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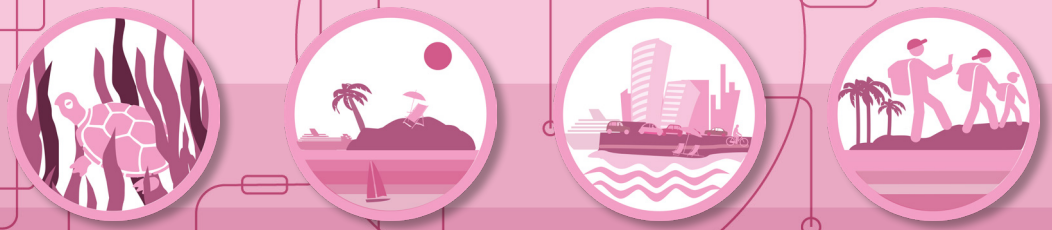
UNPACKING THE POTENTIAL OF INTEGRATED COASTAL ZONE MANAGEMENT & MARITIME SPATIAL PLANNING PROCESSES FOR SUSTAINABLE TOURISM IN THE MEDITERRANEAN

PRACTICES HANDBOOK



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Credits

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1. Summary

The Community4Tourism project (**C4T**) is an Interreg Euro-MED project aimed at enhancing tourism governance with a strong emphasis on the environment and climate, promoting a smarter and greener Mediterranean.

As part of this project, Community4Tourism has produced a Practices Handbook highlighting the added value of both legislative frameworks, Integrated Coastal Zone Management (ICZM) Protocol and the Maritime Spatial Planning (MSP) Directive, in advancing sustainable regional tourism practices. This handbook compiles practices from a range of destinations across both shores of the Mediterranean.

The Practices Handbook serves as a knowledge tool supporting Maritime and Coastal Mediterranean destinations in defining integrated action plans, strategies, and regulations for sustainable tourism. It provides key information about the types of actors leading and/or involved in each practice. The Practices Handbook combines descriptive, comparative and normative approaches to unpack the potential of ICZM Protocol and MSP Directive and their key elements to advance in the sustainable planning and management of tourism & leisure activities in the Mediterranean.

The selected practices which have been highlighted are linked to the principles of the ICZM Protocol and MSP Directive, offering useful inspirations for territorial players aiming to harmonise human activities with natural systems. It introduces planning and management practices related to conflict of use, climate adaptation, and other dimensions affecting tourism. The proposed work was conducted by four researchers and peer-review mechanism support, guided by selecting criteria based on literature review and ICZM/MSP legislative principles.

Additionally, by showcasing territorial planning practices, the Handbook ultimately underscores the importance of integrating the tourism activities within current and future coastal and marine spatial plans in the Mediterranean. Finally, although the practices gathered in this Handbook are not always officially linked to the ICZM Protocol or MSP directive, a generic section on the general fundamental legal guidance and procedural elements has been included to inspire and guide the decision makers when planning sustainable tourism in an integrated way using these processes.

2. Introduction

2.1 The Community4Tourism project

The Interreg Euro-MED Thematic Community Project of the Sustainable Tourism Mission, Community4Tourism (C4T), is based upon the main objective of improving better management of cooperation in tourism policy governance, as well as from the multi-sectoral, multi-level and transnational points of view, with a strong focus on environment and climate. It promotes a smarter and greener Mediterranean, which aligns with the European Green Deal, the United Nations Sustainable Development Goals, the Territorial Agenda 2030, and other key initiatives such as the Glasgow Declaration on Climate Action in Tourism. The project is built upon the outputs of the Interreg MED 14/20 BleuTourMed and the Sustainable Tourism Community Projects but reinforces its objectives to current new challenges and the programme's priorities. Community4Tourism integrates the 4 Programme's specific objectives, as tourism has shown itself to be a transversal issue in the MED area, involving all kinds of stakeholders, agents, and territories. Therefore, synergies with the other Interreg Euro-MED missions and thematic projects are identified and promoted. It addresses its activities to pursue the consolidation of a competitive innovation ecosystem, support a circular economy, promote climate change adaptation and mitigation, and enhance nature and biodiversity. In the framework of this project, the C4T produces a handbook compiling planning and management practices and raising awareness on the value of the Integrated Coastal Zone Management (ICZM), as well as Maritime Spatial Planning (MSP) to advance into the implementation of sustainable tourism in the region.

