

# PROPOSALS TO MARITIME SPATIAL PLANNING ROADMAP OF THE RUSSIAN FEDERATION

Developed by:  
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**St. Petersburg**

**2021**



# Introduction

Proposals to the Action Plan or Roadmap of Maritime Spatial Planning in the Russian Federation were developed by the Russian partners of the project platform “Capacity4MSP: Strengthening the Capacity of MSP Stakeholders and Decision Makers” (2019-2022). The project is funded by the “Interreg. Baltic Sea Region” program with the financial support of the Russian Federation.

The Russian partners in the project are the Institute of Maritime Spatial Planning Ermak NorthWest (ErmakNW) and the Russian State Hydrometeorological University (RSHU). The project has been supported by Russian scientific, educational and public organizations in the coastal regions of Russia (see ANNEX 1. Explanatory Note, Introduction).

The goal of the MSP Roadmap is to ensure the improvement and promotion of Maritime Spatial Planning in the Russian Federation. The limited resources of the coastal seas are exacerbating the struggle for valuable maritime space and the negative human impact on the environment is growing. Over the past twenty years, the countries of the European Union, with the support of the international organization UNESCO, have developed common approaches to the development of harmonized plans for spatial distribution

of economic activities in marine areas in order to preserve and rationally use the oceans, seas and marine resources for sustainable development (SDG Goal 14, UN)<sup>1</sup>. The fact that Russia is lagging in the field of management of marine nature use and MSP can result in other countries using the maritime space, in particular the Baltic Sea (and subsequently other seas), without taking into account the interests of Russia. The co-operation of the Baltic Sea countries in the field of Maritime Spatial Planning, carried out within the framework of the joint horizontal activities of the international regional organizations HELCOM and VASAB, has created the necessary prerequisites for accelerating the promotion of MSP in the Russian Federation.

## **Proposals to the draft Maritime Spatial Planning Action Plan or Roadmap of the Russian Federation**

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<sup>1</sup> 17 Goals to Transform Our World. The 2030 Agenda for Sustainable Development, United Nations, <https://www.un.org/sustainabledevelopment>.

No	Activities	Responsible authority	Deadline
<b>DIRECTION 1. ORGANIZATIONAL ACTIVITIES</b>			
Organizational measures are aimed at creating an institutional framework for MSP. They envisage the main activities that will allow the structure of management bodies to be set up and the official process of introducing MSP in the regulatory and legal framework of Russia and practical activities in the field of marine environmental management to begin.			
<b>1.1</b>	<b>Preparatory activities</b>		
1.1.1	Report on the prospects of the implementation of the Roadmap for Maritime Spatial Planning in the Russian Federation at the meeting of the Maritime Board of the Government of the Russian Federation	State government body - the initiator of the MSP promotion	Before "S"
1.1.2	Creation of an interdepartmental working group on MSP under the Maritime Board or another body under the Government of the Russian Federation	State government body - the initiator of the MSP promotion	Before "S"
1.1.3	Identification of the authorized federal executive body responsible for MSP and its representative offices in marine macro-regions (seas of the Arctic basin; seas of the Pacific basin; seas of the Atlantic basin, including the Caspian Sea)	Government of the Russian Federation	"S" - Start of the work
1.1.4	Approval of the Roadmap	Designated Federal Executive Authority (FEA)	"S" + 3-6 m
<b>1.2</b>	<b>Activities to implement the MSP Roadmap</b>		
1.2.1	Preparation and adoption of orders of the Government of the Russian Federation on the transfer of part of the authority to manage maritime activities and MSP to the coastal constituent entities of the Russian Federation	Designated FEA	"S" + 1 year
1.2.2	Identification of regional authorized executive bodies responsible for MSP, including cross-border contacts	Governments of coastal constituent entities of the Russian Federation	"S" + 1 year
1.2.3	Formation of national and regional MSP spatial databases for dialogue with stakeholders (national and regional authorities, maritime industries and businesses, the public) and transboundary data exchange	Designated FEA,	"S" + 2-3 years
1.2.4	2-Integration of maritime spatial plans into federal and regional GIS of urban planning	Designated FEA	"S" + 2-3 years

No	Activities	Responsible authority	Deadline
<b>DIRECTION 2. LEGISLATIVE ACTIVITIES</b>			
MSP is inextricably linked to the management of maritime activities, state and regional legislative acts on the use of marine resources and nature conservation. The inclusion of MSP in the system of strategic and urban planning of Russia is possible only if appropriate changes are made in the legislative acts of the Russian Federation and the constituent entities of the Russian Federation. These changes must concern not only the MSP itself, but also related processes, such as assessing the impact of economic activity and climate change on the marine environment, both short-term and long-term.			
<b>1.2</b>	<b>Federal level</b>		
2.1.1	Adoption of the federal law "On State Management of Maritime Activities of the Russian Federation"	Ministry of Defence of the Russian Federation State Duma of the Russian Federation	Before "S"
2.1.2	Development and adoption of the law "On Maritime Spatial Planning in the Russian Federation"	Designated FEA, State Duma of the Russian Federation	"S" + 2 years
2.1.3	Amendments to the legal and regulatory framework regarding Integrated Environmental Assessment (IEA) of maritime spatial plans	Ministry of Natural Resources and Environment of the Russian Federation, State Duma of the Russian Federation	"S" + 3 years
<b>2.2</b>	<b>Regional level</b>		
2.2.1	Regional legislative acts - inclusion of marine areas within the boundaries of constituent entities of the Russian Federation - definition of the powers of the constituent entity of the Russian Federation in the management of maritime activities and Maritime Spatial Planning (in coordination with the Government of the Russian Federation)	Legislative authorities of the coastal constituent entities of the Russian Federation	"S" + 1 years
2.2.2	Development and adoption of regional MSP laws	Executive and legislative authorities of the coastal constituent entities of the Russian Federation	"S" + 2-3 years
2.2.3	Adjustment of existing regional legislation on the use of coastal areas	Executive and legislative authorities of the coastal constituent entities of the Russian Federation	"S" + 2-3 years

No	Activities	Responsible authority	Deadline
<b>DIRECTION 3. SCIENTIFIC AND TECHNICAL ACTIVITIES</b>			
<p>The legislative basis for Maritime Spatial Planning must be supported by laws – normative legal documents of methodological and organizational-administrative nature. Some of them can be developed only at the federal level, while others have regional specificities and must refer to the level of a coastal constituent entity of the Russian Federation. Of particular importance are the documents that relate to the analysis of the impact of external factors on marine ecosystems, the sensitivity of ecosystems to anthropogenic pressures and their resilience, the arrangements for interaction during the planning process with neighboring countries (including those with which Russia has a maritime border) and their border regions. Only comprehensive accumulation and integration of best-available scientific knowledge will ensure the implementation of an ecosystem approach that must serve a basis of marine spatial plans according the Convention on biodiversity and other internationally recognized documents. The scientific knowledge forming a foundation of ecosystem approach includes relevant methodologies covering all biological levels, including fundamental processes, functions and interrelations between the organisms and the environment, including the data on the state of the ecosystem and its dynamics. This approach also takes necessarily into account the human population with all their cultural diversity. That will allow identifying and taking action on impacts that are critical to the health of marine ecosystems and maintaining the integrity of the whole ecosystem.</p>			
3.1	Development of proposals on the structure and composition of maritime spatial plans	Designated FEA	“S” + 1 year
3.2	Determining the structure and composition of MSP input and output data	Designated FEA	“S” + 1 year
3.3	Development of methodological recommendations for the preparation of draft Maritime Spatial Plans of the Russian Federation / constituent entities of the Russian Federation	Designated FEA Executive authorities of coastal constituent entities of the Russian Federation	“S” + 2-3 years
3.4	Inclusion of Maritime Spatial Planning proposals in the methodological recommendations for the development of the land-sea component of strategies for socio-economic development of coastal regions of the Russian Federation	Designated FEA Ministry of Economic Development of the Russian Federation	“S” + 1-2 years
3.5	Development of methodological recommendations for the implementation of maritime spatial plans (marine environmental management plans) of the Russian Federation / constituent entities of the Russian Federation	Designated FEA Executive authorities of coastal constituent entities of the Russian Federation	“S” + 3-4 years
3.6	Development of methodological recommendations for a Integrated Environmental Assessment (IEA) of maritime spatial plans, also considering projected climate change	Ministry of Natural Resources and Environment of the Russian Federation	“S” + 3-4 years

No	Activities	Responsible authority	Deadline
3.7	Development of a system of indicators for the regulation of Maritime Spatial Planning and the rational management of marine resources	Designated FEA Executive authorities of coastal constituent entities of the Russian Federation	"S" + 3-4 years
3.8	Development of recommendations on the procedure for public hearings and transboundary consultations on Maritime Spatial Planning	Designated FEA Ministry of Foreign Affairs of the Russian Federation	"S" + 3-4 years
3.9	Approbation of the developed methodological documents of MSP on offshore pilot areas	Designated FEA Executive authorities of coastal constituent entities of the Russian Federation	"S" + 4 years
3.10	Adjustment of the developed methodological documents based on the results of consultation, analysis and evaluation of pilot MSPs, including cross-border consultations on Russian directions of national maritime policy (Atlantic, Arctic and Pacific)	Designated FEA Executive authorities of coastal constituent entities of the Russian Federation	"S" + 4-5 years
<b>DIRECTION 4. EDUCATION AND PROFESSIONAL IMPROVEMENT</b>			
Education builds human resource capacity and provides methodological support for the implementation of spatial planning tools in marine environmental management practices. Personnel training is provided through academic training (master's level) and the implementation of programs of additional education. The development of specialized professional postgraduate educational programs can be carried out on the basis of the existing extended groups of qualification and training areas. It is also possible to set up three educational and research centers in accordance with the three directions of the national maritime policy (Atlantic, Arctic and Pacific) on the basis of interested institutions of higher education with the involvement of experts competent in the field of marine nature management. The centers are created and operated with the participation and control of the Ministry of Science and Higher Education of the Russian Federation, the Scientific Expert Council of the Maritime Board under the Government of the Russian Federation, and the authorized federal and regional authorities.			
4.1	Identification of the needs of public administration bodies and industry for experts in the field of urban and Maritime Spatial Planning and management of marine resources	Designated FEA Ministry of Science and Higher Education of the Russian Federation	"S" + 1 year
4.2	Development and approval of the professional standard for experts in marine management and MSP, definition of qualification frameworks for MSP experts	Ministry of Science and Higher Education of the Russian Federation Designated FEA	"S" + 1-2 years

№	Activities	Responsible authority	Deadline
4.3	Establishment of methodological training and research centers in the directions of national maritime policy, (Atlantic, Arctic and Pacific), as well as establishment of a center for advanced training and additional education in public management of maritime activities	Ministry of Science and Higher Education of the Russian Federation Higher education institutions Designated FEA	“S” + 1-2 years
4.4.	Development of the main professional education program and programs of academic disciplines. Preparation of additional education programs aimed at acquiring additional skills in the sustainable marine management. Inclusion of MSP in university curricula. Development of professional postgraduate (Master level) educational programs and sufficient content of incorporated into Syllabi. Preparation of additional education programs aimed at mastering additional labor functions and competences in the field of sustainable marine management. Inclusion of marine spatial planning in the university Curricula.	Ministry of Science and Higher Education of the Russian Federation Academia Designated FEA	“S” + 2-3 years
4.5	Development of advanced training programs in MSP and rational marine management for experts in urban planning and management of coastal constituent entities of the Russian Federation	Regional executive authorities, Academia	“S” + 1-2 years

#### **DIRECTION 5. SPATIAL PLANNING OF THE SEAS OF THE RUSSIAN FEDERATION**

The development of plans for marine areas of the Russian Federation will extend spatial planning to the entire territory and marine area of Russia, including the exclusive economic zone and areas of the continental shelf under its jurisdiction, and will create conditions for sustainable growth of the blue economy, increasing the welfare of coastal entities and improving living standards while maintaining the health of the ocean ecosystem.

<b>5.1</b>	<b>Federal level</b>		
5.1.1	Conducting initial consultation with national stakeholders, preparing Terms of Reference for the development of maritime spatial plans, informing neighboring countries about the start of the planning process	Designated FEA Regional representative offices	“S” + 4y
5.1.2	Collection of stakeholder’s proposals, collection of data on natural conditions and economic activity, formation of MSP datasets	Designated FEA, Regional representative offices Design and research organizations	“S” + 4y

№	Activities	Responsible authority	Deadline
5.1.3	Developing Federal Maritime spatial plans (FMSP) Version 1. Discussing FMSP Version 1 with national stakeholders, collecting comments and suggestions. Informing neighboring countries on the progress of the plan	Designated FEA Regional representative offices Design and research organizations	“S” + 5 years
5.1.4	Preparation of FMSP Version 2. Coordination of FMSP Version 2 with national stakeholders. Informing neighboring countries about the finalization of the FMSP Version 2	Designated FEA Regional representative offices Design and research organizations	“S” + 5 years
5.1.5	Preparation of an Integrated Environmental Assessment (IEA) report	Designated FEA Ministry of Natural Resources and Environment of the Russian Federation Regional representative offices Design and research organizations	“S” + 6 years
5.1.6	Approval of the FMSP. Informing the public and stakeholders. Publication of the FMSP in the national information system FGIS MSP and international MSP data exchange services (BASEMAPS, EMODnet, etc.)	Designated FEA Regional representative offices	“S” + 6 years
5.1.7	Measures taken to implement the FMSP and the monitoring of economic activities and the state of the environment	Designated FEA Ministry of Natural Resources and Environment of the Russian Federation	“S” + 6 years + further
<b>5.2</b>	<b>Regional level</b>		
5.2.1	Identification of authorized regional executive authorities by sea basin / constituent entity of the Russian Federation	Regional executive authorities	“S” + 2 years
5.2.2	Conducting initial consultations with stakeholders, preparing the terms of reference for the development of the regional MSP (RMSP)	Designated regional executive authorities	“S” + 4 years
5.2.3	Data collection, development of the RMSP Version 1 within the boundaries of one or more constituent entities of the Russian Federation	Designated regional executive authorities Design and research organizations	“S” + 5 years
5.2.4	Discussion of the RMSP version 1 with stakeholders and the Government of the Russian Federation	Designated regional executive authorities and federal executive authorities	“S” + 5 years

№	Activities	Responsible authority	Deadline
5.2.5	Continued development of RMSP, preparation of RMSP Version 2	Designated regional executive authorities Design and research organizations	"S" + 6 years
5.2.6	Preparation of a report on Integrated Environmental Assessment (IEA) of the RMSP	Designated regional executive authorities, Design and research organizations	"S" + 6 years
5.2.7	Coordination and approval of the RMSP, Informing the public and stakeholders, Publication of the RMSP in national information system	Designated regional executive authorities	"S" + 7 years
5.2.8	Implementation of RMSP implementation measures and the monitoring of economic activities and the state of the environment	Designated regional executive authorities	"S" + 7 years

The promotion of Maritime Spatial Planning in the Russian Federation is shown in the block diagram in Fig. 1.

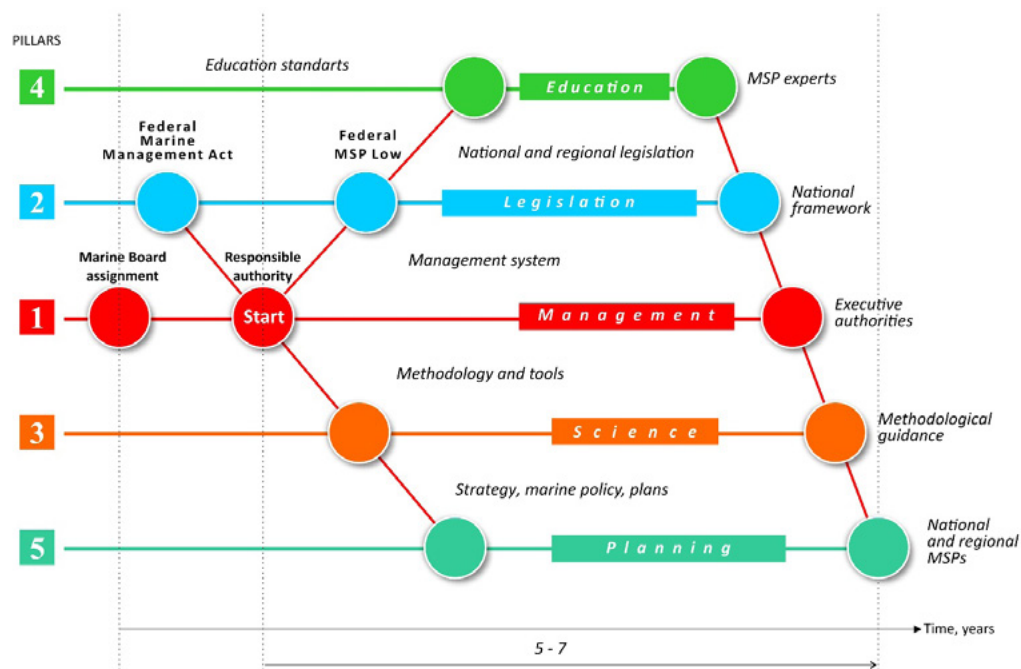


Figure 1. The promotion of Maritime Spatial Planning in the Russian Federation.

# ANNEX 1

PROPOSALS FOR THE ACTION  
PLAN OR ROADMAP OF  
MARITIME SPATIAL PLANNING.  
EXPLANATORY NOTE.

# ANNEX 2

PILOT MARITIME SPATIAL  
PLANS FOR RUSSIAN MARINE  
AREAS IN THE BALTIC SEA.

# ANNEX 3

PUBLICATIONS OF RUSSIAN  
AUTHORS ON THE SUBJECT  
OF MARITIME SPATIAL  
PLANNING.

# ANNEX 1

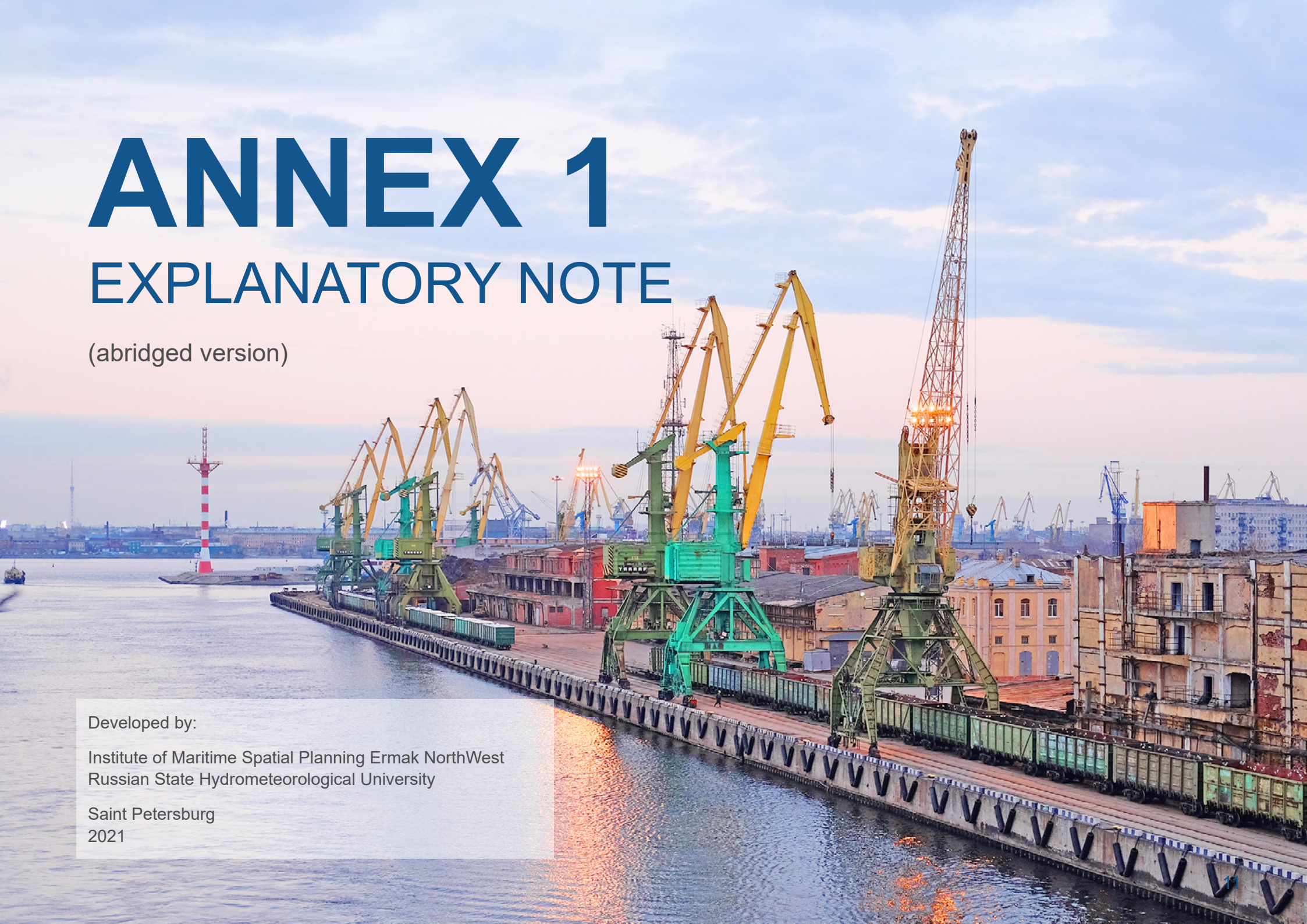
## EXPLANATORY NOTE

(abridged version)

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2021



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The authors are grateful to all those who participated in the preparation and discussion of the developed materials, as well as those who contributed to the preparation of materials on the Russian marine areas (Section 2) – Alexandra A. Ershova (RSHU), Boris V. Chubarenko and Dmitry A. Domnin (ABIORAS), Ekaterina N. Khmeleva (WWF-Russia), Marina L. Vilner (MBOO “Biologists for Nature Conservation”), Yana Y. Blinovskaya (FEFU).

