Model structure and content of a comprehensive maritime plan: the case of Kaliningrad

Myakinenkov, Valery; Spirin, P.; Vyazilova, Yu.

Veröffentlichungsversion / Published Version
Zeitschriftenartikel / journal article

MODEL STRUCTURE AND CONTENT OF A COMPREHENSIVE MARITIME PLAN: THE CASE OF KALININGRAD

***V. Myakinenkov*[*], *P. Spirin*[**], *Yu. Vyazilova*[**]**

The need for maritime spatial planning is articulated in the Strategy for Marine Development of the Russian Federation until 2030. However, Russian legislation contains no provisions regulating this field.

This article presents the results of a study aimed to devise a methodology for developing the model structure of a maritime plan for the Baltic Sea.

The study methodology is based on current regulations on marine use and nature management as well as international maritime planning practices. Since marine planning is closely connected with spatial planning, the study pays special attention to their convergence in developing maritime plans. The authors stress the need for legislative efforts aimed at integrating marine planning in the current legal framework for the regional authorities of different territorial levels.

The structure and contents of the maritime plan and the methodological framework for suggested measures are based on relevant regulations, publications, and maps. The main result of the study is the identification of functional offshore areas of federal, regional, and local significance.

The research significance of this study is associated with the further development of strategic planning, namely, marine planning. Its practical significance is in devising the legal and methodological framework for marine spatial planning.

Key words: spatial planning, marine planning, territory, offshore area

The Strategy for the Development of Marine Activities in the Russian Federation until 2030 sets the objective of developing integrated cross-industry management at all territorial levels. Marine industries are considered an integrated management object aimed to overcome the conflict between different types of resource uses and marine environment conservation. This objective requires the development of a model structure of maritime planning [1; 2].

[*] Saint Petersburg State University
7—9 Universitetskaya nab.,
Saint Petersburg, 199034 Russia

[**] OMSKNEFTEHIMPROEKT 5
Torzhkovskaya st, Saint Petersburg,
197342 Russia

Submitted on April 14, 2015

doi: 10.5922/2079-8555-2015-3-5

Under the new Law On Strategic Planning in the Russian Federation, maritime planning should be consistent with spatial planning, at least as concerns the development of coastal zones and contiguous water areas. Over the past ten years, Russia has gained significant experience in developing and implementing spatial planning documents. There are relevant legal and methodological frameworks [3].

Since the planning function is the jurisdiction of the authorities, whereas planning results in a draft regulation, the first step to implement the Strategy's objective is to prepare a legal framework for maritime planning. However, the existing publications do not aim to develop a legal framework for this activity [4 - 6]. The objectives, requirements, and procedures for implementing planned initiatives, as well as the coordination and approval of maritime planning documents, should rest on legal regulations specifying the functions and powers of authorities commissioning and approving these documents.

To reach these objectives, in 2012-2013, the Ministry of Economic Development of the Russian Federation commissioned a number of organisations to carry out a study into a legal framework for maritime planning and the model structure of a maritime plan for the Baltic Sea water area contiguous to the Kaliningrad region. The authors of this article took part in this project [9; 10].

The project was based on the existing practices of spatial planning, existing maritime legislation, sustainable nature management [1; 2; 4; 6], and international maritime planning practices. Special attention was paid to the methods adopted in Germany [14; 15], where spatial and maritime planning is supervised by a single authority.

Key problems of the legal framework development

Developing legal tools for maritime planning is complicated by a number of inadequacies and inconsistencies in the current legal framework, which are described below.

The Strategy for Marine Activities is implemented in the framework of state programmes comprised of target programmes and subprogrammes further divided into department target programmes and concrete governmental initiatives. However, the law on Strategic Planning does not specify the position of maritime planning in the system of strategic planning documents.

Another controversial issue is the types of activities taken into account in maritime planning. The Strategy for Marine Activity includes nine types of marine activities — marine and intermodal transportation, industrial fishing, development of marine mineral and energy resources, marine nature management, marine studies, naval activities, maritime border control, marine resources under Russia's control, ship building, and maritime security. Maritime planning is part of marine environmental management. Certain types of marine activities can be conducted on land, for instance, ship building. Most marine activities are aimed at achieving federal objectives under the jurisdiction of the Russian Federation.

