regional importance, borders of security sensitive areas;
 - c) borders of agricultural space and of cropland amounting to agricultural space, and also planned borders of such areas;
 - d) borders of cultural heritage objects;
 - e) borders of zones of special conditions of land use;
 - f) borders of areas of increased risk resulting from natural or technical causes and from their consequences;

³¹ Town Planning Code of the Russian Federation (Federal Law as of December 29, 2004 № 190-FZ). <http://www.akdi.ru/GD/proekt/0949746D.SHTM>

- g) borders of areas allocated for owned by the subject of Russian Federation objects of capital structures of regional importance or in which such objects already exist, also borders of zones of planned distribution of capital structures of regional importance.
7. A draft spatial plan of a subject of the Russian Federation submitted for approval should contain appropriate textual and graphical materials.
 8. The textual part includes:
 - a) justification for the variants of spatial solutions;
 - b) list of spatial activities;
 - c) justification of plan requirements and stages of their realisation;
 - d) list of main risk factors resulting from natural and technical causes.
 9. The following should be presented in the maps:
 - a) information on the status of given areas, on allowed directions of its development and restrictions on its use;
 - b) suggestions on spatial planning.
 10. Information described in point 9a is presented in the following maps:
 - a) maps of land use of the territory of the subject of the Russian Federation, showing borders of land of various categories, and also other information on territorial use;
 - b) maps of restrictions resulting from documents on spatial planning of the Russian Federation and municipality spatial planning documents, in that maps of borders of cultural heritage objects, zones of special land use conditions, borders of risk areas resulting from natural or technical causes, zones of negative influence of capital structures of regional importance;
 - c) maps showing the results of comprehensive analyses of the development of the territory and of the distribution of capital structures of regional importance, including results of engineering investigations;
 - d) other maps (drawings).
 11. Suggestions mentioned in point 9b are shown in maps (drawings) which are used for amendments in the process of approving a draft spatial plan, and include:
 - a) charts showing planned changes of borders of municipalities;
 - b) charts showing planned changes of borders of agricultural space and cropland amounting to agricultural space, and of nature protection areas;
 - c) charts showing zones of planned distribution of capital structures of regional importance;
 - d) other charts (drawings).

MANAGEMENT

7.5 ADMINISTRATIVE ORGANISATION OF MARITIME MANAGEMENT

Organisations dealing with sea use in the Kaliningrad Oblast include:

- Government of Kaliningrad Oblast;
- Federal State Institution “Kaliningrad Sea Port Administration”;
- OAO “Kaliningrad Sea Trade Port” (the Kaliningrad branch of “RosMorPort”);
- State Institution “Border Agency of the Federal Security Service of the Russian Federation in the Kaliningrad Oblast”;
- North-West Customs Department (Kaliningrad region customs);
- The Baltic Fleet of the Navy of the Russian Federation;
- Federal State Institution “West Baltic Directorate for Protection, Reproduction of Fish Resources and Fishery Regulation”;
- Federal Service for Supervision of Natural Resource Usage in the Kaliningrad Oblast; Rospirodhozor (in Kaliningrad Oblast);
- Baltic Special Marine Inspection of the Ministry of Natural Resources of the Russian Federation;
- Federal State Unitary Institution “Atlantic Research Institute of Marine Fisheries and Oceanography” (AtlantNIRO) State Fishery Committee of the Russian Federation;
- NGOs: “Fishing Industry Workers’ Union of the West”, “Kaliningrad Regional Union of Fishing Kolkhozes”, “Baltic Sea Union of Fishers”, Association of Fishing Organisations of the Vistula Lagoon.

The following organisations also deal with issues concerning sea use:

- Federal Water Resources Agency, Nevsko-Ladozhskoe Basin Water Department, Water Resources Department in the Kaliningrad Oblast;
- Subsoil Resources Management Agency in Kaliningrad Oblast;
- Regional state unitary enterprise “Baltberegozschitza” (“BaltCoastprotection”);

- Federal State Institution "Kaliningrad Centre for Hydrometeorology and Environmental Monitoring".

The Government of Kaliningrad Oblast coordinates the activities of the territorial authorities, administrations and agencies connected with sea use supported by Fishing Council of the Kaliningrad Oblast, the Kaliningrad Union of Manufacturers and Entrepreneurs, etc.

7.6 LEGISLATION FOR SEA USE MANAGEMENT

Below is a list of documents (chapters, articles, paragraphs) which regulate sea use and activities where it would be sensible to use maritime spatial planning.

Marine Doctrine of the Russian Federation till 2020⁵²

Chapter 3. Content of national maritime policy

Paragraph 2. Regional strategies of national maritime policy

In the Baltic Sea, the development of coastal-port infrastructure, modernisation of both merchant sea-going and mixed (river and sea) vessels; creation of conditions for sustainable economic cooperation with Baltic Sea Region countries, rational joint use of marine natural resources, establishing the universal character for confidence measures within all spheres of sea use.

Water Code of the Russian Federation⁵³

Chapter 4. Management of use of marine resources and their preservation

Art. 28. Basin districts

Basin districts are the main units for management in the sphere of maintenance and preservation of sea objects, and consist of river basins and underground water objects and seas connected with them. There are 20 basin districts in Russia, including the Baltic Sea basin district.

Art. 30. State monitoring of water objects.

Art. 33. Schemes of comprehensive maintenance and preservation of water objects.

The schemes include systematic materials dealing with the state of water objects and their use. They are the basis for development, maintenance and preservation activities concerning water objects.

Law of Internal Marine Waters, Territorial Sea and Adjacent Zone of the Russian Federation⁵⁴ 31.07.1998

The territorial sea is a sea-belt 12 nautical miles in width adjacent to land territory or inland sea waters.

Chapter 5. Protection and preservation of the marine environment and natural resources of inland sea waters and territorial sea.

Art. 34. State environmental expertise of economic and other activities in inland sea waters and territorial sea.

Art. 35. State environmental control of the condition of inland sea waters and territorial sea.

Art. 36. State environmental monitoring of the condition of inland sea waters and territorial sea.

Law of the Continental Shelf of the Russian Federation⁵⁵

Chapter 6. Protection and preservation of mineral and living resources, buried waste and other materials.

Art. 31. State environmental expertise over the continental shelf.

Art. 32. State environmental control over the continental shelf.

Art. 34. Burial of waste and other materials on the continental shelf.

Law of the Exclusive Economic Zone of the Russian Federation⁵⁶

Chapter 5. Protection and preservation of sea environment.

Art. 27. State environmental expertise of economic and other activities in the exclusive economic zone.

Art. 28. State environmental control in the exclusive economic zone.

Art. 29. State monitoring of the marine environment in the exclusive economic zone.

⁵² Marine Doctrine of the Russian Federation till 2020 approved by the Decree of the President of the Russian Federation of 27.07.2001. <http://www.scrf.gov.ru/documents/34.html>

⁵³ Water Code of the Russian Federation (Federal Law as of June 3, 2006 No 74-FZ). <http://www.rg.ru/2006/06/06/voda-kodexa.html>

⁵⁴ Federal Law of July 31, 1998 No 155-FZ "On the internal marine waters, territorial sea and adjacent zone of the Russian Federation". http://www.ecooportal.ru/orders/31_07_1998_155_rf

⁵⁵ Federal Law of November 30, 1995 No 187-FZ "On the Continental Shelf of the Russian Federation" (as amended). <http://base.garant.ru/1010666.htm>

⁵⁶ Federal Law of December 17, 1998 No 191-FZ "On the Exclusive Economic Zone of the Russian Federation" (as amended). <http://base.garant.ru/179872.htm>

COMMENTS

Analysis of the situation in the field of maritime spatial planning in the Russian Federation has shown that this field of activities cannot be viewed as a system. There are no references to maritime spatial planning in national laws. At the same time, normative documents concerning sea use contain directions and activities in which maritime spatial planning could be an important instrument for problem solving and task organisation. At the moment, MSP is under discussion in research communities both at national and international levels. The objective of the research community is to formulate the basic principles of maritime spatial planning, elaborate ways of its implementation and to explain the necessity of incorporating this system into both national and international law.

8 SWEDEN

BY KAJETONAS CEGINSKAS,
NATIONAL BOARD OF HOUSING,
BUILDING AND PLANNING (BOVERKET)

8.1 GENERAL INFORMATION

Sweden's coast and sea area is the largest compared with the neighbouring states in the Baltic Sea. The use of the area depends to a great extent on the sea's different morphology and environmental quality, the position of the archipelagos and the mouths of the rivers which have historically laid the foundation for the location of settlements and infrastructure attracting business, enterprises, housing and recreation and, not least, contact with the surrounding world.

Consequently, the use of the coast and sea areas is most intense in the big city regions, the commercial, ferry and fishing harbours, and the archipelagos and narrow sea areas such as the Öresund and the Åland Sea.

Use conflicts in these areas have hitherto been solved through selective methods of investigation, a national strategy for the use and protection of the coastal zone 3 nautical miles out from the base line, and coordinated laws for physical planning, environmental control and exploitation.

In the sea areas outside the coastal water in the Skagerrak, Kattegatt, Öresund and the Proper Baltic, use is dominated by increasing international commercial shipping with heavy oil transport and crossing ferry transport of goods and passengers with an increasing risk of major accidents and oil discharges. In these cases, the states in the area are not sufficiently well prepared as regards coordinated emergency services. Moreover, the claims on space in the sea and on the Continental Shelf are increasing in both the Territorial Sea and the Exclusive Economic Zone. Such claims relate to the interests of:

- planning and protecting fairways and military constructions and training areas;
- locating wind-power plants in the most suitable sea areas, e.g., shoals and banks;
- laying large gas pipes, and electricity and telephone cables;
- prospecting wrecks, minerals, oil and gas;
- protecting fishing areas and other habitats;
- protecting marine archaeological monuments and finds.

This calls for a national strategy and increased achievements at the central level in cooperation, investigation and planning together with cooperation with the neighbouring states concerned.

The sea outside the base line along the Swedish coast is divided into:

- the territorial sea with an overall width of 12 nautical miles and a total area of 70,000 km² and;
- the Swedish Exclusive Economic Zone (EEZ) with a total area of 60,000 km².

The EEZ is limited to the centre line between the adjacent states because the width of the sea is shorter than 400 nautical miles. In the Öresund and the Åland Sea, the territorial seas meet at a centre line by a special agreement with Denmark and Finland respectively and at the Norwegian border in the Skagerrak and the Finnish border in the Bothnian Bay.

Unlike most other states, the Swedish territorial sea is divided into two zones named Public Water and Private Water. The Private Water zone, both the water and the sea bottom, is parcelled property governed by the Real Property Formation Act and comprises the water area 300 m outside the shore line and further to the contour line of 3 m depth if it is situated outside the area of 300 m. In sounds, bays, fjords and areas with islands and archipelagos special rules regulate the boundary between Private and Public Water.

The Public Water belongs to the public and is represented by the Legal, Financial and Administrative Services Agency. The Private Water can be owned by a person, a juridical person, a municipality and the State. Several properties in the Private Water are jointly owned.

PLANNING

8.2 ADMINISTRATIVE ORGANIZATION

The Government has hitherto had the responsibility for the planning and management of the Swedish EEZ. The marine environment is taken into consideration by the government, in the Swedish Official Report (SOR) **Inquiry on the Marine Environment**¹⁷. The investigation shall result in a proposal for a model for planning the Swedish sea areas as a whole.

¹⁷ SOU M2006:05

Sweden's **municipalities** are responsible for the physical planning (spatial planning) of the Swedish territory through the Planning and Building Act (PBA), which makes no distinction between land and water areas. The **County Administrative Boards** shall safeguard and coordinate the public interests during the planning processes and thereby:

- provide material for the municipality's evaluations and give advice relative to public interests, environmental issues and risk factors;
- promote compliance with national interests and the observation of environmental quality standards established;
- promote suitable coordination of the use of land and water areas which concern two or more municipalities;
- control the application of the law.

The central administrative authorities concerned shall provide the County Administrative Boards with up-to-date central planning information and national interests to supply the municipalities. The **National Board of Housing, Building and Planning (Boverket)** has overall control in the application of the law.

The municipality shall consult the County Administrative Board and any regional planning body and municipality that may be affected by the planning. The planning process is open to authorities, associations and individuals that have an essential interest in planning. The Government may appoint a regional planning body to pursue regional planning in several municipalities' joint territory.

8.3 MARITIME PLANNING LEGISLATION

The Swedish Planning and Building Act (PBA) was adopted on 08.01.1987 and the latest revision was made in 2007⁵⁸.

Basic principles and objectives guiding the spatial planning of the territorial sea and coastal areas can be found in PBA Chapters 1 and 2, which also refer to the application of the **Environmental Code (EC)**, Chapters 3 and 4 referring to Basic and Special Provisions concerning land and water management and Chapter 5 concerning Environmental Quality Standards and Environmental Quality Administration.

In addition, at least 11 of the 16 National Environmental Quality Objectives shall be taken into consideration when planning and managing the sea and coastal areas.

8.4 PLANS

The Swedish territory is divided in municipalities. Each municipality is responsible for the physical planning of the total area of the municipality. This overall planning shall be continuous and updated and presented in the **Comprehensive Plan**. The

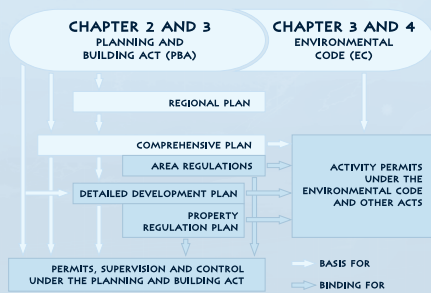


Fig. 8.1 The structure of the Swedish planning and permit system

⁵⁸ SFS 1987:10 Plan- och bygglag, utfärdad 1987-01-08, ändring införd t.o.m. SFS 2007:167 English version can be ordered under www.boverket.se

plan, which shall balance the public interests, has no binding legal effect, but the contents of the plan shall constitute the background to the authorities' decisions about the use of land and water areas.

Detailed Development Plans shall cover only limited parts of the municipality, constitute the regulation of developing areas, balance public and private interests and have a binding legal effect on individuals' and authorities' actions. **Area Regulations** shall cover only limited parts of the municipality outside areas with Detailed Development Plans and be designed with the aim of safeguarding the objectives in the Comprehensive Plan, e.g., National Interests, Environmental Quality Standards, Health and Safety.

The **Regional Plan** coordinates the planning for two or more municipalities. It has no legal binding effect but shall have an advisory function in the underlying planning.

8.4.1 SCALE

The Comprehensive Plans are normally drawn to a scale of 1:50,000 – 100,000 but are often drawn in more detail in parts of the municipality, e.g., coastal areas or for special functions such as traffic and fishing. The map scale in Detailed Development Plans and Area Regulations may vary dependent on the contents. Detailed Development Plans are normally drawn to a scale of 1:1,000.

Today, in most municipalities and other authorities, the basic planning information and the presentation of the plans are produced in GIS systems and are accessible to the public on the authorities' websites.

8.4.2 MAIN CATEGORIES OF USERS CONSIDERED

Through the authorities' development of the presentations in GIS and on websites, all users concerned, authorities, organisations, stakeholders and individuals have easy access to the information they desire. However, the information is not always free of charge, not even between authorities.

8.4.3 CLASSIFICATION SYSTEM FOR DIFFERENT TYPES OF SEA AREAS (ZONING)

Plans and regulations present a large number of different types of use of land and sea areas. Boverket is the supervising authority in physical planning and produces guides and recommendations which combine laws and regulations with long experience of legal usage, the realities of practical planning and good examples.

8.4.4 PRIORITISATION AMONG SEA USES

The comprehensive planning balances the public interests through the regulations in PBA and EC at the same time as it has to show in particular how national interests, inter-municipal problems, environmental quality and risk are taken into consideration. The County Administrative Boards have crucial ascendancy over the balances between competing national interests. International conventions concerning e.g., navigation, fishing and nature protection must be implemented in the comprehensive plans.

8.5 COOPERATION, PUBLIC PARTICIPATION AND CROSS SECTOR COORDINATION

The planning processes of the above mentioned plans give the stakeholders, other interests and the public several opportunities to take part in consultations and public displays, and at the end they have the right to appeal against the municipality's adoption of a plan. The County Administrative Board coordinates the state's interests on the regional level and safeguards the state's interests in consultations with the municipality.

The County Administrative Board shall examine the municipality's decision to adopt, amend or annul a Detailed Development Plan or Area Regulations if the decision does not satisfy:

- the national interest;
- inter-municipal coordination;
- environmental quality standards; or
- human health quality and risk prevention.

8.6 COORDINATION OF MARITIME PLANS WITH NEIGHBOUR STATES

The coordination of physical plans with neighbour states is the Government's task and follows international conventions and EU directives and recommendations.

8.7 COORDINATION OF SEA USE PLANS AND TERRESTRIAL SPATIAL PLANS

The laws make no difference between the use of land and water when it comes to physical planning in the municipalities, as described in Chapter 8.3. A comprehensive view and integration shall characterise Swedish physical planning which means that the EU's ICZM recommendations are well represented in the rules of the Swedish Planning and Building Act and Environmental Code.

8.8 MAIN POLICIES TAKEN INTO CONSIDERATION WHEN PREPARING SEA USE PLANS

In addition to the rules in PBA (see Chapter 8.3), there is in the Environmental Code a national policy and strategy for the use of land and water areas which has been developed since the late 1960s. The full extent of the interests and the areas is expressed in cooperation between central authorities and the County Administrative Boards and implemented in the municipalities' comprehensive planning.

In addition to international conventions, EU Directives and the ecosystem approach had to be taken into consideration while creating the 16 Swedish Environmental Quality Objectives. The most important of them are:

- a Balanced Marine Environment;
- Flourishing Coastal Areas and Archipelagos;
- Zero Eutrophication;
- Reduced Climate Impact;
- A Non-Toxic Environment;
- A Rich Diversity of Plant and Animal Life.

8.9 APPROVAL OF MARITIME PLANS

The regulations in the PBA direct the approval of the plans concerned. A Regional Plan shall be adopted by the council of the local municipal federation or the regional planning federation, which constitutes the Regional Planning Body. The Comprehensive Plan, Detailed Development Plans and Area regulations shall be adopted by the municipal council. The council shall also decide on amendments to and annulments of the plans.

8.10 VALIDITY OF ADOPTED MARITIME PLANS AND THEIR LEGAL IMPACT

A Regional Plan is valid for six years in the normal case. A Comprehensive Plan is valid for the present but shall be kept up-to-date and a decision as to whether it is up-to-date or not shall be taken by the municipal council regularly and at least once during each term of office, i.e., every fourth year at the present time. The continuous nature of the planning work results in changes in prerequisites and objectives which can lead to revisions or additions to the plan, even during the time between the decisions as to whether it is up-to-date.

The County Administrative Board shall submit current national and regional information to the municipalities before their decision as to whether the plan is up-to-date and, where appropriate, also when such material has been developed even between the decisions. Detailed Development Plans and Area Regulations are valid for the present and the Detailed Development Plans during the implementation period normally 5 to 15 years with a guarantee of the rights derived from the plan.

8.11 DISPUTES OVER PLAN PROVISIONS

The municipalities are responsible for the planning work and the plan proposals but can delegate the design by contract to municipal consultants or users. On the other hand, the municipalities shall retain responsibility for the planning process through the PBA. Through the planning process, see also Chapter 8.5, the participants have several opportunities to express and dispute opinions about the plan proposals and finally they can appeal against the municipalities' adoptions of the proposed plans.

8.12 OBLIGATION TO MONITOR AND REVIEW ENFORCED PLANS

The municipality is responsible for the implementation, follow-up and modification of the plans. Concerning the Comprehensive Plan, see Chapter 8.10. Detailed Development Plans and Area Regulations can also be changed to meet new objectives and aims. For example, development of infrastructure, fairways, harbours, energy production, aquaculture or action to prevent coastal erosion and flooding. The County Administrative Boards and Boverket are responsible for regional and national supervision, respectively.

MANAGEMENT

8.13 ADMINISTRATIVE ORGANISATION FOR SEA USE MANAGEMENT

The management of the EEZ and the territorial sea is subject to:

- international agreements, conventions and EU Directives and recommendations;
- laws and regulations governing the physical planning in the Territorial Sea, PBA and EC with appurtenant ordinances, see above Chapter 8.3;
- other laws and ordinances concerning the exploitation and protection of the sea.

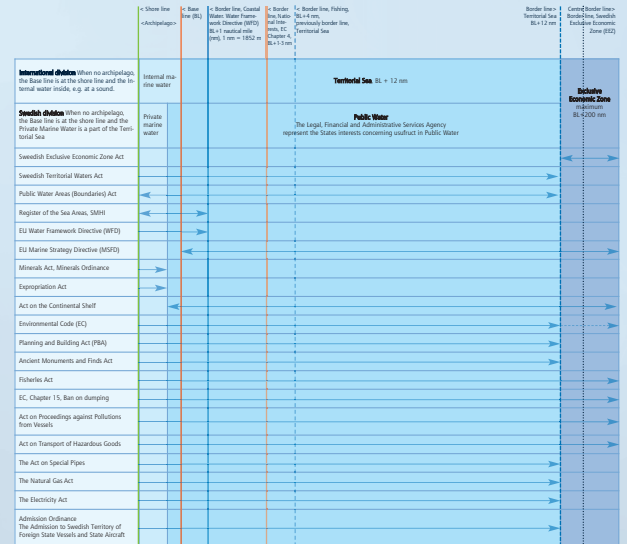


Fig. 8.2 Division of coastal water and the sea in combination with the Swedish legal system

The government is responsible for coordination and management on the central level and delegates responsibility, where appropriate through ordinances and instructions attached to laws to the authorities. On the central level, the government, the ministries and the central authorities cooperate in coordination and management. For issues concerning the sea environment in particular the government has established the following:

- The Coordination Group on Marine Environment (Samordningsgruppen för havsmiljöfrågor) is a policy-making and operative body which represents 17 national authorities;
- The Marine Environment Board (Havsmiljörådet) is an advisory body to the Swedish Environmental Protection Agency (Naturvårdsverket) with 16 representatives of associations and industry.

