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The Process and Procedures for the Preparation of Integrated Maritime Spatial Planning: The Case of Slovenia

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Abstract

This article explores the establishment of a maritime spatial planning (MSP) framework in Slovenia. Following revised spatial planning legislation and the Directive 2014/89/EU, Slovenia initiated the development of processes and procedures for integrated MSP. Drawing on a dedicated research project, the article presents a proposed methodology grounded in the ecosystem approach, forming a foundation for integrated land–sea interaction planning. The framework outlines a four-phase process: (1) preliminary MSPlan preparation, (2) MSPlan preparation, (3) MSPlan monitoring and evaluation of implementation, and (4) ongoing MSPlan monitoring and updating. Each phase consists of independent or sequential steps, which are also linked procedurally between the phases. A central feature linking the preliminary and main preparation phases is stakeholder involvement. While the MSPlan preparation phase ensures broad stakeholder participation, the preliminary phase engages those representing strategic development or conservation interests. Experts and other stakeholder groups may also be involved directly in the planning process. The article concludes by evaluating the adopted Slovenian MSPlan, highlighting deviations from the proposed process and assessing the extent of its implementation in relation to the original plan. It also emphasises the importance of developing the MSP process and its procedures in parallel to ensure strong alignment and facilitate a smoother preparation of the final MSPlan.

Keywords

coastal governance; coastal zone; Directive 2014/89/EU; maritime spatial planning; North Adriatic Sea; public participation; Slovenia

1. Introduction

The purpose of this article is to present the concept of maritime spatial planning (MSP) processes and procedures in Slovenia, as developed in the research project by Goličnik Marušić et al. (2018). The aim is to inform the broader professional community about Slovenia's approach to MSP. This discussion is particularly relevant in the context of the current MSP-related project (BlueGreen Governance, n.d.), which focuses on blue-green governance and includes the Northern Adriatic as one of its case study areas. For Slovenia, this area is addressed through the maritime spatial plan (MSPlan). A clear understanding of the process and procedures behind the MSPlan's preparation is essential for effective integration into cross-border MSP governance frameworks, one of the core objectives of the BlueGreen Governance project (BlueGreen Governance, n.d.).

The implementation of MSP in Europe has been extensively analysed in academic and policy literature, particularly following the adoption of Directive 2014/89/EU (2014), which established a common framework for MSP across member states. MSP is designed to coordinate the spatial and temporal distribution of maritime activities, promote sustainable development, and support marine environmental protection. However, implementation across Europe remains heterogeneous, shaped by differing legal, institutional, and socio-economic contexts (Jay et al., 2013; Jones et al., 2016). Accordingly, there are some key issues identified in the literature, spanning from governance complexity and institutional fragmentation, environmental considerations and ecosystem-based approach, data availability and integration, stakeholder participation and legitimacy, spatial conflicts and blue growth pressures, to actual MSPlan implementation, adaptability, and monitoring.

Regarding governance complexity and institutional fragmentation, it is evident that European MSP operates within complex governance systems involving multiple levels and actors, often resulting in fragmented responsibilities and weak cross-border coordination (Jay, 2010; Zaucha, 2014). These challenges are particularly acute in transboundary sea basins such as the Baltic Sea and North Sea (Schultz-Zehden & Gee, 2019) as well as the Adriatic Sea. Therefore, the North Adriatic Sea is taken as a cross-border case study in the BlueGreen Governance project (BlueGreen Governance, n.d.), where institutional capacities and readiness for a cross-border approach to the climate-water-biodiversity nexus are explored.

As one of the core principles of Directive 2014/89/EU (2014), the application of an ecosystem-based approach emphasises multi-disciplinary knowledge and cross-border cooperation through cross-sectoral planning that integrates shipping, fishing, renewable energy, conservation, and tourism. Nevertheless, environmental concerns remain frequently subordinate to economic growth agendas (e.g., Qiu & Jones, 2013). Cumulative impact assessments and protection of marine biodiversity are not consistently embedded in planning frameworks (Katsanevakis et al., 2020), although according to Directive 2014/89/EU (2014), monitoring, data-sharing, and stakeholder involvement are essential, especially as balancing economic development with ecological protection can create tensions.

Therefore, effective MSP depends on high-quality spatial data, but significant gaps persist in availability, standardisation, and cross-sectoral integration (Ehler & Douvere, 2009; Stelzenmüller et al., 2013). Integration of ecological, economic, and social dimensions remains a scientific and technical challenge (Kidd & Ellis, 2012). In this respect, data availability and integration, as well as stakeholder participation and

legitimacy, represent two key issues that need to be addressed in developing the process and procedures of MSP to ensure as smooth and efficient an MSPlan as possible. According to the literature review, the depth and quality of stakeholder engagement also vary. For example, Twomey and O'Mahony (2019) refer to a comparative study in the European Atlantic, stressing that government decision-makers and statutory stakeholders are usually well or even overrepresented. Civil society stakeholders such as NGOs, the science community, and local community groups also play an active role; however, stakeholders from industry are usually under-represented. However, the legitimacy of MSP processes hinges on more inclusive and deliberative participatory models (Katsanevakis et al., 2011). Therefore, considerable emphasis should already be placed on this when setting up the processes and procedures, including the timing and design of both engagement processes and participatory processes.

Although industry stakeholders usually do not participate in participatory processes, there are sectors that show increasing interest in marine space, which often leads to spatial conflicts (e.g, Schultz-Zehden et al., 2019). The MSP literature emphasises the need for tools to manage trade-offs and resolve multi-sectoral conflicts (e.g., Flannery et al., 2016, 2018).

Jones et al. (2016) emphasise the necessity of adaptability and monitoring in the revision of several European MSP approaches, and in doing so highlight several key issues that should be taken into account when setting up the processes and procedures for MSP. Their findings indicate that (a) MSP often prioritises specific sectoral objectives aligned with national strategic priorities, resulting in limited implementation of the integrated approach envisioned in the MSPlan; (b) MSP processes tend to be complex, fragmented, and ad hoc rather than adaptive and cynical; (c) top-down processes tend to dominate, rather than being undermined by the potentially conflicting priorities of other stakeholders, whose participation is usually somehow compelling at a conceptual level, however would their applicability in reality appear to be limited by the ad hoc, complex, sectoral fragmented and top-down characteristics of the structures and processes of actual MSP, which are more focused on strategic sectoral planning; and (d) blue growth is the overarching priority, often aligned with strategic sectoral priorities, despite growing indications that the 2020 Good Environmental Status target is unlikely to be met. It is concluded that the realities of MSP often contrast with widely recognised concepts and ideals. In practice, integrated-use MSP, driven by political expedience and blue growth priorities, diverges from—and may even compete with—ecosystem-based MSP, including marine protected area networks, guided by Good Environmental Status priorities (Jones et al., 2016).