At the same time, the Water Code of the Russian Federation includes 30 types of water use, including marine activities controlled by federal, regional, and local authorities through developing relevant regulations. Not unlike the other laws, the Water Code does not contain the notion of 'maritime planning'.

The problem of including all types of marine activities in maritime planning is complicated by the fact that certain activities are controlled by authorities of different levels. Moreover, spatial planning documents are developed in the Russian Federation for single-industry objects (on a commission from the responsible ministry). The development of comprehensive conservation and sustainable nature management measures is not covered by the current legislation, although it was a standard practice in the Soviet period.

Areas of the methodological framework improvement

Maritime planning should be targeted at planning coordinated nature management measures in the maritime space. These measures are included in the maritime plan. The plan and its key appendices (the text part) comprise a basis for a draft regulation, whose approval is followed by the development of a programme for the implementation of approved measures. Therefore, there is a need to take into account all types of marine uses rather than only those associated with marine activities.

The above requires efforts aimed at incorporating maritime planning into the current legal systems. The key steps are as follows:

1) in the area of environmental law: maritime planning should be included into environmental laws as an important tool for environmental development;
2) in the area of strategic planning law: identifying the position of maritime planning documents in the system of strategic planning documents and specifying requirements for comprehensive planning of the coastal territory and contiguous water area development;
3) in the area of authority delimitation law: identifying the jurisdiction of federal and regional authorities and municipalities as to regulating the use of marine space and coastal territories; creating structures for managing maritime planning structures;
4) coordination of maritime planning with urban planning regulated by the Urban Planning Code.

First, there is a need to harmonise spatial planning documents with the current Urban Planning Code of the Russian Federation and new comprehensive maritime planning documents. The following issues require joint solution and regulation using spatial and maritime planning documents:

— avoiding possible marine pollution caused by polluted river flow;

— establishing marine natural reserves, natural reserves with marine components, and those located in internal waters or the territorial sea; formulating and observing conservation requirements including limitations on certain economic activities that can adversely affect the territory and contiguous water area;

— developing a transport network and constructing port facilities, including coastal logistics centres;

— constructing transit or dead leg transportation, communications, and utility lines in the water and contiguous land areas;

— creating land plots on artificial islands;

— developing mariculture and launching processing facilities;

— using coastal areas for recreational purposes.

Of course, there are other areas requiring legal regulation.

Model plan for a marine area

In view of the above, a model plan was developed for the Russian sector of South-East Baltic contiguous to the Kaliningrad region. Since many legal and methodological issues associated with maritime planning remain unresolved, special attention was paid to the functioning zoning of the marine area.

The development of a model plan was based on the international maritime law documents, regulations issued at the levels of the Russian Federation and the Kaliningrad region, archive materials, and research literature [11 — 13].

The model project of the Baltic Sea functional zoning was prepared using the geoinformation technologies offered by the *MapInfo* software (1:100 000 scale). The project's electronic version features relevant cartographical layers and semantic databases. Cartographic materials ensure the systematisation and visualisation of information on a single base map.

Data support is based on a geographical model of the marine area. It includes five modules: environment and resources, nature conservation, environmental protection, socioeconomic aspects, historical and cultural aspects, and legal aspects.

The algorithm for solving this problem includes the following stages:

— analysing and assessing the current use of marine area by the type of marine activity and its spatial localisation;

— identifying limitations on marine activities prescribed by international and federal laws based on the activities' effect on the marine environment;

— identifying priority uses of the marine area based on the principles of precaution and minimisation of negative effect on the marine environment;

— identifying the horizontal and vertical borders of functional zones in line with the environmental protection requirements and the chosen priorities.

The initial data sources include the information resources of governmental bodies, industry-specific databases, etc. (table 1).

It is worth stressing that design engineers often experience problems with accessing the information resources of different Russian organisations and agencies due to the information heterogeneity and incompatibility. Therefore, there is a need for a mechanism ensuring access to information for all stakeholders.