Coordination on the regional level is a task for the County Administrative Boards. The municipalities are responsible on the local level for cooperation with the County Administrative Boards, organizations, associations, stakeholders and the public.

The Swedish authorities responsible for sea space management in the EEZ and the territorial sea are:

- **The National Board of Housing, Building and Planning (Boverket)** is responsible for the development, supervision and evaluation of physical planning by PBA and the application of the Environmental Code⁵⁹;
- **The Swedish Energy Agency (Energimyndigheten)** is responsible for the development of energy production and energy distribution – wind and wave power and areas of national interest with respect to special constructions⁶⁰;
- **The Swedish Board of Fisheries (Fiskeriverket)** is responsible for the conservation and exploitation of Sweden's fish resources. Commercial fishing, aquaculture, recreational fishing (angling). Research and international negotiations. Areas of national interest to commercial fisheries⁶¹. **The Swedish Armed Forces (Försvarsmakten)**;
- **The Swedish Emergency Management Agency (Krisberedskapsmyndigheten)** is responsible for military constructions, fairways, and training areas, total defence systems and areas of national interest to constructions belonging to the total defence system⁶²;
- **The Geological Survey of Sweden (Sveriges Geologiska Undersökning, SGU)** produces surveys, documents and information about the marine geological state and the mineral exploitation in the sea – the bedrock, quaternary deposits and groundwater. Handles cases through the Mineral Act and Continental Shelf Act. Looks after the national environmental quality objectives concerned. Promotes research. Represents Sweden in international geosciences contexts. Areas with deposits of substances or material of national interest⁶³;
- **The Swedish Coast Guard (Kustbevakningen)** implements maritime surveillance, other supervisory tasks, and marine environment protection. Coordinates the civilian requirements for maritime surveillance and information. Monitors international developments and participates in international collaboration to develop boundary control, crime prevention, and environmental protection at sea and other maritime supervision.
- **The Swedish Environmental Protection Agency (Naturvårdsverket)** develops and supervises environmental policy instruments and legislation as EC. Evaluates different measures to attain the National Environmental Quality Objectives. Protects land, water and Natura 2000 sites. Promotes outdoor recreation, hunting and wildlife. Monitors and reports on the state of the environment.
- **The National Heritage Board Marine archaeology, marine heritage and historic environment issues (Riksantikvarieämbetet)** plays a proactive, coordinating role in heritage promotion efforts and ensures that the historic environment is preserved in the most effective possible manner. Areas of national interest to the preservation of cultural assets⁶⁴;
- **The Swedish Maritime Administration (Sjöfartsverket)** provides infrastructure services, safe and accessible fairways for shipping – pilotage, fairways, icebreaking, hydrography, maritime search and rescue, maritime safety inspection. Supervision, operation and maintenance of some 6,300 nautical miles of fairways and fairway facilities used by commercial and leisure-boat traffic. Marks the Swedish border in the sea. Implementation of Directive 2002/59/EEG and 93/75/EEG. Cooperates with other countries' maritime authorities and handles international shipping cases. Areas of national interest to sea transport⁶⁵;
- **The Swedish Geotechnical Institute (Statens geotekniska institut, SGI)** is a government agency dealing with geotechnical research, information and consultancy. It has particular responsibility as a governmental expert body for safety issues relating to land-slides and coastal erosion.
- **The Swedish Meteorological and Hydrological Institute (Sveriges meteorologiska och hydrologiska institut, SMHI)**

⁵⁹ Swedish Environmental Code, Chapters 3 and 4, in the planning

⁶⁰ *ibidem*, Chapter 3, Section 8

⁶¹ *ibidem*, Chapter 3, Section 5

⁶² *ibidem*, Chapter 3, Section 9

⁶³ *ibidem*, Chapter 3, Section 7

⁶⁴ *ibidem*, Chapter 3, Section 6

⁶⁵ *ibidem*, Chapter 3, Section 8

provides applied research, planning and decision-making data for activities relying on climate, weather and water as the society's expert on meteorology, hydrology and oceanography. Gathers data from the sea in The Register of the Sea Areas (Havsområdesregistret), which covers the coastal water limited by a line one nautical mile outside the Base line, see Fig. 8.2.

- **The Swedish Agency for Economic and Regional Growth (Verket för näringslivsutveckling, NUTEK)** handles issues concerning entrepreneurship, business development and regional development. Areas of national interest related to industrial production.
- **The Legal, Financial and Administrative Services Agency (Kammarkollegiet)** represents the state interests and decides in matters concerning usufruct in Public Water and proposed changes of the municipalities' borders in the territorial sea.
- **The Water Authorities (Vattennmyndigheterna)** implements the EU Water Framework Directive. Five County Administrative Boards, one in each water district, are appointed Water Authorities and are responsible for the management of the water quality in the coastal water environment.

Water District	County Water Authority
Bothnian Bay	Norbotten
Bothnian Sea	Västerbotten
North Baltic Sea	Västermanland
South Baltic Sea	Kalmar
Skagerrak and Kattegatt	Västra Götaland

8.14 LEGISLATION MARITIME MANAGEMENT

Main policies related to sea space management are:

- Swedish Exclusive Economic Zone Act (*Lag om Sveriges ekonomiska zon*) 03.12.1992, modified in 1998;
- Ordinance concerning the Swedish Exclusive Economic Zone Act (*Förordning om Sveriges ekonomiska zon*), 03.12.1992, modified in 1996;
- Swedish Territorial Waters Act (*Lag om Sveriges sjöterritorium*) 03.06.1966, mod. 1978;
- Proclamation on the Measuring of the Swedish Territorial Waters (*Förordning om beräkning av Sveriges sjöterritorium*) 03.06.1966, mod. 1978;
- Public Water Areas (Boundaries) Act (*Lag om gräns mot allmänt vattenområde*) 01.12.1955;
- Real Property Formation Act (*Fastighetsbildningslag*) 17.12.1970, mod. 12.12.1992;
- Fisheries Act (*Fiskelag*) 10.06.1993, mod. 2005;
- Continental Shelf Act (*Lag om kontinentalsockeln*) 03.06.1966, mod. 2007;
- Act on Special Pipes (*Lag om vissa särskildningar*) 13.04.1978, mod. 2006;
- Natural Gas Act (*Naturgaslag*) 02.06.2005;
- Electricity Act (*Elag*) 20.11.1997, mod. 2007;
- Ordinance concerning the Admission to Swedish Territory of Foreign State Vessels and State Craft Vessels and Aircrafts, the Vessel Ordinance (*Tillträdesförordning*) 10.03.1992, mod. 2006;
- Minerals Act (*Minerallag*) 24.01.1991, mod.2005;
- Mineral Ordinance (*Mineralförordning*) 07.05.1992, mod. 2005.

8.15 PROCEDURE OF ISSUING USE PERMITS

8.15.1 IN THE EEZ

According to the Swedish Exclusive Economic Zone Act, the utilization of natural resources is divided into living resources in the water environment, e.g., fishing and the resources in the Continental Shelf. Additionally, the Fisheries Act and the Continental Shelf Act, as well as some international regulations are applicable. Other cases of exploration, extraction and other utilization, building and use for commercial purposes, other devices and artificial islands, claim permits granted by the Government or an authority appointed by the Government.

A permit may have a time-limit, shall make demands on several conditions and satisfy Environmental Quality Standards etc. Regulations in the Environmental Code (EC) shall be applied in the permit process and in the permit demands. An application shall contain an Environmental Impact Statement.

Those who operate businesses in the cases mentioned above shall avoid marine environmental damage⁶⁶. The government delegates the Coast Guard to be responsible for the supervision of the protection of the marine environment.

⁶⁶ Swedish Environmental Code, Chapter 2

A current example is the company Nord Stream, which has submitted applications for permission to build a gas pipeline and maintenance platform for the gas pipeline in the Swedish Exclusive Economic Zone in the Baltic Sea in order to transport natural gas between Vyborg in Russia and Greifswald in Germany. The Swedish government's permission is required. Permission to lay the gas pipeline will be examined in accordance with the Continental Shelf Act of 1966 and permission to build the maintenance platform will be examined in accordance with the Swedish Exclusive Economic Zone Act of 1992.

8.15.2 THE 12-NM ZONE

Utilization of natural resources is divided into living resources in the water environment, e.g., fishing, and the resources in the Continental Shelf. The Fisheries Act and the Continental Shelf Act, with regulations in associated acts, are applicable in addition to international law, see Fig. 8.2.

The State has the right to explore the Continental Shelf and extract its natural resources. The Government or an authority appointed by the Government has the right to grant somebody other than the State a permit to explore and extract resources in the Continental Shelf.

A permit is granted for a limited area and time. It shall make demands in respect of several conditions and satisfy Environmental Quality Standards etc. Regulations in the Environmental Code (EC) shall be applied in the permit process and in the permit demands. An application shall contain an Environmental Impact Statement.

The Geological Survey of Sweden (SGU) handles permits to extract sand, gravel and stone from the bedrock. SGU shall, together with its own opinion, submit the case to the Government, if the extraction is extensive or can cause severe damage or if the Swedish Environmental Protection Agency so requires.

SGU is responsible for the supervision of permits in cooperation with the authorities concerned. The Maritime Administration, the Coast Guard and the National Police Board (Rikspolisstyrelsen) shall at the SGU's request assist in supervision.

The Environmental Code stipulates that certain utilization and establishments and other activities request permits to protect nature and avoid environmentally hazardous activities and other measures that may affect human health protection. The Government or an authority appointed by the Government is responsible for the permit decisions.

The Environmental Code regulates in lists the authorities and the municipalities' responsibilities on different levels for the permit processes in a wide range of cases.

Chapter 17 of the EC describes the rules for the Government's consideration of permissibility of a number

- of not less than 10 megawatts;
- the construction of platforms for off-shore oil or gas extraction and of anchorages or moorings for such platforms, other than temporary ones, for the purposes of repairs, conversion or some other reason.

A permit may have a time-limit, shall make demands on several conditions and satisfy Environmental Quality Standards etc. Regulations in the Environmental Code (EC) must be applied in the permit process and in the permit demands. An application shall contain an Environmental Impact Statement.

The right to explore the Continental Shelf and extract its natural resources in Private Water is regulated by the Minerals Act and the Minerals Ordinance. The law applies to a large number of solid minerals, oil, gaseous hydrocarbons and diamonds. Only those who possess an exploration permit or a working concession are allowed to execute exploration or works.

There are special rules for the property owners. The law also regulates the types of fee, the examination of an application, the administration of the rights, supervision and appeals.

The chief mining inspector, the Swedish Mining Inspectorate, is responsible for considering applications etc. and is also the supervisory authority.

8.16 DISPUTES AND APPEALS

The acts described above contain legal mechanisms for disputes and appeals on decisions concerning sea use management. The Environmental Code, which has to be taken into consideration in the permit processes concerned, contains detailed rules for cases and matters governed by the Code.

Disputes between different permit holders and how the activities shall be carried out in the same area on the Continental Shelf are decided by the supervisory authority in favour of the first permit with the least prejudice to the latter.

The same procedure applies to holders of different permits through the Continental Shelf Act and the Swedish Exclusive Economic Zone Act when the permit holders work in the same area. The supervisory authorities' decisions may be appealed to the Government. The Governments decisions through laws and regulations cannot be appealed.

8.17 PREVENTING ILLEGAL SEA USES – RESPONSIBILITY AND MAIN INSTRUMENTS

Those who without permits or permissions explore and extract natural resources from the sea or take action for such activities or break laws, permit conditions and regulations shall be fined or sentenced to imprisonment.

The appointed supervisory authorities are responsible for the observance of the laws and regulations and may under penalty decide on corrective action or stop further action. The types of punishment are normally regulated in the Acts in question. Crimes shall be reported to public court.

COMMENTS

8.18 CURRENT SITUATION AND MAIN PROBLEMS IN SEA USE PLANNING AND MANAGEMENT

The planning and management of the Swedish Exclusive Economic Zone on the central level lacks a permanent national strategy and institutional coordination, investigation and planning, which can supervise and coordinate the sea uses in the zone itself and cooperate with the municipal planning in adjacent territorial sea and the concerned neighbouring states' planning.

The currently prepared Swedish Official Reports Inquiry on the Marine Environment⁶⁷ concerning the sea environment must issue a proposal for a model for planning the Swedish sea areas as a whole. The report is expected to provide a gradual solution to the current situation, and also with respect to the new EU Marine Strategy Framework Directive.

Demands for adapting the system of planning and management to society development and international laws and conventions will arise in time. Basically, there is no need for a new planning system in the Swedish sea territory, although much better coordination and cooperation between existing planning instruments and planning processes is required.

The Comprehensive Plan is an important instrument in combination with others to achieve sustainable development and management of the sea and coastal areas. Today's lack of resources and competence in the municipalities and the County Administrative Boards must be addressed in order to meet the challenges of today as well as tomorrow.

There is also a need for joint and cross-border knowledge and planning bases of high quality, which are equal for the whole sea, as well as a more marked connection between planning and management in the sea and coastal environment.

⁶⁷ SOU N2006:05



PART II

EXAMPLES OF NATIONAL CASES
OF SEA SPATIAL POTENTIAL
AND CONFLICTS

EDITORS: JACEK ZAUCHA, PATRYCJA JAKUBOWSKA



9 INTRODUCTION

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9.1 GROWING IMPORTANCE OF SEA SPACE AS AN ASSET FOR DEVELOPMENT

The more intensive use of sea space offers some important opportunities for accelerating economic growth and improving the quality of life of the Baltic Sea Region (BSR) citizens. Sea space provides potential for the development of various types of uses. Traditional sea uses such as shipping, ports, and coastal and maritime tourism remain essential elements of the prosperity of many BSR regions and countries. According to the EU Commission, "Sea-ports and shipping allow Europe to benefit from the rapid growth of international trade and to play a leading role in the global economy" [EU Commission 2007, p.3]. The Baltic Sea Chambers of Commerce Association predicts that Baltic trade will grow threefold in ten years (2003-2012), which is also known as the *Triple Trade in Ten Years* vision. In addition to traditional sea uses, new types are emerging (e.g., production of energy from wind and currents, exploitation of mineral resources, aquaculture, blue biotech and sub-sea technologies). Some of them, such as off-shore energy (i.e., renewables), are of strategic importance for keeping BSR development on a sustainable path and achieving the Kyoto targets, while at the same time they might, together with blue biotech and emerging sub-sea technologies, improve BSR performance with regard to the Lisbon ambitions. The exploitation of mineral resources and aquaculture might also be important in the long run in light of increasing prices for mineral resources, energy and ongoing fishery restructuring. However, this simultaneously increases pressure on the Baltic Sea natural and cultural environments and could eventually have a negative impact on the quality of life of the BSR inhabitants. Therefore, an integrated approach is needed for analysing Baltic Sea potential and conflicts. The Baltic Sea is our common resource, and will become the scene of integrative processes aimed at its better (more efficient, coherent, sustainable, compact) use.

Since the 1990s, the EU Community has emphasized the need to develop an integrated approach to such complex phenomena as are occurring in coastal zones, territorial waters and exclusive economic zones. Initially, the focus was on integrated coastal zone management. This resulted in 2002 in the Recommendation of the European Parliament and of the Council concerning the implementation of Integrated Coastal Zone Management in Europe, 2002/413/EC, which was specifically intended to promote the development of ICZM strategies at national levels. The Recommendation encouraged Member States to undertake a national inventory of legislation, institutions and actors involved in the planning and management of the coastal zone, and to develop a national strategy to promote ICZM. Four years later in 2006 the EU Commission presented the concept of the EU Integrated Maritime Policy (or rather *Integrated Approach to Maritime Governance*). This was outlined in the EU Green Book [EU Commission 2006], and next in the Blue Book on Integrated Maritime Policy [EU Commission 2007], supplemented with a suitable Action Plan [EU Commission 2007a], which was an important, positive breakthrough, and was a milestone on the map of the Community's policies. The starting point was the need to "address the challenges that emerged from the growing competing uses of the sea, ranging from maritime transport, fishing, aquaculture, leisure activities, off-shore energy production and other forms of sea bed exploitation" [EU Commission 2007, p.6] while recognizing the importance of sea space in the further development of EU countries. This is illustrated by the following quotation:

"The seas are Europe's lifeblood. Europe's maritime spaces and its coasts are central to its well-being and prosperity – they are Europe's trade routes, climate regulator, sources of food, energy and resources, and a favoured site for its citizens' residence and recreation. Our interactions with the sea are more intense, more varied, and create more value for Europe than ever before. Yet the strain is showing. We are at a crossroads in our relationship with the oceans."

[EU Commission 2007, p. 2]

9.2 POLICY DEMAND TO ANALYSE SEA SPATIAL CONFLICTS IN THE BALTIC SEA REGION

Issues similar to those that have been addressed by the EU Commission since 2006 were raised much earlier in the Baltic Sea Region. The co-operation of the Ministers responsible for spatial planning and development in the BSR countries (VASAB 2010) noted in 2001 that "growing spatial conflicts in coastal waters like the one between off-shore wind energy parks and undisturbed sea traffic indicate there is a need to apply instruments of spatial planning" [Wisnar Declaration 2001, p. 37]. Following this suggestion, spatial planning as a feasible measure has been approved by the supporting Interreg and other neighbourhood programmes of the EU both at the Baltic (BSR Interreg III B NP) and cross-border levels (e.g., in Lithuania, Poland and the Kaliningrad Region of the Russian Federation Neighbourhood Programme).

Thanks to this it has been possible to conduct projects fundamental for spatial planning development in the BSR, such as BaltCoast⁶⁸ and PlanCoast⁶⁹ that have resulted, among other achievements, in the preparation of the off-shore plan for Mec-

⁶⁸ BaltCoast - Integrated Coastal Zone Development in the Baltic Sea Region/ 2002-2005, http://plancoast.eu/files/baltcoast_final_report.pdf, http://www.spatial.baltic.net/files/Report_baltcoast.pdf

⁶⁹ PlanCoast (2006-2008) is an INTERREG III B NP CADSES Project with the aim to develop the tools and capacities for effective integrated planning in coastal zones and maritime areas in the Baltic, Adriatic and Black Sea regions, <http://plancoast.eu/>

klenburg-Vorpommern and amendments to German legislation in this field [Heinrichs, Schultz-Zehden, Toben 2005]. BaltCoast also developed important recommendations such as the "Implementation of Sea-Use-Planning (extending spatial planning to the off-shore side)", which was presented during the 6th Conference of Ministers for Spatial Planning and Development of the BSR countries in Gdańsk in 2005.

At this Conference (in response to the Ministerial request that VASAB should prepare a Long Term Perspective for the spatial development of the Baltic Sea Region – LTP), the "working group on sea use planning and ICZM" (WG3) was established. Participants that have contributed to varying degrees to the WG3 progress have included CSD members from Poland and from Sweden, Germany and Finland, as well as civil servants and experts representing Finland, Germany, Latvia, Poland and Russia. Important input was provided by the VASAB Secretariat, and by the Interreg III B projects Balance and PlanCoast. The activities of the working group have been co-financed by the Interreg III B project East-West Window. This has allowed for the very broad participation of Russian stakeholders, decision makers and researchers.

To prepare the input to the above mentioned LTP, the working group on sea use planning and ICZM decided to analyse the current sea space conflicts and main potential (following the BaltCoast methodology) and to screen the legal national systems for planning sea space in the BSR countries. The results of these investigations are summarised in this book. The Part 2 of the Compendium entitled *Examples of national cases of sea spatial conflicts and potential* describes the rationale for maritime spatial planning by inventorying the sea spatial conflicts and potential and designates their most probable development. It served as the background for elaborating the policy document: *Final Report From Working Group 3 Sea use planning and ICZM: Input to the LTP* available at www.vasab.org.

The analytical work of the working group on sea use planning and ICZM was based on national inputs. The national reports on the principal potential and conflicts in the sea space of different countries are the key elements of the current report. However, the analysis has suffered from the lack of information from some of the BSR countries, some of which delivered only a matrix of conflicts with very short explanations. For this reason, national reports for Lithuania, Finland, Denmark, Norway and Estonia are absent from this book, which includes only examples from four BSR countries (Germany, Poland, Russia and Sweden). This gap was partially filled in with knowledge from working group experts (see Chapter 2), but it is still apparent in this book. Fortunately, the territorial waters and economic exclusive zones of the four countries presented cover the largest share of the Baltic Sea space; thus, the picture painted, although incomplete, does provide a reasonable starting point for policy development.

10 BALTIC SEA POTENTIAL AND THREATS

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10.1 DRIVING FORCES SHAPING THE CURRENT DEVELOPMENT OF THE BALTIC SEA SPACE

The two years' of work by the working group on sea use planning and ICZM has indicated that only a few of the BSR countries have managed to amass systematically real and comprehensive insight into the ongoing development of their respective sea space. This refers to knowledge on both the driving forces and on the conflicts which might arise from the current pattern of development, and this knowledge is usually limited to a narrow circle of experts. Only in Germany, and also to some extent in Poland and Sweden, it is used for policy making. In other countries, if such knowledge even exists, it is not readily available, is dispersed and is not of a systematic character. The policy work is channelled into sectoral frameworks and even this information is rarely exchanged at the BSR level. The exception is information regarding shipping intensity and sea protection and pollution, all of which can be obtained from IMO-related, Helcom and other BSR sources (Fig. 10.1).

As indicated by national reports, the driving forces shaping the current development of sea spaces are, in principle, very similar in all BSR countries; however, their intensity and position can differ. All of the reports focus on the development of shipping and sea ports, maritime and coastal tourism, and last, but not least, the need to protect the environment. For instance, tourism is one of the most important economic driving forces in all coastal regions of the German Baltic Sea. In Schleswig-Holstein, the tourism industry represented 4.7% of the total revenue in 2004, with 80,000 people directly and another 50,000 indirectly employed in tourism. Tourism is also important in Mecklenburg-Vorpommern, with a gross turnover of 3.5 billion € annually [Scibior 2009].