A key message for the preparation of MSP processes and procedures is the need to pay critical attention to possible future gaps between an MSPlan and its implementation. This should include a mechanism for critically analysing whether the realities of the MSPlan are consistent with its concept and for supporting the development of processes and procedures that enable sustainable adaptability and monitoring of MSPlan implementation.

In the context of MSP in Europe, this article further presents a proposal for the process and the procedures for the preparation and implementation of the MSPlan for Slovenia. Directive 2014/89/EU (2014) requires every coastal member state of the EU to set up an MSP process and to prepare and adopt an MSPlan. Slovenia, as a Mediterranean country, must also implement the Protocol on Integrated Coastal Zone Management in the Mediterranean (Protocol on integrated coastal zone management in the Mediterranean, 2009). In this context, detailed knowledge of current and expected conflicting interests and situations, overlaps in actual land uses and regimes, and the water-economy-ecology-society nexus is of great importance.

This article is based on the research project, entitled Development of the Process and Procedures for the Preparation of Integrated Maritime Spatial Planning (2016–2018), which was co-financed by the Ministrstvo za naravne vire in prostor (in English, Ministry of Natural Resources and Spatial Planning [MNVP]) and the Slovenian Research and Innovation Agency. The article aims to present the process of establishing the procedures and mechanisms required to develop the MSPlan. This includes stakeholder engagement, the definition of the MSPlan's content and format, and a proposed approach for monitoring its implementation. It also highlights several key innovations, such as the identification of relationships and interactions within the process itself, as well as between the process and the supporting procedures, both of which are critical for ensuring the successful preparation of the MSPlan.

The structure of the article is as follows. Section 1 introduces the fundamental premises of MSP, offering a general overview of the European MSP literature in highlighting key issues and research questions. Section 2 presents the rationale for sustainable MSP and introduces the conceptual framework, emphasising the integration of ecosystem-based and collaborative approaches. Section 3 focuses on the development of processes and procedures for the MSPlan. It details the formal framework, outlines the preparation process, explores the relationships between its stages and steps, describes the implementation procedures, and reflects on the interactions between processes and procedures. Section 4 outlines the proposed contents and formats of the MSPlan. Section 5 discusses the implementation potential and challenges of the proposed MSP approach, reflects on the current MSPlan of Slovenia, and provides insights relevant to both the BlueGreen Governance project (BlueGreen Governance, n.d.) and the broader scientific community. Section 6 concludes with a summary of the key findings and messages.

2. Conceptual Framework

The definition of the conceptual framework is justified by Directive 2014/89/EU (2014), which establishes a framework for MSP, mandates the use of an ecosystem approach, and promotes the coexistence of relevant activities and uses. The integration of ecosystem and collaborative approaches represents the basic starting point for the development of the conceptual framework of MSP.

The ecosystem-based approach as a planning and management principle primarily refers to the balance of human activities regarding the ecosystem characteristics of the area and aims to maintain the structure and functioning of marine ecosystems while enabling sustainable economic activity (e.g., Douvere & Ehler, 2011; Katsanevakis et al., 2011). For this reason, in the context of spatial planning, it represents a sustainable approach and an integral starting point. It is important to understand that just as space is, ecosystems are. That ecosystems can be compatible differently with different activities and that activities do not necessarily have to be negatively correlated with the functioning of ecosystems.

The ecosystem approach is, therefore, also a tool that offers a framework for action and a principle for the management of land, water, and resources, supporting their conservation and sustainable use in an impartial and equitable way, aligning with the principles outlined by the Convention on Biological Diversity (2000). This approach calls for a comprehensive understanding of ecosystem structures, functions, and interactions, ensuring that planning decisions are grounded in ecological realities.

By considering the ecosystemic approach, MSP can become a tool for careful and rigorous control of human activities by positioning them spatially and temporally in the natural marine environment in such a way that they do not compromise its functioning and quality. The ecosystem approach establishes the scientific basis for reconciling the different economic, social, and environmental demands on the marine environment with its carrying capacity. In this context, planning serves as an effective tool and process for preventing conflicts among different users of marine space and its adjacent inland areas, enabling the sustainable management of activities and the enhanced protection and conservation of marine living resources (Maes, 2008).

Further, the implementation of the ecosystemic approach in MSP as a tool and framework of measures enables the integration or implementation of the concept of adaptive governance (e.g., Ansong et al., 2017). Adaptive governance in policy processes that address complex problems highlights the importance of experimentation, strengthening adaptability, long-term monitoring, continuous improvement, learning capacity, and stakeholder involvement. Flexible approaches can theoretically align policies and governance activities with new insights, changing circumstances, and emerging preferences. According to Giebels et al. (2013), adaptive governance can be understood as an attempt to increase the flexibility of management systems to adapt more successfully to constant change. This is based on the recognition that states of equilibrium in social and environmental systems are temporary and vulnerable. Thus, the dynamic, multidimensional, and multi-level nature of adaptive governance, which usually involves many different actors, contains specific characteristics and requirements concerning how knowledge is acquired and used in the decision-making process.

Incorporating adaptive governance into MSP ensures that planning processes remain responsive and resilient. It involves the regular monitoring and evaluation of both environmental and socio-economic outcomes, facilitating iterative improvements and informed decision-making. By fostering collaboration among diverse stakeholders and integrating scientific knowledge with local insights, adaptive governance enhances the legitimacy and effectiveness of spatial planning initiatives (e.g., Ansong et al., 2017; Frank-Kamenetsky et al., 2023).

In summary, the ecosystem-based approach provides a holistic framework for MSP that harmonises human activities with ecological systems. When coupled with adaptive governance, it enables planners to navigate the complexities of environmental management, ensuring that development is both sustainable and equitable. Together, these approaches support the creation of resilient socio-ecological systems capable of withstanding and adapting to future challenges. Such reasoning represents the basic underlying principle in further shaping and developing the process and procedures of MSP Goličnik Marušić et al. (2018) proposed for Slovenia.

3. Development of the Process and Procedures for the MSPlan

This section reflects on the conceptual basis of the MSPlan preparation process and presents the results in terms of the key process phases and their characteristics for achieving an integrated MSPlan. Firstly, it highlights the formal framework that must be understood before developing the MSP process and procedure. Secondly, the article presents the proposed process and procedures for MSP in Slovenia as developed by Goličnik Marušić et al. (2018). The proposal for the MSPlan preparation process was conceptualised on three interrelated premises:

1. The concept of MSPlan monitoring should be considered and known already in the preparation phase to ensure meaningful and effective monitoring of both the implementation of the MSPlan and the state of the environment.
2. Analyses of the obtained expert studies, other relevant sources, and the state of the environment constitute the first step in the MSP process and lead directly to a well-balanced spatial plan.
3. To identify the approaches and tools needed to support and implement the process from the outset, thereby enabling the effective implementation of the process.