The authors also would like to express their deepest gratitude to Anastasiia D. Anisimovets (ErmakNW) for her contribution to preparing of the Pilot Maritime Spatial Plans of Russian Marine Areas in the Baltic Sea.



Proposals to Maritime Spatial Planning Roadmap of the Russian Federation have been developed by the project-platform “Capacity4MSP: Strengthening the Capacity of Maritime Spatial Planning Stakeholders and Decision Makers” and Interreg Baltic Sea Region program. The project is financially supported by the Russian Federation and EU.



# Table of Contents

## INTRODUCTION 15

## 1. GENERAL PROVISIONS 20

Historical background	20
Goals and objectives of the Russian MSP Roadmap	21
Maritime Spatial Planning in the Maritime Management System of Russia	21

## 2. REGIONAL PECULIARITIES OF RUSSIAN SEAS 22

Uniqueness of the marginal seas of the Russian Federation	22
Baltic Sea	23
Arctic seas	27
Far East seas	30
Caspian Sea	32
Black Sea and the Sea of Azov	35

## 3. PREREQUISITES FOR MARITIME SPATIAL PLANNING 37

International and national legislation on Maritime Spatial Planning	37
Principles and Roadmap for MSP in the Baltic Sea Region	38
Institutional framework for the promotion of MSP in the Russian Federation	39
Maritime Spatial Planning within the system of strategic planning documents of the Russian Federation	40
Pilot and model MSP projects carried out in 2008-2020	41
MSP stakeholder involvement	42
Powers of state and local authorities in Maritime Spatial Planning and their mandates	44
Regulatory framework for Maritime Spatial Planning	46

## 4. ECOSYSTEM-BASED APPROACH IN MARITIME SPATIAL PLANNING 47

EBA Principals	47
Monitoring and measures to protect marine areas	48
Databases and knowledge on the state of the marine environment	49
Tools for introducing EBA to MSP	50
Impact of climate change and its induced effects in the development of MSP	51
Integrated Environmental Assessment	52
Transboundary cooperation in EBA	53

## 5. MARITIME SPATIAL PLANNING PROCESS 54

General provisions on MSP documents	54
National and international goals and priorities addressed in MSP	55
Scenarios for spatial distribution of maritime activity	57
Geographic coverage and transboundary nature of MSPs	57
Harmonization of MSP and urban planning	58

## 6. PROCEDURES OF INTERACTION WITH STAKEHOLDERS, COORDINATION AND APPROVAL OF DEVELOPED MARITIME SPATIAL PLANS 59

Stakeholder identification	59
Information support for Maritime Spatial Planning	60
Informing stakeholders	61
Transboundary consultations	61
Approval process of Maritime Spatial Plans	62
Harmonization of MSPs of neighboring countries	62

## 7. MSP EDUCATION AND TRAINING 63

## ANNEX 2. PILOT MARITIME SPATIAL PLANS FOR RUSSIAN MARINE AREAS IN THE BALTIC SEA. CAPACITY4MSP PROJECT, 2019-2022 64

## ANNEX 3. PUBLICATIONS BY RUSSIAN AUTHORS ON MARITIME SPATIAL PLANNING 73

# INTRODUCTION

Proposals for the draft Maritime Spatial Planning Action Plan of the Russian Federation (Russian MSP Roadmap) were developed by the Russian partners of the project platform “Capacity4MSP: Strengthening the capacity of MSP stakeholders and decision makers”, 2019-2021. The project involves 11 partners from six Baltic Sea countries and 16 associated partners. The project is funded by the Interreg Baltic Sea Region Program, with financial support from the Russian Federation. The project is implemented with the support of the Ministry of Foreign Affairs of the Russian Federation.

The Russian partners of the project, the developers of the proposals to the draft Russian MSP Roadmap, are the Institute of Maritime Spatial Planning Ermak NorthWest (ErmakNW) and the Russian State Hydrometeorological University (RSHU). Several scientific and research institutes and NGOs in the coastal regions of Russia and some international and foreign organizations have supported the project in the discussing and promoting Maritime Spatial Planning (MSP) (Table 1).

Table 1. Capacity4MSP project support platform, 2019-2022

Region	Name of organization
Baltic Sea	Institute of Maritime Spatial Planning Ermak NorthWest Russian State Hydrometeorological University Atlantic Branch of the P.P. Shirshov Institute of Oceanology of the Russian Academy of Sciences (ABIORAS) International Centre for Social and Economic Research “Leontief Centre” State Unitary Enterprise “Mineral”
Barents Sea and other Arctic seas	WWF-Russia MIREA - Russian Technological University
Black Sea	Southern Scientific Centre of The Russian Academy of Sciences (SSC RAS) P.P. Shirshov Institute of Oceanology of the Russian Academy of Sciences (IORAS)
Far East seas	Far Eastern Federal University (FEFU) V.I. Ilyichev Pacific Oceanological Institute of the Far Eastern Branch of the Russian Academy of Sciences (POI FEB RAS) UNEP Action Plan for the Protection, Management and Development of the Marine and Coastal Environment of the Northwest Pacific Region (NOWPAP POMRAK, Russia)
International organisations	Interparliamentary Assembly of Member Nations of the Commonwealth of Independent States (IPA CIS) Vision and Strategies for the Baltic Sea Region (VASAB)

Interim materials and proposals were discussed at 13 national and international roundtable discussions, workshops, conferences, forums and information seminars in various regions of Russia, and presented in the form of reports and presentations at more than 20 discussion panels and meetings, including the ones in Table 2.

*Table 2. Events to discuss proposals to the Russian MSP Roadmap*

Date, region	Name of event	Organizers
September 2020 Krasnodar Krai, Dursk (Novorossiysk)	Roundtable “SUSTAINABLE DEVELOPMENT OF MARINE/BLUE ECONOMY IN THE AZOV-BLACK SEA REGION, THE IMPORTANCE OF MSP - 2020” at the conference “Ecology. Economics. Informatics.”	SSC RAS IO RAS ErmakNW
September 2020 Moscow	Roundtable “DEVELOPING COOPERATION IN MSP THROUGH REGIONAL PROJECTS” at the international scientific conference “FarEastCon”	FEFU ErmakNW
October 2020 St. Petersburg	Roundtable “RUSSIAN MSP ROADMAP” at the international scientific conference “Modern Problems of Hydrometeorology and Environmental Monitoring in the CIS”	RSHU IPA CIS
October 2020 Murmansk	Roundtable “MSP AS A TOOL FOR REGULATING ECOSYSTEM-BASED ENVIRONMENTAL MANAGEMENT IN THE ARCTIC SEAS”	WWF-Russia ErmakNW
January 2021 Kaliningrad	Roundtable “MARITIME SPATIAL PLANNING - A LOOK INTO THE KALININGRAD REGION”	RSHU ABIO RAS
March 2021 St. Petersburg	Roundtable “MARITIME SPATIAL PLANNING” at the XXI International Forum “BALTIC SEA DAY - 2021”	ErmakNW SUE Mineral SwAM (Sweden)
August 2021 St. Petersburg	Interregional Roundtable of the Leningrad Region and St. Petersburg “INTEGRATED MANAGEMENT OF THE GULF OF FINLAND. CONTEMPORARY CHALLENGES AND POSSIBLE SOLUTIONS” at the XII International Ecological Arts Festival KRONFEST	ErmakNW NGO “Public Council of the South Shore of the Gulf of Finland”

Date, region	Name of event	Organizers
October 2021 St. Petersburg	Session "STRATEGIC PLANNING SYSTEM FOR MARINE DEVELOPMENT OF THE RUSSIAN FEDERATION AND MSP" at the XIX Forum "Strategic Planning in the Regions and Cities of Russia 2020-2021"	ErmakNW Ministry of Foreign Affairs of the Russian Federation Leontief Center RTU MIREA
November 2021 Baltic Sea	Baltic Planners Forum (online), presentation of Proposals for the Russian MSP Roadmap and features of the ecosystem approach	ErmakNW RSHU
November 2021 Tallinn	Session on Proposals for the Russian MSP Roadmap at "The Gulf of Finland Science Days 2021: New start for the Gulf of Finland co-operation"	ErmakNW SYKE(Finland) Estonian Academy of Sciences
December 2021 St. Petersburg	International Scientific and Practical Conference "ECO-FRIENDLY DEVELOPMENT OF COASTAL AND MARINE AREAS"	RSHU IPA CIS

Materials of the Russian MSP Roadmap were also presented at the following meetings, working groups, conferences and forums:

- January 2021, MSP NATURE 2021 International Conference "Nature Conservation in Maritime Spatial Planning: How to reconcile human activities with ecological functions" (online);
- May 2021, St. Petersburg Legislative Assembly;
- May 2021, Astrakhan, National Research-to-Practice Conference with International Participation "Caspian Sea in the Digital Age";
- May 2021, St. Petersburg, IX Nevsky International Ecological Congress "Planet Ecology - Sustainable Development";
- June 2021, Riga, Latvia, 4th Baltic MSP Forum;
- June 2021, St. Petersburg, training seminar "Water Resources Management in Urbanized Areas" of the international project BSR WATER;
- August 2021, St. Petersburg, Ecological Conference at the XII International Festival of Ecological Arts KRONFEST;

- September 2021, Sevastopol, All-Russian Scientific Conference “Seas of Russia: Year of Science and Technology in Russia - UN Decade of Ocean Science”;
- December 2021, International scientific and practical conference “Eco-friendly development of coastal and marine areas”.

More than 300 people from over 40 Russian and foreign organizations took part in the project events dedicated to the discussion of Maritime Spatial Planning in Russia in 2020 and 2021. The participants of the events noted the necessity of the earliest possible implementation of Maritime Spatial Planning in the Russian Federation and expressed their support for the efforts of the developers of the Russian MSP Roadmap proposals. As one of the intermediate results of the discussion on the promotion of MSP in the Russian Federation it is necessary to note the opinion of the Secretariat of the Interparliamentary Assembly of the CIS Member States on the need for joint IPA approaches to an integrated management of marine use through the development of a model law on Maritime Spatial Planning.

This Explanatory Note sets out the rationale for the Proposals to the Action Plan (Roadmap) for Maritime Spatial Planning in the Russian Federation to be used by the federal executive authority in developing the national MSP Action Plan based on the order of the Government of the Russian Federation. It can also serve as a basis for planning the activities of the authorities of the coastal constituent entities of the Russian Federation and local authorities to promote Maritime Spatial Planning within the framework of their responsibilities.

The overall result of the implementation of the Russian MSP

Roadmap should eliminate the gap in the field of maritime spatial planning between the Russian Federation and the EU countries in the Baltic and the Black Sea regions during the validity of the Second Baltic Sea Region MSP Roadmap 2021-2030, signed in October 2021 in Lubeck (Germany) together with the updated Baltic Sea HELCOM Action Plan (BSAP). It should also ensure that the Russian Federation achieves MSP leadership in the Arctic and Pacific oceans over that period.

The starting point in the implementation of the Russian MSP Roadmap is the decision of the Government of the Russian Federation to promote Maritime Spatial Planning in the Russian Federation and the establishment of a federal executive body responsible for integrated management of maritime activities and, accordingly, the development of maritime spatial plans.

The promotion of Maritime Spatial Planning as an element of sustainable use of the sea in the Russian Federation includes the following:

- development of the necessary legislative and regulatory framework;
- formation of an MSP information system and data services for input and output data;
- inclusion of relevant educational and training programs in the educational processes of specialized educational institutions;
- implementation of maritime spatial planning for pilot marine areas, taking into account their regional specificity;

- cooperation with border maritime states in the field of MSP, sustainable use of marine resources and maintenance of good ecological conditions of marine areas;
- broad engagement of MSP stakeholders in the development of maritime spatial plans.

The Explanatory Note provides an overview of the analysis carried out in these areas, based on the best world MSP practices and experience, domestic developments in the field of coastal and marine management and pilot MSPs. The pilot MSPs for the Baltic Sea are presented in Annex 2 “PILOT MARITIME SPATIAL PLANS OF RUSSIAN WATERS IN THE BALTIC SEA. CAPACITY4MSP PROJECT, 2020-2021”.

The Explanatory Note has been prepared as a reference material to inform federal and regional authorities, local authorities, businesses and the public about the goals, objectives, methods and specifics of Maritime Spatial Planning in the Russian Federation and its place in the system of strategic documents.



# 1. GENERAL PROVISIONS

## Historical background

Historically, Russia has been a leading maritime power due to its spatial and geophysical features, place and role in global and regional international relations. The national maritime policy of the Russian Federation is based on a holistic approach to maritime activities and its differentiation in individual areas, taking into account changes in their priority depending on the geopolitical situation. It maintains the maritime potential of the Russian Federation at a level corresponding to the national interests, including ensuring the presence of the Russian Fleet in the Arctic and remote areas of the World Ocean and the activities of Russian researchers in Antarctica. It also coordinates the efforts of federal government authorities, state authorities of the constituent entities, local governments and interested NGOs in the formation and implementation of national maritime policy.<sup>1</sup>

Maritime Spatial Planning is consistently promoted and developed in all regions of the world with the support of the UNESCO Intergovernmental Oceanographic Commission (IOCUNESCO) as a key element of ecosystem-based management of marine resources. The Baltic Sea Region is particularly successful in this direction, demonstrating the coordinated joint work of the member countries of the Helsinki Convention in developing a regional legal and regulatory MSP framework and coherent maritime spatial plans that are harmonized across national borders.

Russia began to develop its MSP in 2010 and has adopted a number of international documents on cooperation in MSP as a tool for sustainable water resources management. The current programs of international cooperation on water management with Finland, Sweden and Norway include MSP. In 2014, the Ministry of the Regional Development of the Russian Federation developed the concept of the Russian Law on Maritime Spatial Planning. From 2012 to 2015 a Maritime Spatial Planning Toolkit, a pilot maritime spatial plan for the Gulf of Finland and a pilot project for integrated environmental management of the Barents Sea were developed. These projects were of a pilot (model) nature and not brought to the stage of implementation since they did not contain proposals for the spatial distribution of activities in the marine and maritime sectors and did not have an established implementation plan.

The new version of the Strategy for the Development of Maritime Activities of the Russian Federation until 2030, approved on August 30, 2019, envisages transition to an integrated coastal zone development planning, which includes the land-sea component of the socio-economic development of coastal regions among the main priorities for the development of maritime activities in the Russian Federation in the long term. At the same time, Russia has had neither legislation concerning MSP, nor an authorized body of the federal executive authority responsible for integrated

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<sup>1</sup> Maritime Doctrine of the Russian Federation <https://docs.cntd.ru/document/555631869>.

management of maritime activities and the development of maritime spatial plans. No law on state management of maritime activities has been adopted yet.

## Goals and objectives of the Russian MSP Roadmap

The purpose of the Russian MSP Roadmap is to ensure the development and promotion of Maritime Spatial Planning in the Russian Federation, as well as to close the gap with other countries in the Baltic Sea Region and to take the lead in MSP in other marginal seas of Russia.

The proposals for the Russian MSP Roadmap have been prepared on the basis of an analysis of Russian and foreign experience, taking into account the requirements of the national strategic planning documents and the international obligations of the Russian Federation under the signed agreements.

## Maritime Spatial Planning in the Maritime Management System of Russia

**The objects of Maritime Spatial Planning** are the maritime territories under the jurisdiction of the Russian Federation. Where necessary, land-based hydrographic networks, their elements, other water bodies, as well as river basins and their parts located within the borders of the Russian Federation which have a direct effect on economic activities in marine areas and their ecological state should be taken into account when carrying out Maritime Spatial Planning.

**The subjects of MSP relations** are the Russian Federation, the constituent entities of the Russian Federation, municipalities, individuals and legal entities acting within their authority.

It should be noted that a maritime spatial plan is not a self-sufficient document, but a special part of interconnected actions for integrated marine management. Some Russian experts integrate MSP within marine management system, in particular in the Integrated Marine Management Plans (IMMP) or the Integrated Coastal Zone Management (ICZM). In any case, the management of marine activities must be based on their spatial distribution as defined in the maritime spatial plans.

The place of Maritime Spatial Planning in the system of marine activity management is shown in Fig. 1.

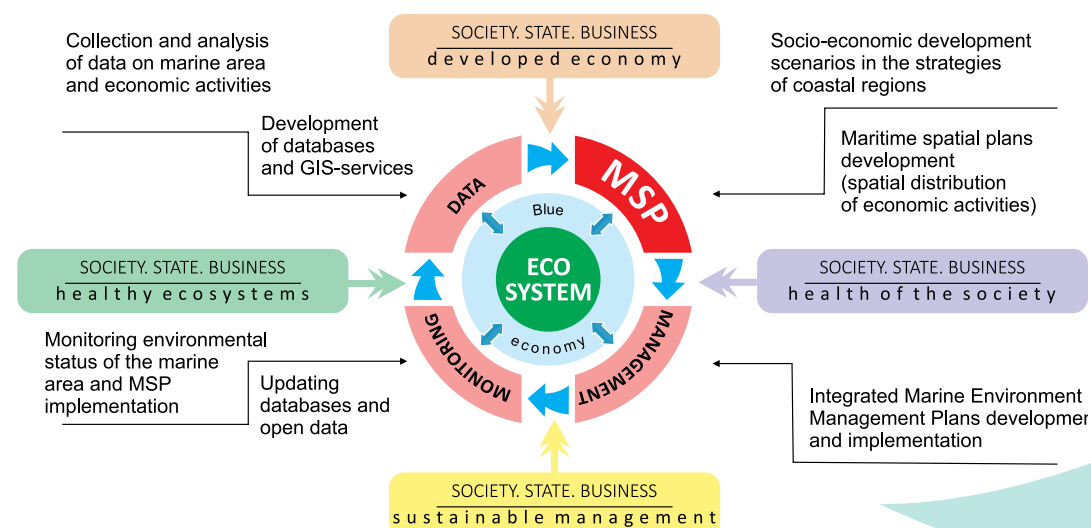


Figure 1. Place of Maritime Spatial Planning in the Integrated Management System.

## 2. REGIONAL PECULIARITIES OF RUSSIAN SEAS

### Uniqueness of the marginal seas of the Russian Federation

Russia's marine waters depend on 12 major marine ecosystems (Fig. 2). Although all the marine waters surrounding Russia are referred to by the same word - seas, in reality they differ significantly from one another in terms of their natural (climatic, biological, geological and other) conditions, as well as current and prospective economic activities. This determines a different approach to the development of maritime spatial plans, taking into account the specifics of the marine areas.

International co-operation between coastal countries in the management of sea-based economic activities, within the framework of specialized agencies of the United Nations, is of great importance. First of all, the role of such international organizations as the International Maritime Organization (IMO) and the Food and Agriculture Organization of the United Nations (FAO) should be noted. In addition, regional cooperation carried out within the framework of bilateral or multilateral agreements has a significant impact.