Recent research shows the need to protect not only species but also their habitats and even marine landscapes. For example, the Balance (Interreg III B) project performed a preliminary classification of marine landscapes of the Baltic Sea that was developed based on parameters such as seabed sediment (e.g. mud, hard rock, sand, clay), depth and light availability (e.g. photic zones – light exposed seabed, and non-photoc zones – light deprived seabed) and salinity as an important parameter structuring the distribution of habitats (Fig. 10.2). With the knowledge that individual species show preferences for sediment composition, water depth and salinity, the need to protect the most important marine landscapes of the BSR marine environment should be considered. The protection of off-shore banks of high natural value is included in demands for marine nature conservation in addition to the Natura 2000 areas, BSPA (Baltic Sea Protected Areas) and the establishment of marine nature reserves as has been done in coastal areas. A study of the banks has demonstrated natural values of a magnitude which demands that at least half of these areas are protected.

Demands for protecting more marine biotopes will be made with increasing knowledge of the state of the marine environment, the resulting intensification of environmental quality objectives, and increased competition for the use of the sea. In the long term, the demands imply protection will be extended through granting favourable conservation status to all the Baltic Sea's naturally occurring living environments and species. This can be accomplished through a coherent, representative network of protected marine areas, such as Natura 2000, BSPA, nature reserves and national parks.

Wind energy farms are also discussed in almost all the reports (including that from Russia) as an important and perhaps the most promising development potential of the Baltic Sea. This indicates that the issue of maritime renewable energy is not only being pushed forward by EU directives, but that it has also been taken to national legislations (e.g., the proposed national planning objective from 2007 for wind power production in sea-located wind power plants in Sweden will contribute 10 TWh in 2020, which is equivalent to the construction of 1000 new wind power turbines), and also indicates that this form of renewable energy possesses its own rationale and dynamics that are being considered as an important energy alternative even in countries such as Russia that have relatively abundant resources of fossil fuels. While off-shore wind energy farms can obstruct navigation and trawl fishing, these areas can also be used for electricity production by wave power plants deployed between the wind power pylons. There is also an ongoing discussion about using wind power plant areas for aquaculture, primarily large-scale mussel farming in seas with suitable water quality. In Germany, for instance, a strategy for off-shore wind energy use was adopted by the federal government to envisage a gradual approach towards exploiting off-shore wind potential in the North Sea and Baltic Sea. The start-up phase between 2003/2004 and 2007 foresees the installation of pilot parks with a total capacity of 500 MW. By 2010, the first expansion phase will provide up to 3,000 MW. By 2030, when the German off-shore wind farms will be operating at a profit, forecasts envisage up to 25,000 MW of installed power. Most of the German off-shore wind park development will take place in its EEZ at 20 sites (17 in the North Sea, and 3 in the Baltic Sea) [Scibior 2009]. Poland has also an increasingly realistic plan for off-shore wind energy development.

The preceding driving forces and potential should be analysed as an interlinked system. For instance, increasing transport traffic will demand wider, deeper fairways and more supervision and canalizing in areas with high traffic intensity. New areas for traffic separation are brought up for discussion within Helcom Routing to be proposed at the IMO. Through the IMO, the Norra Middsjöbanken and the Högörs bank have been declared "Areas to be avoided". Especially vulnerable areas to environmental accidents, "Impact areas" are studied at Helcom. The member states make a coordinated hydrographical survey at

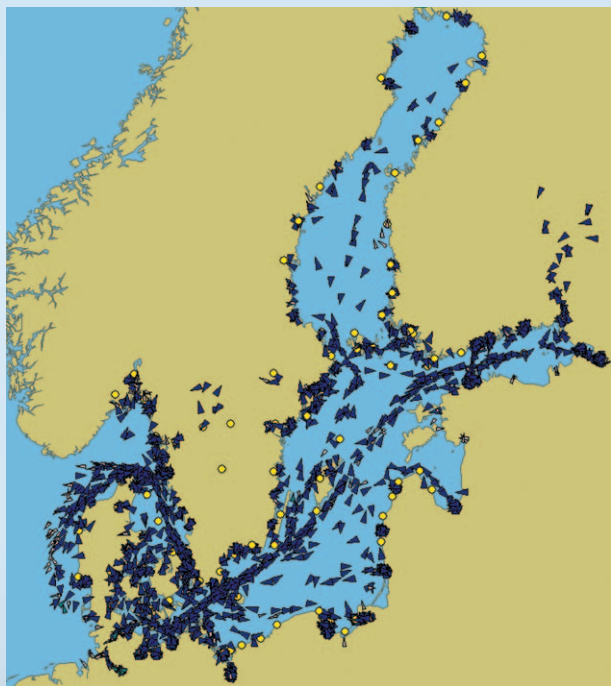


Fig. 10.1 Intensity of Maritime Traffic in the Baltic Sea

Source: <http://www.helcom.fi/stc/files/shipping/Overview%20of%20ships%20traffic.pdf>

Helcom fairways within the Helcom Hydrographic ReSurvey-plan. The plan is executed and monitored by the member states of the Baltic Sea Hydrographic Commission in accordance with the Copenhagen Declaration of 2001 [Ceginskas 2009].

There are also some notable differences among countries in the perception of the future development of their respective sea spaces. Fishery is heavily stressed in the Russian report as important development potential, whereas in other reports the focus is on preserving fish stocks and the protection of areas for reproduction, growth and fishing. Mariculture is seen both by Norway and Sweden as an important development potential and driving force. In Norway, large sea areas have already been designated for fish- and shellfish farming, either as single-purpose aquaculture areas or multi-purpose areas, indicating that the

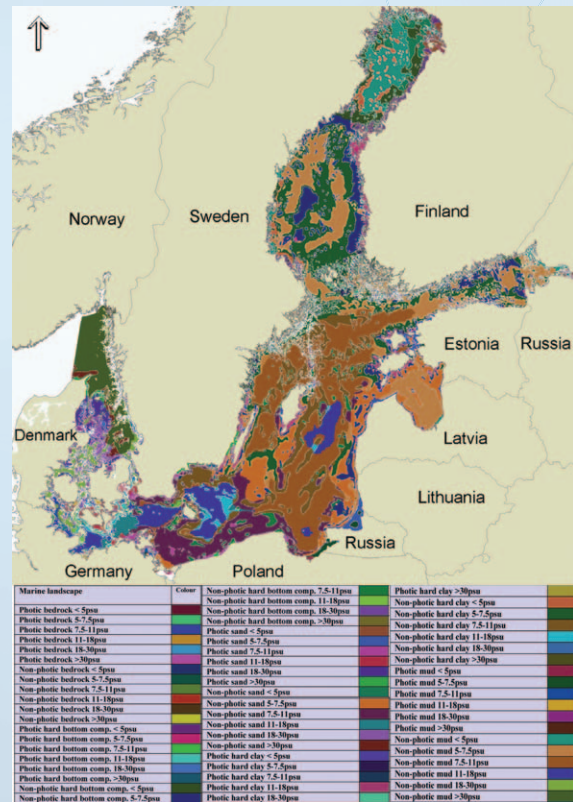


Fig. 10.2 Baltic Sea marine landscapes

Source: <http://balance-eu.org/xpdf/balance-interim-report-no-10.pdf>

industry has gained greater influence over the years. On the other hand, in Sweden, fish farming is limited in the coastal areas due to environmental demands to stop increased nutrient loading of already nutrient-rich waters. However, along the west coast of Sweden, the conditions for large-scale mussel farming for human consumption are considered to be very good and are also seen as an alternative to reduce nitrogen in sewage treatment works, the production of soil improvement substances and additive foodstuffs for egg production. Large areas of the coastal waters in the county of Västra Götaland are protected waters for farming shellfish, i.e., mussels, according to the EU Shellfish Directive. In Poland, Germany, Russia and Latvia mariculture is not considered so far to be a promising direction of sea space use even in the future. However, this might change soon. Mariculture may become an important source of biomass both for energy production and for cattle breeding. It can also offer an alternative source of income for fishermen currently experiencing shrinkage of their economic base. Key challenge is how to develop aquaculture production in line with principles of ecosystem approach i.e., preserving biodiversity and important Baltic habitats. This will require further research and interdisciplinary investigations. In the Swedish report an existence of cambric aquifer has been highlighted. Its importance will rise with intensification of measures preventing climate change since cambric aquifer can be used for CO₂ storage.

Mining, particularly oil and gas extraction is also discussed only in some reports. A high degree of uncertainty is ascertainable here, and there is a lack of proper data and information (perhaps except in Norway). For example, the Swedish report states that although exploiting oil and gas deposits is possible primarily in the south-east of the Swedish EEZ, it has not yet generated interest. Oil and gas are already exploited in Poland and Russia, and in the latter, one platform is operational and the construction of a second is under serious consideration. German extraction sites are restricted to the North Sea, but the German report states that, in the long term, exploitation of the reserves will inevitably lead to closing down the sites, which may result in significant ecological and social consequences.

Internationally, more and more services such as telecommunications, electricity, gas and oil pipelines are being laid on the sea bottom in an effort to avoid conflicts on land. New off-shore uses such as energy generation create an additional demand for cables and pipelines. However, this issue is discussed extensively only in the Swedish report indicating the importance of this question to Swedish society, and it probably stems from the recent request to locate in its sea space the underwater Baltic Gas Interconnector pipeline that will deliver Russian gas directly to Germany. This is the first investment of such magnitude in the BSR. The BGI is 1200 km in length and is comprised of two pipes of diameters of 106.7 cm, which is proposed to be laid between Vyborg and Greifswald (Mecklenburg-Vorpommern). Construction should start in 2008 and take four years. This proposal was preceded in Germany by a Territorial Impact Assessment (TIA) in order to designate the most suitable route that would generate the least conflict with other uses. The Swedish report highlights some potential space conflicts, namely, that the proposed gas pipeline route follows along a fairway in extensive use and passes through three dumping areas for World War II mines and ammunition. The ammunition dumps leak mustard gas, and this risk area extends to the Hørborg bank.

The new potential and new use of maritime space for blue biotech or sub-sea technologies are notably absent from the BSR, although they were mentioned by the European Commission in its Blue Book on Integrated Maritime Policy of the European Union. This is perhaps a task for national and regional governments in the coming years. However, in some reports new specialized uses have been designated, including silent zones where special area protection forbids aquatic sports of all kinds. In Sweden, noise-free areas for humans and wildlife, known as "areas of special consideration", have been designated in some areas in the archipelagos of Västra Götaland County and Stockholm County. Swedish experts foresee an increased demand for such zones as coastal populations grow. In according to more stringent environmental quality objectives, noise and other disturbances from boat traffic must be avoided inside especially sensitive archipelagos and coastal areas.

10.2 PERCEPTION OF EXISTING AND POTENTIAL CONFLICTS

While at least some of the driving forces are more or less similar among the BSR countries with few exceptions, the perceptions of existing and potential conflicts differ substantially (see Table 10.1). There appears to be a border line between SW-BSR and NE-BSR countries, which might be linked to the level of intensity of human pressure on sea spaces. Germany and Poland designated from seven to ten different types of high intensity conflict activities (mainly wind farms, nature protection, the extraction of oil, gas and other minerals, military areas), whereas Latvia and Russia designated only half of that number (for details, see Table 10.1). It is also evident that conflicts are more frequent in territorial waters and stem from the additional influence of land-based activities like coastal tourism than in the EEZs. In the EEZs, the traditional demands of global and local shipping, cables and pipelines for telecommunications and energy transport, military exercises and fishery have not, until now, generated any significant conflict of interests. However, this situation may change in the future. The ecological status of the Baltic Sea as a protected area, the protection of marine biotopes, depleted fisheries, increasing global and local shipping, the construction of wind power plants in the open sea, toxins and oil leakage from wrecks and dumped material as well as the expansion of international energy transport and telecommunications through pipelines and cables is even today intensifying competition for the use of certain areas that are not restricted to territorial waters but also include those of the EEZs.

Such conflict areas have been identified thus far only by Poland and Sweden and to some extent by Latvia and Finland. They are presented on the map in the chapter regarding Sweden.

It is also interesting that sea military areas seem to be a common problem for new EU members. It is imperative to convince the military authorities in these countries that sea space is a scarce resource, and that national defence requirements must be considered in light of and in cooperation with a range of national and BSR interests.

Some of the conflicts outlined above cannot be solved without clear BSR vision and goals. At the political level, BSR agreement should be reached regarding targets for the exploitation of resources (indicative percentage of the sea space to be protected, type of maritime landscapes to be preserved, traffic route separation), for the development of international energy transfer lines/systems, and for curbing pollution loads. This would permit the maritime spatial planning (MSP) to take into consideration BSR as well as national interests. Vision and long-term strategies are also necessary at the national level with regard to issues such as the development of mariculture, port development, power generation, mining, coastal safety, etc. It would be advisable if these plans could be joined and disseminated with those from neighbouring countries or at least displayed publicly.

Some other conflicts can be avoided thanks to evidence-based and professional planning and wise management techniques. This refers to the prevention of sea accidents by creating separate fairways with continual IT monitoring. The same is true for minimizing the risk of pipelines being damaged by vessels. This can be achieved by laying cables parallel to pipelines and avoiding crossing them; when this is impossible the cables should be placed above the pipelines. Their location should also be chosen with particular care in order to avoid conflict with other sea-bottom uses. Proper planning with knowledge of geomorphologic processes can also help to avoid conflicts with coastal protection (erosion), dredging and dumping, and deployment in unsuitable areas.

Water District	DE	PL	SE	LV	RU
Wind farms & connecting cables	XX	X	X	X	
Nature protection areas	XX	X	X		X
Fishery	X		X		XX
Shipping routes/ anchorage areas	XX		X	X	X
Other cables (electricity, telecommunications)	X				
Oil/gas extraction and connecting pipelines	XX	XX			
Sand/gravel extraction	X	X			
Aquaculture/Mariculture	XX		X		
Military training areas			XX		XX
Coastal erosion / coastal defence				X	
Other pipelines			XX		
Dumping			XX		

Table 10.1. The most conflict-ridden sea uses in chosen BSR countries

Sources: Andrusaitis 2008, Čeginskas 2008, Ścibior 2008, Gajewski, Matczak, Zaucha 2008, Chubarenko, Dominin, Andrusaitis 2008

11 MAIN POTENTIAL AND CONFLICTS IN GERMAN SEA SPACE

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11.1 MAIN POTENTIAL

The German coast is 2,389 km long and is divided into two parts – the North Sea and the Baltic Sea. The natural dynamics of these two basins are very different. The North Sea has a dynamic, deeper character with large tidal fluctuation, leading to the formation of the Wadden Sea area. The Baltic Sea has low salinity and almost no tidal activity. Both coastal waters (within the 12-nm zone) and the open sea are increasingly under the influence of human activities. Many new forms of use have recently been developed in addition to more traditional forms. Developments in off-shore industries and technologies have been particularly important (Fig. 11.1, 11.2).

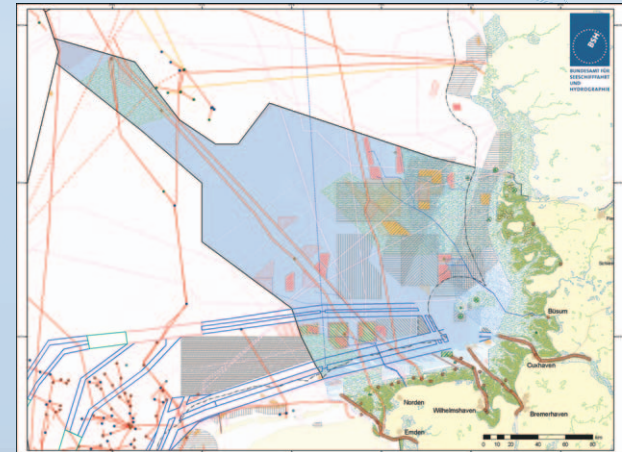


Fig 11.1 Main sea uses and their designated areas in the German North Sea

Source: BSH 2007

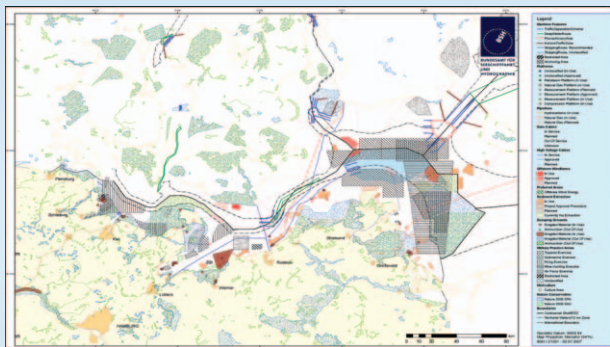


Fig 11.2 Main sea uses and their designated areas in the German Baltic Sea

Source: BSH 2007

The following are the eight most important off-shore trends (areas of the most dynamic economic development, plus nature protection) identified by the German ICZM Strategy of 2006.

11.1.1 SHIPPING

Shipping traffic on both the North Sea and the Baltic Sea is among the busiest in the world; therefore, shipping-associated industries (harbour development, harbour supporting infrastructure, shipyards, and inland water connections) are of high priority for the German economy.

A both economically and environmentally related aspiration of the German government is the shifting of cargo transports from land to sea (to so-called motorways on the sea). By 2015 shipping movements in the Baltic are expected to double, although any growth in oil transport will depend on the development of trade with Russia. Tanker size is also expected to increase. For the North Sea, similar developments are predicted based on a growth in container, oil and ferry transport. Immense growth rates in container shipping will therefore comprise the bulk of the growth in shipping volume. Coastal shipping traffic will be driven by fisheries, ferry traffic and tourism. Increased service traffic can be expected related to expanding off-shore uses.

The construction of the Fehmarnbelt Bridge in Denmark could result in 10-20% losses for German shipping traffic [IKZM Strategie 2006, p.21].

11.1.2 DEVELOPMENT OF SEA PORTS

German sea ports are highly significant as places of trans-shipment, production and the provision of services. In 2004 the combined transit volume of the German sea ports of Brake, Bremen/Bremerhaven, Brunsbüttel, Cuxhaven, Emden, Hamburg, Kiel, Lübeck, Nordenham, Puttgarden, Rostock, Sassnitz, Stade-Büttzfleth, Stralsund, Wilhelmshaven and Wismar was estimated at 272 million tonnes and made up 24.6% of the German foreign trade revenue. Except for the two large all-round ports of Hamburg and Bremen/Bremerhaven, most German ports are specialised, e.g., Rostock and Lübeck specialise in ferry and personal transport, Wilhelmshaven specialises in transporting mineral oil.

The anticipated growth rates of worldwide container shipping (see point II 3.1.1) are the reason behind the planned development of capacities and improvement of intermodal connections for both the central transportation nodes of Hamburg as well as Bremen/Bremerhaven.

The construction of a new deep-water port in Wilhelmshaven (JadeWeserPort) for very large container ships is planned as a joint action of the city of Bremen and the federal state of Lower Saxony, and construction should start in 2009/10.

11.1.3 MINERAL OIL AND GAS EXTRACTION

Besides the large number of British and Norwegian oil and gas extraction sites on the North Sea, there are three such facilities in German waters: the oil-extracting island "Mittelplate" (within the National Park Schleswig-Holstein Wadden Sea) and two natural gas platforms: "Manslagt Z1" in the Ems Delta, and "A6-A" in the EEZ. Furthermore, Germany possesses exploration rights to wide areas on the North Sea with confirmed natural gas reserves.

Oil extraction rates have doubled in the last decade and the number of extracting facilities and connecting infrastructure such as pipelines has increased in a similar fashion. Also, the German EEZ is expected to have a share in this growth. In the Wadden Sea, further gas extractions are planned. However, in the long term, the exploitation of such reserves will inevitably lead to the closure of the sites, and to huge ecological and social problems. Therefore, investment in fossil fuels should not be seen as offering sustainable development potential for Germany.

11.1.4 OFFSHORE WIND PARKS

Offshore wind energy parks are a relatively recent trend in Germany. Interest in off-shore wind farming has risen considerably with the introduction of financial incentives by the Federal Government in an attempt to meet the goals of the Kyoto Protocol. These developments also follow trends in other countries such as Denmark and the UK, which are pioneers of off-shore energy use.

A decisive factor for the development of off-shore wind energy in Germany was the Renewable Energies Act (EEG) of 1 April 2000, which makes it mandatory for electricity providers and grid operators to purchase and transmit energy generated from renewable sources. The Act also guarantees minimum prices for feeding renewable energy into the grid. It therefore created attractive economic framework conditions for those interested in constructing off-shore wind energy facilities. The federal strategy for off-shore wind energy use [BMU 2002] suggests a gradual approach towards realising the off-shore wind potential in the North Sea and the Baltic Sea. A start-up phase between 2003/4 and 2007 foresees the installation of pilot parks with a total capacity of 500 MW. By 2010, the first expansion phase will provide up to 3,000 MW. By 2030, when off-shore wind farms can operate at profit, forecasts envisage up to 25,000 MW of installed power⁹⁹. Most of German off-shore wind park development will take place in the EEZ.

A search for environmentally friendly and low-conflict locations, as recommended by the German off-shore wind energy strategy, has led to considerable lag on Germany's part in comparison to neighbouring countries on the North Sea, such as Denmark or the Netherlands. However, at the moment, approval procedures have been successfully followed, and many installations are about to start, most of them in the northern EEZ (17 sites) and the Baltic EEZ (3 sites), with a total of 1417 turbines. Smaller facilities are planned in the coastal sea of Mecklenburg-Vorpommern (Baltic I with 21 turbines) and Schleswig-Holstein in the Baltic Sea (5 turbines).

11.1.5 CABLES AND PIPELINES

Internationally, more and more services such as telecommunications, electricity, gas and oil pipelines are placed on sea bottoms in order to avoid conflicts on land. New off-shore uses such as energy generation create additional demand for cables and pipelines.

A current project that has gained much publicity is the underwater pipeline Nordstream, which should deliver Russian gas directly to Germany (Fig. 11.3).

Another planned pipeline within the BGI (Baltic Gas Interconnector) will connect Germany with Sweden and Denmark. The most important existing gas pipelines on the North Sea are the NORPIPE, EUROPIPE I and II.