Table 1

Major initial data sources for preparing maritime planning documents

Information source	Owner (information provider)	Information resource	Information availability
Federal state spatial planning information system	Ministry of Economic Development of the Russian Federation	Provides access to federal and municipal information resources	Open access to information resources
Unified System of Information on the State of the World Ocean	Ministry of Transport of the Russian Federation, Federal Maritime and River Transport Agency, research institutes	Database including graphs, text descriptions of seas, seaports, and international transport corridors	Open access to information resources
Statistical compilations, technical reports of responsible agencies, strategies and programmes for socioeconomic development	Federal Statistics Service, industry bodies, research institutes	Data necessary for estimating socioeconomic potential (register of companies and their locations, characteristics of coastal zones production facilities, population of coastal settlements, etc.).	Most resource require paid subscription; access to agency databases is complicated
Marine environment monitoring	Northwestern branch of the Hydrometeorology and Environmental Monitoring Agency; local hydrometeorology and environmental control agencies; Federal Fishery Agency; research organisations	Bottom sediment and water pollutant monitoring; chemical, hydrophysical, and biological studies	Limited access to information resources
Monitoring of marine biological resources	Federal Fishery Agency, territorial agencies, research organisations	The database has not been set up yet; only local research findings are available	—
Registry and maps of marine conservation areas; legal regulations	Ministry of Natural Resources and Environment of the Russian Federation, local nature management committees	Basic information on conservation objects and their location	Open access to information resources
Electronic thematic geographical atlases	—	Systematised map collection based on the same software	Open access to information resources
Atlas of Coastal Marine Areas of the S-E Baltic	Immanuel Kant Baltic Federal University	Thematic maps	Open access to information resources
BSPA HELCOM Map and data Service	—	Environmental network of the Baltic Sea, international transport corridor	Open access to information resources

The key features of this model plan are as follows:

1) the model project considers the following categories of marine spaces: the exclusive economic zone, the territorial sea of the Russian Federation, and the internal waters (the Russian part of the Vistula and Curonian lagoons). Approximately 50% of the considered marine area comprises the exclusive economic zone, which requires the regulation of marine activities at the federal (national) level in view of the rules of international marine law;
2) the analysis of the current use and limitations of the marine area makes it possible to draw the following conclusions:
   a) the planning framework for the Russian part of South-East Baltic is shaped by international shipping routes and it is spatially stable. Navigation zones of federal and international significance are priority areas serving as limitations on all other marine activities;
   b) naval force activities are localised in selected limited access areas;
   c) a combination of several types of marine activities can result in conflicts fraught with serious economic and environmental damages (destruction of spawning grounds through construction in the coastal zone, deterioration of water quality, bottom configuration distortion, coast erosion, etc.);
   d) various marine activities are permitted on the surface and in the upper water layers above in the areas accommodating submarine pipelines and cables;
   e) the waters contiguous to the coastal zone are strongly affected by human activity (seaport and oil field facility operations, etc.), which results in a reduction in the recreational potential of the marine area and coastal territories of the Kaliningrad region;
   f) the existing marine conservation areas do not comprise a conservation network, which would require the creation of new nature management objects, including environmentally significant sectors of the marine area (spawning grounds, waterfowl stopover sites, valuable species concentration sites, etc.);
   g) preservation of marine biological resources and protection from pollution require an optimal correlation between marine activity and no-take zones;
   h) marine area zoning was conducted:
      – within the territorial sea and internal waters of the Baltic Sea and within the exclusive economic zone of the Russian Federation (the federal level);
      – within the sea borders of the Russian Federation (the regional level);
      – within the coastal navigation and economic interest zone used by natural and legal persons registered in the municipality (the municipal level) (see fig.).