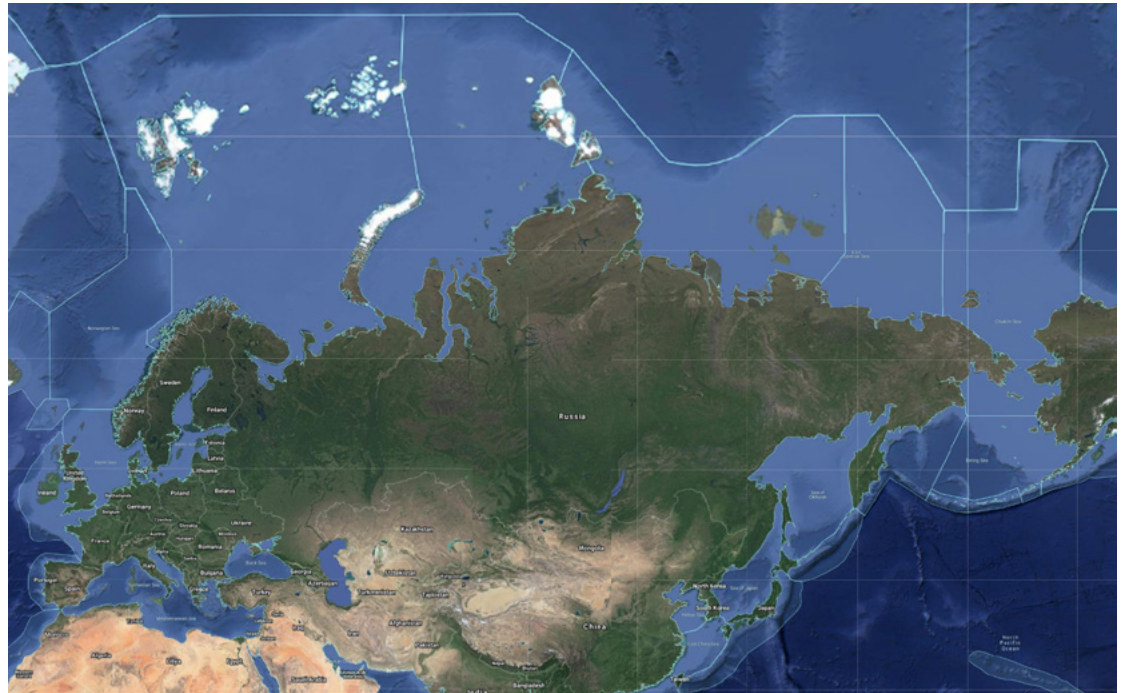


Figure 2. Borders of the Large Marine Ecosystems surrounding Russia (LME). LME [HUB-  
https://lmehub.net/#](https://lmehub.net/#).

The chapter describes the general characteristics of Russian sea basins, their environment and vulnerabilities, the economic activities performed, current international obligations which should be studied, analyzed, and taken into account when developing MSP. In particular, the main characteristics and differences between the seas of the Arctic and Far East, the Baltic Sea, the Black Sea, the Sea of Azov and the Caspian Sea are described.

## Baltic Sea

The Baltic Sea, the shelf sea of the Atlantic Ocean basin, is surrounded by the shores of nine countries - the Russian Federation and eight countries of the European Union. There are lands of five more countries within the catchment area of the Baltic Sea. The Russian part of the Baltic Sea consists of two marine areas. One of them is the eastern part of the Gulf of Finland, off the coast of St. Petersburg and the Leningrad region bordering Finland and Estonia. The other one is the Southeast Baltic, where the Kaliningrad region borders Lithuania and Poland, and along the exclusive economic zone - Sweden. The international character of the Baltic Sea and the MSP undertaken by the EU countries over the last years require to take into account transboundary MSP aspects.

**The eastern part of the Gulf of Finland** is one of the key marine areas through which Russian cargo is exported by sea to Western Europe and, in part, to the Americas. The cargo turnover achieved by the ports in 2020 was 231.5 million tons, and an increase to up to 400 million tons per year<sup>1</sup> is planned within the nearest decade.

Russia's largest Baltic seaport in terms of turnover is the commercial seaport of Ust-Luga, which handles more than 40% of all cargo in the region; about 25% of cargo is handled by the port of St. Petersburg, another 20% are handled by the port of Primorsk<sup>2</sup>.

About 62% (likely to decrease to 46% by 2030) of port cargo turnover is oil cargo; the share of bulk cargo - coal, grain, ore, as well as mineral fertilizers - is significant. Container traffic is expected to double by 2030. Seaports

<sup>1</sup> [https://www.rosmorport.ru/media/File/State-Private\\_Partnership/strategy\\_2030.pdf](https://www.rosmorport.ru/media/File/State-Private_Partnership/strategy_2030.pdf)

<sup>2</sup> <https://www.morport.com/rus/content/statistika>

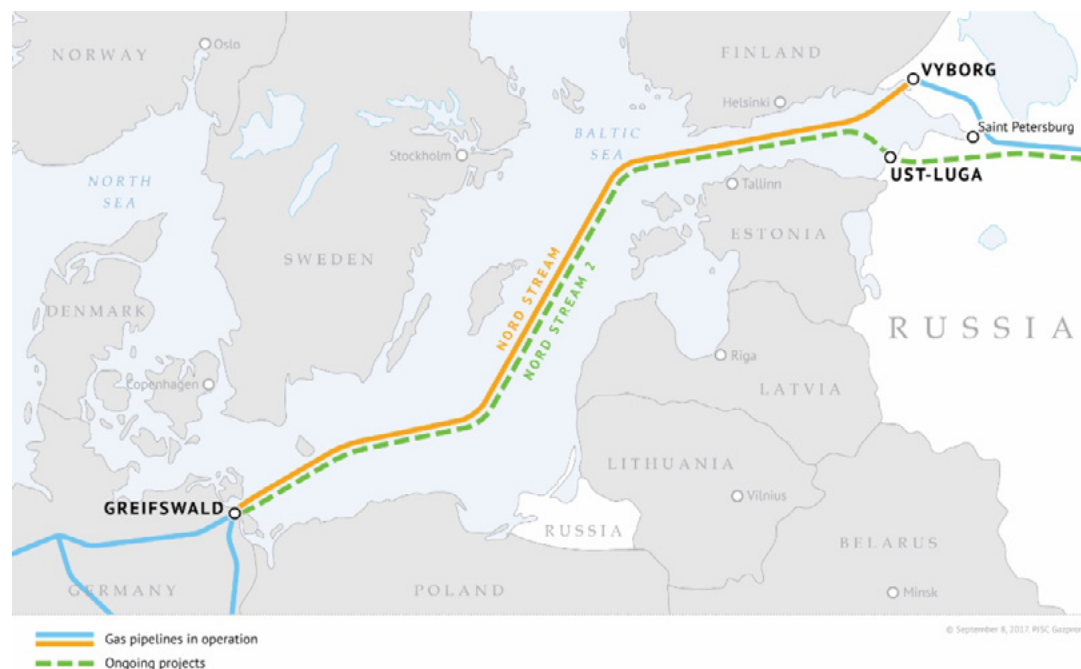


Figure 3. Nord Stream and Nord Stream 2 subsea gas pipelines.  
<https://www.gazprom.ru/projects/nord-stream2/>

and terminals are located along the entire coastline, and marine areas designated for ports, sea transport corridors, and anchorages occupy a significant part of the GOF shores. Shipping and maritime transport infrastructure are undoubtedly the predominant types of maritime activity in the Russian part of the Gulf of Finland.

Two subsea gas pipelines, Nord Stream and Nord Stream 2, extend from the Gulf of Finland to Germany (Fig. 3). If Nord Stream 2 become fully operational, the total capacity of the pipelines will reach 110 billion cubic meters per year.<sup>3</sup>

<sup>3</sup> <https://www.nord-stream.com/ru/>

During the Soviet era, St. Petersburg was home to one of the main naval bases of the Soviet Navy in the Baltic Sea. Since then, the Ministry of Defence of the USSR (later the Ministry of Defence of the Russian Federation) has been in possession of large portions of the marine and coastal area of the Gulf of Finland, which are now partly used mainly for training and military exercises.

Also, the Leningrad Nuclear Power Plant and its facilities are located on the shore of the Gulf of Finland; the level of radioactive contamination of air and seawater is constantly monitored.

The largest river in the Baltic Sea is the Neva River, which flows into the shallow eastern part of the Gulf of Finland – the Neva Bay. The Neva Bay adjacent to the Neva delta is separated from the rest of the GOF by the St. Petersburg Flood Prevention Facility (dam) commissioned in August 2011. The complex comprises of 11 dams stretching 25.4 km and can protect the city of St. Petersburg from flooding up to 5.4 m of water<sup>1</sup>. Its main navigation channel width is 200 m. The flow of the Neva River is so large that even such geomorphological separation of its estuary does not prevent the spread of pollution and suspended solids in the eastern part of the GOF and their entry into Finnish and Estonian marine areas.

The eastern part of the GOF is brackish due to the large influx of river water and is usually frozen in winter. It requires icebreaking in frosty winters, whereas in warm winters the ice cover is not so thick.

The shores of the GOF are vulnerable to sea level change, which is a direct consequence of climate change. An increase

in sea level of 60-90 cm by 2100 could lead to the destruction of the shores and the retreat of the coastline in some places to as many as 150-200 meters. The effectiveness of the flood prevention facility may be severely reduced, because the threat of flooding will be caused not only by the effects of the open sea, but also by the rising water level in the Neva Delta due to its runoff at the closed dam gates.

The Neva Bay and the Gulf of Finland are on the migratory route of the migrant birds. The main nesting and migratory bird sites are located here as the spring migration takes place when large lakes located along the flyways – the Ladoga and Onega lakes, the White Sea – are still covered with ice. The diverse coastal biotopes are also important habitats for breeding and wintering birds and mammals, e.g., ringed and grey seals. The GOF is the only sea area of Russia a large part of which is included in Specially protected nature areas (SPNA) of federal or regional significance. The largest of these are the national SPNA “Eastern Gulf of Finland” and the regional SPNAs “Berezovye Islands” and “Kurgalsky”.<sup>2</sup>

The peculiarity of the GOF’s marine management system is that the two constituent entities of the Russian Federation located on its shores, namely city of federal importance St. Petersburg and the Leningrad Region, have different SPNA frameworks. The Leningrad Region territory includes the adjacent marine area and preserves the SPNAs of regional significance, including their marine parts. The territory of St. Petersburg is bounded by the coastline, as are SPNAs of regional significance located here. The sea areas previously included in the St. Petersburg SPNAs of regional significance were excluded from the mand and have lost their status as all Russian marine areas are under federal responsibility<sup>3</sup>.

<sup>1</sup> <https://www.water-technology.net/projects/stpetersburgwater/>

<sup>2</sup> <http://oopt.aari.ru/>

<sup>3</sup> A. Reznikov, On the Feasibility of Changing the Boundary of the Federal City of St. Petersburg in the Gulf of Finland. Materials of expert evaluation, Legislative Assembly of St. Petersburg, 2018.

**The south-eastern part of the Baltic Sea (SEB)** is also very sensitive to sea level changes. The sandy Curonian and Baltic Spits, which separate two unique bays—the Curonian and Kaliningrad (Vistula) lagoons – from the open sea, have low landmarks and may partially collapse when the sea level rises, turning into a chain of islands and opening the lagoons to water from the open sea. At present these lagoons are not protected by SPNAs or MPAs, although the uniqueness and diversity of lagoon flora and fauna is universally recognized. Protected areas, where they are established, are limited by the coastline.

The main forces of the Baltic Fleet of the Russian Navy are based in the Kaliningrad region now, and a considerable part of the sea area has been allocated for the needs of the Ministry of Defence of the Russian Federation.

The SEB also has oil reserves and prospects for the development of oil production: to date, 35 onshore and offshore oil fields have been explored, 28 of which are in the process of oil production<sup>1</sup>. The Kaliningrad region is also the only Russian coastal region with the significant amber deposits. Amber is mined near the coastline, which affects the formation (transformation) of the surrounding coastal and marine areas.

The SEB is practically ice-free, which makes it convenient for navigation. However, after the disintegration of the USSR and the establishment of independent Baltic states, the Kaliningrad region (with a population of just over one million) became a semi-exclave area of the Russian Federation, and the role of its seaports for transit freight traffic from Russia has decreased dramatically. At present, the ports mainly serve the needs of the Kaliningrad Region itself.

Nevertheless, the convenient location of the Kaliningrad Region in the central part of Europe attracts the attention of cargo carriers and, under certain conditions, the cargo turnover of its seaports can increase sharply. The total capacity of the sea terminals of the port of Kaliningrad is 39 million tons of various types of cargo per year, while only 35% of this capacity is used currently.

The beautiful sandy beaches of the SEB coasts, the unique natural treasures of the Curonian and Baltic Spits, and the sufficiently warm sea climate favor the intensive development of recreation and tourism, including ecotourism. In recent years, the Kaliningrad region, along with the Black Sea shores, has been one of the most popular destinations for domestic tourism.

The main use of marine bio-resources in the SEB is fishing, which remains a constant factor of impact on the environment. The stocks of most species of marine bio-resources remain relatively stable, with the dynamics of their number and biomass mainly due to natural causes (spawning conditions, development and growth, food supply). This makes it possible to conduct a stable fishing for most species, and fishery carried out on a rational basis does not harm marine and bay bio-resources remaining a socially important industry in the Kaliningrad Region. Fish farming and aquaculture hold great potential for the future but are not currently developed. The Curonian and Vistula lagoons are important fishing grounds (providing domestic consumption and limited supplies to Russia) and hold the potential for future development of aquaculture.

<sup>1</sup> Strategy of social and economic development of the Kaliningrad region <https://gov39.ru/working/ekonomy/strategy/>.

The Kaliningrad Region, which is separated from the rest of the Russian Federation, is very interested in projects to ensure continuous and efficient transport communication with other regions in the northwestern Russia, including the development of maritime transport. One of such large-scale projects is the development of a reliable ferry line “Baltiysk – Ust-Luga – St. Petersburg”, as well as the construction of a deep-water seaport.

Wind conditions allow for offshore wind power deployment, yet sufficient supply of energy from other sources (LNPP in the Gulf of Finland, LNG in the SEB, and a network of thermal power plants) diminish the prospects of offshore wind energy development, although the issue of independent energy sources is particularly relevant for the Kaliningrad Region, which is surrounded by EU countries.

The issues of Maritime Spatial Planning and sustainable marine management have been repeatedly raised at roundtable discussions and conferences. For example, in January 2021, a workshop “Maritime Spatial Planning–View from the Kaliningrad Region” was held in Kaliningrad, and in March 2021, a session “Maritime Spatial Planning” was held in St. Petersburg at the XXI International Forum “Baltic Sea Day – 2021”.

The participants of the events supported the development of the Russian MSP Roadmap and noted that MSP should be based on an ecosystem approach and take into account the regional specificities of the marine areas. They drew attention to the need to improve the system of interaction between the federal and regional levels of management in the field of maritime use, by delegating a number of managerial powers, as well as adequate funding for maritime activities



to the regional and municipal level, which would simplify the bureaucratic procedures and significantly facilitate the solution of local coastal protection problems, construction of hydraulic structures (slips, entrances to water, etc.), the development of public beaches and water sport areas.

In addition, the participants of the workshop in Kaliningrad stressed the prospects for a proactive (coordinated by the authorities of the Kaliningrad Region or representatives of the federal supervisory authorities) preparation of a pilot management plan of the SEB's marine activities, including the Baltic Sea and the transboundary Kaliningrad and Curonian Bays, adjacent to the Kaliningrad Region, involving coastal municipalities and major sectoral stakeholders.

## Arctic seas

The maritime space of the Russian Arctic zone includes seven seas of the Arctic Ocean: the Barents Sea, the White Sea, the Pechora Sea, the Laptev Sea, the Kara Sea, the East Siberian Sea and the Chukchi Sea. They all are characterized by severe natural and climatic conditions and the presence of a thick winter ice cover, which in the coastal area retreats only during the short months of the polar summer. It is also characterized by permafrost soils on the adjacent mainland areas and islands.

The biodiversity of the Arctic seas is significantly lower than that of temperate and tropical latitudes, yet it is home to over 20,000 animal species, and the richness of vertebrate species is noticeably lower than that of invertebrates. Vertebrates occupy the upper levels of the food chain and serve as a link between different environments. Arctic marine and coastal areas are a kind of ecosystem hub, for example, ice-flooded polynyas, which also serve as natural channels for ships to pass through the Northern Sea Route.

The Arctic seas are rich in oil and gas. The intensity of exploitation of onshore and offshore oil and gas fields grows with the development of technology. At the same time, the extracted hydrocarbons can only be exported by sea route. The Northern Sea Route, which used to be open mainly for the Northern Delivery, is now becoming a year-round multiple-purpose seaway. It passes through the Kara Sea, the Laptev Sea, the East Siberian Sea and the Chukchi Sea. In addition, the gradual reduction of the ice cover due to ongoing climate change and, accordingly, the expansion of opportunities to use the Northern Sea Route as a transit

route between South-East Asia and Europe should also lead to an increase in ship traffic<sup>1</sup>. According to forecasts, the volume of traffic on the Northern Sea Route will have increased 70 times by 2025 compared to 2016, i.e., from 1 to 70 million tons, with the prospect of further increase.



Figure 4. The Arctic. Current shipping corridor of the Northern Sea Route.<sup>2</sup>

<sup>1</sup> Strategy for the Development of the Arctic Zone of the Russian Federation and National Security until 2035 <http://www.kremlin.ru/acts/bank/45972>.

<sup>2</sup> ESIMO database <http://esimo.oceanography.ru/>

The growing density of shipping and oil and gas production on the shelf and coastal areas of the Arctic seas inevitably poses a risk of emergency situations, which could lead to large-scale discharges of pollutants, leading to a manifold increase in environmental risks. This trend is indirectly confirmed by the recent environmental disaster (May 29, 2020) at the thermal power plant (TPP-3) of Norilsk-Taimyr Energy Company (owned by JSC Norilsk Nickel). As a result of depressurization, about 21,000 cubic meters of petroleum products leaked out of one of the tanks, some of which reached the coast of the Kara Sea along rivers and lakes. The Federal Service for Supervision of Nature Management (Rosprirodnadzor) estimated the environmental damage caused by the fuel spill at almost \$2 billion.

In addition to mining, the marine bioresources of the Arctic Ocean and its seas are of a particular economic importance. In the Far North, they are the main source of food for the population, including indigenous peoples. In the Arctic zone of Russia, fish production and processing rank third after gas and mining. More than one third of Russia's fish and seafood is produced in the Arctic seas, and about a fifth of all canned fish is produced here. The Barents and Bering Seas are the most productive. The fishing potential of the Barents Sea is formed by the reserves of cod, haddock, pollack, perch, catfish and halibut. The main potential of the Bering Sea is represented by cod species and bottom bio-resources.<sup>1</sup>

Due to the specificity of their climatic conditions (temperature regime, salinity, current velocity, etc.), the Barents Sea, the White Sea and the Kara Sea are subject to active deposition of harmful impurities on the bottom and thus require close

attention of ecologists.<sup>2</sup> In these marine areas climate change is primarily expressed in an increase in the average temperature of atmospheric air and sea water, which, in addition to the positive aspects of de-icing coastal waters that facilitate the development of navigation and extraction of mineral resources, brings with it a number of challenges. First of all, climate change will undoubtedly affect coastal infrastructure. Facilities erected on permafrost, such as buildings, roads, pipelines, etc., break down as the ground thaws and lose their ability to perform their functions. Some areas of permafrost will eventually become impassable swampy areas, and much of the infrastructure functions in these areas are likely to be transferred to maritime transport. In the pessimistic climate scenario, the possibility of relocating the inhabitants of such areas to floating settlements is being considered.

The shrinkage of the ice cover is expected to cause significant damage to the habitats of polar animals, primarily marine mammals such as walrus, seals, polar bears, etc. According to winter observations in 2019 and 2020, they are forced to leave their usual habitats due to lack of ice. The traditional livelihoods of the indigenous peoples, such as reindeer herding, hunting and fishing, can also be disrupted.

The Arctic seas, mainly the Barents Sea but also the coastal waters of other Arctic seas, are industrial fishing grounds and are home to species of commercially important fish. The warming of the climate system will have a significant impact on the composition of fish species, since more thermophilic species gradually enter these regions as water temperatures rise, and changes in benthos also affect them. Proof of this is the fact that in 2020 and 2021 quotas were

<sup>1</sup> <https://raen.info/upload/000/vestnik/2016/2/88-96.pdf>

<sup>2</sup> <https://musorniy.ru/ekologicheskie-problemy-morey-rossii/>

allocated for the production of pollock in the Chukchi Sea<sup>1</sup>, where fishing was not carried out in the past due to the lack of commercial fish resources.

It should be noted that the Arctic seas, especially the Barents Sea, are the location of the Northern Fleet of the Russian Navy - the strongest in terms of operational and strategic capability. The strategic role of the Northern Fleet in ensuring national security will be maintained in the future. Besides, in order to protect the interests of Russia in the Arctic, a number of facilities of the Ministry of Defence of the Russian Federation are stationed and operating here.

Many countries, including China, Norway, the European Union, the United States, Finland, are interested in controlling Arctic shipping and mining in the Russian Arctic zone. In order to strengthen the legal protection of the country's interests in the Arctic, Russia needs to ensure comprehensive sustainable management of maritime activities in its Arctic marine as through the development of integrated management plans and MSP.

A regional mechanism for international cooperation is the Arctic Council, which coordinates the activities of states and international organizations in the development of the Arctic.

