

Multi-Use Participatory Marine Governance Strongyli – Makry_Alimia Maritime Area

Collaborative Governance for resilient and balanced multi-use marine systems

Participatory Governance Framework for a South-Aegean Multi-Use Marine Area

Ecological Elements

- Posidonia habitats
- Natura 2000 areas
- Coastal erosion zones
- Sensitive ecosystems

Marine Activities

- Aquaculture
- Small-scale fisheries
- Tourism boats
- Diving activities

Governance Challenge

- Spatial coexistence
- Anchoring pressure
- Seasonal tourism
- Lack of structured dialogue

Participatory Governance

- Living Lab workshop
- Stakeholder dialogue
- Shared ecological priorities



Figure 1 Conceptual infographic illustrating the participatory governance framework applied to the multi-use marine area of Strongyli-Makry in the South Aegean Region.

Key Message

- The Strongyli-Makry-Alimia maritime area demonstrates how structured stakeholder dialogue can support resilient and balanced multi-use marine systems in Mediterranean island environments.
- Participatory governance strengthens ecological awareness without imposing regulatory measures.

Policy Relevance

International policy:

- EU Biodiversity Strategy 2030
- EU Strategy on Adaptation to Climate Change
- Maritime Spatial Planning Directive
- Mission Ocean & Waters

What is the Challenge

The Strongyli–Makry maritime area, located off the western coast of Rhodes in the South Aegean, represents a multi-use marine system where aquaculture operations, small-scale fisheries and seasonal tourism activities coexist within a geographically confined space. The area also includes ecologically valuable elements, such as potential *Posidonia oceanica* meadow, exposed coastal segments that may be subject to erosion processes, all within two Natura2000 designated areas.

The coexistence of productive uses and sensitive marine habitats creates cumulative pressures, particularly in relation to anchoring practices, spatial competition among activities and localized coastal instability. While these activities are not inherently incompatible, their interaction in the absence of a structured dialogue platform may increase the risk of environmental pressures, misunderstandings among stakeholders and reduced long-term ecological resilience.

Currently, no dedicated participatory governance mechanism exists that facilitates regular communication, shared understanding of ecological priorities and coordinated approaches among the users of the area. This governance gap limits the capacity to proactively address emerging pressures and to strengthen ecological awareness within a multi-use maritime context.

Within the framework of the A-AAGORA project, this challenge was explored through a participatory evaluation process coordinated by Blutopia acting as technical advisor to the South Aegean Associated Region.

An Innovative Solution

The solution developed within the South Aegean Associated Region consists of a structured participatory governance framework tailored to the specific characteristics of a multi-use marine area. Rather than introducing regulatory restrictions or spatial designations, the approach focuses on creating a facilitated platform for dialogue among key stakeholders operating within the Strongyli–Makry maritime system.

The innovation lies in adapting Living Lab principles to a regional, non-regulatory governance context. Through this approach, aquaculture operators, fishers, tourism actors, local authorities and scientific representatives are brought together to jointly identify ecological priorities, discuss operational pressures and explore voluntary measures that enhance environmental resilience. The model emphasises co-creation, transparency and shared understanding while remaining fully compatible with existing economic activities.

Through a structured workshop process and documented stakeholder engagement, the framework generates a shared knowledge base, highlights ecologically sensitive elements such as seagrass habitats and erosion-prone coastal segments, and supports the identification of coordinated, non-binding actions. By embedding ecological awareness within a multi-use governance setting, the solution strengthens long-term environmental resilience while maintaining the productive functions of the marine area.