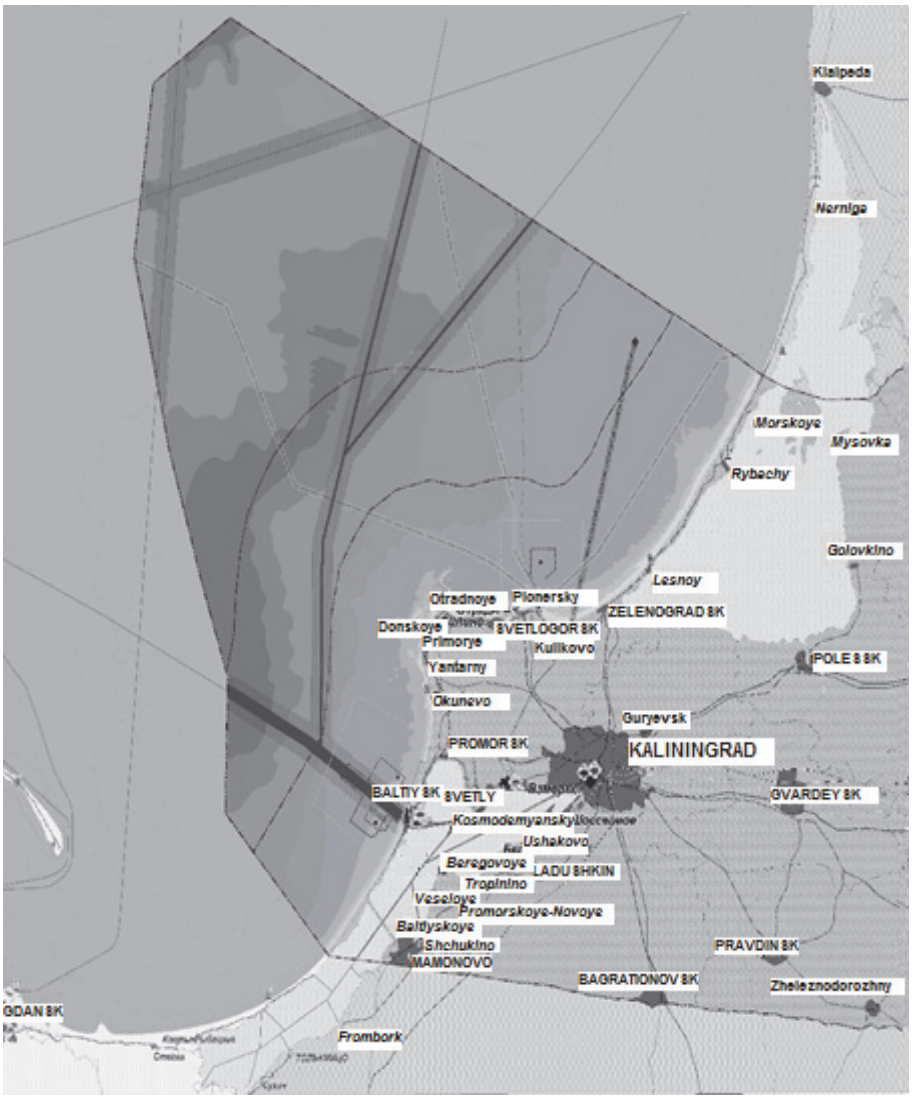

Fig. Modern infrastructure organisation of the coastal territory of the Kaliningrad region and the contiguous marine area

The functional zoning proposals are based on a comprehensive analysis of the modern use of the Baltic Sea, industry-specific programmes covering the key areas of development of different marine activities, and assessments of the environmental condition and problems associated with combinations of several marine activities within the one marine area segment [1; 8; 11; 12].

The mechanism of identifying the functional zone borders is based on the urban and spatial planning principles. Three levels of marine use management — federal, regional, and municipal (table 2) are identified. The areas of economic and other uses are distributed at each level based on the principle of priority ranking.

The model project of the maritime plan for the exclusive economic zone also suggests creating transboundary marine conservation zones regulated in view of the international practices of maritime planning and biodiversity conservation [14; 15].

Functional zoning is an integral part of the maritime plan. Its other sections can be developed in more detail after the necessary legal tools are devised.