In addition to international treaties of a universal nature, such as the UN Convention on International Law, international legislative regulation of Russian Arctic seas includes the following agreements: Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic (2011), Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic (2013), Agreement on Enhancing International Scientific Cooperation in the

Arctic (2017). Regional regulation includes the Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean (2018), while at the local level these are the Treaty between the Kingdom of Norway and the Russian Federation Concerning Maritime Delimitation and Cooperation in the Barents Sea and the Arctic Ocean (2010) and the Agreement between the United States of America and the USSR on Mutual Fisheries Relations (1988) establishing the U.S.–Russia Intergovernmental Consultative Committee. Account should also be taken of the International Code for Ships Operating in Polar Waters (“Polar Code”, 2017), the Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean (1992) and a number of other conventions and agreements adopted by Russia.

A workshop “Maritime Spatial Planning as a Tool for Regulating Ecosystem-Based Nature Management in the Arctic Seas of the Russian Federation” was held in Murmansk in October 2020. The participants supported the proposals for the Russian MSP Roadmap and noted that the introduction of MSP into the system of strategic documents requires the development of an appropriate federal and regional legal and regulatory framework. In order to take better account of the interests of coastal regions, it is advisable to strengthen coordination with the authorities of the constituent entities of the Russian Federation in order to create conditions and opportunities for the transfer of some federal powers of state management of selected marine activities within the borders of the adjacent territorial sea to regional authorities. In addition, the decisions of the workshop stressed that while Russia's neighbors are developing their own plans on the spatial use of marine resources and management of marine activities, including international cooperation, it

<sup>1</sup> <https://portnews.ru/news/320616/>

is expedient for scientific organizations and authorities of the Murmansk Region and other coastal constituent entities of the Russian Federation to join international cooperation and participate in the development of coordinated regional framework for the management of marine activities.

## Far East seas

Russian Far East marine area include three seas – the Bering Sea, the Sea of Okhotsk and the Sea of Japan– and the Pacific Ocean near the Kuril Islands. First of all, it should be noted here that the entire coast of Russia's Far East is located in a zone of high seismic activity, where the intensity of earthquakes in some segments of the coast can reach 10 points. On average, 300 perceptible earthquakes strike the region every year (Fig. 5)<sup>1</sup>.

In addition to the direct impact of earthquakes on the area and its facilities, a major threat is posed by tsunami waves generated by submarine earthquakes. In the Kuril-Kamchatka trench, a tsunami occurs every 2-3 years, and a major tsunami causing significant disasters occurs at least every 10-12 years. The recurrence interval of a catastrophic tsunami in the same area of this region is about 100 years. The last catastrophic tsunami with a wave height of more than 15 meters occurred near the coast of Kamchatka on 5 November 1952<sup>2</sup>. The region has the highest density of volcanoes on Earth with one volcano for every 20 km of coastline since here the Pacific plate converges with the Eurasian and North American plates.

The Far East region is rich in oil and gas. The region's initial total geological resources are estimated at 26.6 billion

### СЕЙСМИЧЕСКОЕ РАЙОНИРОВАНИЕ РОССИИ. ОСР-2015-В

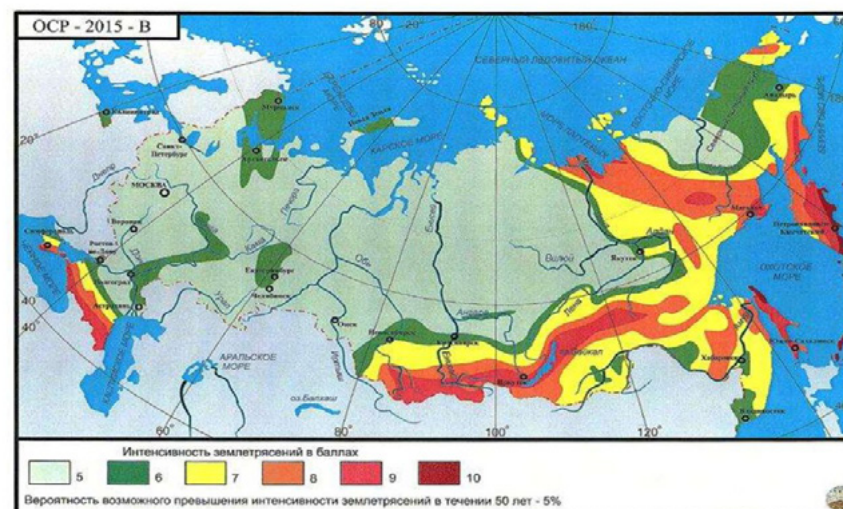


Figure 5. - Seismic regions of the Russian Federation <sup>1</sup>

tonnes of oil equivalent, including 22.7 billion tonnes of offshore oil equivalent (85 %). The oil and gas potential are concentrated on the shelves of three oil and gas bearing areas: North-Sakhalin (30 %), West-Kamchatka (15 %) and North-Chukotka (15 %). In the nearest future (by 2030), high geological and economic risks allow the industrial development of the shelf resources only in the North-Sakhalin and West-Kamchatka; they are estimated to have a maximum production of 20 million tonnes of oil and about 50 billion m<sup>3</sup> of gas per year.<sup>3</sup>

<sup>1</sup> <https://docs.cntd.ru/document/1200129401>

<sup>2</sup> Sereda AV, Mikhaylichenko YG, Baklanov PY, Kachur AN, Lappo AD, Danilova LV. Contribution of an Integrated Maritime Policy to the Dialogue of Civilisations: The Asia-Pacific Case. Journal of Marine Science and Engineering. 2021; 9(6):610. <https://doi.org/10.3390/jmse9060610>

<sup>3</sup> L.S. Margulis. Oil and Gas Potential of the Russian Far East and Prospects for its Development. Oil and Gas Geology, 2'2010. pp. 11-18.

The region is characterized by significant environmental problems. Many mining and chemical enterprises continue to discharge untreated waste directly into the wastewater, which is the main sources of marine pollution. Moreover, the shelf in the Far East and, in particular, the southern shelf, is the most favorable for mariculture.

The beach areas of the Ussuri Bay and Amur Bay are polluted with heavy metals. The treatment facilities at the Far East ports are unsatisfactory. Due to the lack of coastal oil treatment facilities or their insufficient capacity, oil pollution occurs in the coastal zone<sup>1</sup>.

These and a number of other reasons lead to under-exploitation of the considerable recreational potential of the Far East. The ecological and sanitary situation calls for urgent action, since life expectancy in the region as a whole is declining and public health is deteriorating.

Fish is considered to be the richest marine biological resource in the Far East seas. These seas are characterized by a high diversity of species; for example, the Sea of Japan is considered the richest in biodiversity of all Russia's seas. The main fishing area is the Sea of Okhotsk, which accounts for 65-70% of the catch of fish and non-fish resources in the Far East. In the Pacific Ocean, catches are dominated by fish (85 %), mollusks, crustaceans, echinoderms, algae (10 %) and marine mammals (5 %). Objects of industrial fishing are the pollock, salmon, herring, cod, flounder and halibut. The Pacific salmon accounts for 90% of catches with three main species: the pink salmon, chum salmon and sockeye salmon. The cherry salmon is the only species of the Pacific salmon found exclusively along the Asian coast, predominantly in the Sea of Japan. The most productive

salmon fishing area is Eastern Sakhalin, the second largest being the eastern coast of Kamchatka<sup>2</sup>.

Regarding conservation and sustainable reproduction of fish stocks, significant environmental problems should be noted in the coastal zone of the region due to a number of negative factors –forest fires, the effects of typhoons and earthquakes, floods, leakages at oil fields and other industrial facilities caused by accidents, uncontrolled dumping of harmful industrial waste into rivers and seas, as well as into the atmosphere.

The Far East is the home base of the strategic Pacific Fleet of the Russian Navy, with its bases along the coastline. In the foreseeable future, the role and importance of this fleet as well as other Far East facilities of the Ministry of Defence will remain high.

When developing the MSP for the seas in the Far East, it is necessary to interact and take into account the interplay between the activities of other countries: the USA in the Bering Sea, the Japan in the Sea of Okhotsk and the Pacific Ocean, the Japan, the Republic of Korea and the Democratic People's Republic of Korea in the Sea of Japan. In addition, China is a strong regional player with geopolitical interests far beyond its territorial waters and the EEZ.

Regional agreements on environmental protection in the Far East have been concluded within the framework of the Asia-Pacific Economic Cooperation (APEC), the United Nations Environment Programme (UNEP) and Action Plan for the Protection, Management and Development of the Marine and Coastal Environment of the Northwest Pacific Region (NOWPAP).

<sup>1</sup> <http://www.fegi.ru/primorye/sea/pollut.htm>

<sup>2</sup> <http://assoc.khv.gov.ru/regions/information/natural-resource-potential/problems-of-reproduction-and-use-of-water-and-biological-resources>

In October 2020, a workshop “Development of Cooperation in Maritime Spatial Planning through Common Projects” was held in Vladivostok in the framework of the Annual International Multidisciplinary Conference on Industrial Engineering and Modern Technologies “FarEastCon-2020”. Experts on the Far East discussed key MSP issues and pointed out that MSP is an extension of the urban planning to the marine areas aimed at meeting the social and economic needs of the coastal population. On the other hand, MSP is designed to serve the goals of preserving the health of the environment, its biological and geological diversity, and the ability to provide ecosystem services in a sustainable manner. This area of activity is very important for the economic development and environmental security of all the coastal regions of Russia. There are several fundamental restrictions on the implementation of spatial planning in Russian marine areas, the most important of which is the fact that the regulatory and legal framework is still in the process of drafting. Nevertheless, Russia is fulfilling a number of its obligations under international agreements and treaties regarding the use of the MSP tools. There are also contradictions and organizational and administrative conflicts in the field of interdepartmental cooperation, both vertically and horizontally. The MSP should be implemented systematically, which means pooling the resources of specialized research institutions and sectoral stakeholders and combining efforts to achieve common goals.

## Caspian Sea

The Caspian Sea is the world’s largest closed drainless brackish water body, lying at 28.26 m below ocean level (as of 2021), with an area of 366,000 km<sup>2</sup>. More than 130 rivers flow into the Caspian Sea, including the Volga River, which supplies the Caspian with an average of 256 km of water per year, i.e., 80% of all runoff to the sea.

The level of the Caspian Sea fluctuates significantly, which is a risk factor for coastal economic activity. According to archaeological data, the range of fluctuations has reached almost 300 meters (Fig. 6) over the past 400 thousand years.



Figure 6. Changes in the level of the Caspian Sea over the last 400,000 years (x-axis – time in thous. years BC, y-axis – sea level of the sea in meters).<sup>1</sup>

<sup>1</sup> <http://www.garshin.ru/history/archeology/ancient-eurasia/bbc-r1b-match.htm>

Over the past 175 years, the range of level fluctuations has not been so large, yet still reaches 3.5 meters (Fig. 7).

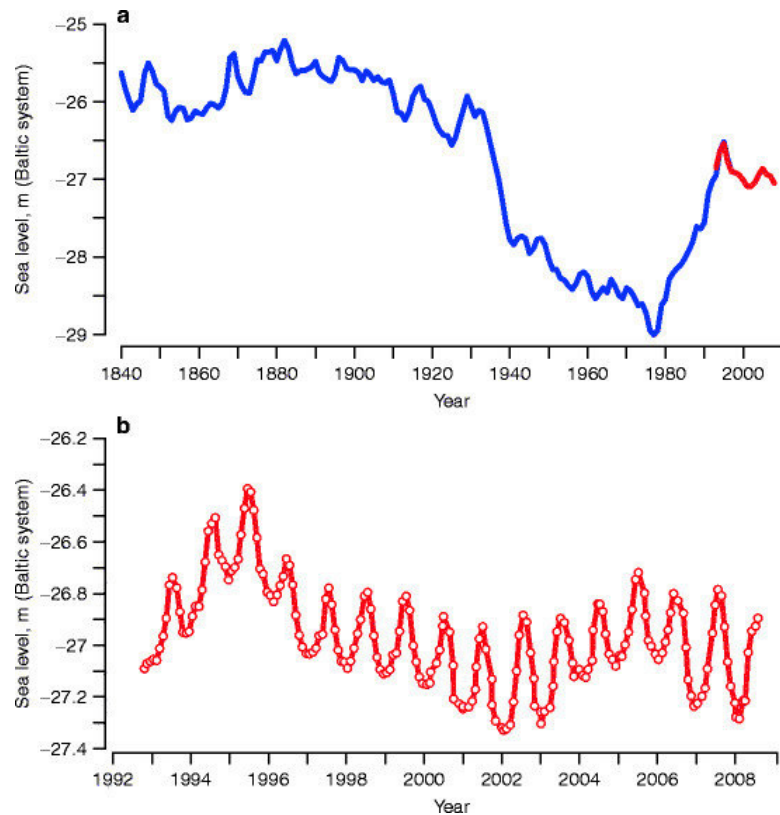


Figure 7. Annual level of the Caspian Sea based on in situ observations (blue line) and altimetric observations (red line) from 1840 to 2015.<sup>1</sup>

Unpredictable sea level fluctuations over the centuries have created major difficulties in the development of the coastline. One current forecast suggests that the level of the Caspian Sea may decrease by 9 to 18 meters by 2100, exposing

<sup>1</sup> [https://www.researchgate.net/publication/259838644\\_Coastal\\_Altimetry](https://www.researchgate.net/publication/259838644_Coastal_Altimetry)

large areas of the seafloor (Fig. 8). Yet, other experts disagree with this forecast and believe that the Caspian Sea level changes will not exceed  $\pm 2$ -3 meters.

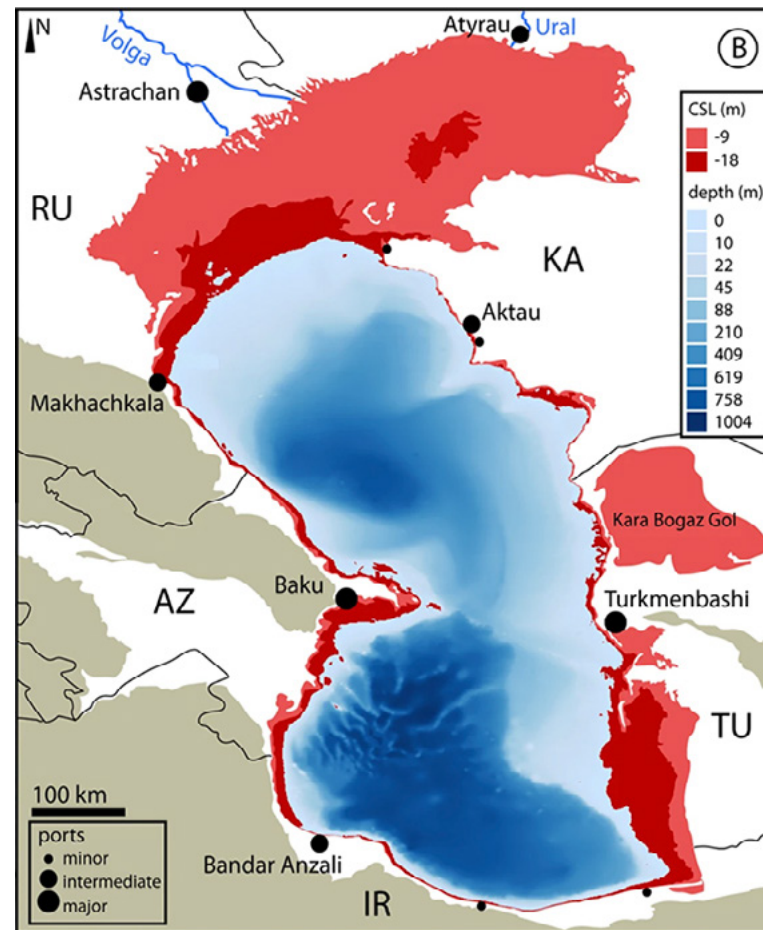


Figure 8. Forecast of the Caspian Sea level drop by 2100 and its consequences. Regions subject to severe desiccation as predicted for 2080-2099. Cartographic data: Google Earth, Landsat / Copernicus (SIO / NOAA, US Navy, NGA, GEBCO, IBCAO, USGS).

In addition to the development challenges associated with sea level change, the Caspian Sea is characterized by problems associated with the intensive development of natural resources and economic activities in the coastal area, which is extremely rich in hydrocarbons. Demand for oil and gas requires the operation of existing fields, the construction of oil ports and terminals, and laying of underwater and onshore pipelines, which pose risks of emergencies.

Another wealth of the Caspian Sea is its fish resources. The sea, with its estuaries, is one of the most important fishery reservoirs in Russia and one of the richest fishery basins in the world, home to about 100 species of fish, most of the world's sturgeon stocks –the beluga, Russian and Persian sturgeon, barbel and sterlet are concentrated here.

The ecological condition of the Caspian Sea is very poor and on the verge of disaster as the resilience of the sea is under threat, however, from multiple stressors of the increasing anthropogenic and climatic pressures. Samples of water and sediment from the Caspian seabed show that it is contaminated with phenols and various metals: mercury and lead, cadmium and arsenic, nickel and vanadium, barium, copper, zinc, etc. The level of these chemical elements in the water exceeds all permissible norms, which significantly harms the sea and its inhabitants. Another problem is the formation of oxygen-free zones in the water column, which can lead to even more serious catastrophic consequences. Great damage to the Caspian Sea ecosystem was caused by the emergence and wide dispersal of the macroplankton, the ctenophore *Mnemiopsis leidyi* at the end of the twentieth

century. Microplastic pollution of seawater has also been identified.

The regional Caspian Environmental Program (CEP) was set up in 1998 to prevent the deterioration of the Caspian marine environment and to promote sustainable development of the region to ensure the long-term well-being of the coastal population. The international regulatory tool is the Framework Convention for the Protection of the Marine Environment of the Caspian Sea (Tehran Convention, 2003)<sup>1</sup>.

In October 2020, the Interparliamentary Assembly of Member Nations of the Commonwealth of Independent States (IPA CIS) held a workshop in St. Petersburg entitled “Maritime Spatial Planning– Roadmap of the Russian Federation”. The Roundtable resolution included proposals for the need to speed up the implementation of an integrated approach to the management of maritime use and the transition to integrated planning of the development of coastal zones. The participants supported the IPA CIS initiative to develop a model MSP Law and discuss it with IPA CIS members.

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<sup>1</sup> <https://tehranconvention.org/>

## Black Sea and the Sea of Azov

While the Black Sea is a unique sea basin that is rich in biodiversity, heritage and natural resources, the basin is increasingly under pressure due mainly to the increasing impacts from human-induced factors, such as eutrophication and hypoxia, overfishing, and introduction of alien species, in addition to the effects of climate change. The combination of these stressors is considered to be the main cause for the degradation of the Black Sea marine ecosystem, which has undergone dramatic changes since the early 1970s. Moreover, the deeper 90% of the Black Sea is the largest oxygen-free and hydrogen sulphide-rich volume of marine waters on Earth, just as the global ocean of the geological past was for a billion years between 1.8 and 0.8 billion years ago. Therefore, the Black Sea, with its marine basin and coastal socioeconomic systems combined, can be considered a natural laboratory of global significance, for fundamental science, sustainability policy and the Blue Economy<sup>1</sup>. The Black Sea has two distinctly separated layers - the upper saline layer, with a salinity of 18‰, and the lower more saline layer, with 22‰.

One of the most valuable resources of the Black Sea and the Sea of Azov is their recreational and tourism potential. Recreational and tourism facilities are located practically all along the coasts, only shipping rival the recreational and marine tourism sector. The Azov and Black Seas rank first among the Russian sea basins in terms of cargo turnover; the cargo turnover of its seaports in 2020 was 252.0 million tons<sup>2</sup>.

Russian natural gas is supplied via Blue Stream and Turkish Stream pipelines that cross the Black Sea (Fig. 9). The offshore section of Blue Stream is from Arkhipo-Osipovka to the Durusu Terminal, located 60 km from the city of Samsun, Turkey, and is 396 km long. In 2021, the pipeline capacity amounted to 47.355 million m<sup>3</sup> per day, which is equivalent to about 17 billion m<sup>3</sup> of gas per year. The Turkish Stream, with a length of about 1100 km, consists of two lines with a total capacity of 31.5 billion m<sup>3</sup> of gas per year. The first line is for gas supplies to Turkish consumers, while the second one to the countries of southern and south-eastern Europe. Turkish Stream was launched on 8 January 2020.



Figure 9. Scheme of the Blue Stream and Turkish Stream pipelines.<sup>3</sup>

<sup>1</sup> The SRIA. A common vision for the Black Sea <http://connect2blacksea.org/the-initiative/>

<sup>2</sup> <http://www.morvesti.ru/analitika/1688/89007/>

<sup>3</sup> <https://www.kommersant.ru/doc/3804901>

Another important resource of the Black and Azov Seas is their oil and gas reserves. Exploration on the sea shelf is in full swing, and a sharp increase in hydrocarbon production in the Azov-Black Sea region is expected in the near future. Commercial fishing and seafood extraction take place here too. Sand, pebbles and shell rock are extracted from offshore deposits.