⁹⁹ http://www.bmu.de/Files/windenergie_strategie_br_020100.pdf

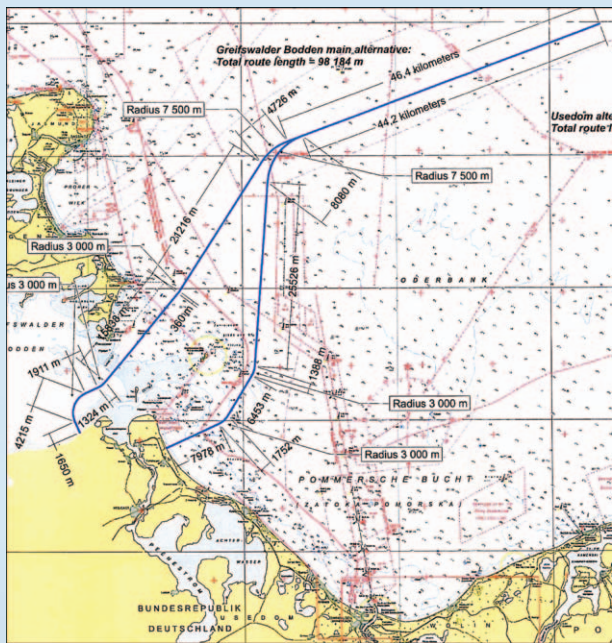


Fig. 11.3 Planned Nordstream pipeline: alternative routes
Source: BSH 2007

11.1.6 FISHERY AND MARICULTURE

The North Sea is one of the most important fishing grounds in the world. Herring, mackerel, pollock and cod belong to the most frequently caught fish species. While stocks of the first three of them are in relatively good condition, cod (Kabeljau) and plaice stocks are extremely depleted and there is uncertainty as to whether they can regenerate at all, which suggests that the fish stocks in the North Sea are generally overfished. Both in the North Sea and the Baltic Sea the trend is towards further reductions of catch quotas and increased management of fish stocks. On the German North Sea coast, the number of people employed in the fishing industry shows a steady decline, although shrimp fishing has stabilised in Schleswig-Holstein at a low level. There is a general trend towards reducing fishing fleets, with higher investment in new technology and fishing methods, and with increased international competition.

Mariculture of crabs and shellfish is practised on a relatively small scale in the brackish waters of the Wadden Sea. Crab and shellfish rearing and, to a lesser degree, oyster farming, are also of significance. On the Baltic Sea, mariculture has, due to unfavourable natural conditions, no significant potential.

11.1.7 MARINE PROTECTED AREAS AND COASTAL NATURE RESERVES

With increasing pressure of use, the protection of marine ecosystems is becoming more and more important. Due to the non-stationary nature of some marine fauna species, the designation of marine protected areas can be difficult. While some species are dependent on certain conditions, such as breeding areas, others travel long distances, requiring effective international co-operation for their protection.

Germany is signatory to several international conventions. The most important agreements, at an EU level, are the EU Birds Directive, which demands the designation of so-called Special Protection Areas, as well as the EU Habitats Directive. Besides, there is the Ramsar Convention for the protection of wetlands, the Bonn Agreement to protect migratory birds, as well as special agreements on the protection of seals and whales. All international conventions protect both individual species and their habitats.

Until 2002, Natura 2000 sites, Important Bird Areas and Special Protection Areas were only proposed in coastal and inshore waters. An amendment to the Federal Nature Protection Act in April 2002 also allowed the designation of marine protected areas in the EEZ. Four areas in the North Sea and six in the Baltic have since been formally proposed to the EU as potential SPAs⁷¹.

In the Baltic Sea, Helcom agreed the designation of special Baltic Sea Protected Areas, which are significant for migratory birds as rest and breeding areas. In the North Sea, the Wadden Sea offers a continuous protected area, extending from the Dutch to the Danish coasts. In addition to its designation as a National Park, the entire Wadden Sea is also classified as a Particularly Sensitive Sea Area (PSSA) by MARPOL and the IMO. In 2005, the Baltic Sea was also included in the list of PSSAs⁷². PSSAs serve to regulate shipping and allow the introduction of appropriate transboundary measures such as requirements for navigation or shipping safety.

Despite the stated difficulties there is a trend towards increased designation and recognition of the significance of marine protected areas. EU maritime policy also supports this trend. Greater continuity between marine protected areas and coastal nature reserves is planned.

11.1.8 TOURISM

In all coastal regions of Germany, tourism is one of the most important economic driving forces. In Schleswig-Holstein, the tourism industry represented 4.7% of total revenue in 2004, with 80,000 people directly, and another 50,000 indirectly, employed in tourism. Tourism plays important role in economy of Mecklenburg-Vorpommern, reaching gross turnover of 3.5 billion € annually.

Germany's coastal regions are very attractive to holiday-makers. Apart from the natural coastal landscape and the recreational value of beaches and islands, interest is also growing in coastal towns and cities where the refurbishment of old harbour and industrial sites has created attractive spaces directly on the water. Overnight stays are much higher on the coast than in the interior. In Schleswig-Holstein for instance 80% of all overnight stays are in coastal districts and on islands.

Following years of direct competition, coastal regions now show increased individual profiles and market stabilisation, which is combined with targeted thematic marketing. Coastal regions focus on quality rather than mass tourism, and on the qualities of the natural coastal environment, emphasizing possibilities for active recreation, water tourism, wellness, camping and culture. Improvements in tourism infrastructure are an issue particularly in Mecklenburg-Vorpommern, since EU expansion not only leads to higher tourist numbers, but also to stronger direct competition between destinations⁷³.

⁷¹ http://www.bmu.de/naturschutz_biological_vieffalt/natura_2000/doc/35487.php (15.2.2006)

⁷² http://www.imo.org/Environment/maritime.asp?topic_id=760

⁷³ dwf Consulting GmbH: Landestourismuskonzeption Mecklenburg-Vorpommern 2010, <http://www.wm.mv-regierung.de>

11.1.9 SAND AND GRAVEL EXTRACTION

In Germany, sea bottom sediments are used mostly for harbour development and the construction industry. Sand finds application in beach nourishment. Most of the commercially interesting sand and sediment deposits can be found in the shallow areas of the North Sea at depths of between 6 and 20 meters.

Although in German coastal waters no further extraction is currently planned, in the EEZ large gravel extraction sites have been granted or are currently undergoing approval. In late 2002, for example, a large field "Weisse Bank" (OAMM) was approved in the North Sea for a period of 30 years.

11.2 MAIN SPATIAL CONFLICTS

Fig. 11.4 shows the compatibility of existing and planned uses on German sea waters. The darkest fields mark the highest incompatibility, which can easily be interpreted as conflicts or potential conflicts. Conflicts over medium fields can be resolved through zoning and other maritime spatial planning measures.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Offshore wind farms																	
Marine protected areas																	
Fisheries																	
The sea as a public good																	
Cables																	
Tourism																	
Shipping and shipping routes																	
Harbours and ports																	
Agriculture/run-off																	
Sand and gravel extraction																	
Oil and gas exploration																	
Dumping of dredging material																	
Mariculture																	
Coastal service centres																	
Nature conservation																	
Coastal protection																	
Military use																	

Fig. 11.4 Compatibility of German sea uses
Source: PlanCoast Handbook 2008 after Gee et al. 2006

11.2.1 OFFSHORE WIND FARMS

In practice, the realisation of the ambitious German off-shore strategy goals will not be easy. The current state of wind farm science allows the construction of off-shore wind farms at up to 40 m depth, effectively restricting them to areas that are already covered by a multitude of other uses such as shipping, fishing, military use and nature conservation.

Offshore wind farms are among the most controversial forms of marine resource use. Critics point out the uncertain effects of fixed large-scale installations on marine ecosystems and the lack of co-ordination with other forms of use when issuing permits. The effects of large-scale farms on migratory birds, whales or fish species still are to some extent unclear. The greatest ecological and social risk is the danger of vessel collisions. In order to exclude this, a collision risk analysis has to precede every site designation.

Other potentially conflicting uses are fishery, military uses and tourism (the "spoiled horizon"). Environmental issues also have to be considered. Sea mammals are believed to be disturbed by the vibration of the pillars in wind farms, and birds could be victims of the mills' rotation. Time-management schemes could prove effective in this case, as birds migrate only at certain short periods of the year, and during these periods the turbines could be closed.

All in all, the co-ordination of off-shore wind farming with other forms of use represents a real challenge for spatial planning. Designating favoured zones for off-shore wind farming requires many other interests to be taken into account, for instance mining and access rights to the sea bed, shipping safety, shipping routes, military use, fisheries, nature protection and also underwater cables and pipelines (e.g., telecommunication cables). Potential collisions between oil tankers and off-shore wind farms represent a particular concern. Although the German coastal Länder have agreed not to place off-shore wind facilities in the Wadden Sea, they do have an interest in placing them as close to the coast as possible to facilitate the testing of relevant technologies.

11.2.2 MARINE PROTECTED AREAS

Marine protected areas are typically hot-spots for numerous conflicts, as they tend to be sensitive to changes in water quality and other systemic disruptions. Systemic changes can be caused by badly sited off-shore wind farms, which in the Baltic Sea could affect water exchange rates and disrupt the natural balance of the system (e.g., salinity). Water quality is also dependent on the nutrient and pollutant intake from rivers and cannot therefore be controlled by coastal or marine management alone. In this context, the implementation of the Water Framework Directive (WFD) becomes a key element of successful coastal zone management. Another problem is the potential long-range effects of alterations to the sea-bed or abiotic changes, for which monitoring and control are all but impossible. In principle, therefore, marine protected areas conflict with all other forms of use that have a negative effect on habitats and individual species. These include sediment extraction, fisheries, dumping, shipping, cables and pipelines, low flight zones, (potentially) off-shore wind farming, tourism and (potentially) mariculture.

Spatial analysis can help to determine which conflicts are inevitable and which can be resolved through appropriate management. Spatial planning needs to recognise the importance of marine protected areas while simultaneously developing regulatory approaches for new and existing demands on marine resources. Although they need to be designed so as to ensure maximum ecosystem protection, marine protected areas should not exclude new and innovative forms of use as a point of principle.

Zoning and other management concepts in coastal protected areas have led to restrictions of other forms of use, most notably fisheries and tourism. During the 1999 amendment of the National Park Act in Schleswig-Holstein, this led to considerable debate and resistance of the populace to the National Park. Indirect factors such as the influx of pollutants or the effects of coastal protection measures are difficult to influence or regulate. In the Baltic Sea Region, activities in river catchments or industrial air pollution have an influence on the sensitive marine environment. International co-operation and the implementation of appropriate regulatory measures present a big challenge in the international areas affected.

Given appropriate management, tourism can be compatible with nature conservation objectives. In many cases public participation in protected area planning can lead to greater acceptance of management measures. Because of the particularly emotional nature of the debate, a clear distinction needs to be drawn between real and imagined conflicts in the case of nature conservation.

11.2.3 FISHERY

Conflicts arise with nature conservation on account of overfishing and subsequent alteration of marine communities, through fishing waste and disturbance of the sea bed. Conflicts between different fishermen arise too, because of increased competition and unsustainable practices. On the other hand, uses that negatively impact fishing include all those that involve fixed installations with potential impacts on spawning and fishing grounds, installations precluding the free movement of fishing vessels, cable and pipeline routes, or the designation of marine protected areas and no-fishing zones. Moreover, the developments on the European level are significant. Growing pressure on remaining resources, the restructuring of EU policy and increasing competition among fishermen lead to higher conflict potential and pressure to exploit to the maximum whatever resources remain.

Spatial planning should seek to support sustainable fisheries and mariculture. Coastal fishing represents an important part of coastal identity and should be stabilised, possibly in collaboration with secondary uses such as tourism. Co-operation with relevant institutions is an important prerequisite for success, as is intense and active participation of the fishermen themselves.

11.2.4 CABLES AND PIPELINES

Gas pipelines and other sea bottom structures such as cables present a relatively limited conflict potential with other uses. A clear use limitation applies to the extraction of sand or other materials from the sea bottom. Constraints from an environmental point of view (clash with MPAs) are scientifically moot, although some kind of electromagnetic radiation cannot be denied. Through reinforced coverage of the pipelines, the negative impact can be somewhat minimised.

The most invasive disturbance takes place during the construction phase of the pipeline, when other activities such as fishing or shipping are interrupted. The negative impact on birds or fish is of a potentially lasting character. Oil pipelines present an additional risk because they may leak. An anchor can tow the cable and damage (slice) pipelines. Their location must be chosen particularly carefully also in order not to collide with other sea-bottom uses.

In order to minimise the permanent conflict potential, so-called earth-cables are becoming popular, despite the considerably higher initial costs.

11.2.5 TOURISM

Tourism brings direct and indirect threats to terrestrial and marine ecosystems. Direct threats include the disturbance of breeding birds, access to sensitive habitats or the destruction of habitats through infrastructure development. Indirect threats include rising amounts of waste-water, domestic waste, higher CO₂ emissions during travel to and from destinations. Large numbers of tourists, particularly during the summer months, can also lead to social stress and conflicts between residents and visitors.

In all areas mentioned, efforts are under way to limit negative effects and to develop joint strategies for the future. These include attempts to lengthen the season and to achieve a more even spatial spread of tourist numbers.

On the other hand, other uses can have negative impacts on tourism. Environmental issues such as oil spills, algae bloom or marine pollution create a negative image for coastal tourist regions. Large-scale changes to the seascape, such as, possibly, wind farms, also count amongst these.

On the water, recreational boating is a growing trend with large potential spin-offs for smaller harbours. The use of off-shore installations such as wind farms for tourism is conceivable, although it is difficult to come up with definitive figures. It is feasible, at least, to develop specific products aimed at these new off-shore markets.

Unlike any other form of use, tourism affects both sea and land in a complex pattern of interactions. Travel alone means that the impacts of coastal and marine tourism extend far afield. The effects of short-term trends and fashions can felt by small tourist destinations. Spatial planning needs to be aware of these interactions and to seek to support the particular strengths of coastal and maritime tourism. Infrastructural consequences of demographic developments in Mecklenburg-Vorpommern need to be considered as well as growing interactions with Eastern European countries. Valuable natural and cultural goods, often key factors for maintaining or promoting tourism, need to be safeguarded. This particularly includes the special attraction of coastal landscapes which are often of particular significance for local identity. A good example for this is the unique cultural landscape of the Wadden Sea coast.

11.2.6 SHIPPING AND SHIPPING ROUTES

In both coastal waters and the EEZ, shipping has to meet environmental standards and respect protected area designations. Nevertheless, shipping is an economically and politically privileged spatial use, which brings with it considerable potential for conflict. Conflicts arise with nature conservation (accidents, pollution from vessels, alien species), off-shore wind farming and the maintenance of cables and pipelines on the sea bed. Shipping security can be negatively affected by permanent installations on the sea. Significant conflicts of interests between the off-shore industry and shipping authorities like the IMO are the consequence. Maximum traffic safety is considered a priority, so if conflicts arise at sea, they are usually resolved in favour of shipping. Shipping's position of prime importance is also reflected in German legislation¹⁴.

Together with the Federal Waterways and Shipping Authority (WSD), the Federal Ministry for Transport, Building and Urban Affairs has developed a so-called Safety Concept for the German Coast, which is continually updated and expanded according to needs. Top priorities include the avoidance of shipping accidents and the minimisation and control of any damages. The concept relies on separating opposing streams of traffic through traffic rules, monitoring of traffic by dedicated centres, the mandatory use of pilots, policing, the availability of tugs, and fire protection, as well as the control of accidents involving pollutants.

To increase safety off the coasts of Germany so-called traffic separation schemes have been implemented, which spatially separate ships travelling in opposite directions and also ships carrying different types of load. In the EEZ the responsibility for marking and managing these separation zones lies with the Federal Waterways and Shipping Authority¹⁵. Overall, the use of pilots needs to become a standard requirement, as does the provision of accident contingency plans.

11.2.7 HARBOURS AND PORTS

Dredging existing harbour basins and rivers to make them suitable for ever larger container ships has serious effects on the marine ecosystem. This particularly concerns the consequences of dredging the Elbe and Weser Rivers. Significant compensation measures are required in the context of expanding the Bremerhaven container terminal. In case of container terminal VI for instance former agricultural land is to be turned into ecologically valuable zones.

11.2.8 SAND AND GRAVEL EXTRACTION

From point of view of the ecosystem, sediment extraction means direct destruction and frequently irreparable loss of whole underwater habitats. Suitable measures can be applied to minimize and terminate this impact. Further conflicts persist with sea bottom activities such as cables and pipelines, off-shore energy extraction and generation (wind parks), and fishery.

Through transformation of the sea bed morphology, potential conflicts with coastal protection cannot be excluded.

Given the high conflict potential of sediment extraction on land and the increasing scarcity of suitable raw material, the importance of off-shore extraction is likely to increase. Spatial planning will need to deal with technicalities of extraction, impacts on nature conservation and questions of shipping. Related issues include connections to coastal service centres and ensuring links to transport infrastructure on land.

11.2.9 OIL AND GAS EXPLORATION

Oil and gas extraction sites are ecologically relevant through accident risk, and their high negative impact during the installation and operation of platforms and related infrastructure.

Since platforms drastically change and damage marine habitats, conflicts with nature protection and fishery are acute, especially in the national park Wadden Sea in Schleswig-Holstein. Another significant conflict of use, one which is likely to become more problematic, concerns off-shore wind parks, since platforms hinder the development of power leading cable networks (and the wind parks themselves).

¹⁴ Landesregierung Schleswig-Holstein (2006)

¹⁵ http://www.wsd.de/Schiffahrt/Seeschiffahrt/Ausschliessliche_Wirtschaftszone/index.html

11.2.10 MARICULTURE

In contrast to fishery, mariculture has an obvious spatial dimension since it involves static sea-use (cages). Space conflicts are mainly limited to the shallow coastal waters, river mouths, etc. where aquaculture is most suited.

The main negative impact of mariculture on sea habitats is pollution: nutrient and organic enrichment and the input of chemicals and medicines. Moreover, mariculture can be a source of diseases and (often genetically modified) alien species that spread into the natural environment in an uncontrolled way. Seed mussels are harvested from natural mussel banks, increasing pressure on this resource. All those risks can be restricted by good management practice on the site; however they can never be entirely excluded.

Spatial planning should seek to support sustainable fisheries and mariculture. Increased use of the EEZ brings additional options for co-use, such as e.g., mariculture cages attached to off-shore piles.

11.2.11 COAST PROTECTION

Despite all management attempts, coasts are dynamic environments without a fixed end stage. Coastal defence through fixed structures leads to conflicts of use with cable and pipeline routes, shipping, port development as well as oil and gas exploration.

Conflicts with nature conservation rank among the most prominent conflicts for coastal defence. The construction of dykes and other measures alter the physical environment and also influence hydrography and patterns of sedimentation. All of these can have negative impacts on coastal spawning grounds, biodiversity and individual species.

Coastal retreat (no protection activity) is an option where suitable areas are available and where acceptance of the population is present. This can be difficult since coastal defence is still a defining principle for many coastal communities. In Mecklenburg-Vorpommern protection of the Bodden is a key issue, with deficits in research and planning particularly apparent around the area of Darss and Zingst.

12 MAIN POTENTIAL AND CONFLICTS IN POLISH SEA SPACE



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12.1 MAIN POTENTIAL

The Polish part of the Baltic Sea has four main areas of potential (maritime transport, renewable energy, tourism, fisheries) that will guide its long-term development (Fig. 12.1). The first three are of a prospective nature, while the importance of fisheries will decrease. However, in the longer term, significant development of sea fish farms, or mariculture, is anticipated. Maritime transport also is and will be an important factor for the development of the main port cities of Gdynia, Gdańsk, Szczecin and Świnoujście and their vicinities, but also for the development of the smaller ports and surrounding areas. Mineral deposits might play some role in the future as well, but at present their developmental impact is difficult to predict. Nature conservation is a key consideration in the development of sea space. Sea habitats and their quality are important assets of the Baltic Sea space, and they are instrumental for the maintenance of fish stocks, the introduction of mariculture and for the development of the tourism industry.

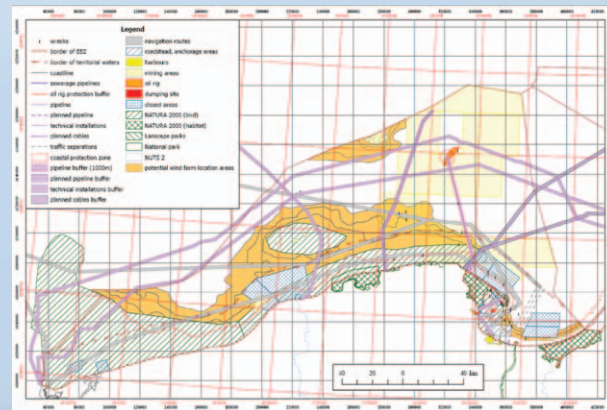


Fig. 12.1 Main sea uses of the Polish sea areas

Source: Maritime Institute in Gdańsk

12.1.1 RENEWABLE ENERGY

No wind farms have been built in Polish sea areas yet, and only one concession has been issued. However, investor interest in producing renewable energy in the Polish sea space is growing. The main impetus behind this is the EU requirement for Poland to generate 48 TWh of renewable energy by 2020 (if current GDP growth continues). This amount of renewable energy cannot be produced on land from biomass, wind or water, thus, the only solution is to harness energy from the sea. The existing sea space under Polish supervision that is suitable for the production of renewable energy is 1000 km² (depth between 20 and 30 m, suitable distance to the shore, suitable number of windy days). The existing technical possibilities allow for the installation of 5 MW per km². Multiplying this by 3500 windy hours per year, the energy produced could amount to 15 TWh per year.

Deeper areas of between 30 to 40 m are less suitable, but still feasible, and will probably become even more feasible in the future, and cover an area of about 1500 km² of Polish territorial waters and EEZ (Fig. 12.2). Based on the assumptions above, except that a greater number of windy days is anticipated, energy production in this area is estimated at 28 TWh per year.