Accordingly, we suggested the MSPlan preparation process to consist of four phases, as shown in Figure 1 (Phase 1: preliminary preparation of the MSPlan; Phase 2: preparation of the MSPlan; Phase 3: monitoring and evaluation of the implementation of the MSPlan; and Phase 4: modification and amendment of the MSPlan), and are commented in detail in Section 3.2.

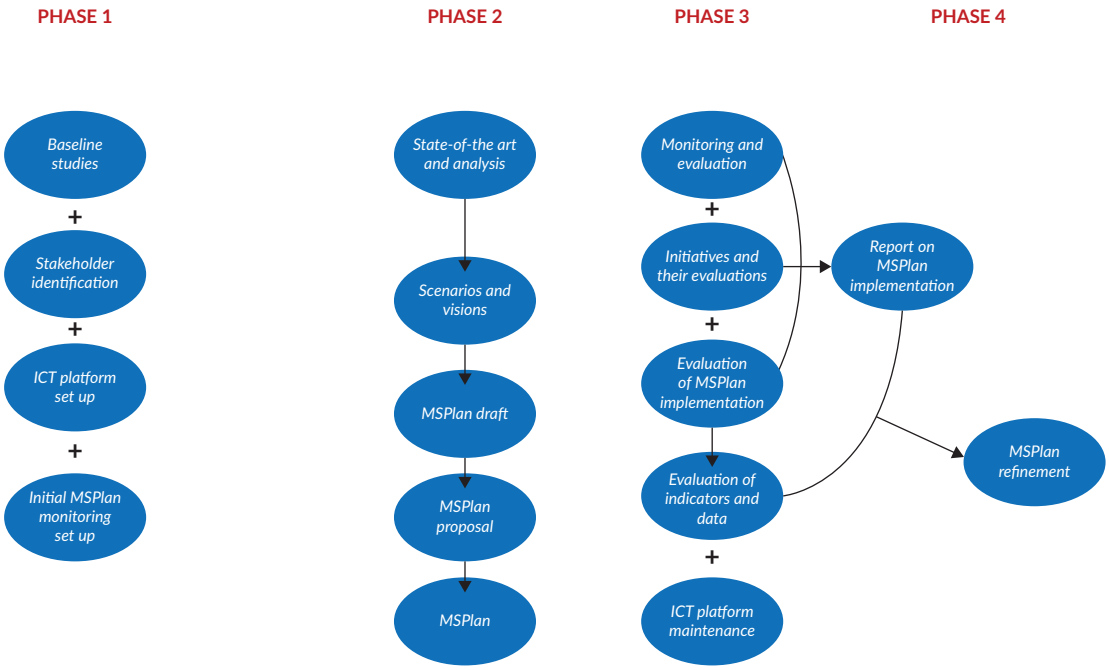

Figure 1. A flowchart of the MSPlan process structure. Source: Goličnik Marušić et al. (2018). Note: ICT stands for information-communication technology.

3.1. Formal Framework

This section presents an overview of the key supranational commitments/obligations and their implementation, and an overview of relevant national strategies and programmes, including the interpretation of current legislation (Zakon o urejanju prostora [ZUreP-3], including Zakon o varstvu okolja [ZVO]-2, Zakon o varstvu narave) for the implementation of MSP.

The key obligations to which Slovenia has committed are as follows:

- A requirement under Directive 2014/89/EU (2014) establishing a framework for MSP foresees the establishment of MSPlans by EU member states by 31 March 2021 at the latest. In 2021, Slovenia

adopted the first MSPlan of Slovenia, and in 2025, it carried out the first three-year assessment of its implementation as part of the *Slovenian Spatial Development Report* drafted in 2024.

- A requirement of Directive 2008/56/EC (2008) establishing a framework for action by the EU in the field of marine environmental policy (Marine Strategy Framework Directive) for each member state to draw up a marine strategy for its marine waters in respect of each marine region or subregion concerned. Slovenia fulfils this requirement with the current Marine Environment Management Plan for the period 2022–2027 (MNVP, 2022).
- A requirement under Directive 2000/60/EC (2000) for member states to ensure that a river basin management plan is drawn up for each river basin district lying entirely within their territory. Slovenia fulfils this requirement with the Decree on Water Management Plans in the water areas of the Danube and the Adriatic Sea for the period 2023–2027 (Government of the Republic of Slovenia, 2023).
- As a party to the Protocol on Integrated Coastal Zone Management in the Mediterranean (Protocol on integrated coastal zone management in the Mediterranean, 2009), Slovenia is required to prepare a national strategy for integrated coastal zone management, as well as plans and programmes for its implementation. There is currently no national strategy for integrated coastal zone management. The Decree on the Maritime Spatial Plan of Slovenia (Government of the Republic of Slovenia, 2021) about the Protocol on Integrated Coastal Zone Management in the Mediterranean highlights the need for the state to establish the coastal zone as a special management area and to set up a management structure for integrated coastal zone management.

The inclusion of maritime-related topics can be found in some Slovenian strategic documents.

At the national level, a Resolution of the Maritime Directorate of the Republic of Slovenia (National Assembly of the Republic of Slovenia, 1991) underscores the importance of pursuing a maritime-oriented economic and development policy, promoting the prudent use of the coastal area, preserving natural and cultural heritage, and ensuring maritime regulation in accordance with international law.

The Resolution on the National Maritime Development Programme of the Republic of Slovenia (Government of the Republic of Slovenia, 2010) provides guidelines for the development of maritime affairs and thus more efficient use of advantages such as access to the Adriatic Sea, a modern cargo and passenger port, and a maritime economy and education. Regulation is envisaged through state spatial plans. The document also discusses the possibility of developing a maritime cluster and protecting the marine environment.

The Development Strategy of Slovenia 2030 (Government of the Republic of Slovenia, 2017) mentions marine resources in the chapter on sustainable management of natural resources. It is committed to the effective management of coastal and marine resources and the achievement of their good status.

The valid Spatial Development Strategy of Slovenia 2050 (MNVP, 2023) provides strategic guidelines for the spatial development of offshore uses and the related spatial development of the coastal zone and other areas of influence, both at the national and supranational level. Within the framework of the guidelines for specific areas, it pays special attention to the development of activities at sea and in the coastal zone. The strategy aims to balance economic growth, environmental protection, and sustainability. The Port of Koper and its hinterland infrastructure play a crucial role in connecting Slovenia to key European corridors. The region promotes sustainable tourism, agriculture, and fisheries while striving for the protection of

natural and cultural assets. Marine-related industries are prioritised, while harmful coastal activities are restricted. Cross-border cooperation with Italy and Croatia enhances transport, tourism, and energy infrastructure. Climate adaptation measures address sea-level rise, droughts, and urban pressures. A protected coastal belt ensures ecological connectivity and quality of life, limiting construction with few exceptions.