The Benefits the solution produces

- **Structured stakeholder dialogue** that facilitates regular communication among aquaculture operators, fishers, tourism actors, public authorities and scientific organisations operating within the marine area.
- **Increased ecological awareness** among marine users regarding sensitive habitats, cumulative pressures and the importance of ecosystem protection.
- **Shared understanding of environmental priorities** through collective discussion of ecological conditions, operational pressures and opportunities for improved coordination.
- **Reduced conflict potential between sectors** by providing a neutral platform where different maritime users can openly discuss challenges and identify mutually beneficial practices.
- **Improved transparency and trust among stakeholders**, strengthening cooperation and facilitating long-term collaboration.
- **A foundation for adaptive marine management**, enabling stakeholders and authorities to explore voluntary measures and future governance approaches as environmental conditions or policy frameworks evolve.
- **Promotion of multi-use of marine space** by enabling the coexistence of activities such as aquaculture, tourism and fisheries, while supporting diversification of activities and income opportunities for marine users.

How developed is the solution

The proposed solution builds upon an already regulated and structured operational environment. Aquaculture facilities operating in the Strongyli–Makry maritime area are subject to national and European environmental legislation, including Environmental Impact Assessment procedures and ongoing environmental monitoring obligations. Likewise, licensed boat tour operators and other maritime tourism actors operate under established regulatory frameworks governing safety, navigation and operational requirements.

The participatory governance framework therefore does not emerge in an unregulated or experimental context. Instead, it is embedded within a legally defined system where environmental safeguards and operational controls are already in place. The innovation of the solution lies not in introducing additional regulatory mechanisms, but in strengthening coordination, transparency and shared understanding among actors who already operate under formal regulatory obligations.

At its current stage, the solution can be positioned at approximately **Social Readiness Level (SRL) 5–6**. Stakeholder mapping has been conducted, structured dialogue mechanisms have been designed and implemented through a co-creation workshop, and the governance concept has been tested in a real-world stakeholder setting within the Strongyli–Makry–Alimia maritime area. The process demonstrated its capacity to facilitate constructive exchange, identify shared ecological priorities and support voluntary alignment of practices without interfering with existing economic activities.

While the framework does not introduce binding measures or spatial designations, it establishes the foundational conditions for collaborative marine stewardship. In the longer term, such a structured platform could contribute to informed dialogue with competent national authorities should discussions arise regarding enhanced marine protection or spatial coordination. However, the present blueprint remains focused on strengthening participatory governance within the existing institutional and regulatory framework.

In this sense, the solution represents a socially operational and institutionally grounded governance approach with demonstrated feasibility at an initial pilot stage.

Where could also be applied to?

This solution can be applied in multi-use coastal and marine areas where different economic sectors operate within a shared and often spatially constrained environment. It is particularly relevant in regions where formal Marine Protected Areas are absent but where improved coordination and structured dialogue among marine users are needed.

The model is especially suitable for areas where marine tourism represents a dominant economic activity and where its seasonal intensity may unintentionally marginalize other sectors such as aquaculture, small-scale fisheries or environmental protection initiatives. In such contexts, the absence of structured participatory governance mechanisms may lead to fragmented decision-making, spatial competition and limited integration of ecological considerations into operational practices.

The framework is particularly relevant for Mediterranean coastal regions, where high tourism pressure, dense maritime activity and diverse stakeholder landscapes coexist within ecologically sensitive marine ecosystems. Across the Mediterranean basin, numerous coastal areas face similar conditions where economic dependency on marine resources intersects with ecological value and increasing environmental pressures, while coordinated governance structures remain limited.

Beyond the Mediterranean, the solution may also be transferable to island regions and coastal zones worldwide that face similar challenges related to spatial coexistence, cumulative environmental pressures and limited institutional platforms for stakeholder engagement.

The adaptability of the model lies in its non-regulatory nature, its reliance on structured stakeholder dialogue and its ability to operate within existing legal and operational frameworks. In this sense, the proposed governance framework offers a scalable and context-sensitive approach for enhancing coordination, strengthening ecological awareness and fostering collaborative marine stewardship across diverse geographical settings.