Therefore, the two areas (indicated in orange in Fig. 12.1) can produce almost all the renewable energy required by the EU directive. It should also be noted that there are additional opportunities to produce renewable energy at sea from waves and sea currents, but this potential has not yet been examined properly.

If a similar approach is adopted by other EU countries around the Baltic Sea, new energy transmission infrastructure (cables) will be required in order to connect wind farms with respective countries and with the rest of Europe. In addition, Baltic countries will require additional connections among them to compensate for the uneven distribution of windy days in the different parts of the sea (trading temporary energy surpluses and covering temporary energy deficits in a kind of energy solidarity, which is important due to random variations in the production of energy from wind). The most suitable solution would be a "Baltic" underwater high voltage cable connecting all Baltic wind farms and this system with the European energy grid.

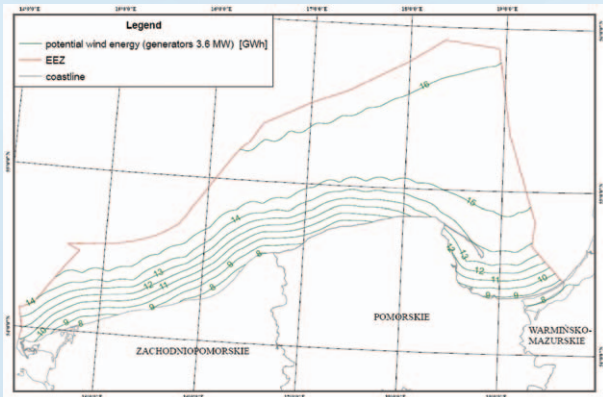


Fig. 12.2 Potential wind energy in Polish sea space
Source: Maritime Institute in Gdańsk

12.1.2 FISHERY

The main figures concerning the Polish fishing industry are presented in Table 12.1.

Table 12.1 Key data on Polish fishery

Year	2002	2003	2004	2005
Number of fishing vessels	409	398	249	
Number of fishing boats	991	976	723	
Fish catch in tonnes	142,686.2	153,805.1	124,340.6	
Number of fishermen			4,056	3,188
Number of employed in fish processing			13,500	14,100
Number of employed in fish trade (retail and wholesale)			6,200	6,100

Source: Gospodarka morską 2006

The limits for cod catches for Polish fishermen are 10,800 t/year and have been recently downsized from 13,000-15,000 tonnes previously. In order to cover costs, the average fishing vessel needs to catch 70-100 tonnes of cod per year. This means that 100-150 vessels can fish cod profitably, whereas the actual number of vessels is much larger. In fact, the size of the Polish fishing fleet requires a cod catch of 40,000 tonnes per year to sustain itself. The result is that cod is overfished, and the fishermen are frustrated by the inability of earning a living. This situation cannot continue in the long run.

Fishing is also not the best economic use of the existing potential of the sea space. Energy production earns about 1,400,000 € per year per km² (5 MW × 80 €/MW × 3500 wind hours per year), whereas fishing earns only 10,000 € in the same area. Even assuming that the official fish landings are underestimated, the maximum income from fishing is 50,000 € per year per km². Bearing in mind the natural decline of the fishery, ways of compensating coastal communities for the loss of this source of income must be found. This could be achieved by offering economic stakes in energy production on the sea, as well as through supporting various types of aquaculture. It should also be noted that the decline of the fishery will only have a moderate impact on the overall fishing industry in Poland, the turnover of which is approximately 0.7 billion €, whereas catches of cod, herring and sprat by Polish fishermen do not exceed 40 million € annually according to official data (the equivalent of wind energy production on 200 km²).

12.1.3 NATURE

The main problem with nature is that this potential has hardly been examined, investigated or classified. For example, Natura 2000 areas were designated without sufficient knowledge of what should, in fact, be protected. To date there is no systematic knowledge available regarding marine biotopes or habitats in the Polish EEZ, internal waters, or territorial waters. However, some parts of the sea (e.g., the lagoons, Puck Bay) have been investigated more thoroughly than others. Even so, more reliable information has only been gathered only for some smaller areas of special importance. Another problem is that the dynamics of the marine environment are more intense than those on land. Therefore, information on sea habitats can become invalid within a short period of time unless constant, costly monitoring and sampling is implemented. Just last year, a wide-ranging project was initiated entitled "An ecosystem approach to marine spatial planning: Polish marine areas and the Natura 2000 network" (<http://www.pom-habitaty.eu/>) with the intention of developing hydro-acoustic, satellite and biological methodology to investigate and designate the different habitats in Natura 2000 areas. Therefore, the following evaluation of Polish marine biotopes must be viewed with caution as it is based primarily on the available literature and unpublished, long-term data and temporal and spatial observations. While intensive studies have been conducted in the Gulf of Gdańsk and the Pomeranian Bay, less is known about shallow water biotopes in the open sea region.

The following sub-regions occur within the Polish marine zone:

- 1) the southern part of the Bornholm Deep (max. depth 90 m);
- 2) the Słupsk Furrow (90 m);
- 3) the western part of the Gdańsk Deep (110 m);
- 4) the south-western part of the Gotland Deep (120 m);
- 5) the eastern part of the Pomeranian Bay and the western part of the Gulf of Gdańsk.

A stable halocline occurs at a depth of 60 m in the Bornholm Deep, at 70 m in the Słupsk Furrow, and 80 m in the Gdańsk Deep. The salinity of the isohaline layer is about 7‰, while that below the halocline varies from about 18‰ in the Bornholm Deep to 10‰ in the Gdańsk Deep.

The state of natural biotopes varies from near pristine to degraded, and the most significant changes are observed below the halocline in the Gdańsk and Bornholm deeps. Long periods of oxygen deficiency have caused almost all macroscopic life on the bottom to disappear, and impoverished plankton assemblages have limited fish reproduction.

Recent observations indicate that a similar process is taking place in the deepest part of the Słupsk Furrow. Substantial changes have also been observed in shallow water biotopes of the Puck Bay where salinity is low and underwater meadows have decreased in size and changed in structure. Mono- or two-species meadows have begun to prevail, and the community of *Fucus vesiculosus* and *Furcellaria* spp. as dominant species may no longer exist. The predominance of the brown algae species, *Phyllyella littoralis* and *Ectocarpus siliculosus*, as the only representatives of the phytobenthos in some areas is a new phenomenon. Changes in macrophyte vegetation have been followed by changes in the structure of benthic and plankton communities. Such drastic changes have not been observed in the open waters above the halocline. Biotopes that are nearly pristine occur there, and those from the bottom of the Słupsk Bank are an example. Good light conditions together with the rocky bottom in the Słupsk Bank favour the development of macrophytes and associated bottom fauna. The following macrophytes were observed in this area: *Fucus vesiculosus*, *Furcellaria lumbricalis*, *Desmarestia sanguinea* and some others, which have likely disappeared from the Gulf of Gdańsk.

⁷⁶ The problem is that this refers to income and should refer to profit per km².

Discharges of nutrients and pollutants flowing into Polish coastal bays with the waters of the Vistula and Oder rivers are considered the greatest threats to biotopes in the Polish zone.

Alien species pose a potential threat which is difficult to forecast or to evaluate. Recent studies have shown the very dynamic development of the polychaete *Marenzelleria viridis*, which was brought from America with ballast waters and has become a dominant species in waters close to river outlets. *Negobius melanostomus*, a fish originating from the Caspian Sea, is becoming increasingly dominant in the Gulf of Gdańsk.

The European Red List of Threatened Animals and Plants includes the following species which are found in the Polish zone: the harbour porpoise, the ringed seal, the sturgeon (extinct), and the lavaret. Species conservation extends to all Baltic mammals, nearly all birds occurring permanently or periodically in the Polish zone, and the following fish: *Acipenser sturio*, *Alosa fallax*, *Alosa alosa*, *Pomatoschistus microps*, *Myoxocephalus quadricornis*, *Liparis liparis*, and *Spinachia spinachia*.

The Baltic Sea Protected Areas (BSPA) now include the Woliński and Słowiński National Parks, the Ślupsk Bank, the Puck Bay and the Pomeranian Bay.

A summary description of the Natura 2000 Habitat area is presented in Table 12.2.

Table 12.2 Natura 2000 Habitat areas in Poland

Natura 2000 area	Number of habitat species types from the Annex to the Habitat/Bird Directive	Specific features	Threats
Puck Bay and Hel Peninsula (PLH220032)	12	<ul style="list-style-type: none"> great biodiversity of underwater meadows with the occurrence of rare, often relic, coastal flora and fauna species most numerous observations and catches of marine mammals (porpoises and grey seals) importance for migrating birds 	<ul style="list-style-type: none"> anthropogenic water pollution uncontrolled pressure and development of tourism infrastructure (development in ecologically valuable locations, heavy traffic, etc.) exploitation of sand used for peninsula stabilisation and renovation of camping beaches (direct threat to underwater meadows)
Ślupsk Bank (PLC990001)	No habitats	<ul style="list-style-type: none"> macroalgae, with species extinct in other parts of Polish waters bird reserve of European significance occurrence of red algae, <i>Delesseria sanguinea</i>, extinct in other parts of Baltic Proper numerous vertebrates that are a rich food base for migrating birds 	<ul style="list-style-type: none"> exploitation of underwater mineral layers possible wind power plant location some fishing activities harmful to migrating birds potential threats – gas and crude oil exploitation
Vistula Lagoon (PLH280007)	18 habitats and 13 species	<ul style="list-style-type: none"> vascular plants threatened in Poland and characteristic of rare and extinct habitats occurrence of <i>Lampetra fluviatilis</i> and <i>Alosa fallax</i> grey seal regularly sighted here important bird reserve 	<ul style="list-style-type: none"> anthropogenic water pollution eutrophication fishing activities (mainly by-catch) intense exploitation of reeds wind power plants
Ostoja Słowińska (PLH220023)	28	<ul style="list-style-type: none"> important habitat for the Baltic porpoise an important RAMSAR area 	<ul style="list-style-type: none"> mainly tourism pressure on bird nesting sites
Pomeranian Bay (PLB990003)		<ul style="list-style-type: none"> important bird reserve of international significance regular Baltic porpoise observations protection of <i>Alosa fallax</i> (Twaité shad); key for the protection of habitats 	<ul style="list-style-type: none"> potential wind farm locations fishing activities
Vistula river mouth area (PLH220044)	7	<ul style="list-style-type: none"> the largest, most important of Polish estuaries 	<ul style="list-style-type: none"> strong tourism pressure strong pressure from the Gdańsk agglomeration dredging works (navigation channel at the river) water pollution floods

Source: Ministry of the Environment of Poland

There are also three vast areas established for Natura 2000 under the Birds Directive, these are: the Vistula Lagoon, the Baltic Coastal Waters and the Pomeranian Bay. The nature protection areas are presented in Fig. 12.1.

12.1.4 MINERALS

There is no reliable inventory of mineral deposits in the Polish part of the Baltic Sea. Therefore, this potential cannot be assessed in a more accurate manner. The concessions issued for the extraction of minerals are noted in Fig. 12.1.

12.1.5 TOURISM

While Poland has very suitable conditions for windsurfing, kite surfing and yachting, genuine maritime tourism is in its infancy since the coastal infrastructure necessary for this is underdeveloped. Therefore, the main task is to assess the existing potential for tourism provided by the sea space (depth of the sea and number of windy days) and to analyse this in light of the constraints imposed by the spatial features (organisation) of the coastal zone (settlement structure, nature preservation and carrying capacity of the natural environment, transport infrastructure, etc). Such an approach would facilitate planning both sea use and the spatial development of the coastal area.

The second opportunity is underwater tourism. Again, information concerning the cultural heritage suitable for this purpose is largely missing or insufficient.

The third form of tourism related to sea use is open sea angling. The potential for its development is incredible and no restrictions on fish catch exist so far. The main constraint is demand, which should be developed.

12.1.6 MARITIME TRANSPORT

Maritime transport from Polish ports has been growing at a fast rate for several years. Polish sea space has demonstrated its capacity to accommodate this growth by posing no limits for commercial navigation. The main factor for the development of sea transport in the future is growth in demand vs. nature preservation and recreational requirements. Navigation routes are presented in Fig. 12.1.

12.2 MAIN SPATIAL CONFLICTS

BaltCoast has identified the following (Table 12.3) principle current or anticipated conflicts of use.

Table 12.3 Main expected/potential use conflicts according BaltCoast (example of Poland)

	Wind farms, connecting cables	Other cables	Mineral oil / gas mining, connecting pipelines	Other pipelines	Aquaculture	Sand / gravel extraction	Shipping routes	Nature protection areas	Dumping areas	Fishing / Military training areas	Other offshore and onshore uses
Wind farms & connecting cables / land-side infrastructure	conflict										
Other cables (electricity, telecom)	conflict (strong conflict)										
Mineral oil / gas mining and connecting pipelines	strong conflict										
Other pipelines			?	?							
Aquaculture											
Sand / gravel extraction											
Shipping routes / anchorage areas											
Nature protection areas											
Dumping areas											
Important fishing / Military training areas											
Other offshore uses: coastal safety recreation											

Source: Heinrichs, Schultz-Zehden, Toben 2005, p.52

In the case of Poland, presently the following conflicts are observed or have been predicted (with a focus on potential described in the previous chapter):

12.2.1 WIND FARMS & CONNECTING CABLES/ LANDSIDE INFRASTRUCTURE

Renewable energy has been identified as having the greatest developmental potential in Polish sea space. The conflicts arising from the development of wind farms are most evident now in the Polish part of the Baltic Sea. The reason for this is the EU directive requiring a 20% contribution from renewable sources by 2010. This has increased the interest of private investors in developing renewable energy in sea spaces. The development of wind farms has already encountered serious constraints in Poland (currently, only one wind farm concession has been issued):

MILITARY TRAINING AREAS AND RELATED CORRIDORS The main problem is that these areas are secret, so they cannot be taken into consideration in the early stages of planning. There is no coherent strategy for the Navy to communicate which areas are reserved for training or other purposes. The challenge here is that these areas include regions of the internal and territorial Polish sea that are most suitable for the development of renewable energy and other economic activities. The approach to the use of sea space by the military should be the same as it is with regard to land space. This means that the current approach of the Navy to its use of sea space (and priorities) needs reassessment, and that it should participate in planning procedures from the beginning on a pro-active basis instead of the hitherto reactive basis.

FISHING ACTIVITIES Trawl fishing within wind farms and the safety zones of cables linking them with the shore has to be restricted, which will force fishermen to alter fishing routes. As pictured on maps, some of the most suitable areas for renewable energy production are also highly productive fishing grounds. Therefore, wind farm owners will have to offer financial compensation to fishermen. One issue here is that official data should be used to calculate compensation, and since these figures are lower than actual catches, conflict is likely to ensue. In the long term, wind farms can provide suitable breeding grounds for fish (both natural and cultured). Thus, it is possible to conclude that some synergetic habitat protection will result from this undertaking.

NATURE PRESERVATION Currently, the main issue is to devise ways of protecting the coast and coastal nature while simultaneously planning for necessary connecting (cable) infrastructure. Only a few segments of the coastline are suitable for power line crossings, and even at these few sites the construction of tunnels under dunes and the seabed might be necessary (cables must be buried sufficiently deep in the seabed in the near-shore zone where water depths are less than 8 m, depending on local morphodynamics). Consequently, constructing this infrastructure within the constraints of nature preservation requirements is costly. One solution might be to construct a public high voltage grid in the few suitable coastal locations that will be available to all wind farm owners. Issues linked to bird preservation are of lesser magnitude than originally presumed as is confirmed by many investigations of bird migrations. Again, in this instance, the main problem is the lack of suitable data. In fact, the Natura 2000 areas were designated on the sea without sufficient information regarding what is protected, why and when. Therefore, it is extremely difficult to obtain a clear picture of which human activities should be restricted and during which parts of the year. The same problem applies to the impact on sea mammals, a topic which will require research in the future.

Other conflicts can be expected to arise in the future, but hopefully these will be slightly easier to resolve.

SHIPPING ROUTES ESPECIALLY THOSE CROSSING BOTH PIPELINES AND CABLES AT THE SAME PLACE Anchors can tow cables which can damage or sever pipelines if they are deployed beneath them. Therefore, it is important that cables are laid parallel to pipelines to save space, that crossing them is avoided as much as possible, and, when impossible, that the cables are laid over the pipelines.

CULTURAL HERITAGE The issue with cultural heritage beneath the sea surface (wrecks, settlement structures) is that it has not yet been inventoried sufficiently. Therefore, this might be a barrier when preparing detailed sea use plans for specific investment sites and might result in unpredicted increases in investment costs.

RECREATION These conflicts may be superficial, and powered by the ambitions of local governments. To avoid them, a separation belt between coasts and wind farms is to be introduced in sea use planning in Poland to avoid the degradation of maritime landscapes and to allow for recreational sailing. However, conflicts of an economic nature might arise, and to avoid these, it would be desirable if local municipalities had an economic stake in wind farms on territorial waters bordering them.

MINERAL EXTRACTION Extracting sand and/or gravel within a wind farm is technically difficult, and could result in significant damage to wind farm installations. The only solution here is to prioritize various economic uses of sea space at the

preparation stage of maritime strategic plans. Conflicts stemming from oil and gas extraction are less of an issue since current techniques permit, to some extent, extracting them from beneath sea wind farms. The main problem is that mineral deposits have yet to be sufficiently identified. This makes proper sea use planning very difficult. On the other hand, constructing off-shore wind farms on strategic marine aggregates and energy resources might preserve them for future use.

12.2.2 AQUACULTURE AND FISHING

While conflicts with mariculture and fishing do not generally refer to energy space, they still might raise some spatial issues:

- h) **NATURE PRESERVATION AND FISHING** This conflict is currently one of the most important in the Polish sea space. According to many studies, despite over-fishing in the Polish part of the Baltic Sea fishermen still cannot earn a sufficient living, and, in the long term, this will deprive them of their economic foundation. The spatial consequences are twofold: (a) different types of sea space use should be prioritised above fishing; (b) it is necessary to plan new long-term economic functions for coastal municipalities in an effort to avoid a mono-functional, pro-tourism structure. A special development programme for coasts is required that addresses issues including spatial ones (e.g., second homes, telecommuting, the preservation of fishery culture, etc.)
- i) **NATURE PROTECTION AND MARICULTURE** Mariculture of fish and other creatures does not appear currently to be a feasible solution to natural declines in the Polish fishing industry. This is primarily due to the negative impacts such mariculture has on sea habitats including pollution (nutrients and organic matter), the introduction of often genetically modified alien species, input of chemicals and medicines used in the cultivation process and introduction of mariculture diseases into the natural environment. If these consequences could be reduced or eliminated, mariculture should be developed in future together with wind farms for obvious synergetic benefits and to avoid competition with other coastal space users that are limited to shallow coastal waters, river mouths, etc. such as coastal tourism, coastal fishing, nature preservation, and anchoring areas.
- j) **CLIMATE CHANGE** Climate change may lead to far-reaching changes in the salinity levels and average temperatures in the Baltic Sea in the future. This will result in altered sea habitats and changes in species. It will influence fishing and mariculture particularly in the eastern and northern parts of the Baltic Sea, but it may also affect the Polish part of the sea by accelerating the negative impacts described in the preceding points.

12.2.3 SAND/GRAVEL EXTRACTION, MINERAL OIL/GAS MINING AND CONNECTING PIPELINES

Although conflicts do not yet exist, they might arise in future according to BaltCoast forecasts. The main reason for the lack of conflicts is the current low intensity use of Polish sea space for mining activities. Conflicts can also be difficult to predict in reality and are unfortunately difficult to take into consideration when developing maritime plans due to the lack of sufficient information on mineral deposits located in Polish territorial and internal waters. It should be noted that all linear installations result in the artificial zoning of space, thus posing problems for spatially expansive uses.

12.2.4 TOURISM

Tourism has been identified as being of the greatest potential for the development of coastal settlements in northern Poland. Thus far, genuine sea tourism (yachting, wind surfing) remains underdeveloped in Poland in comparison to the northern part of the Baltic Sea. The main conflicts at present are between conventional beach-based coastal tourism and nature preservation and environmental issues stemming from the intensity of activities in the two summer months. On some parts of the Polish coast tourism and recreational activities may overlap with valuable nature and/or historical heritage sites. This will require zoning as well as imposing temporal and three-dimensional restrictions on tourism and recreational activities. Tourism pressure on coastal areas can result in the degradation of cultural landscapes and the urban spatial order. Traffic on the roads in these areas has been heavy for several years. Therefore, it is necessary to develop environmentally-friendly public transport in the most intensively used areas of the Polish coast.

As regards sea tourism, it is necessary to develop marina networks along the Polish coast, but these might conflict with Natura 2000 areas. Another spatial conflict is the lack of access for yachts to the Vistula Lagoon through the Baltysk Strait. This hampers development of coastal municipalities in this area.

12.2.5 SHIPPING ROUTES/ANCHORING AREAS

The use of sea areas for navigation routes and anchoring areas has not yet resulted in serious conflicts except for those with electric cables mentioned previously. The main reason is that navigation and nature preservation are prioritised above all other types of sea uses in Poland. The impact of navigation on nature has not yet been sufficiently analysed, therefore conflicts in this field have not yet been fully identified. The most likely and most serious conflict might be with coastal safety as designated by BaltCoast, but so far this has not been experienced in reality in Poland.

12.2.6 DUMPING AREAS

Conflicts here mainly concern coastal preservation, for example, the eroding coastal zone near the Stilo Lighthouse. Dumping large quantities of dredged spoils alters the topography of the sea bottom, which disrupts sediment transport patterns in coastal zones, and, in effect, increases coastal erosion. Such conflict might be avoided in future if BaltCoast recommendations are followed for the proper planning of maritime space. There are no conflicts with nature preservation under Polish conditions, and since the amounts of material dumped are small and these are covered with a layer of clean sand, conflict is expected to be insignificant.