The regional development programme of the coastal-Karst region for the period 2021–2027 (Regional Development Centre Koper, 2022.) places appropriate emphasis on the development of activities at sea and in the coastal zone. Within the framework of the topic of coastal zone management, the programme pursues the objectives of protecting the coastal zone from development and finding opportunities for implementing spatial arrangements that contribute to the quality of life, the development of recreation and tourism, the protection of nature, cultural heritage, and the landscape (such as the arrangement of a pedestrian promenade along the entire coast, green and recreational areas, swimming pools, and tourist infrastructure intended for the general public). The programme also pursues the objective of relieving the coastal zone of traffic pressures within the framework of a sustainable mobility scheme. In this context, the programme has also identified several strategic regional projects that can significantly impact the sustainable development of the coastal zone.

3.2. MSPlan Preparation Process

The first phase (the preliminary phase of MSPlan preparation) consists of four sets of activities that may be conducted independently, simultaneously, or sequentially: preparation of expert background studies; stakeholder identification and mapping, including the use or establishment of an online communication platform to facilitate active stakeholder participation; and the preliminary definition of the MSPlan's monitoring and evaluation system.

Preparation of background expert studies covers a wide range of activities, including the development of baseline studies that serve as starting points for the MSPlan preparation. This involves analysing guidelines and data from spatial planning authorities and other stakeholders, for example, assessing the state of the marine environment, interpreting environmental descriptors for planning marine uses and activities, and evaluating impacts on economic development and society. Stakeholder identification and mapping in the MSPlan process aims for a cross-sectoral approach. It begins by identifying the coordinator between MSPlan implementers and stakeholders, followed by defining the stakeholders and their respective roles. Where possible, an online platform is recommended to facilitate this process, bringing together spatial planning authorities and stakeholders to encourage active participation. This collaborative tool supports spatially coherent and complementary multifunctional use of marine spaces. Finally, the preliminary phase of defining the MSPlan's monitoring and evaluation system is essential. It ensures early integration with the spatial monitoring system and introduces the indicators that will later be used to assess the MSPlan. This makes the evaluation criteria clear from the outset and promotes consideration of the links between environmental indicators and descriptors.

The second phase (MSPlan preparation) comprises five interlinked stages, from initial analysis and scenario development to the final plan. The analytical phase presents and examines the current situation, processes, demand, planned activities, potential conflicts, synergies among human activities, and their interaction with

the marine environment, including the need for a comprehensive environmental impact assessment. Based on this analysis, stakeholders engage to develop and select suitable development scenarios and create a vision for the marine area and its hinterland. Using this foundation, a draft MSPlan is prepared in line with national strategic documents, Directive 2014/89/EU, and the Spatial Planning Act. Following public consultation and feedback, the initial draft is refined into the final MSPlan draft. Such an MSPlan draft must include both a textual description and a cartographic representation of planned activities and uses within the marine space. This includes details on spatial development, a programme for locating planned facilities and areas, a plan for public utility infrastructure and its capacities, and land-use plans for the coastal zone and hinterland. The draft should first establish priorities and measures to implement the planned maritime activities and align with long-term strategic documents. Second, it should provide guidelines for preparing subordinate spatial plans at the regional and municipal levels. Finally, such a draft MSPlan is shaped into a final MSPlan, which the Ministry of Spatial Planning prepares to be adopted by the government.

The third phase (MSPlan monitoring and evaluation) is crucial to achieving the desired development effects in the marine area and its hinterland. It consists of six interrelated steps (see column 3 in Figure 1). The MSPlan implementation report is the key product of the monitoring and evaluation phase, based on monitoring the marine environment and its hinterland, and on assessing proposed initiatives of the actors involved, together with their impacts on the marine environment against predefined indicators. With each evaluation, this phase also involves reviewing the relevance of indicators and suggesting adjustments if needed.

The MSPlan modification and amendment phase is the final stage of the preparation process, focused solely on updating the MSPlan. Updates are based on the findings of the implementation reports and evaluations of the indicator and data usefulness. According to ZUreP-3 (2021), updates are scheduled every 10 years; however, if justified by evaluation results, a new MSPlan may be prepared earlier.

3.3. The Relationships Between the Stages and Steps of the Process

When designing the process structure, special attention is given to the connections between phases, particularly the interrelations between individual steps, to highlight their reciprocal nature. The diagram structure of the MSPlan process and the relationships between its steps (Figure 2) illustrate these linkages. It emphasises both the importance of feedback loops between phases (see green lines in Figure 2) and the strong connections between the preliminary and main MSPlan preparation phases, particularly concerning stakeholder involvement (see orange lines in Figure 2).

Further, the MSPlan preparation process includes stakeholder involvement in two key phases: the preliminary phase (development of expert bases and baseline studies) and the main MSPlan preparation phase (all steps except the analytical phase, which builds on the expert bases from the previous phase of MSPlan preparation). Stakeholders representing governance, business and development, NGOs, the professional public, and others are identified and defined at the outset of the process.

In the preliminary MSPlan preparation phase, baseline studies are developed using key inputs from spatial planning policies, strategies, and programmes. Spatial planning authorities and other stakeholders are identified based on the territorial level of MSPlan preparation: Group 1 is based on transnational, cross-border, and national levels; Group 2 is the sub-national level; Group 3 is the regional level; and Group 4 is the local level.