Area Characteristics	Intention for applying the solution
Multi-use coastal and marine areas where aquaculture, fisheries and marine tourism coexist within spatially constrained environments	To enhance coordination among users, strengthen ecological awareness and support balanced coexistence without introducing regulatory restrictions
Coastal regions lacking formally designated Marine Protected Areas but where ecological value is recognised	To create a structured platform for dialogue, identify biodiversity priorities and support collaborative marine stewardship
Areas where tourism represents a dominant economic activity potentially influencing spatial use decisions	To ensure that other activities, such as aquaculture and environmental protection, remain integrated into marine governance discussions
Municipalities or regions with biodiversity strategies and climate resilience plans	To connect community-level engagement with regional policy objectives in biodiversity conservation and sustainable marine management
Island systems and semi-enclosed seas with high stakeholder diversity and cumulative pressures	To foster participatory governance mechanisms that improve transparency, reduce conflict potential and strengthen long-term resilience
Mediterranean coastal areas characterised by seasonal tourism intensity and ecological sensitivity	To improve integration of environmental considerations into operational practices and promote shared responsibility among stakeholders

Who is this relevant to?

The proposed participatory governance framework is relevant to a wide range of actors involved in the management, use and stewardship of coastal and marine environments.

Public authorities and governance bodies

- Regional authorities and municipalities seeking to strengthen structured marine governance and improve coordination in multi-use coastal areas.
- Port authorities and maritime administrations responsible for navigation safety, spatial coordination and maritime operations.

Economic sectors operating within the marine area

- Aquaculture operators operating under environmental regulatory frameworks who wish to enhance transparency and stakeholder dialogue.
- Small-scale fishers and fisheries associations whose operational activities intersect with other marine uses.
- Licensed boat tour operators and marine tourism businesses integrating environmental awareness into their activities.

Scientific and environmental organisations

- Environmental and nature conservation NGOs contributing scientific expertise and stewardship perspectives.
- Research institutions and scientific bodies supporting evidence-based marine governance and ecological monitoring.

Local communities and education

- Local community groups and citizen associations interested in biodiversity, marine sustainability and participatory engagement.
- Educational institutions and school groups promoting ocean literacy and long-term behavioural change.

What do you need to have in place:

The successful implementation of the participatory governance framework requires the presence of key institutional actors and an enabling environment that supports collaboration among different marine users.

- Engagement of regional authorities and municipalities willing to support structured dialogue and coordination in multi-use coastal areas.
- Participation of aquaculture operators operating under environmental regulatory frameworks who are interested in enhancing transparency and stakeholder communication.
- Involvement of small-scale fishers and fisheries associations whose operational activities intersect with other maritime uses.
- Collaboration with licensed boat tour operators and marine tourism businesses integrating environmental awareness into their activities.
- Contribution of environmental NGOs and conservation organisations providing scientific knowledge and stewardship perspectives.
- Participation of research institutions and scientific bodies supporting evidence-based marine governance and ecological understanding.
- Engagement of local community groups and citizen associations interested in biodiversity, marine sustainability and participatory decision-making.
- Involvement of educational institutions and schools promoting ocean literacy and long-term environmental awareness.
- Coordination with port authorities and maritime administrations responsible for navigation safety, spatial planning and marine operations

Key components of implementation:

- Define the territorial scope of the multi-use marine area and clearly identify the main activities and ecological features present within the system.
- Appoint or identify a coordinating body responsible for facilitating the participatory governance process and ensuring continuity of stakeholder dialogue.
- Conduct comprehensive stakeholder mapping in order to identify all relevant marine users, including fisheries, aquaculture, tourism operators, public authorities, scientific institutions and civil society organisations.
- Initiate bilateral consultations with key stakeholders to explain the objectives of the governance initiative, build trust and clarify expectations prior to collective discussions.
- Organise a structured multi-stakeholder workshop based on Living Lab or co-creation principles in order to bring together different sectors and encourage open dialogue.
- Facilitate thematic discussions focusing on ecological priorities, operational pressures and opportunities for improved coordination among maritime activities.
- Document the outcomes of the participatory discussions, including identified challenges, shared priorities and potential voluntary measures that could reduce environmental pressures.
- Develop a concise governance framework summarising the agreed principles, coordination mechanisms and areas of potential collaboration among stakeholders.
- Establish communication channels or periodic follow-up meetings to maintain dialogue and ensure that stakeholder engagement continues beyond the initial workshop.
- Where appropriate, communicate the outcomes of the participatory process to regional authorities and policy makers so that they can inform broader marine planning discussions without introducing binding regulatory measures.