12.2.7 NATURE PRESERVATION AREAS

In addition to conflicts between nature and tourism or nature and mariculture, nature preservation requirements may conflict with the requirements of coastal protection. Marine nature preservation areas can require that natural coastal processes are not subjected to human intervention. Conflict, sometimes serious, can arise when such areas are located near eroding coasts of high social, economic or even land nature value that require high levels of preservation intervention. Such problems sometimes occur on the Polish coast (e.g., Jastrzębia Góra). The Hel Peninsula is also threatened by flooding and overflows during storm surges if it is not properly and continually protected. In principle, however, these conflicts have already been solved in Poland through its long-term coastal protection strategy, which takes into account the requirements of coastal zone development, nature preservation and climate change.

The summary of the conflicts is presented in Table 12.4 (the sources or initiators of conflicts are in the first column):

Table 12.4 Main sea use conflicts in Poland

	Wind farms, connecting cables	Other cables	Mineral oil/gas extraction & connecting pipelines	Other pipelines	Mariculture	Sand/gravel extraction	Shipping routes	Nature protection areas	Dumping areas	Fishing // Military training areas	Other offshore and onshore uses
Wind farms & connecting cables/landside infrastructure											
Maritime tourism											
Mariculture and fishing											
Sand/gravel extraction, mineral oil/gas mining and connecting pipelines											
Shipping routes/anchorage areas											
Nature preservation areas											
Dumping areas											
Other offshore uses: coastal preservation											
coastal recreation											

Source: own compilation



13 MAIN POTENTIALS AND CONFLICTS IN THE RUSSIAN PART OF THE SOUTH-EAST BALTIC

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13.1 MAIN DIRECTIONS OF DEVELOPMENT

The Russian part of the south-east Baltic includes the waters of the Exclusive Economic Zone (5000 km²) and the territorial waters (2800 km²) of the Russian Federation, as well as the Russian parts of Vistula and Curonian lagoons (472 km² and 1300 km² respectively). Throughout the water regions in question all main directions of human activity have been developed, although to a various extent. Navigation and fishing have been, and are bound to remain major industries in the region, navigation being an important factor of development of the coastal area. Within the territorial sea a search for oil deposits is continued. In addition in the water regions in question there exist identified oil deposits that can be exploited later on. Wind-power engineering and tourism are no less important developmental factors. At present, however, the establishment of wind farms is only being contemplated in the region. Also the sector of tourism is at an initial stage of evolution and has to be further developed to meet the High European and Russian standards. For a successful growth of the activities, in all the directions mentioned, it is also necessary to develop means for protecting the marine environment.

WIND-POWER ENGINEERING

Currently, there are no wind farms in the sea areas of the Kaliningrad Oblast, although there exist plans to build them and possible construction sites have been identified (Fig. 13.1). And thus, according to the POWER "Prospects for Development of Offshore Wind Farms in Water Regions of Lithuania, Poland and Russia" project, implemented under TACIS programme, sites for establishment of off-shore wind farms have been selected. The surface of the wind farms has been determined assuming the use of wind power facilities of 5 MW capacity, the location density being 1 facility per 1 km²; the overall capacity of a wind farm should not exceed 100 MW while the maximum depth of the location should not exceed 40 m. These requirements considered, two sites have been identified, the first of those being set 12 km from the town of Zelenogradsk and 9 km from the Curonian Spit. The area of the site is 28 km². The average wind speed at the height of 100 m is about 9 m. The nearest "0-10" substation of 22.6 MW capacity is situated in the town of Zelenogradsk. The other site is located 1.5 km from the border with Lithuania and 13 km from the Curonian Spit. The area of the site is 24 km². The average wind speed at the height of 100 m is about 9.0 m/s [Dorokhov 2008]. According to the data of a second project it is proposed to select two more sites for construction of wind farms, the first of those to the north of the outlet of Kaliningrad's sea canal in the coastal zone of the town of Baltiysk, at the depth of 8-10 m, the other in the Vistula Lagoon, on Schukinskaya Shallow Water, between the Krasnotsokoye village and the town of Mamonovo, the depth being 4-4.5 m there.

When building wind farms in the areas it is necessary to enhance the capacity of the near substations and high-voltage transmission lines should be modernised. Further on, it is possible to include the wind farms into a unified power system including Poland and Lithuania.



Fig. 13.1 Offshore wind farms proposed areas

Source: Dorokhov 2008

FISHERY

Fishery in water regions of the Kaliningrad Oblast is not very intensive, as the fishing quotas show. The whole catch does not exceed the quotas assigned and, on the whole, the below set limits, although in certain years (2002 and 2003) the quotas were exceeded (Fig. 13.2) [State of the coast... 2008, 1,2,3]. Generally speaking, however, the fishing quotas are not fully used, and hence there exists a potential for development of intensive fishing, to a greater economic advantage.

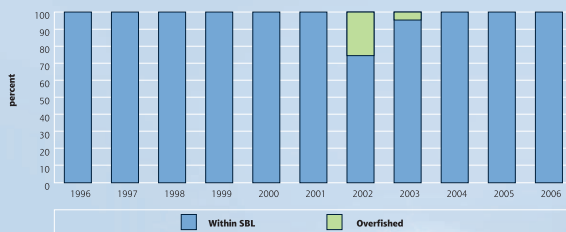


Fig. 13.2 Fish stocks inside EEZ of Kaliningrad Oblast of the Baltic Sea within safe biological limits and overfished stocks, 1996-2006
Source: State of the coast... 2008, 1,2,3

All the fish caught in the waters of Kaliningrad Oblast is landed in the ports of Kaliningrad and Pionersky. There is, however, a difference as regards the species of industrial fish, depending on the water where it is caught. And thus, the main gross production comes from the waters of the EEZ of the Kaliningrad Oblast. There was a trend towards increase of the general landing of the catch from 40,000 t in 1996 to 75,000 t in 2001, followed by a gradual decrease down to 50,000 t in 2006 (Fig. 13.3). The main industrial species in the area are salmon and sprat. Other industry fish species – herring, cod, flounder – are of lesser industrial importance [State of the coast... 2008, 1,2,3].

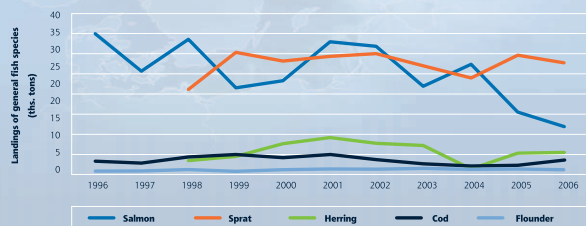


Fig. 13.3 Landings of most landed target of species in the Russian EEZ of the Baltic Sea
Source: State of the coast... 2008, 1,2,3

Other water regions being main sources of industrial fish in the Kaliningrad Oblast are the Vistula and Curonian lagoons, where fishing is performed, for the most part, by spreading nets (Fig. 13.4, 13.5). In the Curonian Lagoon the maximum catch of fish was noted in 2002 and amounted to ca. 2,500 t (Fig. 13.6). The most productive species is bream, whereas the catch of other species (pike perch, roach, sabrefish, smelt, ruff) was insignificant [State of the coast... 2008, 1,2,3].

The industrial species caught in the Vistula Lagoon are close to the species caught in the Curonian Lagoon; it is here that pike perch, bream, roach, eel, perch, sabrefish, abound. The most productive species is also bream. In 1996 in the Vistula Lagoon slightly more than 200 t of bream were caught, and towards 2003 the volume of the catch rose to 250 t, with its peak in 2002 (ca. 300 t) (Fig. 13.7) [State of the coast... 2008, 1,2,3].



Fig. 13.4 Fishery in the Curonian Lagoon
Source: Osadchy 2000

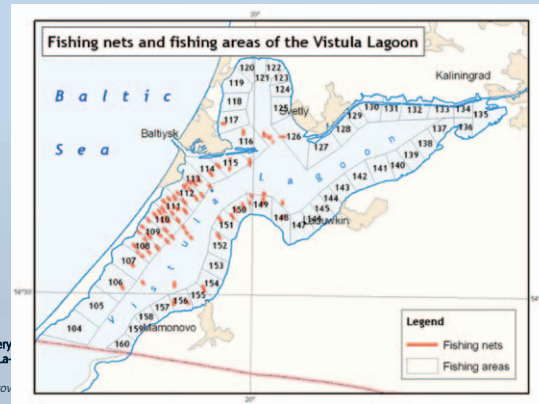


Fig. 13.5 Fishery in the Vistula Lagoon
Source: Fedorov 2002

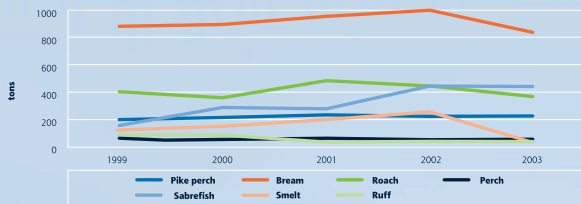


Fig. 13.6 Landings of most landed target of species in the Russian part of Curonian Lagoon
Source: *State of the coast... 2008, 1,2,3*

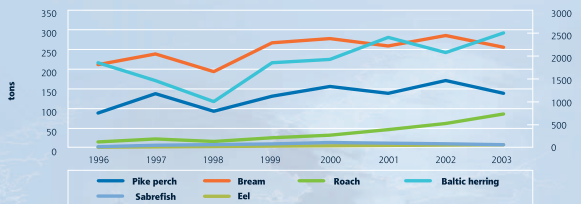


Fig. 13.7 Landings of most landed target of species in the Russian part of Vistula Lagoon
Source: *State of the coast... 2008, 1,2,3*

NATURE

The water areas are characterised by relatively high species diversity. Coastal parts of the open sea and the lagoons abound with green, brown and red seaweeds. In the Curonian Lagoon seaweeds are spread, in small quantities, along the whole southern coast, their biggest accumulation being observed in the south-western part of the Lagoon. In the Vistula Lagoon seaweeds are more prolific. They grow along the Vistula Spit, their quantities increasing from the Kosa settlement towards the central part and decreasing towards the Polish frontier. Areas of their spread are also located close to the mouth of Prokhladnaya River, the coasts of Primorskaya Bay and separate sections along the Kaliningrad Sea Canal.

In the bays strong development of higher vegetation (reed, bulrush, water-lilies) (Fig. 13.8, 13.9) can be observed. They abound in the coastal part of the Curonian and Vistula lagoons, their width varying from 50 m to 150 m. In the Curonian Lagoon brushwood extends along the southern and eastern coasts. In the Vistula Lagoon a small area of the vegetation is found in the southern part of the Vistula Spit near the Polish frontier. Reed is particularly abundantly present in the coastal zone from Pribrezhny village to the city of Kaliningrad.

In the lagoons, the Curonian Lagoon in particular, eutrophication takes place, related to pollution with phosphorus and nitrogen compounds, running off from agricultural land and sewage.

Fish species in the lagoons are quite varied. And thus, in the Vistula Lagoon, the main industrial species are: bream, pike perch and sprat (Fig. 13.8). Spawning areas of the fish are situated, for the most part, in the coastal part. The most widely

spread of those is bream, the less popular is sprat. The major spawning areas of bream are ones situated by the Vistula Spit and along the western part of the Primorskaya Bay. The spawning of sprat takes place along the northern coast of the Vistula Lagoon and in areas remote from the coast – in the central part of the Vistula Lagoon, in its south-western part and to the east of Baltiysk. Pike perch is the least popular species, its spawning going on mostly in the coastal area starting to the south of Ladushkin village and ending in the area of the city of Kaliningrad.

Fig. 13.8 Reed and spawning areas of the Vistula Lagoon

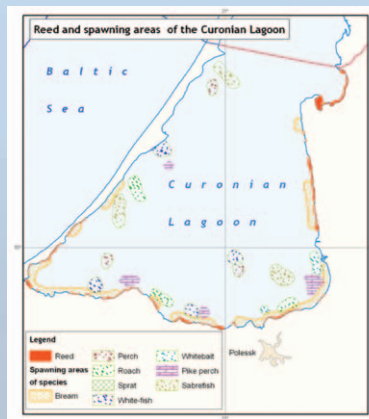
Source: *Fedorov 2002*



In the Curonian Lagoon there is a greater variety of fish (Fig. 13.9). It is there that spawning of bream, pike perch, roach, perch, sabrefish, white-fish and white bait occurs. The most popular species among the said are pike perch and roach and sabrefish. Like in the Vistula Lagoon, the spawning mostly takes place in the coastal zone, but there are spawning areas of sabrefish, perch and white-fish in south-east part of the Lagoon which are remote from the coast. Bream spawns almost everywhere in the coastal zone. The greatest species diversity can be observed at the southern coast, it is also there that spawning areas of white bait are found, the only ones in the Russian part of the Curonian Lagoon – situated to the north of Polesk and to the east of Golovkino.

Fig. 13.9 Reed and spawning areas of the Curonian Lagoon

Source: *Osadchyy 2000*



Sea waters of the Kaliningrad Oblast do not include any areas protected under Natura 2000 programme, yet there are nature preservation areas of importance both for environmental protection and for recreation, neighbouring the coastal zone (Fig. 13.10). The territories include a national park and reserves. By the coastal line there are two reserves of the Kaliningrad Oblast: the Dyunnyy Comprehensive State Nature Reserve and Zapovednyy State Zoological Reserve. The reserves adjoin each other, being situated in the northernmost part of the Kaliningrad Oblast, in the delta of the Neman River. The Dyunnyy reserve occupies a small area and is fully located in the delta of Neman, to the north of the Russian-Lithuanian frontier. The Zapovedny reserve is almost twice larger than Dyunnyy and occupies lowlands bordering the delta of Neman.

On the Curonian Spit there is the Kurshskaya Kosa National Park. A water protection zone extending for 1 km into the territorial sea and 1 km into the waters of the Curonian Lagoon has been set up for it. The situation of the Vistula Spit is more complicated owing to the fact that it has not been assigned the status of a nature conservation area. For the purposes of spatial planning, however, also long-term perspectives should be taken into account, and this is why the Vistula Spit has also been determined as a national park, a water protection zone extending for 1 km into sea and 0.5 km into the waters of the Vistula Lagoon has been set up.

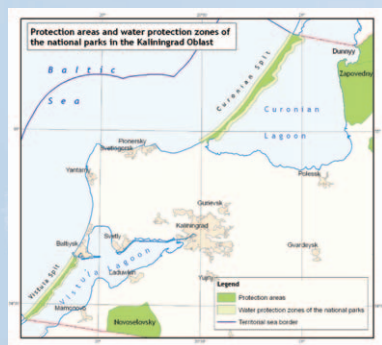


Fig. 13.10 Coastal protection areas of the Kaliningrad Oblast
Source: The scheme... 2004

MINERAL WEALTH

In the Russian part of the south-east Baltic there exist quite a big number of identified oil deposits, at a relatively small distance from the mainland.

Nowadays only one deposit "Kravtsovskoye" is being exploited (D-6), and hence there exists a potential for making use of the existing ones. There are prospects for construction of a new off-shore platform to extract oil. Relatively high capital investments are, however, required for extraction of the oil wealth.

TOURISM

Tourism-related infrastructure of the sea and lagoon waters of Kaliningrad Oblast has not been sufficiently developed, hence there is a potential for its wide growth. At present it is only the resorts of Svetlogorsk and Zelenogradsk that enjoy popularity among tourists (mostly inhabitants of Kaliningrad Oblast) taking a rest on their beaches during summer season. In the Kaliningrad Oblast there is a potential for development of yachting, kiting and angling. At present, international routes on internal waterways between Po-

land and Lithuania through the territory of the Kaliningrad Oblast have not been practically used. For development of that type of recreation it is necessary to provide a detailed assessment of natural conditions of the water bodies and develop coastal infrastructure.

NAVIGATION

Officially, the Kaliningrad Oblast has one port of Kaliningrad, composed of four harbours (Kaliningrad, Svetly, Baltiysk and Pionersky) (Fig. 13.11) [State of the coast... 2008, 1,2,3].

Over the last years the port of Kaliningrad has witnessed steady cargo turnover with noticeable growth in spring and winter time. Passenger transfers have not been developed to the required level (Fig. 13.12). Currently the harbour of Baltiysk has a passenger terminal with the movement of about 12 thousand passengers per year. It is contemplated to develop the harbour of Pionersky in connection with rearrangement of the passenger terminal and marina for tourist yachts. On the whole, according to the 2005-2006 data a slow increase of the numbers of passenger transfers on the internal route between the port of Kaliningrad and Sankt-Petersburg can be observed – by about 11%, and a rapid growth on the international route Kaliningrad – Lübeck (by 37%) [State of the coast... 2008, 1,2,3].



Fig. 13.11 Marine ports of Kaliningrad Oblast and Baltic ports connected with Kaliningrad by ferry-lines
Source: State of the coast... 2008, 1,2,3

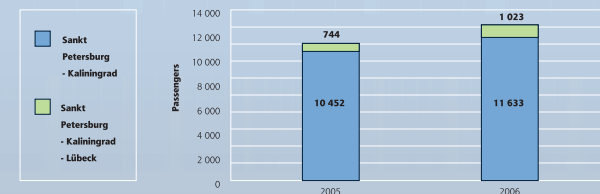


Fig. 13.12 Passengers in Kaliningrad port (Baltiysk harbour) in 2005-2006
Source: State of the coast... 2008, 1,2,3

A further development of ports and anchoring facilities for small ships is, however, required, as well as growth of cargo turnover and passenger transfers. In addition, official navigating routes are scarce – in fact, there are three navigating routes on the waters of the Baltic Sea including the entrance to the ports of Baltiysk and Kaliningrad and short navigation routes in the Vistula Lagoon (Fig. 13.13). Currently no navigation routes exist in the Curonian Lagoon.

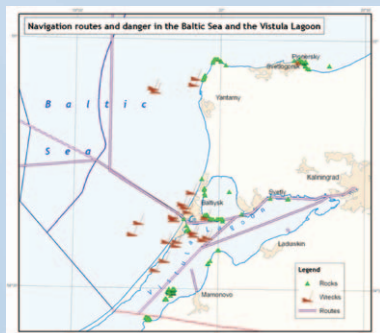


Fig. 13.13 Navigation routes and danger in the Baltic Sea and Vistula Lagoon
Source: Nuo Papes ..., 1995

AREAS OF RESTRICTED USE

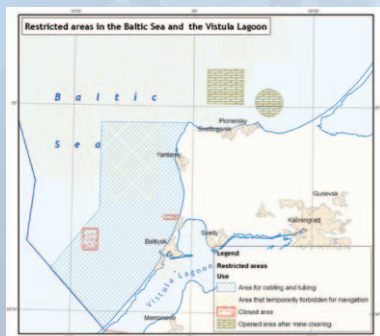


Fig. 13.14 Restricted use areas in the Baltic Sea and Vistula Lagoon
Source: Shipping ..., 2005

Areas of restricted use occupy about 80% of the whole economic zone of the Kaliningrad Oblast sea waters (Fig. 13.14). These are sea areas of special regime: areas after mine clearing, training areas – temporarily closed and temporarily dangerous, areas permanently closed for navigation and areas where any sea-floor work is forbidden. Limitations of all those kinds are particularly widely imposed in water regions of the Baltic Sea and Vistula Lagoon, but are not present in the Curonian Lagoon. The abundance of areas of special regime hinders economic activity, although work can be allowed there provided that projects and work timetables are agreed on with the higher military commandment.

13.2 MAIN SPATIAL CONFLICTS

The space for maritime planning of the Kaliningrad Oblast includes a few water regions – the Russian part of the south-east Baltic, waters of the Vistula and Curonian lagoons. For each water region a separate diagram of all main uses and table of conflicts have been drawn up, as the water areas differ both in terms of natural conditions and the existing and possible potentials. Diagrams of uses and tables of conflicts are presented further on (Figs. 13.15-13.17 and Tables 13.1-13.3).