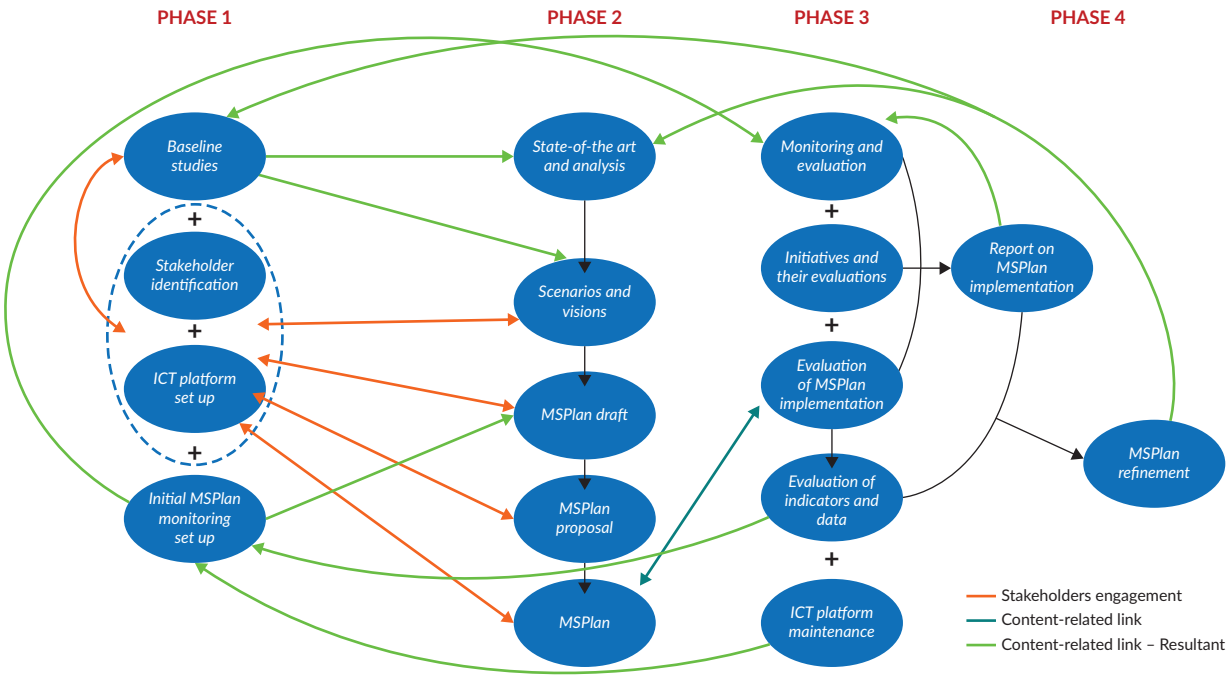

Figure 2. Structure of the MSPlan process and the relationships between its steps. Source: Goličnik Marušić et al. (2018).

Table 1 summarises the proposed preparation process and stakeholder involvement across various territorial and governance levels relevant to the MSPlan. It highlights how these contributions support the provision of development and protection guidelines, as well as other key information for the baseline studies in both the preliminary and main preparation phases.

In the second phase, stakeholders play a key role by constructively complementing the scientific baseline studies and contributing to the co-development of maritime and coastal activities, aiming to create synergies between sea uses and their land-based areas of influence.

The most crucial step in stakeholder involvement is the definition of development scenarios and a shared vision for the future. Public engagement methods may include information gathering, consultations, workshops, and social innovation labs. As a complementary tool for dialogue and consensus-building, an online interactive platform is proposed, serving as an information portal for sharing workshop materials, publishing outcomes, and facilitating ongoing communication during scenario and vision development. Subsequent steps in the MSPlan preparation phase are also vital, particularly when the draft MSPlan is circulated among spatial planners and stakeholders for review. Participation methods may vary and are defined by the MSPlan preparation team. These can range from collecting individual feedback to joint discussions between planners and stakeholders at different territorial levels, or broader workshops involving all stakeholders regardless of their territorial focus.

For illustration, all identified stakeholders can be actively involved in key steps of the second phase, such as defining development scenarios and visions and contributing to the draft MSPlan proposal. In contrast, active involvement in the preliminary phase is generally limited to stakeholders representing (strategic) development

or protection-related initiatives. The professional public and other stakeholders may also participate directly in the MSPlan preparation or specific parts of the process, depending on the discretion of the preparation team.

Table 1. Types and roles of stakeholders in the process of baseline studies preparation within the MSPlan preparation phase.

Territorial level	Stakeholders	Coordinator	Coordination media	Explanation/note
Transnational level, cross-border level, and national level	Ministry of Foreign Affairs Sectors Relevant economy and development actors	MNVP	Initial meeting with stakeholders, convened and coordinated by the MNVP Coordination meetings with stakeholders, convened and coordinated by the MNVP An online platform, if available	Defining and pursuing the national interest in global, international, and cross-border contexts
Sub-national level	Sectors Region Regionally important economy and development actors NGO	MNVP	Initial meeting with stakeholders, convened and coordinated by the MNVP Coordination meetings with stakeholders, convened and coordinated by the MNVP An online platform, if available	Prioritising national interests and balancing them with regional interests
Regional level	Sectors Region Regionally important economy and development actors NGO	MNVP	Initial meeting with stakeholders, convened and coordinated by the MNVP Coordination meetings with stakeholders, convened and coordinated by the MNVP An online platform, if available	Prioritising regional interests and aligning them with local interests
Local level	Municipality Locally important economy and development actors NGO	MNVP	Initial meeting with stakeholders, convened and coordinated by the MNVP An online platform, if available	Prioritising local interests

3.4. Procedure for the Implementation of the MSPlan

The MNVP, specifically the Directorate for Spatial Planning, Construction and Housing, is the national authority responsible for preparing the MSPlan. Under the Spatial Planning Act (ZUreP-3, 2021), the MSPlan serves as an action programme for implementing the Spatial Development Strategy of Slovenia. The preparation process will ensure the participation of neighbouring countries and relevant stakeholders involved. As part of the procedure, the Ministry issues guidelines for the preparation of the MSPlan to the designated MSPlan preparation team.

The process of drawing up an MSPlan procedure defines activities within three key temporal sequences: (a) before the start of the MSPlan preparation, (b) MSPlan preparation and adoption, and (c) MSPlan implementation, monitoring, and evaluation, and subsequent updates, as needed (see Figure 3).

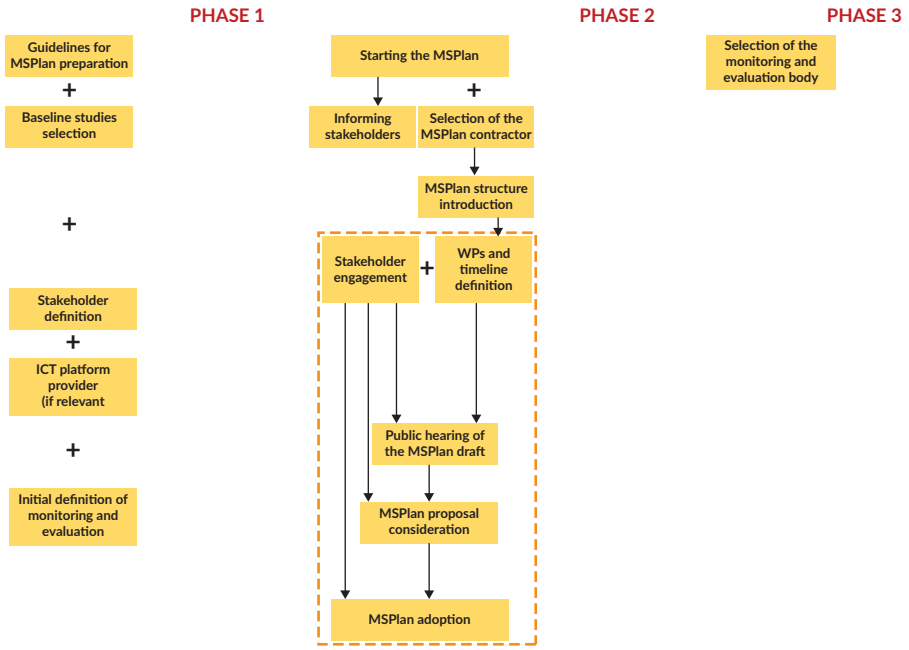

Figure 3. Structure of the MSPlan procedure. Source: Goličnik Marušić et al. (2018). Note: WP stands for work-package.