International regulation for the protection of the Black Sea environment is governed by the Convention on the Protection of the Black Sea against Pollution (Bucharest Convention, 1992)<sup>1</sup>.

In 2019, Russia, together with the European Commission, the Republic of Bulgaria, Georgia, Romania, the Republic of Turkey, Ukraine and the Republic of Moldova, have launched a Strategic Research and Innovation Agenda for the Black Sea (SRIA). It aims to promote a shared vision of a productive, healthy, resilient and sustainable Black Sea by 2030, taking into account its specific and unique ecosystem. One major focus of SRIA is the development of a common methodology and transboundary pilot maritime spatial plans at national and regional level based on an ecosystem approach. Concurrent with the SRIA, the countries of the Black Sea Region signed the Common Maritime Agenda for the Black Sea (CMA) with its three main pillars: environmental protection, innovation and attracting investment in sustainable blue-economy activities.

In September 2020, a workshop “Sustainable development of the marine/blue economy in the Azov-Black Sea Region, the importance of Maritime Spatial Planning” was held at the joint conference “Ecology. Economy. Informatics” in the village of Durso of the Krasnodar Krai. The workshop emphasized the need for concerted action between MSP and ICZM at both national and regional levels.



<sup>1</sup> <http://www.blacksea-commission.org/>

# 3. PREREQUISITES FOR MARITIME SPATIAL PLANNING

## International and national legislation on Maritime Spatial Planning

Various countries and territories have begun to use MSP to achieve a sustainable use of their maritime space, including the goal of developing the blue economy and conserving biodiversity in ocean and coastal areas. About 70 countries/territories now have MSP initiatives, ranging from early stages (new authority and funding arrangements) to the review and adaptation of plans.<sup>1</sup>

International legislation on MSP began to take shape at the initiative of the Intergovernmental Oceanographic Commission (IOC) of UNESCO in 2006, when the first international meeting on Maritime Spatial Planning was organized. In 2007, UNESCO published a technical report entitled “Visions for a Sea Change”<sup>2</sup>. In 2008, the international journal Marine Policy devoted a special issue on the Role of Marine Spatial Planning in Implementing Ecosystem-based Sea Use Management<sup>3</sup>, and in 2009 IOC-UNESCO launched a 10-step guide on how to commence work on a maritime spatial plan “Marine Spatial Planning: A Step-by-Step Approach Toward Ecosystem-Based Management”<sup>4</sup>. The European Union and a number of international environmental conventions are also



involved in the international process of promoting MSP. The cooperation between regional organizations HELCOM<sup>5</sup> and VASAB<sup>6</sup> is such a driving force for the Baltic Sea. Maritime Spatial Planning is included as a horizontal action in the Baltic Sea Region’s Long-Term Perspective (LTP) and the Baltic Sea Action Plan (BSAP).

<sup>1</sup> Status of MSPs around the world, according to UNESCO website [http://msp.ioc-unesco.org/world-applications/status\\_of\\_msp/](http://msp.ioc-unesco.org/world-applications/status_of_msp/).

<sup>2</sup> UNESCO Technical Report (2008) <http://msp.ioc-unesco.org/msp-guides/visions-for-a-sea-change/>.

<sup>3</sup> Special issue of the MarinePolicy journal (2008) <https://www.sciencedirect.com/journal/marine-policy/vol/32/issue/5>.

<sup>4</sup> A step-by-step approach to the MSP (2009) <http://msp.ioc-unesco.org/msp-guides/msp-step-by-step-approach/>.

<sup>5</sup> Helsinki Commission <https://helcom.fi/action-areas/maritime-spatial-planning/>.

<sup>6</sup> Vision and strategy around the Baltic Sea <https://vasab.org/theme-posts/maritimespatial-planning/>.

In the EU maritime domain, the objectives of the legal framework for Maritime Spatial Planning were included in the EU MSP Directive<sup>1</sup> (2014/89/EC) in 2014. MSP Directive has provided a legal basis for national and cross-border initiatives; in particular, one of its requirements is for EU member states to develop maritime spatial plans by March 31, 2021.

At present there are up to six parallel layers of regulation of maritime activities in the Baltic Sea, including global and regional international regulations, EU legislation, national and regional laws, all of which need to be taken into account when developing MSP.

Maritime powers in other regions of the world (Arctic, Far East, South-East Asia, Mediterranean, Caribbean, Australia, West Africa, North and Latin America, etc.) have also been developing marine management frameworks and successfully improving MSP tools and instruments. There are also early initiatives to apply MSP to areas beyond national jurisdiction<sup>2</sup>.

## Principles and Roadmap for MSP in the Baltic Sea Region

The HELCOM-VASAB Baltic Sea Broad-Scale Maritime Spatial Planning Principles were developed in 2010 by the international organizations HELCOM and VASAB<sup>3</sup> and can be further adjusted to the experience accumulated in the practical development of national maritime spatial plans and international co-operation in the field of maritime policy. The MSP principles are universal and applicable in all maritime areas, including the seas of Russia, taking into account national security and interests.

The Regional Baltic Maritime Spatial Planning Roadmap 2013-2020<sup>4</sup> was adopted at the HELCOM Ministerial Meeting in 2013 and VASAB Ministerial Meeting in 2014. The aim of the Regional MSP Roadmap was to ensure the cross-border development and application of harmonized ecosystem-based maritime spatial plans throughout the Baltic Sea Region by 2020. In 2014, the obligations of the EU member states were reinforced by the MSP Directive (2014/89/EU), which stipulated the obligation of the Member States to develop and adopt maritime spatial plans by 31 March 2021. At the same time, the Directive demonstrated a flexible approach to the framework as it does not interfere with Member States' competence for urban and rural planning, including any terrestrial or land spatial planning system used to plan how land and coastal areas should be used.

By the end of 2021, EU countries have met all the requirements set out in the Regional MSP Roadmap. Russia participated in a number of international projects and performed several national MSP pilot projects, but due to the delay in the adoption of the relevant national legislation could not implement the Roadmap in full. The lack of visible progress and the growing gap between Russia and other Baltic countries led to the development of the Russian MSP Roadmap to promote Maritime Spatial Planning in the Russian Federation considerably further.

Following the completion of the first Baltic Sea MSP Roadmap, the HELCOM-VASAB MSP Working Group developed its new revision. A new Regional Baltic Maritime Spatial Planning Roadmap (2021-2030) was signed on 20 October 2021, in Lübeck, Germany, together with the updated BSAP.

<sup>1</sup> Maritime Spatial Planning Directive 2014/89/EC <https://eur-lex.europa.eu/legal-content/BG/TXT/?uri=CELEX%3A32014L0089>.

<sup>2</sup> G. Wright et al., "Marine spatial planning in areas beyond national jurisdiction," *Marine Policy*, vol. 132, p. 103384, Oct. 2021, doi: 10.1016/j.marpol.2018.12.003.

<sup>3</sup> HELCOM-VASAB MSP Principles for the Baltic Sea Region <https://helcom.fi/action-areas/maritime-spatial-planning/msp-principles/>.

<sup>4</sup> <http://www.helcom.fi/Documents/HELCOM%20at%20work/Groups/MSP/Regional%20Baltic%20MSP%20Roadmap%202013-2020.pdf>

## Institutional framework for the promotion of MSP in the Russian Federation

In accordance with the **Constitution of the Russian Federation** (CRF, Article 72), the joint jurisdiction of the Russian Federation and the constituent entities of the Russian Federation includes, in particular,

“(c) Issues of ownership, use and disposal of land, subsoil, water and other natural resources;

(d) delimitation of state property;

(e) use of natural resources; environmental protection and safety; specially protected nature territories; protection of historical and cultural monuments.”

**The Water Code of the Russian Federation** (WC RF) applies to surface water bodies, including seas or their separate parts (straits, bays, lagoons, estuaries, etc.) (WC RF, article 5). The powers of the federal executive bodies in the field of water relations stipulated by WC RF may be delegated to the executive bodies of the entities of the Russian Federation by decrees of the Government of the Russian Federation (WC RF, article 26).

**The draft Federal Law “On State Management of Maritime Activities of the Russian Federation”** declares the principle of “an integrated approach to maritime activities in general and its differentiation in certain areas of national maritime policy, taking into account changes in their priority” and also sets the task of “improving maritime

spatial planning for the spatial and temporal distribution of various types of maritime activities within the borders of the Russian Federation, as well as in the exclusive economic zone of the Russian Federation and the continental shelf of the Russian Federation”. This draft law is expected to be submitted to the State Duma of the Russian Federation for approval at the beginning of 2022.

**Strategy for the development of maritime activities of the Russian Federation until 2030** (2019)<sup>1</sup> defines the long-term priorities, goals and objectives of Russia’s maritime activities, and determines the projected values of the target indicators.

One of the main priorities for the long-term development of maritime activities is the improvement of the regulatory legal acts regulating the development of maritime activities and the interaction between federal and regional authorities in the field of state management of maritime activities.

In 2012, the Ministry of Economic Development of the Russian Federation produced two strategic documents: “Guidelines for the Land-Sea Component of the Socio-Economic Development Strategy of the Coastal Constituent Entity of the Russian Federation”<sup>2</sup> and “MSP Toolkit” with proposals for its implementation on the example of the Baltic Sea<sup>3</sup>. On the basis of these documents, the concept of the Russian Federal MSP Law was prepared in 2014. This law should establish the legal and institutional framework for maritime spatial planning, regulate the procedure for the preparation, coordination, approval and implementation of MSP in the Russian seas. The main legal principles laid down in the Concept are:

<sup>1</sup> <http://static.government.ru/media/files/f97zDwh44IJsniyhDZuV85gal4AkE5M4.pdf>

<sup>2</sup> <https://docs.cntd.ru/document/499055083>

<sup>3</sup> [http://niipgrad.spb.ru/Projects/Research\\_work/MPP.html](http://niipgrad.spb.ru/Projects/Research_work/MPP.html)

- ensuring sustainable development of coastal zones;
- balanced consideration of natural, environmental, economic, social, national and other conditions and factors;
- comprehensive coordination of all types of maritime and other economic activities that use the marine space and ensuring the efficiency of its use, with the priority being given to the preservation of the marine environment;
- minimization of the negative impact of maritime and other economic activities on the marine environment and preservation of biodiversity;
- protection of underwater cultural heritage and maritime traditions;
- development of specially protected marine areas;
- linking the Federal MSP Law with the Urban Planning Code of the Russian Federation and other types of legislation.

The concept envisages the transfer of part of the powers for the management of maritime activities and MSP from the federal to the regional and municipal levels and provides proposals for the maritime activities regulated by MSP. Work on the draft law was suspended in 2015 and will continue after the adoption of the Federal Law “On State Management of Maritime Activities of the Russian Federation”.

## Maritime Spatial Planning within the system of strategic planning documents of the Russian Federation

Maritime Spatial Planning should be one of the elements of the strategic planning system of the Russian Federation and address the following tasks:

- coordination of state and municipal strategic management;
- ensuring economic interests and national security;
- defining spatial priorities and ensuring rational use of marine resources;
- delimiting the interests of economic activities (sectors of the economy) in marine areas;
- ensuring good environmental conditions of marine areas.

Maritime Spatial Planning documents are strategic planning documents developed as part of planning and programming both at the federal level and at the level of coastal constituent entities of the Russian Federation, and, if necessary, at the level of municipalities.

Maritime Spatial Planning documents must be coordinated with the territorial planning schemes of the Russian Federation and the constituent entities of the Russian Federation in terms of the use of coastal zones and the determination of the environmental impact on marine areas. Maritime spatial plans should be based on the strategic planning documents developed as part of targeted planning, including sectoral and regional principles, forecasting, planning and programming documents at the level of the Russian Federation and its constituent entities and, if necessary, at the level of municipalities.

## Pilot and model MSP projects carried out in 2008-2020

In 2008, the International Conference “Integrated Management, Indicators of Development, Spatial Planning and Monitoring of Coastal Regions of the Southeastern Baltic” in Kaliningrad with participation of Russia, Lithuania and Poland resulted in drafting “Recommendations on Integrated Coastal Zone Management and Maritime Spatial Planning in the Southeastern Baltics” (SDI4SEB)<sup>1</sup>. Later it served as a prerequisite and basis for several joint Russian-Lithuanian and Russian-Polish research projects.<sup>2</sup>

Subsequently, the following projects were implemented:

- pilot MSPs for the Eastern Gulf of Finland and the Southeastern Baltic as part of the development of the Russian MSP Toolkit, 2012;
- pilot MSP for the Eastern Gulf of Finland within the framework of the trilateral RU-FI-EST international program “GOF-2014”;

- draft integrated marine environmental management plan for the Russian part of the Barents Sea, based on an ecosystem approach (by order of the President of the Russian Federation, 2015).

Two monographs on MSP were published on the basis of these and other relevant projects: “Spatial planning for the conservation of biodiversity in the seas of the Russian Arctic”(V. Spiridonov and al., 2020)<sup>3</sup> and “Geological and environmental aspects of the development of marine areas in Russia: theory, practice, perspective”(Ya. Blinovskaya and al., 2020)<sup>4</sup>.

<sup>1</sup> [http://www.corpi.ku.lt/SDI-4-SEB/doc/recommendations\\_iczm.pdf](http://www.corpi.ku.lt/SDI-4-SEB/doc/recommendations_iczm.pdf)

<sup>2</sup> Lappo, A. D., “Today and tomorrow of Maritime Spatial Planning in the Russian Federation” // *Zodchii XXI century*, 2014, no. 1(50).

<sup>3</sup> <https://wwf.ru/resources/publications/booklets/prostranstvennoe-planirovanie-sokhraneniya-bioraznootbrazhiya-morey-rossiyskoy-arktiki/>

<sup>4</sup> Blinovskaya, Y., Mazlova, E., Lappo, A., Zemlyanov, I., Shilin, M., Danilova, L., Ryabchuk, D., Drozdov, V., Zhamoida, V., & Kulikova, O. (2020). *Geologo-ekologicheskie aspekty osvoeniya morskikh akvatoriy Rossii: teoriya, praktika, perspektiva* (Геолого-экологические аспекты освоения морских акваторий России: теория, практика, перспектива).

Based on these pilot MSP projects, as well as their possible interfaces with MSPs of the neighboring countries, we can conclude the following:

- the development of maritime spatial plans requires a large set of high-quality basic data on the state of environment. In the Russian Federation, some of the necessary data on the marine environment is missing and the available data are largely distributed among the organizations that have collected them. This data is not available to a wide range of stakeholders;
- the available marine data require validation and additional analysis, the methodology of which has not yet been developed;
- data on the prospective development of the marine sectors are largely owned by private companies, constitute a trade secret and are not freely available;
- there is no mechanism and methodology for the spatial assessment of the value of ecosystem services, which makes it difficult to justify the selection of one or another type of activity as a priority;
- tools to evaluate and forecast the response of marine ecosystems to anthropogenic pressures from economic activities taking into account the regional specifics of the seas have not been sufficiently developed;
- there is no tool for a comprehensive (strategic in an international context) environmental assessment of the MSPs.

The promotion of MSP in the Russian Federation requires the development of appropriate methodological approaches, the formation of national environmental and sectoral MSP data sets and the improvement of the data system and services.

It should be noted that many of these issues have not been resolved in foreign countries either and can be considered global challenges. To a large extent, these issues can be solved in cooperation with neighboring countries, and it is possible that different regions of Russia will have differing ways of overcoming the problems.

## MSP stakeholder involvement

Stakeholders in Maritime Spatial Planning include legal entities and individuals who are able to influence the process of MSP, as well as those whose professional, public or personal interests are affected by activities carried out in marine areas. These include federal, regional and municipal authorities, representatives of marine and coastal sectors, professional and public NGOs, coastal residents, incl. indigenous peoples, academy and research organizations dealing with the world's oceans. According to the degree of interest and involvement, the following stakeholder groups are distinguished:

- those formally required to participate in MSP (e.g., ministries, administrative bodies, agencies);
- those involved in marine economic activities, both commercial and non-commercial, located in or associated with the area of the plan or adjacent areas, the activities

of which can be affected by the plan, or have an impact on the plan;

- those who contribute to public and/or scientific activities at all levels of government with respect to maritime and coastal space use (e.g., non-governmental organizations, academy and research institutions, private entrepreneurs, local residents).

#### Federal MSP stakeholders:

- the Federal Assembly of the Russian Federation (the Federation Council and the State Duma);
- the Government of the Russian Federation;
- the Maritime Board under the Government of the Russian Federation;
- the Security Council of the Russian Federation;
- federal executive authorities involved in the management of maritime activities or related processes;
- the heads of the highest executive bodies of the constituent entities of the Russian Federation;
- business entities operating in the EEZ of the Russian Federation or in the territorial and internal sea waters located in two or more constituent entities of the Russian Federation;
- public organizations of social and environmental orientation of the federal level associated with activities in the maritime areas and coastal zones;
- other bodies and organizations in the cases stipulated by the relevant federal legal acts.

#### Regional MSP stakeholders:

- legislative (representative) bodies of the state power of the constituent entities of the Russian Federation;
- the executive bodies of the state power of the constituent entities of the Russian Federation engaged in the management of maritime activities or related processes;
- business entities whose activities are carried out using the territorial and internal sea waters of the constituent entity of the Russian Federation;
- public organizations of social and environmental orientation, associated with activities in the maritime areas and coastal zones of the constituent entity of the Russian Federation;
- citizens permanently residing in the coastal area of the constituent entity of the Russian Federation;
- other bodies and organizations in the cases provided for by the relevant legal acts of the constituent entities of the Russian Federation.
- Municipal level MSP stakeholders:
  - local self-government bodies of the municipalities;
  - municipal and business organizations engaged in activities using the territorial sea and inland maritime waters of the municipality;
  - public organizations of social and environmental orientation, associated with activities in the maritime areas and coastal zone of the municipality;

- citizens permanently residing in the coastal municipality;
- other bodies and organizations in the cases stipulated by the relevant legal acts of the municipality.

Special mention should be made of marine and coastal tourism and recreation, as these activities involve stakeholders who may not be residents of the coastal zone but use the ecosystem services provided by the coastal and marine area.

## Powers of state and local authorities in Maritime Spatial Planning and their mandates

One of the main problems hindering the involvement of local businesses and the public in the use of maritime space is the lack of appropriate authority at the level of constituent entities of the Russian Federation and municipalities to manage maritime activities. According to the experience of foreign countries, in particular European countries, the greatest effect on the rational use of marine resources is achieved when authority is delegated to the lowest possible level of management.

Nevertheless, the distribution of MSP mandates varies greatly across the Baltic Sea Region. In some countries (Estonia, Latvia, Lithuania, Poland), the entire MSP authority is concentrated at national level. In Germany and Finland, the central government controls only the EEZ, while planning in the territorial sea is entirely at a lower level (the states in Germany and the associations of regions

and sub-regions in Finland). In Sweden, the government is responsible for planning the EEZ, the territorial sea is planned by the coastal municipalities, with the area between one and twelve miles jointly managed by the municipalities and the government. The owners have the right to plan the first 300 meters from the shoreline. However, regardless of the variety of authorities responsible for implementing MSP (plan commissioners), the Swedish Marine and Water Management Agency is responsible for planning the entire Swedish marine area.

According to the concept of the Russian Federal MSP Law (2014), the following division of powers for the management of marine activities and MSP between federal authorities of the Russian Federation, constituent entities of the Russian Federation and local authorities is proposed (Tab. 3).



Table2. Proposals for the division of powers for maritime management and MSP

Types of activities	Authority			
	In accordance with international agreements	In accordance with international agreements	Constituent entities of the Russian Federation	Coastal municipalities
Maritime transport and port development	Yes	Yes	Yes	No
State defence and security	No	Yes	No	No
Nature protection	Yes	Yes	Yes	Yes
Fishing, fish farming and aquaculture	No	No	Yes	Yes
Tourism and recreation	No	Yes	Yes	Yes
Underwater cultural heritage	Yes	Yes	Yes	Yes
Exploration of mineral resources	No	Yes	Yes	Yes
Engineering communications (linear infrastructure)	Yes	Yes	Yes	Yes
Offshore energy	No	Yes	Yes	No
Construction and engineering structures	No	Yes	Yes	No
Dumping of soil, other waste and carbondioxide	No	Yes	Yes	No
Scientific research	No	Yes	Yes	No
Other activities	Depend on the location and content			

The specified set of delegated (transferred) powers will be established by an agreement between the Government of the Russian Federation and a constituent entity or a constituent entity and municipality.