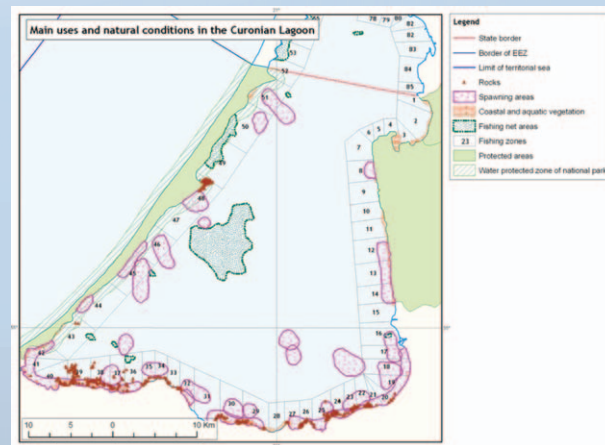


Fig. 13.15 Main uses and natural conditions in the Curonian Lagoon
Source: Laboratory of Coastal Systems Institute of Oceanology Russian Academy of Sciences

Table 13.1 Conflicts of use in the Curonian Lagoon

	Protected areas	Fishery	Tourism	Shipping	Harbours and ports	Agriculture/run-off	Navigation danger	Water supply	Spawning areas
conflict									
weak conflict (potential)									
no conflict									
Protected areas									
Fishery									
Tourism									
Shipping									
Harbours and ports									
Agriculture/run-off									
Navigation danger									
Water supply									
Spawning areas									

Source: Laboratory of Coastal Systems Institute of Oceanology Russian Academy of Sciences

Tab. 13.2 Conflicts of use in the Vistula Lagoon

	Potential offshore wind farms	Protected areas	Fishery	Cables	Tourism	Shipping	Harbours and ports	Agriculture/run-off	Dumping of dredging material	Navigation danger	Water supply	Oil pollution and cleaning actions	Spawning areas	Coastal protection
conflict														
weak conflict (potential)														
no conflict														
Potential offshore wind farms														
Protected areas														
Fishery														
Cables														
Tourism														
Shipping														
Harbours and ports														
Agriculture/run-off														
Dumping of dredging material														
Navigation danger														
Water supply														
Oil pollution and cleaning actions														
Spawning areas														
Coastal protection														

Source: Laboratory of Coastal Systems Institute of Oceanology Russian Academy of Sciences

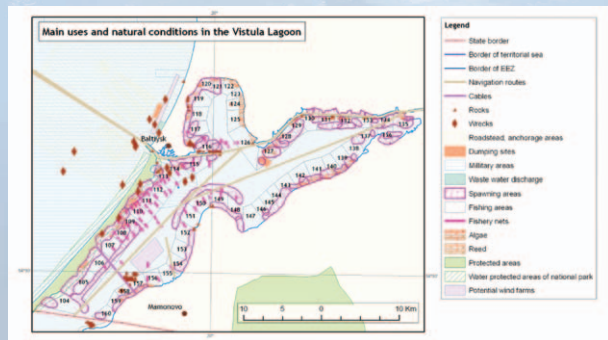


Fig. 13.16 Main uses and natural conditions in the Vistula Lagoon

Source: Laboratory of Coastal Systems Institute of Oceanology Russian Academy of Sciences

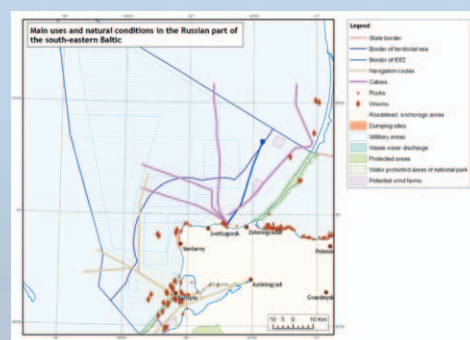


Fig. 13.17 Main uses and natural conditions in the Russian part of the south-east Baltic

Source: Laboratory of Coastal Systems Institute of Oceanology Russian Academy of Sciences

Tab. 13.3 Conflicts of use in the Russian part of the south-east Baltic

	Potential offshore wind farms	Protected areas	Fishery	Cables	Tourism	Shipping	Harbours and ports	Agriculture/run-off	Oil extraction	Dumping of dredging material	Navigation danger	Water supply	Oil pollution and cleaning actions	Waste discharge	Coastal protection
Potential offshore wind farms															
Protected areas															
Fishery															
Cables															
Tourism															
Shipping															
Harbours and ports															
Agriculture/run-off															
Oil extraction															
Dumping of dredging material															
Navigation danger															
Water supply															
Oil pollution and cleaning actions															
Waste discharge															
Coastal protection															

Source: Laboratory of Coastal Systems Institute of Oceanology Russian Academy of Sciences

AREAS OF WIND FARMS

There are no wind parks in Kaliningrad Oblast sea waters. There exist, however, projects to construct them, both in waters of the Baltic Sea and in the Vistula Lagoon. There are no projects concerning construction of wind parks in the water region of the Curonian Lagoon. Discussed further on are types of uses which are absolutely ruled in case of construction of wind parks in the proposed zone or which are allowed under certain conditions.

Types of activities ruled out in the area of establishment of off-shore wind farms:

NAVIGATION

In the areas where off-shore wind parks are located massive traffic of vessels of any type and size is forbidden, as free manoeuvres of the ships are impossible; these could pose a danger to wind farm facilities and networks of cables that connect them.

FISHING

In the areas of location of wind farms fishery – trawling in particular – is also forbidden, as free manoeuvres when fishing are not possible.

Conflicts with the following types of uses are likely to arise:

DUMPING OF DREDGING MATERIAL

Dredging material dumping poses a problem for inspection of components of wind farms, should possible failures occur. In

future, it is also possible that the areas of the wind parks would be inhabited by sea organisms, and dumping of the dredging material would hinder the process. This is why the dumping is unwanted in the locations of wind farms, although the overall level of conflict for waters of the Kaliningrad Oblast is not very significant, as it is only in one of the four contemplated areas that the place of the dumping is situated.

TOURISM

A conflict with the tourist sector can arise after construction of wind farms. Some of the wind farms are situated relatively close to the shore, a fact hardly advantageous from the aesthetic point of view. At the same time traffic of small tourist yachts and cutters would be hindered (just as in the case of navigation).

PROTECTION OF MARITIME ENVIRONMENT

Habitats of marine organisms and the organisms themselves are bound to be damaged and destroyed. Also collisions of birds with air-screws of the windmills are possible during the time of seasonal passages. Positive effects will be achieved as well, though – in the areas of wind farms industrial fishery is forbidden, just as is extraction of mineral resources, dumping of dredging material, active navigation. Consequently, species variety will be increasing. In addition, the contemplated areas are located far from water-protection zones of the protected areas – the “Kurshskaya Kosa” National Park and the “Vislinskaya Kosa” reserve.

WATERS OF RESTRICTED USE

The places where wind farms are to be located are, as a rule, beyond the limits of the restricted use, only one of the wind farm areas being within an area subjected to a special regime. But, there existing a wind farm construction project, and all relevant documents being developed, it is possible that a permit to construct a wind farm also within the special-regime areas would be given.

FISHERY

In water regions of Kaliningrad Oblast fishery is not intensive; conflicts of fishery with certain types of activities are, nevertheless, expected. These include:

LOCATION OF WIND PARKS – for reasons described above.

NATURAL PROTECTION

Fishery means catching fish in volumes required for economic purposes, the process not always following all requirements of environmental protection. Fishery is also carried out by specific enterprises spreading nets in coastal regions. Consequently, fishing areas coincide with fish spawning areas (in Curonian and Vistula lagoons) and fishery should thus be conducted in strictly determined areas. In water areas of the Vistula Lagoon and territorial sea there is also a threat that fishing resources can be polluted by oil slicks. Measures should be thus taken to prevent and remove pollutions of that kind.

NAVIGATION

High level of care is required regarding fishery in the regions of ship navigation and safety rules have to be observed there, as a threat of failures arises at fishing in such areas. In anchorage areas fishery is forbidden for the same reasons. Places of net spreading in the Curonian and Vistula lagoons pose a threat to small motor boats and yachts.

EXTRACTION OF MINERAL RESOURCES

In the areas of oil extraction (D-6 oil platform) fishery is absolutely forbidden. It is worth stressing, though, that the intensity of fishery in the area is insignificant and does not strongly influence the volume of catch in the Kaliningrad Oblast. In the waters of the Vistula and Curonian lagoons oil is not extracted, nor is it expected that off-shore platforms be established there in future.

CABLES AND PIPELINES

The category in question includes D-6 Svetly oil pipeline, cables that have to be laid when constructing off-shore wind farms and other (power and telecommunications) cables that have already been laid. Certain conflicts with fishery, navigation and military use arise there, mostly because of possible damage of the cables by fishery with the use of bottom fishing equipment, anchorage areas, and sea-floor work of various kinds. This is why buffer zones have been established for such facilities, in which zones anchoring and all kinds of sea-floor work is forbidden.

Conflicts related to nature and shore reservation may also arise. These can emerge mostly when new cables are re-laid on the shore, as natural landscape is spoilt and certain lots get excluded from the use for recreational purposes. A solution to the problem can be lying of a part of the cables under the sea bottom within the coastal zone.

TOURISM

Tourism is one of the most important potentials of the coastal zone of the Kaliningrad Oblast. There are good natural conditions for development of the yachting sport there, for angling and beach recreation. At present the tourist sector is poorly underdeveloped – it is limited, in fact, to beach recreation in summer on the northern shore of the Sambian peninsula and partly of the "Kurshskaya Kosa" National Park. In that respect there arises a conflict with shore protection and nature reservation – on the one hand, tourism contributes to shore destruction (as the case mostly is on the Curonian Spit); on the other hand shore reinforcement hardly adds to the beauty of the area and is not likely to attract tourists. Measures like wind farm construction and extraction of identified oil deposits can also evoke future conflicts with tourism. Considering this, a detailed assessment of resources and potentials is needed for each and every type of use. At the same time development of transport connections is required, both within the Oblast itself and in the neighbouring areas.

NAVIGATION

Use of the water areas for navigation routes is not compatible with areas of development of wind farms, areas of extraction of natural resources and navigation dangers (rocks, shipwrecks). Anchorage areas collide with places where power and telecommunications cables are laid. At various kinds of shipyard work spills of all kinds of liquids (e.g., oil-polluted water) happen and deliberate waste discharge takes place, which leads to a conflict with protection of the surrounding natural environment. Vessels passing close to the shore exert significant impact on the latter. And thus, along – in practical terms – the whole Kaliningrad sea canal the shore is supplied with coastal-protection facilities – wing dams and breakwater walls – which prevent damaging it by the passing vessels.

EXTRACTION OF OIL, BUILDING MATERIALS AND AMBER

In the water region there exists only one oil platform. Rules of maritime environment protection being observed there, has been no conflict with nature reservation. Later on, when new platforms are established, it is also required that all nature reservation rules should be observed to prevent a conflict with environmental protection. In addition to the said, near the town of Yantarny, amber is extracted using quarry-type methods. In the years that passed the extraction was more intense, the barren output being dumped on the shore, thus contributing to increased water turbidity and smaller reproduction of fish; the advantageous side of it was expansion of the beach, though. Over the last years the barren output has been disposed of, which has led to intense shore caving.

DUMPING OF DREDGING MATERIAL

The disposal of products of bottom dredging comes from the sea navigation canal and harbours. Within the Vistula Lagoon and waters of the territorial sea there are four dumping grounds. The material in the dumping grounds and in the territorial sea is subject to transfer under the influence of streams, which leads to increased numbers of suspended material in water. This has negative impact on development of phytoplankton and industrial fish. In addition, the transfer of ground from the Baltic dumping towards the sea canal requires a more frequent cleaning of the latter. As a result, a detailed assessment of the dumping ground impact on maritime environment is needed, and analysis of correctness of the location of the grounds in the water regions (the dumping ground of the Baltiysk port), including possible shift of those to another place, should be provided.

WATERS OF RESTRICTED USE

Areas of restricted use are put to special maritime regime. These include areas after mine clearing, training areas – temporarily closed and temporarily dangerous, areas permanently closed for navigation and areas where any sea-floor work is for-

bidden. For passing through the areas or for carrying out activities it is required to get a permit and to notify the military authorities about one's temporary presence in the area. There occur also situations when the area is closed for some time. Considering this, there occur conflicts with various types of use, such as: establishment of wind parks, navigation, fishery, tourism.

PROTECTED AREAS

Water regions of the Kaliningrad Oblast do not include areas protected under Natura 2000 programme. The coastal zone is neighboured by the Oblast's areas of nature conservation, though. The territories in question include a national park and reserves. The "Kurshskaya Kosa" National Park has been inscribed on the World Heritage list. For protection of the areas permanent monitoring of the status of the facilities is required, along with assessment of natural conditions and economic activity.

CONFLICTS TENSION

We propose to divide all potential conflicts into 3 groups:

- "Use – Use" (e.g. cables – fishery)
- "Use – Natural environment" (e.g., small vessel traffic – navigation danger)
- "Permanent danger" (oil slicks, eutrophication).

Analyzing the results, one can say that:

- The Vistula Lagoon is characterized by highest conflicts tension, because of a large number of uses in small water area. Also there is threat of eutrophication and oil pollution here.
- Despite, there are a lot of uses in the EEZ and territorial sea water areas, the tension level is lower here, because of enough space for all activities and developed regulation.
- The use of the Curonian Lagoon is not so intensive like the Vistula Lagoon and the open sea. Therefore, tension of "Use – Use" and "Use – Natural environment" conflicts is less here. Even there is no threat of oil pollution, level of permanent potential danger is high, because of strong eutrophication.

Tab. 13.4 Tensity evaluation of conflicts in the water areas of the Russian part of the South-East Baltic (expressed in marks)

Kind of conflict	Baltic Sea	Vistula Lagoon	Curonian Lagoon
Use – Use	12	13	6
Use – Natural environment	2	9	8
Permanent danger (oil spills, eutrophication)	12	15	12

Source: Laboratory of Coastal Systems Institute of Oceanology Russian Academy of Sciences

CONCLUSIONS

To conclude, it should be noted that in sea areas and waters of lagoons of the Kaliningrad Oblast various kinds of activities are pursued, falling – in practical terms – into all potential directions of economic activity. The activities in question include industrial fishery extraction of natural resources, navigation, environmental protection, shore protection, tourism, and presence of the military. Wind power engineering is the type of activity that has to be developed in future yet. All those activities are underdeveloped at the moment, but there is potential for further growth of human activity in all its manifestations.

However, despite unsatisfactory use of water regions, there has already emerged a whole range of conflicts, both among potential uses and between the uses and natural environment. All the conflicts have to be taken into account when planning the future of the water areas and the use of various conditions and resources should be agreed on with the neighbouring states – Poland and Lithuania.

In due perspective the activities pursued within many of the directions described in this document will develop intensively. This will be enhanced both by the specific location of the Kaliningrad Oblast and the change in the socio-economic and natural conditions within the region of south-east Baltic.

14 MAIN POTENTIAL AND CONFLICTS IN SWEDISH SEA SPACE

BY KAJETONAS CEGINSKAS,
BOVERKET

14.1 INTRODUCTION

In this report the Lst GIS portal has been used in the analysis together with information from the relevant central authorities. It would be going too far in this article on the main potential conflicts to serve VASAB with detailed and overlapping information from the Lst GIS portal. Rather it will be more appropriate to take the information from the Web GIS portals directly, when required in the future as a basis for the development of the new strategy for the Baltic Sea Region.

Compared with the other member states in the Baltic Sea Region, Sweden has a long coast and large archipelagos inside the base line. The water zone near the shoreline is also private water.

In these circumstances, the description of the main potential conflicts is divided into that of the coastal zone and that of the off-shore sea. This division is also conditioned by the fact that Boverket, as late as 2006, showed the situation in the coastal zone in the report "Vad händer med kusten?" (What is going on in the coastal zone?). The definition of a coastal zone in this case is based on the regulations in the Environmental Code, Chapter 4, about national interests which comprise the sea between the shoreline and a line three nautical miles outside the base line, see Fig. 14.1.

Outside this coastal zone, the sea contains demands and resources which, first of all, are related to shipping, energy production, pipelines and cables on the sea floor, mineral extraction, fishery and aquaculture, the rehabilitation of the sea environment, the protection of nature and culture, and total defence.

14.2 POTENTIAL AND USERS TO 2030

GENERAL

Public interests and national interests in the coastal and sea areas are given in the Environmental Code (EC) as:

36. fundamental provisions for management of land and water areas (Chapter 14.3),
37. special provisions for management of land and water for certain areas of Sweden (Chapter 14.4).

Public interests that are of national interest must be protected and will be identified thro-

AUTHORITIES

Government, Central Authorities and Agencies

- Government and Ministries: www.sweden.gov.se
- The Geological Survey of Sweden (Sveriges Geologiska Undersökning, SGU): www.sgu.se
- The Legal, Financial and Administrative Services Agency (Kammarkollegiet): www.kammarkollegiet.se
- The National Board of Housing, Building and Planning (Boverket): www.boverket.se
- The National Heritage Board (Riksantikvarieämbetet): www.raa.se
- The Swedish Agency for Economic and Regional Growth (Verket för näringslivsutveckling, NUTEK): www.nutek.se
- The Swedish Armed Forces (Försvarsmakten): www.2.mil.se
- The Swedish Board of Fisheries (Fiskeriverket): www.fiskeriverket.se
- The Swedish Coast Guard (Kustbevakningen): www.kustbevakningen.se
- The Swedish Emergency Management Agency (Krisberedskapsmyndigheten): www.krisberedskapsmyndigheten.se
- The Swedish Energy Agency (Energimyndigheten): www.energimyndigheten.se
- The Swedish Environmental Protection Agency (Naturvårdsverket): www.naturvardsverket.se
- The Swedish Geotechnical Institute (Statens geotekniska institut, SGI): www.swedgeo.se
- The Swedish Maritime Administration (Sjöfartsverket): www.sjofartsverket.se
- The Swedish Meteorological and Hydrological Institute (Sveriges meteorologiska och hydrologiska institut, SMHI): www.smhi.se

Regional Authorities

- The County Administrative Boards (Länsstyrelser): www.lst.se
- The Water Authorities (Vattenmyndigheterna): www.vattenmyndigheterna.se

Local Authorities

Swedish Association of Local Authorities and Regions (Sveriges kommuner och landsting): www.ski.se

LEGISLATION IN ENGLISH

Legislation - The Planning and Building Act, The Act on Technical Requirements for Construction works, etc. The Environmental Code with ordinances of relevance. Current wording June 1st 2004. SBN: 91-7147-971-6.

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Continental Shelf Act. Continental Shelf Ordinance. Unofficial translation of Lag (1966:314) om kontinentalsockeln, Kontinentalsockelförordning (1966:315). Includes amendments up to De 15, 2007. SGU-report 2008-15.

13. The traditional use of the coastal water and the water in the archipelagos by local people, land-owners and the public for different business, recreation and scenery experiences is a basic demand when changes take place, especially considering that much of the water near the shoreline is privately owned.

THE SEA OUTSIDE THE COASTAL AREA

Main demands and claims in the sea outside the coastal area are following:

1. Public fairways with
 - a) merchant shipping
 - b) ferry transport of goods and passengerswill raise the risk of big accidents, water and air pollution.

Cross-crossing and intense traffic characterizes the Skagerrak, Kattegatt, Sound, the sea south of Skåne and Blekinge (Borholmsgattet), south of Öland and Gotland, the northern Baltic proper and the Åland Sea, and also the approaches to the strategic harbours and rapidly growing urban cities.

Increasing transport will demand wider, deeper fairways and more supervision and canalizing in areas with high traffic intensity. New areas for separation are brought up for discussion within the Helcom routing to be proposed in the IMO. Through the IMO, the Norra Middsjöbanken and the Høborg bank have been declared "Areas to be avoided". The member states make a coordinated hydrographical survey in the Helcom fairways, Helcom Hydrographic Re-Survey plan. The plan is performed and monitored by the member states of The Baltic Sea Hydrographic Commission in accordance with the Copenhagen Declaration of 2001.

2. Risk areas for shooting practice from land and on the sea and other areas, for the defence forces' practice on the sea, are indicated openly. Total defence areas for other establishments and activities are not indicated, but the information is given under secrecy in connection with the balances of public and private interests in the planning process, and when different permits are granted.

3. Flying at low altitude over sea areas results in restrictions, for instance on the height of pylons and wind power towers and, consequentially, on their location.

4. Wind and wave power plants and aquaculture. The proposed national planning objective from 2007 for wind power production in sea-located wind power plants is 10 TWh in 2020, equivalent to the construction of 1,000 new wind power turbines. These will be constructed in suitable shallow sea areas, on sandbanks and reefs. Consideration will be given to construction depth, available engineering and production costs. In addition, plants will be located in the sea far enough away from the coast so that human experience of the sound and appearance of the plants is negligible.

Hitherto, about 20 large areas have been investigated in the territorial sea and the EEZ. Of these, Skottarevet, Stora Middgrundet, Kriegers Flak, Taggen, Södra Middjöbanken, Utgrunden II, Trolleboda, Finggrundet, Storgrundet, with a proposed total of 790 turbines, are the subject of planning and permit processes. In the long term, the development of technology and production costs may result in the location of wind power plants on banks and reefs deeper than today.

Considering the fact that wind power plants in the sea have systems for the distribution of electricity through cables to land and are obstructions to, for example, navigation and trawl fishing, the same areas can also be used for electricity production in wave power plants between the wind power pylons.

There is also an ongoing discussion about the use of the wind power plant areas for aquaculture, primarily large-scale clam farming in seas with suitable water quality.

5. Future artificial terminals for boat and air traffic with trans-shipment, storage, conversion and production of all kinds of goods.

6. Zones for collection and location of pipelines and cables. A current, large-scale project is the planning by Nord Stream AG of a gas pipeline between Viborg and Greifswald. The company has applied for a permit from the Swedish Government to lay the pipe through the eastern part of the Swedish EEZ between the Finnish and the Danish EEZ.

7. Demands for the protection and supervision of areas with dumped materials and wrecks which can leak toxins, oil etc. and, in the long term, require salvage or other measures to neutralize or disarm the material. Statskontoret (The Swedish Agency for Public Management) investigates responsibility for taking care of, cleaning up and moving wrecks and boats without owners and will propose a responsible authority.

8. Exploiting oil and gas deposits is possible primarily in the south-east part of the Swedish EEZ but has not been of interest hitherto. In the territorial sea and the Swedish EEZ south-east of Gotland, the sea floor bedrock contains a cambria aquifer which can be used as storage for carbon dioxide. The area extends into the mainland of Latvia, Lithuania, Russia (Kaliningrad) and Poland.

9. The fishing industry demands free fishery in the sea, but is limited, for example, by international conventions and EU law. Trawling is limited by trawling boundaries to sea areas outside the coastal zone. Bottom-trawling is forbidden in areas with sensitive ecosystems such as the coral reef in the Kosterfjord. But the fishing industry's interests also include the protection of spawning, feeding and fishing areas, e.g., shallow sea areas, sandbanks and reefs. These interests may change over time.

10. Protection of deep-sea banks with a high nature value is included in demands for marine nature conservation in addition to Natura 2000 areas, BSPA (Baltic Sea Protected Areas) and the establishment of marine nature reserves as in the coastal area. A study of the banks has shown nature values which raise demands for the protection of at least half of the areas.

Demands for more protection of marine biotopes will be raised as a result of increased knowledge about the state of the marine environment and accordingly intensified environmental quality objectives, and also increased competition in the use of the sea. In the long term, the demands imply protection of a favourable conservation status for all the Baltic Sea's naturally occurring living environments and species. This may be accomplished through a coherent and representative network of protected marine areas, such as Natura 2000, BSPA, nature reserves and national parks.

11. Protection of marine historical remains comprises mostly wrecks. They are relatively limited in extent. Cf. point 7 about liability.

14.3 MAIN SPATIAL CONFLICTS

GENERAL

It is worth noting that spatial planning both in the sea and on land has to decide on facts in four dimensions, including time. For the planning of the sea this means a three-dimensional world changing over time in different layers – variable air and water volumes and a comparatively static sea floor structure. The air and water volumes allow simultaneously ongoing actions in different layers laterally and vertically.

Corresponding conditions on land result in different regulations for use above and in the ground. In Sweden there is an established tradition of regulations for the use of land and water connected to land in the coastal area but no equally developed and corresponding application of the law to the open sea.