In the preliminary phase (Phase 1), the key procedures are recommended to ensure effective MSPlan preparation. These include issuing guidelines for MSPlan preparation, establishing a procedure for selecting baseline studies as mandatory starting points, designing and operationalising a communication platform, conducting the preliminary identification of stakeholders, and formulating the initial framework for monitoring and evaluation of the MSPlan. More specifically, for the selection of baseline studies, it is advisable to include a recommended timeframe—for instance, expert baseline studies should be completed within 12 months of the commencement of the process. Similarly, for the initial definition of the monitoring and evaluation system, the preliminary design of the monitoring framework should be established within six months of the start of the planning process.

Phase 2 (the preparation and adoption of the MSPlan) is typically the most procedurally demanding and fragmented stage of the planning process. It comprises a series of interdependent and iterative steps. Upon the official initiation of this phase, stakeholders are formally notified about the commencement of MSPlan preparation. Subsequently, the planning entity (a designated company or consortium) is selected and briefed on the proposed structure and scope of the MSPlan. This is followed by preparatory actions that lay the groundwork for the planning process (e.g., definition of work packages, estimation of timelines for each package, and coordination and engagement of stakeholders involved in plan development). This is followed by the detailed presentation of the individual phases of the MSPlan (e.g., MSPlan draft, amended MSPlan draft, and final MSPlan).

The methodological approach towards processes and procedures of the MSPlan, as well as its structure and the foreseen timeline for its preparation, have been outlined. For example, Goličnik Marušić et al. (2018) proposed the following segments for the MSPlan: (a) the legal and broader development framework of the MSPlan; (b) the MSPlan framework, including competences, responsibilities, key elements, and formats; (c) the process and procedure for preparing the MSPlan and its relationship with higher-level spatial planning

documents (MNVP, 2023), development planning (Government of the Republic of Slovenia, 2017), and the state's orientation at transnational and cross-border levels; (d) demonstration and analysis of the current situation, ongoing processes, demand, planned activities, and uses within the marine environment, particularly concerning the coastal zone and its hinterland; (e) definition of scenarios and visions for the future development of maritime space; (f) preparation of the MSPlan draft; (g) public consultation on the MSPlan draft; and (h) adoption of the MSPlan.

They also suggest an appropriate timeframe for completing these steps, estimating that the entire process should take about 18 months.

3.5. Process: Procedures Relations

One of the key innovations in the proposed concept for the MSPlan process and procedures is the identification of the relationships between them and how these relationships affect the MSPlan production. The structure of the MSPlan implementation procedure is designed to follow and support each phase of the MSPlan preparation process. Figure 4 illustrates these relationships, with the main connections highlighted by bold arrows. Recognising these connections is essential for ensuring a smooth preparation process. In the event of any bottlenecks, this clarity allows for swift and targeted interventions, as the links between procedures and the preparation process can be readily identified and addressed.

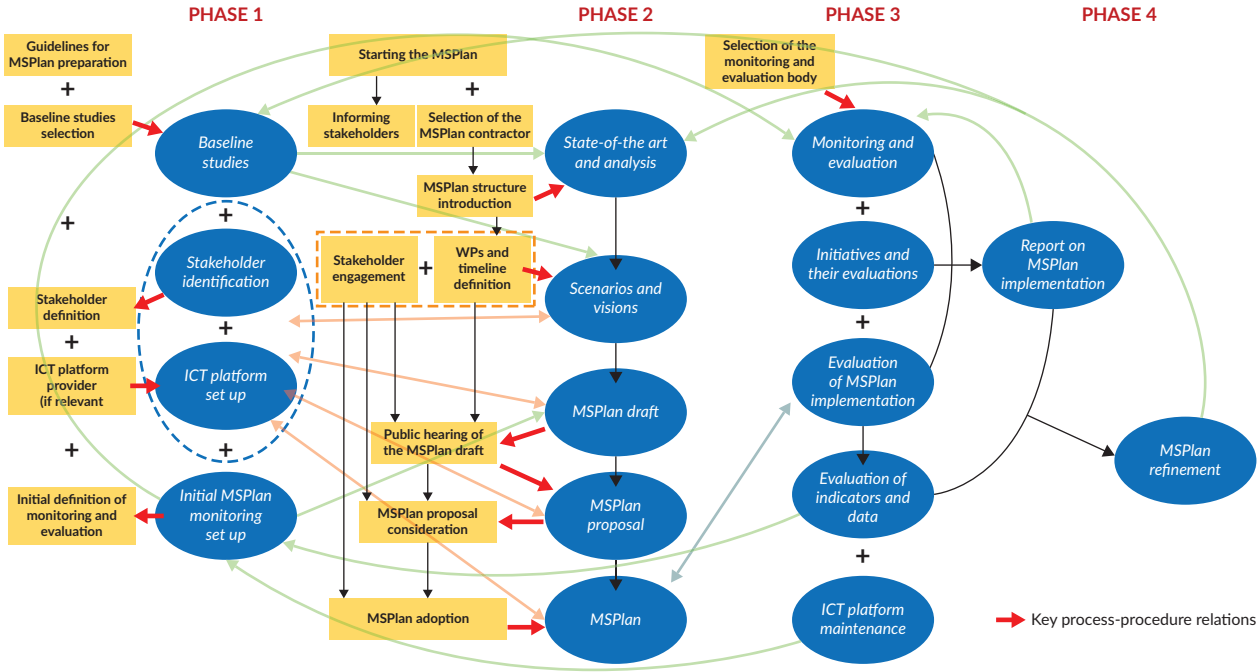

Figure 4. Relations between the process and the procedure in MSPlan preparation. Source: Goličnik Marušić et al. (2018).

4. MSPlan Contents and Form

The foundation for the content of the MSPlan is established by the EU Maritime Spatial Planning Directive 2014/89/EU, with particular emphasis on Articles 5, 6, 7, and 8. Given Slovenia's spatially limited marine area

and relatively short coastline, it is essential to provide detailed definitions of certain uses and activities, as the cumulative pressures exerted on the marine environment, coastline, and adjacent hinterland can be significant. The form of the MSPlan aligns with the requirements outlined in the Directive 2014/89/EU (2014), while also being harmonised with Slovenia's Spatial Planning Act and national spatial planning system. The MSPlan is composed of two main components: a strategic part and a detailed part. The strategic part presents the current state and planned activities, supported by cartographic representations at a scale of 1:250,000, offering a broad overview suitable for high-level decision-making. The detailed part provides finer spatial resolution at a scale of 1:50,000, where precise, up-to-date digital data on existing conditions and planned uses are depicted, enabling more granular analysis and implementation.