## Regulatory framework for Maritime Spatial Planning

The state authorities at any level have the capacity and authority to manage MSP and maritime activities only if their rights and responsibilities are regulated by the relevant legal regulatory framework. The composition of the regulatory documents for Maritime Spatial Planning needs to be determined by the authorized federal executive body appointed by the Government. The legal regulatory framework for MSP should include:

- Federal law which would introduce Maritime Spatial Planning into the legal framework of Russia. This may be the Federal Law “On the State Management of Maritime Activities of the Russian Federation”, the draft of which is currently being prepared for submission from the Government to the State Duma;
- A federal legislative act regulating Maritime Spatial Planning, which may be either an independent federal law or be included in an existing federal legislative act (a set of legislative acts), such as the Urban Planning Code or the Water Code;
- Other legislative acts that regulate maritime activities to some extent. In particular, the Urban Planning Code, the Water Code, the Budget Code, the Federal Laws “On Inland Sea Waters, Territorial Sea and Contiguous Zone of the Russian Federation”, “On the Exclusive Economic Zone of the Russian Federation”, “On the Continental Shelf of the Russian Federation”, etc.;
- Regional legislative acts on the inclusion of the adjacent sea area in the territory of the respective constituent entities of the Russian Federation;
- Agreements between the Government and regional authorities on the delegation of part of the authority to manage maritime activities;
- Orders of the Government of the Russian Federation and the Governments of a constituent entities on the appointment of authorized authorities responsible for MSP;
- Methodological documents on the development of maritime spatial plans at the federal and regional levels.

# 4. ECOSYSTEM-BASED APPROACH IN MARITIME SPATIAL PLANNING

## EBA Principals

The goal of applying ecosystem-based approach (EBA) to Maritime Spatial Planning is to achieve a balance between preserving and using the environment. Biodiversity is essential not only because it is of immediate value, but also because it plays a key role in the functioning of ecosystems and in other processes on which humans ultimately depend.

EBA Principles:

- focusing on the functions of biodiversity in ecosystems;
- ensuring a fair and equitable distribution of the benefits of ecosystems' biodiversity;
- using an adaptive management strategy;
- choosing measures that are commensurate with the issue at hand and through maximum decentralization;
- fostering efficient inter-departmental collaboration.



## Monitoring and measures to protect marine areas

In the Russian Law on the Protection of the Environment (Article 69), the concepts of “environmental monitoring” and “ecological monitoring” are considered identical and have the meaning of complex monitoring of the environment. The definition of monitoring is given through the goals of the relevant Agency in Russia as “observation of the physical, chemical, biological processes taking place in the natural environment, the level of pollution of atmospheric air, soils, water bodies, the consequences of its impact on the flora and fauna” [Federal Law..., 2001] .

In connection with the transition of Russia to the trajectory of sustainable development, at the end of the XX - beginning of the XXI century, a large number of scientific developments were carried out to monitor various areas and fragments of the biosphere, including the monitoring of coastal-marine zones. [Denisov 2002, Abramov et al., 2021]. However, the practical implementation of the completed developments in Russia faces a number of difficulties.

In Russia today there is no **unified** system for surveying the **ecological** state of water bodies and the state service for environmental monitoring. The concept and system project of the Unified State System of Environmental Monitoring of Russia (EGSEM), developed within the framework of the federal target programme “Ecological Safety of Russia”, were not completed [Pogrebov, Shilin, 2009]. The implementation of environmental monitoring is the responsibility of various public services, which leads to the uncertainty in the distribution of responsibilities, and the lack of a unified approach.

<sup>1</sup> I.D. Voropaeva, M.B. Shilin. Marine Spatial Planning Experience in the Russian Federation on the example of the Baltic Sea \ UZ. RSHU No. 44, 2016: p. 225 - 231

For example, the monitoring of the natural environment of coastal and marine areas is carried out by the Ministry of Natural Resources and Environment of the Russian Federation (its Federal Service for Hydrometeorology and Environmental Monitoring (“Roshydromet”), the Ministry of Agriculture of the Russian Federation (its Federal Agency for Fisheries (“Rosrybolovstvo”), various departments of the Russian Academy of Sciences and the subsoil sea users. State environmental monitoring is carried out at hydrometeorological stations and during expeditions of the institutes of the Roshydromet system.

One of the important functions of ecological monitoring is to collect, analyze and provide information for Maritime Spatial Planning, since, based on monitoring data, marine areas can be zoned according to various indicators. Analyzing the distribution of anthropogenic impact on the geo-ecosystem of the marine area of the Eastern Gulf of Finland, the following zones can be distinguished by the general level of anthropogenic pressure (Fig. 10).

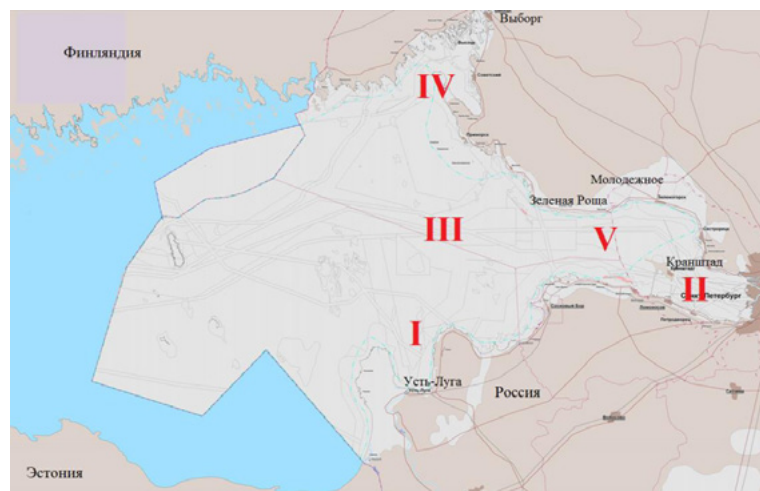


Figure 10. Zones of anthropogenic pressure on the eco-system of the Eastern Gulf of Finland.<sup>1</sup>

The first zone (I), experiencing maximum anthropogenic pressure, is the Luzhskaya Bay, where repair dredging of shipping corridors to the port of Ust-Luga, construction of artificial lands for the new port terminals and dumping of soil into underwater dumps were conducted. The second zone (II) is the southern part of the Neva Bay, immediately adjacent to the St. Petersburg Flood-Prevention Facility, where capital dredging and artificial lands were performed to create the ports of Bronka and Lomonosov. The third zone (III) is the impact zone of navigable ways (channels and fairways), which are the sources of hydroacoustic noise, light impact and different types of emissions. The fourth zone (IV) is the Vyborg Bay in locations of anchorages as well as multifunctional transshipment complexes. The fifth zone (V) is an area of active industrial fishery. Analysis of the identified zones with different man-made pressures on the geo-ecosystem allows to form a list of measures and proposals to minimize the negative impacts of the maritime economy sectors.

In the first decades of the 21st century, satellite monitoring was widespread to assess the concentration of mineral suspended substances and plankton in the upper layer of water, as well as to control leaks and spills of oil hydrocarbons. The Space Research Institute of the Russian Academy of Sciences (IKI RAN) offered to conduct continuous complex satellite monitoring of the selected areas of the GOF, the Curonian Spit and the Baltic Lagoon to detect cases of sea surface pollution, identifying possible pollution areas, sources of their origin and routes of transmission.

## Databases and knowledge on the state of the marine environment

Databases and scientific knowledge serve as an information platform for MSP. The development of a national MSP and integrated sea use management data system should be based on providing the information needed by decision-makers at the various levels of management, while ensuring the transparency of the sea use management process.

Given the characteristics of the marine environment, the possibility of unimpeded movement of biological objects/resources, pollution and other long-range effects of anthropogenic activities, including across national borders. Regional data services based on international integration better meet the needs of MSP and management of marine activities.

The integration of data collection efforts has made it possible to form common databases on the state of the marine environment in all European countries. The most comprehensive, covering all of Europe's seas and the world ocean as a whole, is the Naval Service Copernicus database<sup>1</sup>, created by the pan-European project MyOcean and supported by the French scientific center Mercator Ocean. It brought together numerous databases developed by different European scientific and research organizations, which allowed to harmonize data formats and led to a unified system, thus solving the common problem of data exchange. Another example of a European data service is EMODnet (European Marine Observation and Data Network), which

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<sup>1</sup> Naval Service Copernicus database <https://marine.copernicus.eu/>.

provides metadata on marine measurements and up-to-date datasets on earthquakes, submarine landslides, volcanoes, tsunamis, gas emissions and quaternary tectonics in the seas surrounding European countries, stretching from Iceland to Turkey, including the Caspian Sea. EMODnet aims to provide information to public and private users and present harmonized and standardized marine data with a user-friendly interface.

CME and EMODnet systems have created GIS-services that allow not only to store information but are also equipped with a mathematical apparatus that allows to process the collected data and obtain spatial maps of the distribution of various characteristics. It provides a variety of scientific products needed by users, namely, predictive data obtained on the basis of modeling scenarios, satellite information, digital ocean floor maps, and more. None of the GIS-services currently available in Russia are adapted for the collection of raw data for MSP.

The basis for the development of a national MSP data information system could be the ESIMO database (Unified national ocean situational awareness system), which can be used to implement MSP data storage functions and provide support for the exchange of spatial data through its substantial adaptation. The geoinformation system of the urban planning (FGIS TP) can also be used to store and publish MSP output data. It is a part of the Federal Geographic Information System of Strategic Planning (FGIS SP) and technologically more suited for the set tasks.

## Tools for introducing EBA to MSP

The functioning and sustainability of ecosystems depend on the state of the dynamic interactions within and between individual species and their non-living environment. In addition, physical and chemical interactions in the ecosystem environment are also important. The conservation (and, if necessary, restoration) of these interactions and processes is much more important for the long-term conservation of biological diversity than just the protection of individual species. A key feature of EBA is the preservation of the structure and functions of ecosystems.<sup>1</sup>

The tools for implementing EBA are appropriate legislative norms aimed at nature conservation and sustainable use, which must be followed when drawing up plans in accordance with national law and national obligations under international conventions.

At the same time, the EBA application is based on scientific tools for compiling, analyzing, and predicting changes in the state of marine ecosystems, which must be taken into account when planning the use of marine areas. Such tools include biodiversity maps based on indexing, mapping areas of high vulnerability to anthropogenic impact and areas of high cultural significance, such as underwater cultural heritage. For example, for the Eastern Gulf of Finland the following tools for the implementation of ecosystem-based approach to MSP were developed: indexing maps of biodiversity, maps of areas of the main techno sphere load on the ecosystems; maps of high vulnerability of coastal ecosystems to anthropogenic impact; maps of diversity of

<sup>1</sup> Convention on Biological Diversity [https://www.un.org/ru/documents/decl\\_conv/conventions/biodiv.shtml](https://www.un.org/ru/documents/decl_conv/conventions/biodiv.shtml).

coastal biotopes of the Eastern part of the Gulf of Finland and Routes of the seasonal flights of birds; biotopes of the gray seals and so on; 3D modeling of the Gulf of Finland ecosystem for climate change scenarios and nutrient load reduction in accordance with BSAP. Biodiversity maps for Kaliningrad coastal area include the animals listed in the Red Book (redlist\_animals\_area), possible marine protection zones adjacent to specially protected natural territories (Protected Area) in the coastal zone of the Kaliningrad / Vislinsky Bay and others. These instruments allow to make assessment of the ecological status of ecosystem, to evaluate the changes of the ecosystems in future, to develop recommendations for industrial fishing (coastal fishing) and commercial fish farming (aquaculture), for climate change mitigation and ecosystem conservation.

The data sets presented on the HELCOM map service can serve as a basis for such a system. The following set of maps (including those from the HELCOM HOLAS collection) is proposed:

- Benthic species. Five important habitat species and their presence/absence in 5x5 km raster resolution. The data are based on national mapping and provided to HELCOM through a data request.
- Birds. Special Protection Areas (PAs) for wintering and breeding in 1x1 km resolution.
- Large scale habitats. Large-scale habitat maps for the Baltic Sea were produced in the EU SeaMap project in 2016.

- National (more accurate) datasets were used for the German and Estonian marine areas. Polygonal areas were converted to a 1x1 km grid.
- Fish. Abundance and spawning grounds of the main species (cod, herring, sprat, perch, pikeperch) based on landings, modeling and expert peer reviews (depending on the dataset). The map resolution is 1x1 km, although the raw data is coarser now.
- Mammals. Seal and harbor porpoise distribution based on expert peer reviews and survey data. Resolution - 1x1 km.
- Natura 2000 habitats at 1x1 km resolution.
- Pelagic habitats. Distribution of oxygen-depleted areas and areas with high chlorophyll-A concentrations (representing high productivity) in 1x1 km resolution.

## Impact of climate change and its induced effects in the development of MSP

Climate change is impacting ecosystems through changes in mean conditions and in climate variability, coupled with other associated changes, which must be taken into account when implementing EBA in MSP. At the same time, climate change and the associated processes occurring in the environment as a whole pose additional risks to maritime activities, which requires forecasting and assessment of ongoing changes.

The intergovernmental Panel on Climate Change (IPCC) reports are issued every two years to provide an analysis of global climate change. The main purpose of the IPCC is to provide countries and governments with regular scientific assessments of climate change, its effects and potential future risks, and to propose options for adaptation and mitigation. A regional assessment of climate change projections in the Baltic Sea is provided in the Second Assessment Report on Climate Change in the Baltic Sea Basin.<sup>1</sup>

The Federal Service for Hydrometeorology and Environmental Monitoring (Roshydromet) also publishes climate impact assessment reports on the territory of Russia and its seas (2008, 2014, 2017) with detailed information on Russia's seas and the impact of climate on maritime activities. In addition to assessing climatic risks to the population and economy of the Russian Federation, the reports include a risk assessment of maritime activities.<sup>2</sup>

The influence of climate change on marine ecosystems and maritime (and coastal) activities can be very significant. Therefore, if by 2100 the average annual temperature rises by 2.0-2.5 degrees and the sea level rises by 60-80 cm, the destruction of the Curonian and Baltic (Vistula) sand spits can be expected with corresponding negative impact on the lagoons. The protective role of the St. Petersburg Flood Prevention Facility will be significantly weakened and the flow of the Neva River will flood the city of St. Petersburg. Industrial, residential and transport infrastructure of the Arctic coast, built on permafrost, will be disrupted. An equally complicated situation will be observed in other coastal regions.

## Integrated Environmental Assessment

An Integrated Environment Assessment (IEA) is a necessary part of the national planning process. IEA is an important tool for the implementation of EBA in MSP because it identifies, describes and assesses potential impacts on the state of the marine ecosystem. The assessment includes the preparation of an environmental report and public consultations, envisages the use of the results of the environmental report and public consultations in decision-making, and provides information on the decision taken.

Key elements of EBA are integrated into the planning process as a whole, and some are more specifically integrated into IEA. Some of the key elements, such as public participation and communication, subsidiarity and coherence, identification of ecosystem services, adaptation, and the precautionary principle, apply to the overall planning process. In doing so, the identification of ecosystem services can provide a new approach to marine management and also contribute to MSP.

Despite the fact that the Russian Federation has not ratified the Espoo Convention implementing the Strategic Environmental Assessment (SEA) for transboundary impact assessment, global experience and legal approaches of SEA can serve as a methodological basis for Russian national IEA. In this context, the most applicable is the Protocol on SEA developed for non-EU countries. [Ya. Blinovskaya and al., 2020]

<sup>1</sup> Newsletter on Climate Change in the Baltic Sea Region <https://helcom.fi/baltic-sea-trends>.

<sup>2</sup> <https://www.meteorf.ru/product/climat/>

## Transboundary cooperation in EBA

Although MSP methodologies have already been developed, tested in pilot projects and applied in the actual MSP process in most of the Baltic Sea countries and Norway, the application of EBA has not yet been fully developed at national level. Its applicability varies from country to country and is largely determined by regional specifics, as well as factors such as the completeness of the legal framework, availability of necessary and sufficient information on the environmental status of marine areas and their ecosystems (biological and geological diversity, vulnerability, maximum allowable levels of anthropogenic pressure on marine areas, etc.) and the degree of involvement of the public, public organizations and administrations at different levels in the planning process.

The Baltic Sea Region can serve as an example for the implementation of EBA in MSP. The Baltic Sea Action Plan (BSAP) was developed and adopted by the Helsinki Commission in 2007.<sup>1</sup> The BSAP included specific measures needed to achieve Good Ecological Status (GES) of the Baltic Sea by 2021. A number of clear quantitative indicators have been developed with the target to determine GES of the sea. The BSAP envisaged concrete steps with regard to the development of MSP, in particular the commitment of the Baltic States to jointly develop broad, cross-sectoral MSP principles (which was implemented in 2010). These principles were to be tested, applied and evaluated by 2021 in cooperation with HELCOM and other international organizations. The aim of the cooperation was to develop

guidelines for such planning processes to ensure the protection of the marine environment and nature, including habitats for hydrobionts and the integrity of the seabed, as well as the sustainable use of marine resources by reducing conflicts among marine users and the adverse effects of human activity.

A positive example of co-operation aimed at the implementation of the BSAP in the Gulf of Finland is the trilateral co-operation between Finland, Estonia and Russia, countries bordering the GOF. This cooperation includes not only knowledge exchange at regular scientific forums and workshops, but also the creation of a common database on the state of the environment in the Gulf of Finland within the framework of the international program “Gulf of Finland - 2014”.

The joint work on a common database showed that one of the problems in interpreting measurement data is the differences in the methods used in different countries. In order to compare the data, intercalibration of methods was organized, which consisted of simultaneous analysis of water samples taken specifically for this purpose. The study made it possible to identify the biggest discrepancies in the data obtained, to analyze the reasons and to harmonize the results. Obviously, similar intercalibration should be performed for other border seas of Russia.

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<sup>1</sup> <https://helcom.fi/baltic-sea-action-plan/>

# 5. MARITIME SPATIAL PLANNING PROCESS

## General provisions on MSP documents

MSP documents are aimed at ensuring sustainable use of the maritime space and resources under the jurisdiction and management of the Russian Federation. The following issues are considered in the development of maritime spatial plans:

- rational use of marine resources in the interests of development of maritime economy and coastal population;
- ensuring GES of marine areas;
- rational use of marine areas;
- early detection and prevention of possible conflicts between individual uses of marine areas and resources (sea uses), as well as between uses of marine areas and the environment;
- Interaction with other countries of the region regarding transboundary linear maritime infrastructure and economic activities and their impact on the marine ecosystem.



Taking into account proposals from Russian experts in the field of rational sea use and Maritime Spatial Planning, as well as other stakeholders during the July 2021 survey and discussion of the Russian MSP Roadmap conducted in the coastal regions, it is proposed to transfer some powers to manage sea use, including MSP, from the federal level to the constituent entities of the Russian Federation and, in some cases, to the municipalities. For this purpose, the possibility of distribution of powers between different levels of authority must be provided when adjusting national legislation.

It is recommended that federal-level Maritime Spatial Planning documents be developed in relation to marine basins or marine macro-regions. Such marine macro-regions may include, for example, the Arctic seas and the seas of the Far East. In addition, at the federal level, in accordance with international agreements, documents for Maritime Spatial Planning of marine areas beyond national sovereignty and jurisdiction may be developed independently or jointly with other countries.

In the event that certain maritime management powers are delegated to the level of the constituent entities and municipalities, the maritime spatial plans of the Russian Federation, and in case of municipalities - the MSP of the constituent entities of the Russian Federation, must be taken into account, and lower level MSP must not be applied in part that contradicts upper level plans.

The composition of MSP documents should be determined by the relevant federal law. The composition of the powers transferred in each specific case should be established by an appropriate agreement between the Government

of the Russian Federation (the constituent entity of the Russian Federation) and the highest executive body of the constituent entity (municipality) of the Russian Federation.

## National and international goals and priorities addressed in MSP

MSP serves as a tool for achieving of the UN Sustainable Development Goals (SDG), such as:

- Goal 3 - Ensure healthy lives and promote well-being for all at all ages;
- Goal 6 - Ensure availability and sustainable management of water and sanitation for all;
- Goal 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all;
- Goal 9 - Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation;
- Goal 14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development.

MSP should be based on a harmonious combination of economic, ecological and social components of the planned maritime activity. A harmonious combination of these key factors creates the prerequisites for Blue Growth, ensuring the sustainable development of the blue economy, while maintaining GES of the marine areas and forming a socially successful society (Fig. 11).

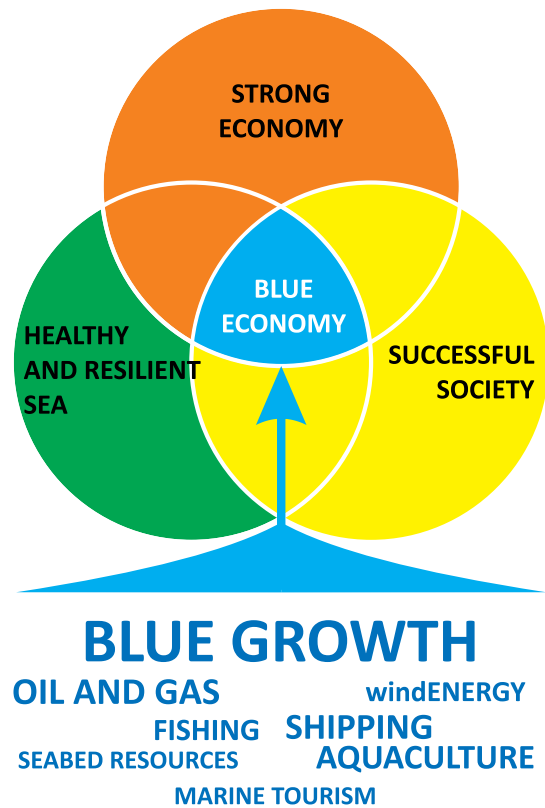


Figure 11. Blue Growth in the system of maritime activity.