2.2 Learning through practices

Tourism planning and policy knowledge are socially constructed with profound implications on how dominant ideas influence how tourism should be planned and governed[1] . Meanwhile, policies and regulations at European and Mediterranean levels show the way tourism must or should respond to sustainability challenges based on these dominant ideas. However, the ways tourism planning and management happens may vary from one place to another, somewhere else[2] , as a response to diverse political systems and historical power relations, and therefore, changing over time.

Accordingly, the Practices Handbook is presented as a knowledge tool combining normative, descriptive and comparative approaches to unpack the potential of

1 Dregde et al. (2011, p.14)
2 Based on John Law (2015) notions about knowledge practices from the Science and Technology Studies.

ICZM Protocol and MSP Directive and key elements to advance our understanding of sustainable planning and management of coastal-maritime tourism & leisure activities in the Mediterranean. Instead of offering a Practices Handbook on how tourism should be planned and managed, this handbook combines practices that reflect how integrated territorial planning and management responds to tourism impacts and conflicts in diverse territories.

2.3 Integrated Coastal Zone Management and Maritime Spatial Planning: Legislative Framework and Scope of Application

2.3.1 Legislative point of reference

The Convention for the Protection of the Maritime Environment and the Coastal Region of the Mediterranean (called the Barcelona Convention) and its Protocols provide legal guidance to Mediterranean countries from both shores on the interaction between human activity and the coast and the sea. One of the protocols is devoted to **Integrated Coastal Zone Management** and includes tourism as a target economic activity. In parallel, a European Union Directive regulates **Maritime Spatial Planning**, and promoting sustainable tourism is one of its objectives. In this line, tourism is one of the activities to be included in such planning. Given its relevance, using its provisions generally has been considered appropriate, even if they only apply to the EU Member States.

On one hand, The Barcelona Convention – ICZM Protocol[3] , a pioneering legal instrument, was adopted by the contracting parties to the Barcelona Convention in 2008. The Protocol's primary aim is to facilitate sustainable development and management of the Mediterranean's coastal zones. It is a regulation that intends to limit and reduce the pressure on coastal-marine biodiversity through the management of part of the human activities that damage living species, mainly if it is a protected one, according to the ICZM definition established in the Protocol[4]. **The key elements to set up an Integrated Coastal Zone Management system are:**

- **Public participation**: It is essential to ensure the timely participation of all stakeholders, civil society and society as a whole. A regulation decision-making process that does not respect this step would not meet real societal needs.

3 The Protocol on Integrated Coastal Zone Management in the Mediterranean was presented by the Barcelona Convention contracting parties (Convention for the Protection of the Maritime Environment and the Coastal Region of the Mediterranean, adopted at Barcelona on 16 February 1976 and amended on 10 June 1995).
4 Art.2.f). Definitions.

- **Integrated approach**: The ICZM Protocol mandates an integrated approach to coastal zone management that considers the interconnectivity between land and sea, including social, economic, and environmental factors. In this view, tourism activities must be approached and regulated as a priority as long as they are relevant socio-economic activities in the coastal areas, and sea, including social, economic, and environmental factors. In this view, tourism activities must be approached and regulated as a priority as long as they are relevant socio-economic activities in the coastal areas, and many depend on the sea's proximity and their land-sea interactions[5].
- **Sustainable development**: The Protocol promotes sustainable development, balancing economic growth with the preservation of natural resources and biodiversity. The sustainable development of coastal zones must be ensured, at least considering the carrying capacity and ecosystem approaches[6].
- **Strategic planning**: It requires the formulation of national strategies for ICZM, including the establishment of mechanisms for cooperation and coordination among relevant authorities. Thus, governance formulas must be included in the regulation provisions to ensure the coordination of all the competent authorities[7].
- **Climate change adaptation**: The Protocol underlines the need for strategies to mitigate and adapt to the impacts of climate change on coastal zones.
- **Monitoring and surveillance provisions**, as well as financial instruments, should be foreseen[8].

It is important to note that the ICZM Protocol is a **voluntary instrument**, meaning its implementation depends on the willingness of the Mediterranean countries to adopt and enforce its provisions.

On the other hand, the Maritime Spatial Planning EU Directive (2014/89/EU) was adopted by the European Parliament and the Council in, 2014. The MSP Directive establishes a framework for maritime spatial planning with the goal of promoting the sustainable growth of maritime economies, the sustainable development of marine areas, and the sustainable use of marine resources. **Key elements of the MSP Directive include**:

- **Legally binding**: Unlike the ICZM Protocol, the MSP Directive is legally binding for all EU Member States, requiring them to transpose its provisions into national law.

5 Art.6.f), g). General principles of integrated coastal zone management.
6 Art.6.b), c). General principles of integrated coastal zone management.
7 Art.7. Coordination.
8 Art. 16. Monitoring and observation mechanisms and networks. Art. 21. Economic, financial and fiscal instruments.