A joint tradition in planning and managing the sea may be developed by the member states of the Baltic Sea Region, above all for the exclusive economic zones which to a large extent are used through international and EU law. Such a tradition is required for co-operation to run well in the future and to ensure uniform treatment in case of infractions of the laws.

THE COASTAL AREA

Coastal landscapes and archipelagos in combination with expanding big cities are attractive areas for human activities, both work and leisure. Improved transport and communication are shortening travelling times and increasing access in fast growing regions. It is in these high pressure areas, with, primarily, Gotheburg, Malmö and Stockholm as hubs, the use of shore and sea areas will increase in the foreseeable future. Low pressure areas in combination with high natural and cultural values can be seen as dormant resources for development in the long term with enough time for intelligent planning.

Every expansion of the above described demands in the coastal waters (Fig. 14.1) of the high pressure areas, where the demands cannot be co-ordinated, will lead to trade-offs in the planning process where not all interests and demands can be satisfied, and the free water space will shrink.

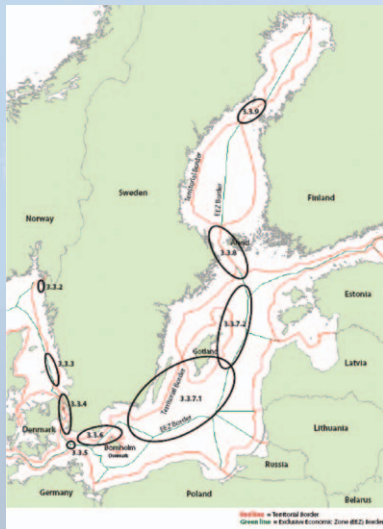
Since the state does not govern private water, the planning and decision process is more complex than that which can be applied when the state governs the whole sea as far as the shoreline, as is the case in most of the member states in the Baltic Sea Region.

It will require resources and take time to achieve success in the realization of strategic changes in the traditional use of the coastal water areas within the democratic planning process, with professional management, communication with stakeholders and other participants, and sensitive political responsibility and leadership.

THE SEA OUTSIDE THE COASTAL AREA⁷⁷

Introduction

The width of the Swedish sea area including the EEZ between the shoreline and the centre line (the boundary to adjacent states) varies from about one nautical mile, in the Öresund to the centre line between Helsingborg and Helsingör, to 100 nautical miles east of Öland to the centre line between Sweden and Russia, Lithuania and Latvia. The sea area is without comparison the largest in the Baltic Sea Region. Within this huge sea area outside the coast, the traditional demands of global and local shipping, cables and pipelines for telecommunication and energy transport, military practice and fishery have until now been met with no clash of interests to speak of.



The ecological status of the Baltic Sea as a protected area, protection of marine biotopes, overfishing, increasing global and local shipping, construction of wind power plants in the open sea, toxins and oil leakage from wrecks and dumped material, and also the extension of international energy transport and telecommunication with pipelines and cables – all these result today in competition for the use of certain areas and zones. These are principally the following (Fig. 14.2).

The Koster archipelago and the Koster fjord (3.3.2)

The distinctive sea and archipelago of Koster, rich in species, are planned to be opened in 2009 as the first Swedish marine national park – Kosterhavets marine national park. Fishery, outdoor life, tourism, new business, aquaculture, hunting, boat traffic etc. will be regulated in the park regulations. The area is situated inside the territorial sea and borders in the north on the Norwegian territorial sea where planning of the Hvalers national park is going on, which requires cooperation in connection with the protection of the unique coral reefs in the Koster fjord. Bottom trawling is forbidden in several reef areas.

Fig. 14.2 Main conflicts in the off-shore sea in Sweden

Source: *Boverket based on Bask map Helcom Baltic GIS, MARIS 2005*

⁷⁷ Fig. 14.2

Southwest of the Koster archipelago is the Persgrundan, an area presented as of interest for a future wind power plant and nature protection.

Offshore banks in Kattegatt (3.3.3)

The area comprises Fladen, Lilla Middelgrund, Morups bank, Röde bank and Stora Middelgrund. Fladen, Lilla Middelgrund and Stora Middelgrund and extends over the centre line towards Danish water. Fladen and Lilla Middelgrund have been identified as Natura 2000 areas. Röde bank and Stora Middelgrund are strategic areas for wind power plants. A wind power park of 110 turbines is planned for Stora Middelgrund in the Swedish EEZ.

The conflicting interests in the whole area are shipping, fishery, nature protection, outdoor life and wind power development. The planning and balance between these interests are a reason for cooperation over the centre line with Denmark.

The Sound (Öresund) (3.3.4)

The Sound is territorial water and in reality a coastal area which must also contain an international channel for increasing transit shipping to and from the Baltic Sea. The fairway is given priority in relation to other interests. It is a high risk area for maritime accidents. South of the bridge over the Sound (Öresundsbron) is situated the new Lillgrund wind power plant with 48 turbines not far from the coast of Skåne. The planning and balance between interests in the Öresund demand close cooperation with Denmark and international maritime organisations.

Kriegers Flak (3.3.5)

This off-shore bank (flak) is situated in the EEZ water and divided in three parts by the centre lines between Denmark, Germany and Sweden. Wind power plants are being planned independently in the three parts. The plant in the Swedish part will contain 128 turbines. The area has been identified as of national interest for fishery and wind power. Coordination between the three parts in the planning of the wind power development would have been preferable in order to provide a comprehensive picture of the use of the resources and the management of the operation.

The Bornholm Gut (Bornholmstgattet) (3.3.6)

International shipping with a large proportion of oil tankers is increasing in the Swedish waters from Skagerrak through the Öresund and fairways south of Skåne and east of Gotland to the Gulf of Finland. Especially vulnerable is the area south of Skåne, from Trelleborg in the west to the sea eastwards north of Bornholm – the Bornholm Gut – where the fairway area also comprises Danish water and is separated.

The area is a very high risk area for maritime accidents with consequences for the marine environment and adjacent coastal areas. The planning of the fairways entails cooperation between Sweden and Denmark as well as the IMO and Helcom. National fishing interests are located within parts of the area. On the Danish side of the centre line, Nord Stream AG has planned the location of the gas pipeline between Viborg and Greifswald, which emphasizes the necessity for cooperation between the states to establish an overall view of the balance between the interests in the area.

Off-shore area south and east of Öland and Gotland (3.3.7)

Most of the area is located in the Swedish EEZ and comprises the Hørburg bank, Norra Midsjöbanken, Ölands Södra grund and Södra Midsjöbanken, with the surrounding sea area from the centre line in the south towards Denmark and Poland, in the east towards Russia, Lithuania and Latvia, and also the planned location of the Nord Stream AG gas pipeline between Viborg and Greifswald.

The area contains "safe" fairways from Bornholm towards the Gulf of Finland in the north, one between Öland and Gotland and two east of Gotland. The fairway passages at the southern ends of Öland and Gotland are national interests. The meeting between the inner fairways in the area between the southern part of Öland and Norra Midsjöbanken is a high risk area for maritime accidents. The most easterly fairway is planned for vessels with a deep draught of more than 12 metres in order to protect the animal life on the banks. There are national fishing interests in the area. Hørburg bank and Norra Midsjöbanken have been identified as Natura 2000 areas. 120-230 wind power turbines are planned for the Södra Midsjöbanken and the bank is also of interest for nature conservation.

The planned gas pipeline is drawn through the area mostly in the same line as the most easterly fairway and over three mined areas from World War II. Around the centre line in the area towards Poland, Russia, Lithuania and Latvia, a dumping zone for

ammunition is situated. The ammunition leaks mustard gas with a risk area extending to the Hoburg bank.

The many, and in several cases conflicting, interests in the area call for cooperation between the states concerned, the IMO and Helcom.

The Åland Sea (3.3.8)

The area consists of the Åland Sea with adjacent seas which also form the entrance areas for the "safe" fairways through the Åland Sea. The area is divided by a centre line between Sweden's and Finland's territorial seas. The fairway is of national interest. Ferry traffic between Sweden and both Finland (Åland/Åbo) and Estonia crosses the area and influences safety. The fairways' entries are marked as risk areas for maritime accidents; the northern one with moderate risk and the southern one with high risk. A national outdoor life interest covers mostly the whole Swedish part of the area. An off-shore bank area between the entrance in the south and the archipelago in the west has been identified as of national interest for wind power. Along the coast there are also areas of national interest for defence and nature conservation.

Co-operation with Finland, the IMO and Helcom is a condition for the planning of the area.

The Northern Kvark (Norra Kvarken) (3.3.9)

The area comprises the narrow fairway through the central part with the surrounding areas on both sides of the centre line which, in the main, overlaps the territorial border between Sweden and Finland. The fairway is a national interest; the Holmöarna nature reserve lies to the north with a national fishing interest, and there is a protected military area in the southern part near the fairway. The fairway and the water area towards the main land are used as military sea training areas. The central fairway, with a connection into Holmsund (Umeå), is classified as a moderate risk area for maritime accidents. Cooperation with Finland, the IMO and Helcom is a condition for the planning of the area.

THE SEA ENVIRONMENT

In addition to the above described demands for sea area and sea volume in time and space, different pollutants affect water quality. The pollutants are mainly a result of activities on land and in the water. They do not only come from the immediate surroundings but are also carried by sea currents into the coastal areas from the world around.

Pollutants and trash are transported by the Jutska currents from the river estuaries on the continent into the North Sea and from the Baltic Sea by the Baltic currents. They converge in the Skagerrak with the Bohuslän archipelago.

Of the activities in the sea it is primarily shipping with increased tonnage and frequency, e.g., oil transport, which, with uncontrolled emissions of smoke, garbage, ballast water and oil waste, affects water quality and spreads alien species in the marine environment. The growing risk of maritime accidents, with serious consequences for the environment in the coastal areas and in the sea, calls for both closer planning and supervision.

Sea use conflicts – summary

In the table (Table 14.1) the main conflicts in Swedish sea waters are shown in boxes framed in orange.

Table 14.1 Sea use conflicts in Sweden

	Wind and wave farms and connecting cables	Other cables (electricity, telecom)	Mineral oil/gas extraction and connecting pipelines	Other pipelines	Aquaculture	Sand/gravel extraction	Shipping routes/anchorage areas	Nature protection areas	Culture protection areas	Dumping areas	Fishing	Military training areas/air traffic	Recreation, bathing, boating	Silent coastal areas	Coastal safety
Wind and wave farms and connecting cables															
Other cables (electricity, telecom)															
Mineral oil/gas extraction and connecting pipelines															
Other pipelines															
Aquaculture															
Sand/gravel extraction															
Shipping routes/anchorage areas															
Nature protection areas															
Culture protection areas															
Dumping areas															
Fishing															
Military training areas/air traffic															
Recreation, bathing, boating															
Silent coastal areas															
Coastal safety															

Source: Boverket

15 CONCLUSIONS IN THE FORM OF A TRANSNATIONAL ACTION PLAN

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15.1 MARITIME SPATIAL PLANNING (MSP)

The more intensive use of sea space will accelerate the spatial conflicts at sea. All countries should be ready to mitigate currently existing conflicts over sea use and to avoid potential ones. In the past, conflicts over sea use originating from newly proposed uses were assessed on a case-by-case basis. The overall picture of various new demands could not be taken fully into consideration, because there was (and still is) no systematic collection of information on existing or potential space demands, or even of ongoing projects. With case-by-case assessments on a project basis, no evaluation of the relative benefits, the compatibility of cumulative effects or conflicts over different uses can be made. The situation on land is different. Spatial planning is a well-proven coordination tool for the development of terrestrial areas. Therefore, this capacity should be extended to off-shore areas in national 12-nm zones and in countries' exclusive economic zones. The BaltCoast project proved that a matrix of conflicts is an effective precondition for planning in off-shore areas. Relevant procedures and tools should be laid down in (and recognised by) national regulations and transnational agreements. Accurate MSP should be done where it is needed, and a nested approach should be used. SEA, EIA, the Water Framework Directive and Natura 2000 management plans are related tools, but they cannot always replace the MSP process with its comprehensive approach and creative vision.

Simultaneously, the added value of BSR co-operation should be exploited to improve transnational discussions and development processes at the Baltic Sea level, as well as data and information availability. All these should create preconditions and foundations for the BSR countries to change their spatial planning legislation to include sea space, and afterwards be able to start preparations of different types of spatial plans for off-shore areas (according to national needs), and to include off-shore areas into their national strategic spatial plans as parts of their countries' space. By 2030, the whole Baltic Sea should be covered by spatial plans. The first step should be undertaken in the form of an agreement and ultimately a convention on the MSP ratified by BSR governments. Such a convention should provide the overall framework for spatial planning of the sea space in the BSR.

AGREEMENT/CONVENTION ON MSP IN THE BSR

Since the MSP is transnational by nature, there should be agreement among governments on the substance of the MSP. This can be achieved within the framework of a conference or meeting that could be organized in response to demands from the BSR prime ministers. As a result, work on a BSR-wide agreement on the introduction of the MSP into the BSR should be initiated. This agreement with commitment to work jointly on specific targets¹⁵ for the management of BSR space resources shall contain:

- joint vision and goals for using and developing Baltic Sea space;
- MSP principles to be used in all countries.

Basic instruments to achieve these goals and principles could be:

- the establishment of national focal points responsible for MSP in each country;
- the establishment of a permanent, although not formalized, Baltic network of focal points;
- a biannual conference reviewing the progress of the MSP in BSR countries;
- joint use of ETC funds (e.g., from the BSR Transnational Co-operation Programme) for advancing the MSP in BSR countries;
- mutual exchange of available cartographic information and MSP information in preparation; joint standardization of cartographic information.

If successful, the agreement can be transformed into a convention on Baltic Sea MSP, to be signed by the BSR governments. The proposed concept does not entail building new planning and management systems for the Baltic Sea space from scratch as this would require too many resources and raise serious institutional obstacles (inertia). Instead, the proposal is to use existing systems and to impose on them a kind of common denominator by agreeing on a common BSR vision, and a common set of goals and principles for MSP. Such planning can be initiated and conducted in each country by different national agencies/bodies according to existing spatial planning systems.

The starting point for the preparation of the agreement/convention on MSP in the BSR can be provided by the joint work of the BaltSeaPlan project. The cooperation of BSR stakeholders within a triple-helix configuration under the BaltSeaPlan should render this possible:

¹⁵ Some targets of this kind already exist, for example, with regard to fish catches, missing targets apply to the BSR sea space that needs protection, sea traffic intensity, international energy transfer lines/systems laid down on the sea bottom, or the amount of renewable energy to be produced from the sea.

- to build draft national visions for using Baltic Sea space;
- to exploit the visions to foster national cross-sectoral debate;
- to exploit national visions to discuss goals and targets for using the Baltic space and for filling in gaps in relevant national policies and strategies influencing sea space use (e.g., energy, fishery, transport, tourism);
- to ensure that agreement on the BSR vision is endorsed at the political level (VASAB).

It will also be necessary to develop demonstration projects after the agreement has been formulated. Such projects would also be of key importance to the content of the agreement during the preparation phase. These projects should lead to the preparation of pilot plans of strategic or semi-strategic nature (i.e., on a small scale of 1:200,000 or even smaller at 1:400,000 similarly to comparable German plans). The pilot plans should be prepared for the most important hot spots in the BSR.

ESTABLISHING OVERALL UNDERSTANDING OF DATA FLOWS BETWEEN SECTORS AND COUNTRIES

A national or regional MSP would be inaccurate without proper data and information. Currently, these are scarce and their collection requires costly field research. Bearing this in mind, it is of the utmost importance that data collection is harmonised at the BSR level in concordance with the INSPIRE Directive, and that existing data is accessible in the public domain and free of charge, at least for territorial seas and EEZs.

In the long run, it is necessary to establish one pool of accurate data in concordance with the needs of the MSP. This can be achieved, for example, by extending the existing data bases such as those of Helcom or the EEA, such a database should be part of one of the BSR networks and work closely with all other BSR bodies responsible for the MSP, such as VASAB, national planning agencies and regional governments. BSR networks and organizations should participate in the guidance of the system, particularly with regard to issues related to space use. The legal foundations can be provided by the previously mentioned agreement on the MSP in the BSR.

BSR UNIVERSITY TEACHING OF MSP

Maritime spatial planning requires human resources. Currently, personnel with appropriate interdisciplinary training are few. It is essential to combine spatial planning knowledge with a background in marine environment, maritime engineering, navigation and shipping, special physical, social and economic aspects of the coastal zone, and cross-coast influences, etc. Therefore, MSP will be impossible unless special training for Maritime Spatial Planners is initiated soon through a new direction in university education. Additionally, there is an obvious need for research on maritime spatial planning issues so that proper alternatives are proposed that ensure long-term sustainable development and that fill in gaps between research and policy making and political decisions.

Maritime spatial planning is not yet recognized as a discipline and is new at the academic level. The main BSR human resources with experience in MSP are concentrated within the BaltCoast and PlanCoast projects. It is crucial to contact these people and enlist their expertise to organize relevant MSP training on a permanent basis.

Research institutions should agree on the BSR research agenda related to the MSP. They should also establish formulas for joint cooperation in this field, for prioritizing areas requiring research and establishing the exchange of data, information and research results. Subsequently, research on different biological, geomorphologic and physical features in priority areas should be initiated within a framework of joint subprojects. This is the main precondition for appropriate, evidence-based maritime spatial planning executed at national levels. The end users of the research should be actively involved in such subprojects from the beginning. Without joint research many key challenges for Baltic Sea e.g., climate change, development of renewable energy from sea, development of aquaculture, habitat preservation might not be properly addressed.

Russia requires special attention. Macro-spatial planning of a contemporary nature (indicative, dialogue oriented) has only recently started to be offered as a specialization at the university level, and university faculty qualified to teach maritime spatial planning are even more limited. Therefore, in Russia a course on MSP might be offered by foreign specialists under an existing specialization (e.g., ICZM) in connection with universities and research institutes specializing in maritime processes. Simultaneously, a teacher training programme should be launched in order to prepare faculty to teach MSP in Russia. Such training can be offered abroad for Russian faculty who specialise either in spatial planning or oceanography. The experience of Russian academics should also be incorporated. Only until this is accomplished, can full-scale courses be prepared and offered on permanent basis in Russia. Such courses should target both students and practitioners active in the field of sea space use.

15.2 PREPARATION WORK FOR JOINT INVESTMENT PLANNING

Better use of BSR potential requires specific investments. Some of them are important to minimise possible conflicts, while others are of a national character like sewage treatment plants or other methods for reducing pollution loads discharged into the sea. However, some investments are of a genuinely trans-national character, thus requiring cooperation of BSR countries. The most important of them are listed below.

SUPERGRID

Renewable energy is high on the EU political agenda, and policy sets forth demanding aims and goals. European leaders signed up in March 2007 to a binding EU-wide target to source 20% of their energy needs from renewables such as biomass, hydro, wind and solar power by 2020. On 23 January 2008, the Commission put forward differentiated targets for each EU member state, based on the per capita GDP of each country. Some of the BSR countries have little chance to produce hydro and solar power energy, and wind is an important alternative. The challenge with the production of wind energy is that windy days are followed by periods of no wind. This is why wind is considered to be an unreliable energy source, and windmills cannot be the primary source of energy for any country. This is an important hindrance for the development of wind energy to satisfy the EU 20% threshold. If the Baltic Sea is to be a place of production of renewable (wind) energy, the national power systems should be linked together, and with the rest of Europe, to allow trade in energy surpluses, and to facilitate covering power deficits during periods of insufficient wind. This requires a new installation that links power plants producing renewable energy in sea areas of all the BSR countries.

It is proposed that a feasibility study, including SEA, of the various alternatives for the Supergrid be initiated by the network of BSR Energy Ministers in cooperation with spatial planning institutions such as Nordregion, BSH and others. The results of the study should:

- determine whether or not the Supergrid is feasible;
- if yes, promote the concept of the Supergrid (lobbying, awareness raising among decision-makers);
- influence national energy development strategies in the BSR countries;
- influence national and regional spatial plans in the BSR countries;
- strengthen BSR identity; secure know-how on the development of renewable energy produced at sea within the relevant public and private bodies active in this field in BSR countries.

INTELLIGENT TRANSPORT CORRIDORS IN THE BSR

Sea transport is growing rapidly. This includes the traffic in dangerous goods, including crude oil. One of the reasons for this is the altered strategy of Russia to supply foreign partners with crude oil via sea transport and not international pipelines. The regulation of these issues in existing conventions is unsatisfactory. Therefore, this development calls for enhanced efforts to prevent shipping accidents and to monitor situations following any such accidents.

The preparation of intelligent transport corridors is one way to resolve these issues. This entails the strict separation of sea traffic and intelligent electronic monitoring of it. Such corridors do exist in some other parts of Europe (on inland water-ways), so experience can be garnered, generalized, and applied to sea space. The establishment of such corridors requires a combination of spatial planning know-how, knowledge of transport, and environmental and IT expertise. This should be undertaken as a joint venture by experienced spatial planning institutions together with transport planners. The Matros heritage, as well as the results of other relevant Interreg III B projects, should be exploited extensively, while errors committed under the Matros project should be avoided.

The cooperation described above should be initiated within the framework of a joint BSR project financed by EU sources (a BSR Transnational Cooperation Programme or MarcoPolo) which could be initiated by the CBSS Conference of Ministers for Transport together with experienced spatial planning institutions. The project would result in:

- identifying the most sensitive Baltic Sea areas that require intelligent transport corridors;
- the preparation of a pilot program for at least one intelligent corridor in the BSR in an environmentally sensitive area with high traffic volumes including EIA;
- the dissemination of know-how and experience to relevant MSP institutions in the BSR.

It is important to make use of Helcom expertise within such projects (SEA of the pilot route), and to exploit VASAB spatial planning experience.

²⁴ An Interreg III C project executed in late 90s, under leadership of Boverket which first time in Baltic Europe raised the question of spatial planning in connection to better exploitation of sea potentials, for details please see http://www.bsrinterreg.net/interregIII/projects/_download/55_results.doc

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