Monitoring your success:

The success of the participatory governance model can be assessed through a combination of environmental awareness indicators, stakeholder engagement metrics and the continuity of collaborative dialogue among marine users.

Environmental Awareness and Biodiversity Considerations

- Observations of key marine habitat indicators, such as the presence and condition of seagrass areas (e.g. *Posidonia oceanica*) during periodic field observations.
- Documentation of visible environmental pressures, such as anchoring impacts or coastal erosion patterns.
- Recording of marine species groups during structured field observations or eco-monitoring activities linked to tourism or research initiatives.
- Evidence that ecological considerations are increasingly incorporated into stakeholder discussions and operational practices.

Stakeholder Participation and Societal Engagement

- Number and diversity of stakeholders participating in governance meetings or workshops.
- Representation of different sectors including fisheries, aquaculture, tourism, public authorities, NGOs and research institutions.
- Participation of local communities and educational institutions in awareness or ocean literacy initiatives.
- Feedback from stakeholders regarding transparency, cooperation and perceived benefits of the governance platform.

Governance Continuity and Collaboration

- Frequency of follow-up meetings or continued stakeholder dialogue after the initial co-creation workshop.
- Evidence of continued communication between sectors operating in the marine area.
- Emergence of voluntary commitments or collaborative initiatives developed through the governance process.
- Institutional willingness of regional authorities or local organisations to maintain the participatory platform over time.

The challenges you may encounter

List two challenges per activity area that people may encounter implementing the solution elements.

Activity	Challenge 1	Challenge 2
Definition of the territorial scope and multi-use characteristics of the marine area	Lack of agreement on the spatial boundaries of the area	Concerns from stakeholders that spatial discussions may lead to future restrictions
Stakeholder mapping and outreach	Limited response or hesitation to participate	Perception that the initiative may introduce regulatory measures
Initial bilateral consultations with key stakeholders	Limited availability of key actors	Lack of trust toward new governance initiatives
Organisation of the co-creation workshop	Uneven representation among sectors	Dominance of discussion by more influential stakeholders
Discussion of ecological priorities and operational pressures	Limited shared ecological baseline understanding	Concerns about potential implications for operational flexibility
Facilitation of multi-sector dialogue	Initial mistrust between different marine users	Misinterpretation of the process as a precursor to Marine Protected Area designation
Documentation and development of the governance framework	Stakeholders requesting formal commitments beyond the scope of the Blueprint	Political sensitivity regarding spatial management discussions
Post-workshop follow-up and communication	Declining engagement over time	Lack of institutional continuity to sustain the governance platform

Overall Assessment

The proposed participatory governance solution requires relatively limited financial investment, as it primarily relies on coordination capacity, facilitation expertise and stakeholder engagement rather than physical infrastructure or technological installations. The main resources required relate to staff time, the organisation and facilitation of stakeholder workshops, communication activities and the documentation of the participatory process.

Because the model builds upon existing institutional frameworks and economic activities already operating within the marine area, it can be implemented without introducing additional regulatory structures or complex administrative procedures. This makes the approach particularly suitable for regions where the establishment of formal protection measures may require longer legislative processes.

The initial implementation cycle of the participatory governance model can be initiated within a timeframe of approximately 3–6 months. This period typically includes stakeholder mapping, preparation and consultation phases, the organisation of the co-creation workshop and the documentation of outcomes.

The long-term effectiveness of the approach depends primarily on institutional commitment and the willingness of stakeholders to maintain dialogue and collaboration beyond the initial engagement phase. When supported by regional authorities or local coordinating bodies, the governance framework can evolve into a stable platform for communication, adaptive management and the exploration of future ecosystem-based initiatives

Key Contact – who to talk to about your application idea

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