Table 2

Classification of functional zones in the Baltic Sea marine areas

Categories of marine areas in the South-East Baltic	Functional zones
Federal level	
Exclusive economic zone	National security zone; Navigation zone; Submarine cable and pipeline zone; Industrial fishing zone; Marine conservation areas and habitats of valuable fish, bird, and marine animal species; Transboundary conservation, pollution protection, and biodiversity preservation zones
Territorial sea	Navigation zone; Submarine cable and pipeline zone; Marine conservation areas of federal significance; Naval force activity zone; Hydrocarbon extraction zones
Internal sea waters and coastal zones	Territories and water areas of seaports and ship channels; Resort zones of federal significance; Zone of coastal pipeline infrastructure
Regional level	
Territorial sea	Marine conservation areas of regional significance; Transboundary conservation and pollution protection zones; Near-shore fishing zone; Recreational zones (yachting, recreation activities on islands and in the coastal zone); Aquaculture zone; Zone of pipeline, utility and transport infrastructure of regional significance

The end of the table 2

Categories of marine areas in the South-East Baltic	Functional zones
Internal waters and coastal zone	Marine conservation areas of regional significance; Spawning grounds of commercial fishery species; Recreational zones; Aquaculture zone; Recreational fishing zone; Zone of pipeline, utility and transport infrastructure Commercial mineral extraction zone
Municipal level	
Internal water, coastal zone	Recreational zones of local significance; Construction zones on washed-in territories; Hydraulic structure zones; Coast protection zone; Construction materials extraction zone; Small vessel anchorage zone; Other zones according to the municipal jurisdiction

Conclusions

1. Maritime spatial planning has become a new type of strategic planning. Its major result is a strategic plan for marine space use based on functional zoning of the marine area. The legalisation of a maritime plan is followed by the development of a programme covering concrete measures within the jurisdiction of the relevant authority. However, this requires significant efforts aimed at improving the current legal framework.

2. The analysis of conditions for practical implementation of the marine space planning ideology shows a need to harmonise spatial and maritime planning documents (especially as to sustainable nature management), and to amend and supplement the existing regulations in view of the maritime planning requirements.

3. Key methodological approaches to developing such documents are identified; a model plan for the marine area of the South-East Baltic is devised (see fig.).

4. The proposed methodology for devising a comprehensive maritime plan can be used in developing a research framework for comprehensive maritime planning in the Russian Federation. The methodology will be improved when applied in practice.

References

1. *Strategija razvitija morskoj dejatel'nosti Rossijskoj Federacii do 2030 goda, utverzhdena rasporjazheniem Pravitel'stva Rossijskoj Federacii ot 8 dekabrja 2010 goda № 2205-FZ* [The development strategy of maritime activities of the Rus-

sian Federation till 2030, approved by the Federal Government. December 8, 2010 № 2205-FL], 2010, Moscow.

2. Zenkov, A. F., Ismailov, A. I. 2013, O morskoj doktrine Rossijskoj Federacii do 2030 goda i koncepcii federal'nogo zakona o gosudarstvennom upravlenii morskoj dejatel'nost'ju [On the Marine Doctrine of the Russian Federation until 2030 and the concept of the federal law on public administration of maritime activities], *Navigacija i gidrografija* [Navigation and Hydrography], no. 35, p. 8—17.

3. Vargina, T. V., Myakinenkov, V. M. 2008, Gradostroitel'nyj kodeks RF [Town Planning Code of the Russian Federation], *Upravlenie razvitiem territorij* [Governance of territories], no. 1, p.17—20.

4. Mityagin, S. D. 2012, Morskoe planirovanie — novoe napravlenie prostranstvennoj organizacii Rossijskoj Federacii [Maritime planning — a new direction of the spatial organization of the Russian Federation], *Vestnik Zodchij 21 vek* [Architect Herald 21st Century], no. 4(45), p. 4—7.

5. Mityagin, S. D. 2014, Segodnja i zavtra morskogo prostranstvennogo planirovanija [Marine spatial planning: today and tomorrow], *Vestnik Zodchij 21 vek* [Architect Herald 21st Century], no. 1(50), p. 38—45.