- **Framework for planning**: It provides a framework for the development of maritime spatial plans that aim to manage human activities in marine waters to achieve ecological, economic, and social objectives.
- **Cross-border cooperation**: The Directive encourages cooperation among Member States to ensure coherent and coordinated maritime spatial planning across regional seas.
- **Stakeholders involvement**: It requires Member States to ensure that stakeholders, including public authorities, economic and social partners, and the public, are involved in the maritime spatial planning process. Stakeholders' participation is a minimum requirement[9] of any governance formula or regulation accompanying an action linked to the planning procedure.

The directive stresses the following elements that should be used to set up a properly maritime spatial plan[10]:

- **Initial analysis provision**: An initial analysis provision should be considered the first step of maritime spatial planning, according to the MSP definition contained in the Directive[11].
- **Land-sea Interactions**: It should take into account land-sea interactions[12], as well as the need to apply an ecosystem-based approach[13].
- **Environmental objectives**: The preservation, protection and improvement of the environment and the promotion of sustainable tourism are core objectives[14] to be considered by any regulation that intends to state guidelines for MSP somehow.
- **Stakeholders' participation**: a participatory approach is a minimum requirement[15] of any governance formula or regulation accompanying an action linked to the planning procedure.

Finally, in the context of environmental protection, other international regulations are involved and provide related principles to be respected and support ICZM approaches: the UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, which warrants the public participation on international decisions, as well as the Convention on

9 Art 6.2.(d). Minimum requirements for maritime spatial planning. Art. 9. Public participation.
10 Directive 2014/89/EU of the European Parliament and of the Council, of 23 July 2014, establishing a fra mework for maritime spatial planning.
11 Art.3 (2). Definition.
12 Art.4.2. Establishment and implementation of maritime spatial planning. Art.6.2. (a) Minimum requirements for maritime spatial planning.
13 Art 5.1. Objectives of maritime spatial planning.
14 Art 5.1. Objectives of maritime spatial planning.
15 Art 6.2.(d). Minimum requirements for maritime spatial planning. Art. 9. Public participation.

Biological Diversity or the United Nations Convention on the Law of the Sea. The MSP Directive aims to be coherent with other EU policies and directives, such as the Marine Strategy Framework Directive (2008/56/EC) and the Water Framework Directive (2000/60/EC)

2.3.2 Legal application disclaimer and limitations

An integrated approach to planning and management is a cornerstone of implementing coastal and maritime policies. Still, at the same time, it is a complicated endeavour to apply and measure[16] , partially due to the different data available and the institutional fragmentation of responsibilities concerning the coastal zones[17] . Integrated management implies considering the interrelationships between the uses of the sea, coastal zones and the environment they potentially affect[18] . However, in planning terms, it should embed diverse dimensions: spatial, temporal, horizontal (among different sectors, including tourism), vertical (among levels of government) and among knowledge disciplines[19]. Therefore, an integrated and strategic vision should guide the practice of public authorities and other stakeholders in analysing and organising human activities, such as tourism, in marine and coastal areas to achieve ecological, economic, and social objectives.

The non-binding legal character of the ICZM Protocol[20 21] involves a high political will and good faith from the Parties to adopt an ambitious understanding of the Protocol , while implementing the ecosystem-based approach is currently pointed as a critical challenge for the Maritime Spatial Planning[22] . Still, they need to be implemented in specific places to understand how these practices happen and evolve in meeting sustainability transition targets. Therefore, this knowledge tool is thought to inform planners and policy-makers along the implementation of the ICZM Protocol and EU MSP Directive at the sub-national scales by showing how guiding principles are currently implemented (by fostering a land-sea continuum) while offering some critical remarks for a given activity sector, tourism planning.

The features of the showcased practices and the lessons learned of this handbook have been legally scanned, as well as from a procedural point of view, based on the provisions of the binding regulations that could guide any ICZM or

16 A reflection made by Soriani et al (2015) based on the EU FP7 Project PEGASO.
17 PEGASO Project: https://www.vliz.be/projects/pegaso/images/stories/pegaso_draft_p5.p
18 Rochette and Billé (2010)
19 Soriani et al. (2015, p.6)
20 Billé & Rochette (2015)
21 UNEP/PAP-RAC (2016, p.61)
22 EU Commission (2022, p.15) https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52022DC0185

MSP administrative process[23] led by any Mediterranean public administration.