MSP priorities should include:

- In terms of economic development of coastal areas:
  - ensuring the sustainable development of economic activities in coastal areas;
  - balanced consideration of natural, environmental, economic, social, national, regional and other conditions and factors in planning the development of maritime activities;
- economical and rational use of the sea areas;
- streamlining the types of maritime and coastal economic activities that use the maritime space and ensuring the efficiency of its use, taking into account the need to preserve the environment.
- In terms of GES:
  - minimization of the negative impact of marine and other economic activities on the environment, human health and biodiversity;
  - development of a system of protected areas or marine areas with some other forms of protection, reaching these areas to an extent that ensures the maintenance of species diversity and GES of ecosystems.
- In terms of the formation of a socially successful society:
  - involvement of a wide range of stakeholders and the public in the processes of preparing, discussing and harmonizing MSPs;
  - preservation and use of tangible and intangible maritime cultural heritage, maritime traditions and cultural and historical values for patriotic education and tourism development;
  - coordination and consistency of urban planning and MSP.

## Scenarios for spatial distribution of maritime activity

Scenarios for the spatial distribution of maritime activities are the basis for developing a maritime spatial plan. Scenarios should be based on socio-economic development strategies and other strategic documents. Scenarios should consider the location of the proposed facilities and marine activity zones, offering reasonable alternatives to the spatial distribution of marine activities allowing decision-makers to choose the best option. All types of activities carried out in the planned area, as well as their interactions, mutual influence, cumulative effects in the short, medium and long term, should be taken into account. This includes activities in adjacent areas that may affect economic activities in the proposed area or the state of the marine environment.

An important task of scenario building is to identify opportunities in order to prevent/limit negative impacts on the environment and to restore disturbed marine ecosystems. Ideally, scenarios should be developed using spatial geographic information models of ecosystem responses and ecosystem services to multifactorial impacts of natural and anthropogenic nature.

Scenarios at different levels of planning (federal, regional, municipal) should be coordinated among themselves and developed from large to small, encompassing Russia's global marine destinations, united by the functions of Large Marine Ecosystems and/or extended economic activities that require a unified approach (e.g., the Northern Sea Route for the Arctic).

## Geographic coverage and transboundary nature of MSPs

The boundaries of the marine basins of the Russian Federation (Fig. 12) and their catchment areas do not coincide with the administrative borders of the regions. Since the ecological condition of the marine environment can be most fully assessed, as a rule, within a marine basin, it seems advisable to develop federal-level MSPs for marine basins. At the same time, a conceptual framework for the spatial development of maritime activities can be developed for a macro-region, such as the Arctic seas or the Far East seas.

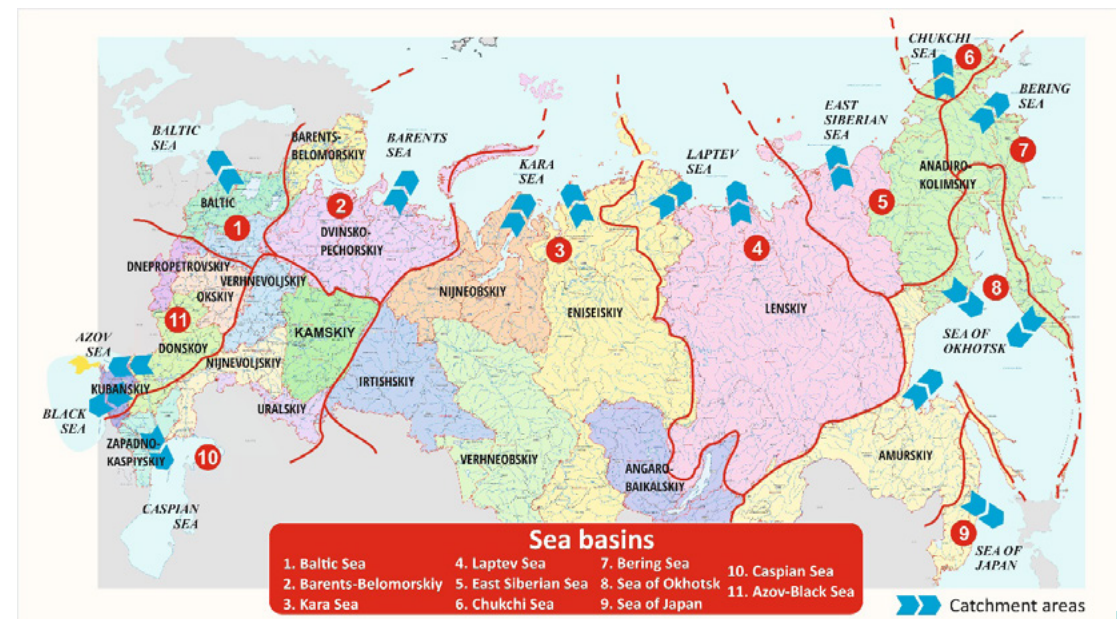


Figure 12. Sea basins and basin districts of Russia.

The development of maritime spatial plans for a number of marginal sea basins requires interaction and consultation with neighboring countries. In the Baltic Sea in particular, with Finland and Estonia when developing MSP for the Eastern Gulf of Finland, and with Poland, Sweden and Lithuania when developing MSP for the Russian part of the south-eastern Baltic and lagoons. On the Barents Sea it is necessary to cooperate with Norway, on the Chukchi and Bering Seas - with the USA, on the Sea of Okhotsk - with Japan, on the Sea of Japan - with Japan, Republic of Korea and the Democratic People's Republic of Korea. Regarding the Caspian Sea, MSP will require co-operation at least with Azerbaijan, Turkmenistan and Kazakhstan, regarding the Black Sea - with Georgia, Turkey and Ukraine.

However, it should be recognized that semi-enclosed and enclosed inland seas - the Black Sea, the Baltic Sea and the Caspian Sea - due to their small size, large number of coastal countries and intensive economic exploitation, may require a common holistic conceptual maritime spatial plan in which all coastal countries participate. Such a plan or a common concept of sea use can best reflect the ecological, economic and social priorities of the region and contribute to both national and regional sustainability goals.

## Harmonization of MSP and urban planning

Maritime activities are significantly influenced by the processes taking place on shore. Nevertheless, it is proposed that maritime spatial plans should apply only to marine areas, interacting with the urban planning along the waterfront. Issues related to land-based activities within the land catchment area are regulated by urban and water planning documents in accordance with the

Urban Planning and Water Codes. At the same time, it is obvious that the maritime spatial plan and the respective spatial planning documents must coexist; in some cases, by a decision of the authorized executive body, they may be developed simultaneously and be combined into a single spatial planning document, including the urban plan and the adjacent maritime spatial plan. Such a combined document may form the basis of an integrated coastal zone management plan.

Despite the independent nature of maritime and urban planning, the following processes in the adjacent area must be taken into account when planning the use of maritime space:

- economic activities on the shore affecting maritime activities and the environmental condition of the sea. These may include seaports, tourist and recreational complexes, water intake facilities, production clusters, etc.
- economic, social, and environmental interests of the local population – jobs, traditional natural resources used by the indigenous peoples, access to the coast, GES of the sea, recreational opportunities, maritime sports and tourism, etc.
- sources of pollution located on land, including industrial effluents and waste from human settlements, agricultural and livestock farm runoff, etc. - their location, types of pollutants, volume of discharges, etc.
- shoreline modification associated with human activities on shore and the effects of climate change.
- spatial integration of onshore and offshore activities – transport, linear infrastructure, protected areas, etc.

# 6. PROCEDURES OF INTERACTION WITH STAKEHOLDERS, COORDINATION AND APPROVAL OF DEVELOPED MARITIME SPATIAL PLANS

## Stakeholder identification

One of the main tasks of MSP is to identify and prevent at an early stage potential conflicts between different sea uses, as well as between the use of the sea and the protection of the environment. At the same time, it should be noted that MSP does not investigate and prevent conflicts between users of the permitted activity.

In order to reliably evaluate applications/proposals for potential sea uses, the first step is to identify the relevant maritime users and collect the necessary data and information about them. For each level of the MSP (federal, regional, municipal), stakeholder identification should be conducted among the following target groups:

- President and Government of the Russian Federation;
- Public bodies: economic development, natural resources and the environment, border protection and military security, maritime transport, fishing, culture, tourism, marine energy, construction, urban planning, social issues, etc.;
- Business: maritime transport, extraction of mineral

resources, fishing and aquaculture, energy, recreation and tourism, construction and man-made structures, etc.;

- research, educational and design organizations: biological resources, geological structures, pollution, mineral resources, transport, urban planning, water management, regional studies, hydrometeorology, climate, biotechnology, etc.;
- public organizations and associations: ecology, tourism and sports, social rights of coastal populations, small and indigenous peoples, low-mobility groups of people, protection of cultural heritage, etc.;
- media: informing and opinion formation, including print and electronic media.

A survey conducted by Capacity4MSP in July-August 2020 surveyed regional and municipal authorities in Russia's coastal regions, as well as representatives of business and public organizations. The survey revealed significant regional stakeholder interest in dialogue and participation in MSP. In general, 68% of the respondents support the need for MSP, 63% support the development of a maritime spatial plan in the marine area of their region (Table 4).

Table3. MSP survey results

	Total	Baltic Sea	Barents Sea	Other seas
Requests sent	450	210	30	210
Responses received	220	156	6	58
Support the need for MSP	149(68%)	93 (60%)	3 (50%)	56 (88%)
Support the development of a pilot Maritime Spatial Plan in the marine area of the respondent's region	137 (63%)	116 (75%)	5 (83%)	21 (33%)

## Information support for Maritime Spatial Planning

In order to provide state authorities, local governments, natural and legal persons with reliable data required for MSP, it is necessary to establish and maintain an appropriate state GIS system.

Data on marine areas used in MSP, including data on the characteristics and condition of the marine area, its resources, economic activities, and planning results, must be entered into the Federal Geographic Information System for Strategic Planning (FGIS SP), such as FGIS MSP.

In the case of the formation of an international (regional) sea basin information system, such as the BASEMAPS<sup>1</sup> geospatial data service in the Baltic Sea Region, the authorized national body designates a contact point in Russia which carries out data sharing, composition and volume of data transmitted by Russia to the international (regional) information system (database).

At the same time, other sea basins may adopt fundamentally different algorithms and formats for the exchange of MSP data. For example, the EU MSP Technical Expert Group (TEG), established in 2020 under the European Executive Agency for Climate, Infrastructure and the Environment, is considering a number of possible formats for the exchange and representation of MSP data, based on existing and emerging data services for European marine basins. Examples of these, along with BASEMAPS, are the MSP INSPIRE data model and EMODnet - Human Activities<sup>2</sup> portal, which provides the possibility to host 3D data models that include vertical zoning of the sea surface. It should be noted that these three data models are compatible.

<sup>1</sup> BASEMAPS Data Portal <https://basemaps.helcom.fi/>.

<sup>2</sup> Proposal for making harmonized MSP plan data available across Europe [https://www.msp-platform.eu/sites/default/files/hz0121216enn\\_en\\_.pdf](https://www.msp-platform.eu/sites/default/files/hz0121216enn_en_.pdf).

## Informing stakeholders

In accordance with the domestic experience of developing and conducting public hearings on urban planning documents and foreign experience in developing MSP, it is advisable to inform stakeholders in three stages.

**In the first stage**, before planning begins, interested parties are notified of the start of work on the draft maritime spatial plan and the collection of proposals and applications for the allocation of marine areas for certain types of maritime activities.

**In the second** stage stakeholders are presented with a preliminary version of the developed maritime spatial plan and comments and suggestions for its additions and changes are collected.

**In the third stage** the completed draft of the maritime spatial plan is submitted; comments and suggestions for its improvement are collected and submitted to the responsible authority for a decision on taking into account or rejecting the submitted proposals.

**The completed and approved** by the established procedure maritime spatial plan is to be placed in the State Information System of Maritime Spatial Planning - FGIS MSP.

## Transboundary consultations

Interaction with neighboring countries is carried out in the format of transboundary consultations. The purpose of this interaction is to minimize the negative environmental impacts of existing and planned economic activities in the

planned marine area on the marine and coastal territories of neighboring countries. Neighboring countries are all the countries which may be affected by the existing and planned economic activities.

Transboundary consultations are intended to inform authorized representatives of neighboring countries on the implementation of the MSP procedure in a particular sea basin (on the section of the sea area).

Transboundary consultations are organized by an authorized body of the federal authority, whose competence includes the preparation of maritime spatial plans.

As part of cooperation with neighboring countries, approaches to the use of maritime areas in the implementation of MSP are being harmonized, including:

- identification of common goals for achieving GES of the planned marine area (sea basin);
- joint development of key indicators for assessing the environmental condition of marine areas;
- determination of areas of possible joint use and coordination of principles of joint use;
- identification of specific types of activities for possible joint use of maritime space (e.g., linear infrastructure, protected marine areas, renewable offshore wind energy, etc.).

Coordination of the approach to MSP may be carried out both directly with the countries bordering Russia and with all countries in the planned sea basin. Coordination of the approach must be carried out by the authorized federal authority responsible for MSP.

## Approval process of Maritime Spatial Plans

Maritime Spatial Plans of the Russian Federation, with the exception of schemes in the field of state defence and security, are approved by the Government of the Russian Federation. Maritime Spatial Plans in the field of state defence and security are approved by the President of the Russian Federation.

Maritime Spatial Plans of the constituent entities of the Russian Federation are approved by the highest executive body of state power of the constituent entity.

Maritime Spatial Plans of the municipalities are approved by the representative body of local self-government of the municipality.

## Harmonization of MSPs of neighboring countries

When developing their MSPs, neighboring countries invite Russia to discuss them with a view to achieving:

- absence of negative impact of the existing and planned activities of neighboring countries on the ecosystem of marine areas of Russia;
- conjunction of linear transboundary maritime infrastructure (pipelines, cables, marine transport corridors) and marine protected areas;

- absence of obstacles to national security and the interests of maritime activities carried out in their EEZ and marine areas beyond national jurisdictions.

Transboundary consultations on MSP of neighboring countries should be carried out by an authorized body of the federal executive authority of the Russian Federation with the involvement of sectoral and MSP experts where necessary.



## 7. MSP EDUCATION AND TRAINING

The purpose of the MSP Roadmap's component "Education and professional development" is to train decision-makers for the implementation of a spatial approach in the strategic planning of the development of maritime and maritime-related sectors of the economy. Capacity building based on improving the use of existing methods, tools and resources through the development of human and organizational capabilities is a prerequisite for achieving this goal. An important challenge is to increase the capacity of human resources in this new area of professional activity, taking into account the maritime component.

The task of improving and developing spatial (both urban and maritime) planning is formulated in a number of legislative and guiding documents of Russia. For example, the Strategy for Scientific and Technological Development of the Russian Federation (2021) identifies "the need for effective use of space, including overcoming imbalances in socio-economic development of the country's territory, as well as military development of outer space and airspace, the World Ocean, the Arctic and Antarctic areas" as key challenges for Russia's scientific and technological development.

Currently, MSP experts are not trained within the existing system of educational institutions. The initial introduction to the basics of Maritime Spatial Planning is carried out in the form of separate sections within a few management trainings programs for marine nature use, ecology and environmental protection, and coordination of maritime



activities. The concept of the educational program "State Management of Maritime Activity of the Russian Federation" is currently being developed by the Russian Technological University - MIREA on behalf of the Scientific Expert Council of the Marine Board under the Government of the Russian Federation.

As training and organizational measures, it is planned to establish a center of advanced training and further education in state management of maritime activity and three methodological training and research centers in the main directions of national maritime policy—the Atlantic, Arctic and Pacific. These training and research centres are also expected to become bases for methodological support for educational process and research in the field of marine resources management.

# ANNEX 2. PILOT MARITIME SPATIAL PLANS FOR RUSSIAN MARINE AREAS IN THE BALTIC SEA. CAPACITY4MSP PROJECT, 2019-2022



The pilot study conducted by the Institute of Maritime Spatial Planning Ermak NorthWest (Capacity4MSP project-platform, Interreg Baltic Sea Region programme) is based on the Russian MSP Toolkit (2012), strategic documents and the legislation of the Russian Federation, experience of Russian MSP projects and experts, data collected by project partners - ErmakNW and RSHU and provided by supporting organizations. For example, ABIORAS provided data on UCH collected by the BalticRIM project. It took into account global and regional international regulatory documents and the positive experience of the Baltic States and, above all, Russia's neighbours far more advanced in MSP - Finland, Estonia, Sweden and Poland.

The considered regional development options(scenarios) are based on the analysis of the existing and projected maritime economic activities, regional resource bases, environmental conditions and ecosystem, as well as general understanding of the influence of geopolitical factors and international cooperation in the Baltic Sea. The effects of the recession caused by restrictions due to the COVID-19 pandemic may have a negative effect on the considered scenarios of economic development, especially the optimistic ones (these effects are unlikely to be so significant in the long term).

Over the last 30 years, maritime economic activity in the Russian Federation has become less regulated by the state mechanisms of governance, and increasingly developed in accordance with market demands whilst business is profit-driven and focused on short- and medium-term projects (3-5, in some cases up to 10 years). Therefore, the study uses a scenario approach to construct long-term spatial scenarios (25-30 years and more), using various assumptions about

trends in maritime activities based on expert peer reviews and forecasts.

1. The project proposes three possible development scenarios: 1. optimistic (1A "Optimistic, raw material" and 1B "Optimistic, innovative, eco-friendly")
2. inertial
3. pessimistic

Scenario 1B, "Optimistic, innovative, eco-friendly", is used as a basis for the pilot MSPs. According to this scenario, Russia will start to implement a set of measures to re-equip and reorient its seaports for the shipment/reception of environmentally cleaner technological cargo, including container traffic and Ro-Ro, in line with global trends, which will significantly reduce the share of raw material exports in Russian port cargo turnover. The port turnover in terms of weight is likely to decline slightly, while revenues from port operations and shipping, as well as maritime activities, and the income of the coastal population (and their numbers) will grow faster than if Russia focused on raw material export. The system of MPAs in the sea area will be developed. In the long term, local development of offshore wind and possibly solar energy for regional consumption is possible. Water tourism, including on small vessels, as well as cultural tourism based on UCH is being actively developed.

For the purpose of simplification, the pilot MSPs of the Russian marine areas in the Baltic Sea do not take into account levels of state governance (federal and regional planning levels and combined). This approach allows to consider the sea area within national waters and the Russian EEZ in the Baltic Sea as a single management object (Fig. 13, 14).