6. Pokrovsky, I. F., Ovlaschenko, A. V. 2010, Morskoe prostranstvennoe planirovanie i metodologija KUPZ: Nuzhdaetsja li v nih Rossija (k obsuzhdeniju proekta strategii razvitija morskoj dejatel'nosti do 2020 goda i na bolee otdaljonnuju perspektivu) [Marine spatial planning and the ICZM methodology: Does Russia need them (on the discussion of a draft strategy of development of maritime activities to 2020 and to a more distant prospect)], *Juridicheskij mir* [Legal World], no. 2, p. 31—37.

7. Ghoghoberidze, G. G. 2009, Baltijskoe more: primorskie regiony i ih morehozjajstvennyj potencial [The Baltic Sea: coastal regions and marine economic potential], *Jekonomicheskie strategii* [Economic strategies], Vol. 11, no. 8, p. 150—155.

8. Ghoghoberidze, G. G., Domnina, A. Yu. 2010, Vozmozhnye konflikty mezhdu vidami morskoj dejatel'nosti v akvatorijah rossijskoj chasti jugo-vostochnoj Baltiki i razrabotka rekomendacij po ih predotvrashheniju [Possible conflicts between the types of maritime activities in waters of the Russian part of the south-east of the Baltic Sea and the development of recommendations for their prevention], *Uchjonye zapiski Rossijskogo gosudarstvennogo gidrometeorologicheskogo universiteta* [Scientists note by the Russian State Hydrometeorological University], no. 12. p. 132—151.

9. Myakinenkov, V. M. 2013, Voprosy funkcional'noj sovmestimosti territorial'nogo i morskogo planirovanija [Interoperability issues of territorial and maritime planning], *Vestnik Sankt-Peterburgskogo universiteta. Ser.7 Geologija, geografija* [Bulletin of St. Petersburg State University. Ser.7 Geology, Geography], no. 3, p. 153—160.

10. Myakinenkov, V. M. 2013, Key Strategies of Development of Research Tools and Methods for Marine Spatial Planning, Balt. Reg., no. 1, p. 71—81. DOI: 10.5922/2079-8555-2013-1-7.

11. Mosin, O. V. 2011, The main environmental problems of the Baltic Sea and the ways to solve them, Balt. Reg., no. 1, p. 35—47. DOI: 10.5922/2079-8555-2011-1-5.

12. Klemeshev, A. P., Fedorov, G. M. 2004, O sovershenstvovanii upravlenija razvitiem Kaliningradskoj oblasti [On improving the management of development of the Kaliningrad region], *Regional'noe sotrudnichestvo* [Regional cooperation], p. 5—20.

13. Kalenchenko, M. M. 2007, Problemy organizacii territorial'nyh mer ohrany morskoj sredy v predelah jurisdikcii RF [Problems of organization of territorial measures to protect the marine environment within the jurisdiction of the Russian Federation]. In: Baranova, N. B., Fedoseyeva, L. V. (eds.), *Aktual'nye problemy juridicheskih nauk* [Actual problems of jurisprudence], a collection of articles of the III All-Russian scientific-practical conference, Penza, September 2007, Penza, p. 146—149.

14. Morf, A. 2012, *BaltSeaPlan Report 7 — Strategies with relevance for Swedish maritime space*, Gothenburg.

15. Zaucha, Ja. 2014, *The key to governing the fragile Baltic See. Maritime Spatial Planning in Baltic Region and Way Forward*, VASAB, Riga, p. 73—86.

About the authors

Dr Valerii Myakinenkov, Associate Professor, Saint Petersburg State University, Russia.

E-mail: myakinenkov@yandex.ru

Dr Pavel Spirin, Associate Professor, Director for Research, Head of the R&D Centre for Territorial Development and Spatial Planning, OmskNefteKhimProekt, Russia.

E-mail: pavelsp@list.ru

Julia Vyazilova, Head of the Territorial Planning Unit, R&D Centre for Territorial Development and Spatial Planning, OmskNefteKhimProekt, Russia.

E-mail: julia.vyazilova@mail.ru