In line with the Spatial Planning Act (ZUreP-3, 2021), the MSPlan is developed as an action programme to implement the Spatial Development Strategy of Slovenia 2050 (MNVP, 2023). As such, the MSPlan serves as a strategic document guiding the development of activities in the marine area and its hinterland. To strengthen its connection with regional and local spatial planning documents, we propose a more detailed elaboration of the MSPlan in this context. Positioned appropriately within the hierarchy of planning documents, the MSPlan draws from higher-level national, cross-border, and supranational guidelines for maritime and coastal development. At the same time, it provides a foundation for subordinate planning documents at the regional and local levels.

Table 2 illustrates the relationship between the territorial levels relevant to maritime spatial planning and marine management. It emphasises the definition of the essential content required for maritime spatial planning, along with the corresponding scope and scale of the cartographic representations at each level.

Table 2. Territorial levels of MSPlan.

Territorial level	Document	Content	Territorial level of the cartographic representation in the document
Transnational level	Spatial Development Strategy of Slovenia 2050 (MNVP, 2023)	Creation of strategic spatial guidelines for Slovenia's participation in the implementation of the EU Strategy for the Adriatic and Ionian Region (EUSAIR; blue growth, regional integration, environmental quality, and sustainable tourism). Strategic spatial orientations are linked to the goals, orientations, and measures formulated in the Development Strategy of Slovenia 2030 (Služba Vlade Republike Slovenije za razvoj in evropsko kohezijsko politico, 2017)	A schematic representation (in digital form) of Slovenia's strategic spatial guidelines for activities within all four pillars of the EUSAIR is drawn on the prepared cartographic bases The display area covers the entire EUSAIR area

Table 2. (Cont.) Territorial levels of MSPlan.

Territorial level	Document	Content	Territorial level of the cartographic representation in the document
Cross-border level	Spatial Development Strategy of Slovenia 2050 (MNVP, 2023)	The creation of strategic spatial guidelines for cross-border cooperation between Slovenia and the neighbouring Republic of Italy and Croatia is linked to the applicable mutual agreements and understandings and the EUSAIR. The strategic spatial guidelines are also linked to the objectives, orientations, and measures formulated in the Development Strategy of Slovenia 2030 (Služba Vlade Republike Slovenije za razvoj in evropsko kohezijsko politiko, 2017)	A schematic representation (in digital form) of Slovenia's strategic spatial guidelines for the implementation of cross-border activities within the North Adriatic region is drawn on the prepared cartographic bases The display area covers the entire area of the Northern Adriatic and its wider hinterland areas from the Gulf of Trieste to the virtual line between the cities of Zadar (Croatia) and Ancona (Italy)
National level	Spatial Development Strategy of Slovenia 2050 (MNVP, 2023)	Setting up strategic spatial orientations of Slovenia for the development of its marine waters and hinterland, taking into account the strategic spatial orientations of Slovenia at the transnational and cross-border level	A schematic representation (in digital form) of Slovenia's strategic spatial orientations is drawn on the prepared cartographic bases The display area covers the whole of Slovenia
Sub-national level	MSP as the Action Programme (strategic part)	Selection of the most appropriate scenario for the strategic spatial development of marine space in relation to its coastal areas and hinterland, based on the strategic content and orientations developed at the transnational, cross-border, and national levels, and the known long-term development initiatives of the sectors	The prepared cartographic bases shall illustrate the situation and key planned activities in the marine space The cartography covers the area of the Slovenian waters and the coastal hinterland across the Karst edge to the settlement triangle formed by the settlements of Kozina, Divača, and Sežana
Sub-national level	MSP as the Action Programme (detailed part)	The strategic part forms the basis for a further detailed MSP proposal	The prepared cartographic bases shall display real data on the state of the art and planned activities in the maritime space, based on available digital data, for each individual activity or groups of compatible activities or uses Display area coverage: (a) The Bay of Koper and the coastal zone (b) The Bay of Piran and the coastal zone

Table 2. (Cont.) Territorial levels of MSPlan.

Territorial level	Document	Content	Territorial level of the cartographic representation in the document
Regional level/ Sub-municipal level	Regional Spatial Plan	The contents of the MSP as an action programme are transferred to the regional spatial plan	The prepared cartographic bases shall display real data on the state of the art and planned activities in the marine space, based on available digital data, for each individual activity or use defined in the content of the MSP, or for groups of compatible activities or uses The display area covers the adequate region
Local level/ Municipal level	Municipal Spatial Plan	On the basis of the established goals, directions, and measures of spatial development in the marine space and its hinterland, and within the framework of the regional spatial plan, spatial arrangements of local importance are presented in detail	The prepared cartographic bases shall display real data on the state of the art and planned activities in the marine space, based on available digital data, for each individual activity or use defined in the MSP, or for groups of compatible activities or uses The display area covers the territory of the municipality and considers the prescribed cartographic representations for the preparation of the Municipal spatial plans

Source: Goličnik Marušić et al. (2018).

5. Discussion

The project aimed to establish a process and set of procedures for the MSPlan that would comply with national legislation and align with relevant EU Directives, while also being innovative and pragmatic to ensure the future feasibility of MSPlan preparation. To test the implementation potential of the proposed MSP, we conducted a simulation involving stakeholder engagement through a focused group workshop. We also gathered and reviewed all available data relevant to fulfilling the minimum content requirements of the MSPlan. During this process, several challenges emerged, primarily due to the absence of necessary data and the inadequate quality of existing data identified as relevant under Directive 2014/89/EU. As a response, we recommended that the missing data be included in the list of official databases maintained by the relevant ministries. Additionally, data currently falling short of MSPlan requirements should be systematically recorded and gradually improved—both in quality and scope—to meet the standards necessary for effective maritime spatial planning.

5.1. MSPlan of Slovenia

Slovenia's current MSPlan (MNVP, 2021) was developed for a ten-year period and is based on key recommendations proposed by Goličnik Marušić et al. (2018). The responsibility for its preparation, monitoring, and evaluation lies with the state. The plan addresses both individual uses and activities at sea

and coastal areas, as well as the interactions between them. Key issues and challenges are presented both in a textual part and through graphical maps at four different scales as summarised in Table 3. Slovenia's MSP also includes annexes such as an environmental report and the current state of space.

Table 3. The list of maps of the MSPlan of Slovenia.