**MARITIME SPATIAL PLAN OF THE WATER AREA OF THE RUSSIAN PART OF THE GULF OF FINLAND  
GENERAL MAP**

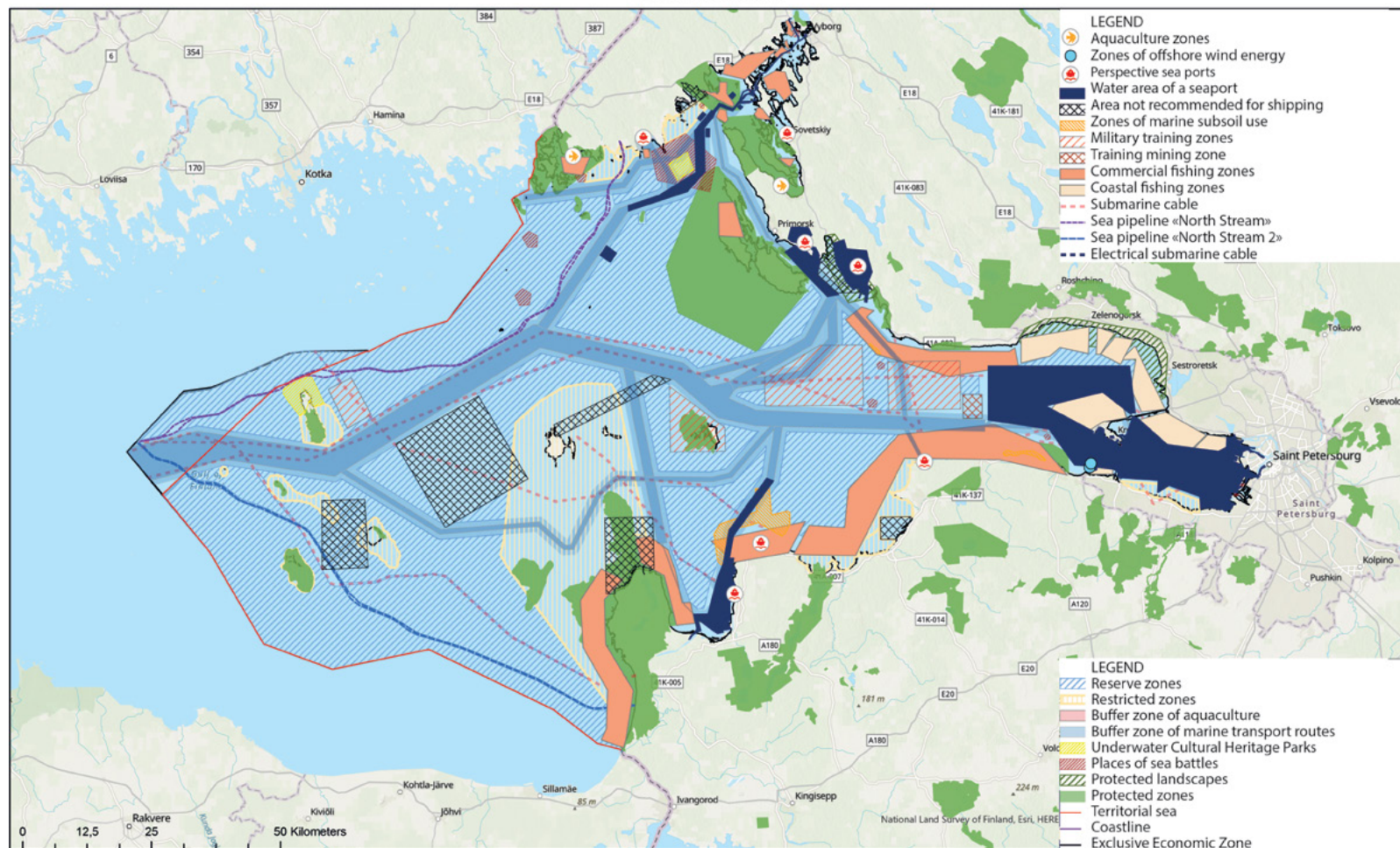


Figure 13. Maritime spatial plan of the eastern Gulf of Finland, 2021.

**MARITIME SPATIAL PLAN OF THE WATER AREA OF THE RUSSIAN PART OF THE BALTIC SEA OF THE KALININGRAD REGION.  
GENERAL MAP.**

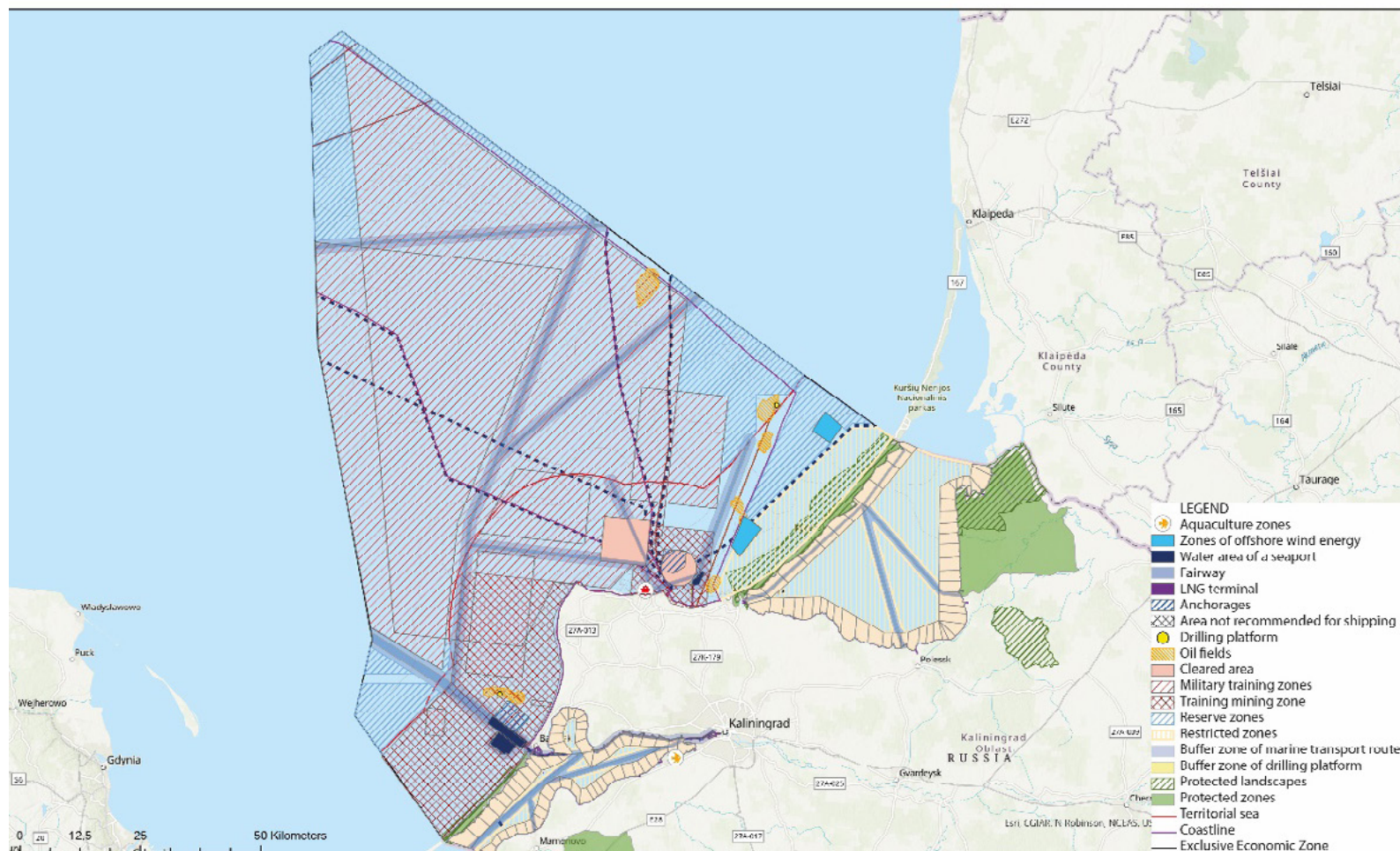


Figure 14. Maritime spatial plan of the south-eastern part of the Baltic Sea (SEB), 2021.

The proposed mechanisms for identifying marine areas and establishing restrictions were developed in a study conducted by the Institute Ermak NorthWest. These mechanisms are based on Russia's current methodology of urban planning and spatial zoning, taking into account the changes dictated by the uniqueness of the environmental planning and are aimed at sustainable development and preservation of the unique ecosystems of Russian seas. The Marine Functional Zoning is a part of the Maritime Spatial Plan and sets out the rules for the use of marine space. It is a method of rational organization of space.

**Maritime Functional Zoning (MFZ) is an essential tool in MSP.** It establishes the boundaries and functional purpose of marine areas in accordance with the preferred type of use. This approach minimizes or completely avoids conflicts between economic sectors, as well as reduces negative impacts on the environment.

**Marine functional zone** is a marine area within certain boundaries with a homogeneous functional purpose and corresponding modes of use. The functional purpose is understood as the predominant type of activity for which this space is intended.

For each of the zones, the following were defined: the main function, permitted uses, conditionally permitted uses, prohibited uses.

**Main Function** is the priority economic activity in the allocated area. The main functions of the MFZ are:

- environmental protection;

- economic use, such as construction of industrial plants, aquaculture, fisheries, and other ecosystems services;
- reserve areas.

Types of sea use:

- Permitted uses – default activities that do not require prior approval
- Conditional permitted uses - activities that require prior approval. In the event of a conflict with other activities identified as “permitted uses”, preference is given to the latter.
- Prohibited use - activities prohibited in the designated area.

Categories of functional zones:

- Nature protection areas are areas designated for the protection of marine ecosystems. They require minimization or complete elimination of the impact of economic activities in the area.
- Zones with limited activities include areas with a minimum anthropogenic load and restrictions on certain types of use.
- Zones of active maritime use include areas with moderate or significant anthropogenic pressure. The marine spaces included in these zones indicate the location of zones with economic activity in them. Often these zones have one leading function or share several equally important functions.

**Protected zones** are areas recognized and designated by law to achieve long-term conservation of the marine nature complex with associated ecosystem services and cultural values.<sup>1</sup> These zones are restricted areas for certain potentially harmful/hazardous activities for marine ecosystems. Conservation areas (Fig. 15) include, but are not limited to, nature protection areas.

- Specially Protected Nature Areas (NPAs) in turn are defined as areas of land, water surface and airspace above them, where nature complexes and objects are located, which have special environmental, scientific, cultural, aesthetic, recreational and health significance, which are wholly or partly withdrawn from economic use by decisions of the public authorities and which are the subject of special protection arrangements.<sup>2</sup>
- Landscape Protection Zones are aquatic areas where economic activities are prohibited or restricted in order to preserve the natural landscape and allow it to regenerate.
- Underwater Cultural Heritage (UCH) zones are areas where UCH sites are preserved and may be used with due precautions.

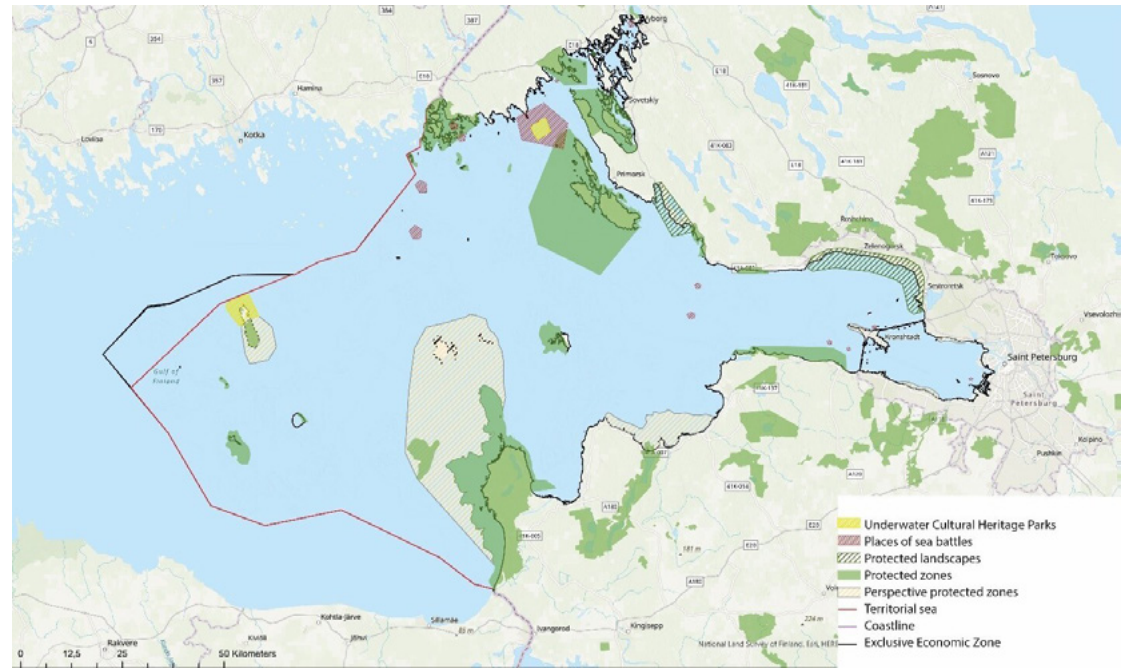


Figure 15. Proposed Protected Zones in the MSP of the Eastern Gulf of Finland.

<sup>1</sup> N. Dudley, S. Stolton, and P. Shadie, "Guidelines for Applying Protected Area Management Categories."

<sup>2</sup> M. C. Stishov and N. Dudley, "Protected Natural Areas of the Russian Federation and Their CATEGORIES," 2018, Accessed: Jul. 29, 2021. [https://wwf.ru/upload/iblock/721/wwf\\_opt\\_net.pdf](https://wwf.ru/upload/iblock/721/wwf_opt_net.pdf).

Marine spaces have their own specificity, namely a significantly expanded zone of influence from objects that have a negative impact on the environment in comparison with land use. Taking into account this peculiarity, it is proposed to additionally reserve the protected zones as zones with limited activity, including the following categories (Fig. 16):

- Buffer zones— established around functional zones where economic activities may affect other activities in the immediate vicinity of the functional zones. The size of the buffer zones is established by the relevant regulatory documents and can be adjusted on the basis of additional calculations.
- Sanitary protection zones – areas with special regimes of use. They are established around facilities and enterprises that have an impact on the environment and human health. The size of the sanitary protection zone ensures the reduction of the impact of pollution (chemical, biological and physical) on the marine space in accordance with sanitary norms. The zone is allocated on the basis of additional calculations.
- Restricted zones – areas designated for the protection of biological resources and particularly vulnerable and productive areas with sensitive natural landscapes.

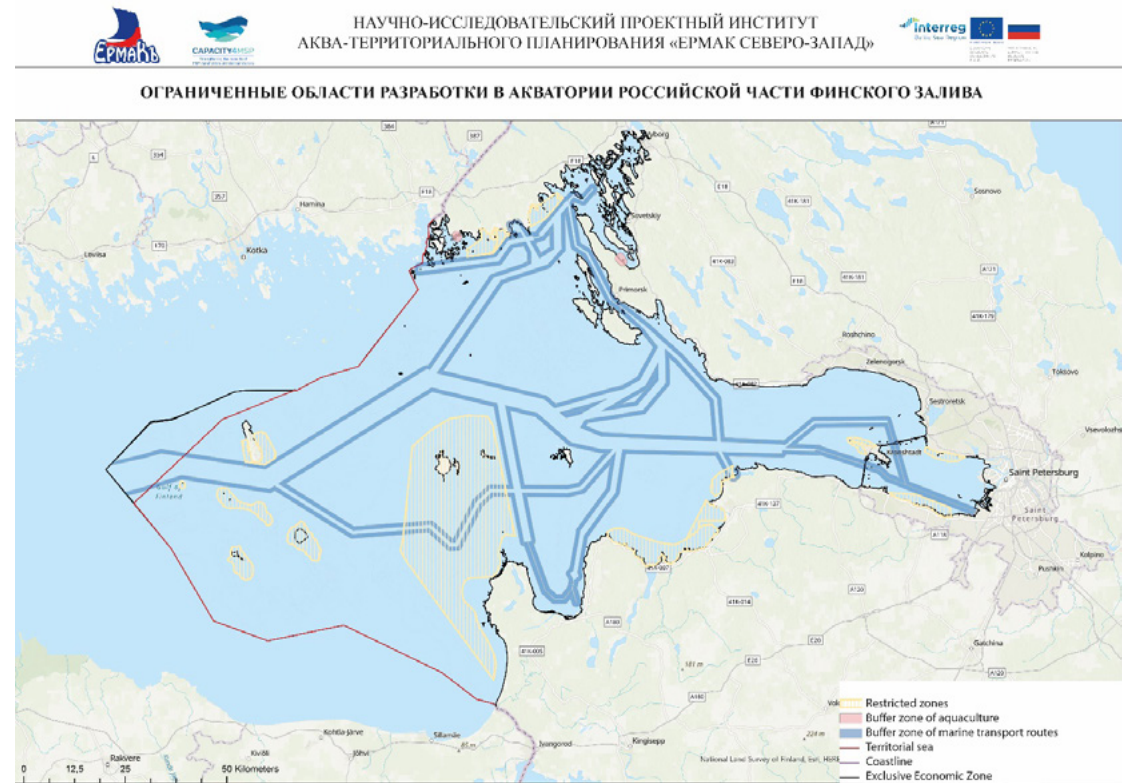


Figure 16. Proposed areas with limited activity in the MSP of the Eastern Gulf of Finland.

The plan shows the following proposed zones of active maritime use (Fig. 17):

- Zones of maritime transport routes and traffic flows;
- Zones of submarine cables and pipelines;
- Zones of marine subsoil use (infrastructure for exploration and extraction of oil, gas and other energy resources);
- Aquaculture zones;
- Fishing zones;
- Offshore wind energy (as well as wave and tidal) zones;
- Military training zones;
- Tourism and recreation zones;
- Zones for soil dumping (landfill and excavation);
- Scientific research;
- Other offshore activities (including artificial structures, islands, bridges, tunnels, etc.).

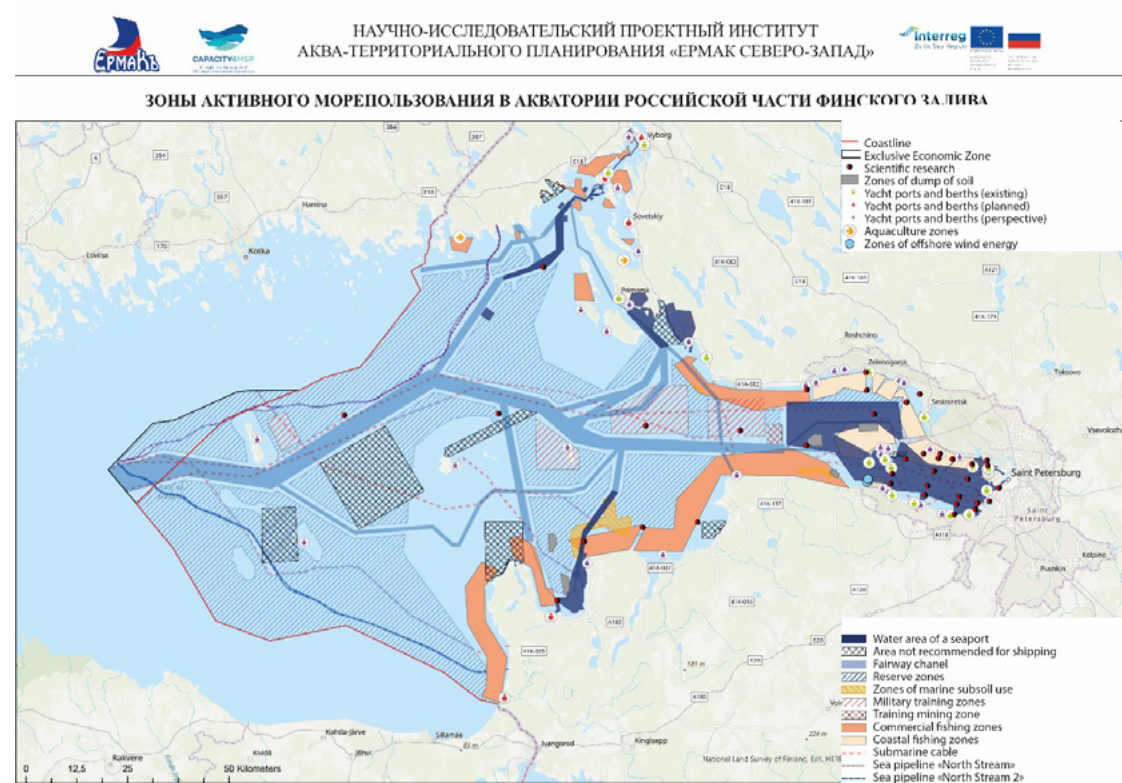


Figure 17. Proposed zones of active maritime use in the MSP of the Eastern Gulf of Finland.

In the process of intensive economic growth of coastal areas, the current situation of sea use, location of economic activities, environmental conditions and socio-economic development needs are changing rapidly. The change of these factors has a direct impact on the functional specialization of the maritime area and the implementation of the goals of functional zone management. MFZ is a developing tool for planning economic activities in marine areas, therefore, after their entry into force, the proposed regulations will provide for constant monitoring and updating of information on the interaction of economic activities, the intensity and impact of anthropogenic pressures.

In the future the following are expected:

- improved coordination between maritime and urban spatial planning;
- the division of responsibilities and competencies related to MSP and MFZ among the different levels of government;
- resolution of conflicts between marine sectors;
- increased attention to environmental monitoring and evaluation of the effectiveness of MSPs by means of environmental monitoring and establishment of MFZ in accordance with the analysis and data obtained;
- MSP stakeholder involvement in MFZ discussion.



# ANNEX 3. PUBLICATIONS BY RUSSIAN AUTHORS ON MARITIME SPATIAL PLANNING

Despite the lack of MSP within the legal framework and official documents of the Russian Federation, this direction is attracting more interest from the scientific and planning community. Russian experts have participated in a number of international projects on MSP and ICZM, in developing international and Russian methodological approaches and MSP tools. Some of the articles published by Russian authors over the past 10 years in the field of MSP are listed below:

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Lappo, A. D., Nekotorye problemy izadachimorskogo prostranstvennogoplanirovaniya v Rossijskoj Federacii. XII Obshcherossijskij forum strategicheskoe planirovanie v regionahigorodahRossii, St. Petersburg, 2011. Available online: [http://2011.forumstrategov.ru/upload/documents/Lappo\\_P6.pdf](http://2011.forumstrategov.ru/upload/documents/Lappo_P6.pdf)

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