Scale	Map content
1:100,000	Maritime spatial plan area
1:250,000	Cross-border impacts of the Slovenian sea
	Concept of development of the Slovenian sea and coastal area
1:50,000	Mariculture areas
	Fishing areas, legal regimes, and restrictions
	Areas of maritime affairs and maritime transport
	Activity areas for the needs of defence and protection from natural and other disasters
	Nature conservation areas
	Areas of extraction of raw material
	Scientific research areas
	Areas of tourism, sport, and recreation
	Immovable cultural heritage protection areas
	Coastal strip at sea and on land
1:25,000	Coastal strip division into spatial planning units, part 1
	Coastal strip division into spatial planning units, part 2

A recent ex-post assessment and analysis examined the implementation of Slovenia's MSPlan for the period from its adoption in 2021 to 2024 (Gulič & Goličnik Marušić, 2024). This assessment was prepared as part of the Spatial Development Report 2024, developed to support the work of the MNVP. The evaluation focused on individual activities and uses as defined in Directive 2014/89/EU, which establishes a framework for maritime spatial planning.

The ex-post assessment of Slovenia's MSPlan, adopted in 2021, highlights several areas for potential improvement. Key recommendations include strengthening the consideration of climate-change resilience, particularly in relation to mariculture, and adopting a more coordinated cross-border approach to fisheries management. Multifunctionality in marine environments presents notable challenges. Greater attention is needed to assess the socio-economic impacts of energy infrastructure on fisheries and local communities; to align maritime transport planning with environmental and infrastructure needs, including international cooperation; and to define clearer biodiversity goals and monitoring mechanisms. Enhanced stakeholder engagement is also recommended, particularly in connection with the preparation and implementation of climate adaptation plans. In the tourism sector, the assessment found an insufficient focus on sustainability, specifically in limiting mass tourism, reducing emissions, and addressing the impacts of climate change. A more robust environmental monitoring system is necessary. Regarding underwater cultural heritage, the MSPlan lacks detailed management strategies, long-term conservation measures, and the use of modern documentation tools such as 3D modelling. It also needs clearer guidance on integrating heritage protection into sustainable tourism development.

The implementation of Slovenia's MSPlan has involved varying levels of engagement across different sectors. State departments have been particularly active in the fields of mariculture and fisheries, concentrating on ongoing activities, regulatory preparations, and measures related to the European Maritime, Fisheries, and Aquaculture Fund. Departments responsible for defence, disaster protection, and nature conservation have also been proactive in carrying out planned MSPlan activities. Additionally, notable progress has been made in areas such as raw material extraction, scientific research, and underwater cultural heritage, where activities are generally aligned with the indicators set out in the MSPlan.

However, limited activity has been observed in several key sectors. State departments have not made significant progress in areas such as energy infrastructure, maritime transport, submarine cables and pipelines, or tourism. These gaps indicate shortcomings in the implementation of the MSPlan, particularly in sectors that are critical to sustainable economic development and environmental sustainability. Strengthening engagement in these areas could significantly improve the overall effectiveness of maritime spatial planning in Slovenia. Importantly, this ex-post analysis serves not only as a monitoring tool for the current MSPlan's implementation but also as a baseline for the next generation of the plan. It also highlights where gaps occurred in stakeholder involvement or where willingness to participate was lacking, offering valuable insights to guide and improve the preparation and implementation of future MSPlans.

5.2. Relevant Insights for the BlueGreen Governance Project and the Wider Scientific Community

This article reflects on the Slovenian MSP process, with particular focus on the pre-MSP activities. It details how the planning process and procedures were developed and later used as the key expert baseline for the current Slovenian MSP. The article presents evidence of the attention given to cross-border aspects, demonstrating how these were integrated throughout the planning process and considered in the final Slovenian MSPlan (MNVP, 2021). These insights contribute to a broader understanding of integrated governance in MSP, particularly within the North Adriatic case study of the BlueGreen Governance (BlueGreen Governance, n.d.) project, where adaptive cross-border governance solutions are currently being tested.

Alongside a brief commentary on the evaluation of the MSPlan, this article places Slovenia's MSP within the broader context of European MSP challenges. It highlights the need to address gaps and shortcomings in MSPlan implementation, particularly in sectors critical to both sustainable economic development and environmental protection. The article also emphasises the importance of strengthening engagement in these areas to significantly enhance the overall effectiveness of MSP across Europe, including increasing stakeholder willingness to actively participate. This overview of the preparation phase for the Slovenian MSPlan highlights the importance of developing both the MSP process and its procedures in parallel, while continuously reflecting on their interrelation. This parallel approach ensures strong connectivity between the two and, most importantly, facilitates a smoother preparation of the final MSPlan.

6. Conclusions

This article presents the results of the research project Development of the Process and Procedures for the Preparation of Integrated Maritime Spatial Planning (2016–2018), which aimed to define both the process and procedures for preparing MSPlans. As part of the project, we proposed a four-phase MSPlan process:

Preliminary MSPlan preparation, MSPlan preparation, MSPlan implementation monitoring and evaluation, and MSPlan monitoring and updating. Each phase includes independent or sequential steps, with procedural links between them. A key connection between the preliminary and main preparation phases is the stakeholder involvement process. The structure ensures that all identified stakeholders can participate actively in the MSPlan preparation phase. In contrast, involvement in the preliminary phase is limited to representatives of strategic development or conservation initiatives. Depending on the judgment of the MSPlan team, experts and other stakeholders may be involved either directly or in specific parts of the planning process. To ensure transparency, traceable stakeholder involvement, and effective monitoring and evaluation of MSPlan implementation and updates, we proposed a web-based interactive platform—where feasible—as a supporting tool.

In accordance with Slovenian legislation, we propose that the MSPlan be structured as an Action Programme for implementing the Slovenian Maritime Spatial Development Strategy. Cartographic materials should be prepared at two scales, corresponding to strategic and detailed levels of planning. At the strategic level, the current state and key planned activities should be presented at a scale of 1:250,000. At the detailed level, accurate representations of the current situation and planned activities, based on available digital data, should be provided at a scale of 1:50,000. The final Slovenian MSPlan followed these recommendations. In addition, it included a general map of the entire marine spatial planning area at a scale of 1:100,000, as well as two detailed maps of the coastal strip at sea and on land. These were titled Coastal Strip Division into Spatial Planning Units, part 1 and part 2, and were prepared at a scale of 1:25,000.

The current analysis of MSPlan implementation, together with a review of its process and procedures, provides a crucial foundation for enhancing future planning, implementation, and monitoring activities. These findings also serve as a baseline input for the BlueGreen Governance project (BlueGreen Governance, n.d.), which considers the North Adriatic region as a cross-border case study.

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Conflict of Interests

The authors declare no conflict of interests.

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