On the one hand, the Protocol on Integrated Coastal Zone Management in the Mediterranean applies specifically to the Mediterranean coastal zones of the contracting parties to the Convention. As a voluntary instrument, its implementation is subject to the discretion of the individual Mediterranean countries. The Protocol's flexible nature allows countries to tailor their national ICZM strategies and actions according to their specific coastal management needs and priorities.

On the other hand, Maritime Spatial Planning EU Directive 2014/89/EU is mandatory for all EU Member States, including their marine waters, defined as the waters, seabed, and subsoil on the seaward side of the baseline from which the extent of territorial waters is measured, extending to the utmost reach of the area where a Member State has and/or exercises jurisdictional rights.

Therefore, MSP (initially designed for European countries) can be considered the primary binding tool for implementing ICZM in maritime areas[24] , specifically for its sustainable planning and evaluation of land-and-sea interactions. On this basis, a summary approach to how they have been integrated into each typology of practices has been set up to support their implementation.

Finally, it is essential to note that, beyond the binding regulations, proper strategic guiding instruments have been approved over the years in the Mediterranean. Indeed, "the ICZM Protocol contains many provisions regarding governance, the implementation of which could not occur, at least not for the most part, through legal instruments only"[25]. Indeed, Strategic instruments help support policymakers' decisions and, in some cases, establish common objectives. Among others, the Barcelona Convention contracting parties adopted the Mediterranean's regional action plans. Also, in the context of regional meetings related to international cooperation projects, strategic charters such as the Bologna Charter and its Joint Action Plan have been created to promote a common framework for strategic actions to protect and develop the Mediterranean coastal areas.

23 The administrative process refers to the procedures and steps followed by public authorities when ma king decisions or taking actions.
24 See, in this sense, the Conceptual Framework for Marine Spatial Planning in the Mediterranean UN Environment/MAP Athens, Greece (2018).
25 Bille, J. and Rochette, J. (2015). The Mediterranean ICZM Protocol: Paper treaty or wind of change? Ocean & Coastal Management, 15, 84-91. https://doi.org/10.1016/j.ocecoaman.2014.12.025

2.4 Unpacking the Potential of ICZM & MSP Processes for Planning Sustainable Tourism

Tourism is among the five priorities of the EU Blue Growth Strategy[26] . It is a critical economic activity within cross-cutting issues of the Mediterranean Strategy for Sustainable Development 2016-2025[27] . The European Blue Economy Strategy[28] promotes an integrated framework to achieve the European Green Deal's objectives and complements other recent Commission initiatives on biodiversity, food, mobility, security, data and more. To advance into this and other agendas (EU Tourism Transition Pathway 2022)[29] in the coming years, the strategy urges improving and connecting knowledge and research infrastructures, providing sufficient financial resources and mechanisms, and implementing integrated planning through MSP, citizen engagement, and transboundary cooperation.

Despite the expectations of these international policy frameworks, coastal mass tourism in the Mediterranean is dramatically threatening both the environmental and social sustainability of destinations and the economic viability of the sector[30]. Tourism policies are majorly geared towards increasing revenue and maximising financial benefits. Still, they need to develop agendas towards climate change adaptation and mitigation[31] and integrate sustainability approaches in destination management[32]. Consequently, incorporating ICZM Protocol and MSP Directive planning frameworks, particularly at sub-national levels, should institute territorial tourism planning to approach the significant sustainability issues of mass coastal tourism[33] and other tourism related issues. Considering the land and environmental changes in the Mediterranean coastal areas, policymakers should build on new planning scenarios and design innovative planning/management instruments favouring growth containment and degrowth policies along diverse domains of action such as resources-consumption, low-carbon mobility, climate adaptation, and land-/sea-use change. Considering this shift is critical for the sustainability transitions of Mediterranean Tourism geographies because of the territorial nature of this economic activity:

- Coastal-maritime tourism operates intensively within an interrelated land-sea space while offering hospitality, transportation and other services and infrastructures to make tourism possible as a territorial phenomenon. Tourism

26 EU Commission (2017)
27 UNEP/MAP (2016)
28 EU Commission (2021)
29 EU Commission (2022)
30 UNEP/MAP & Plan Bleu (2020, p. 140
31 Becken, et al. (2020); Drius et al., 2018
32 González-Domingo, et al. (2018).
33 Blazquez-Salom, et al. (2019); Plan Bleu (2022)

is an activity that concerns both land and sea and, therefore, increases the challenge of integrating land and sea interactions into tourism planning.

- Tourism's multi-sectoral nature has complex implications, as each activity has its own spatial and temporal dynamics, conflictual interactions, and relative social acceptance.
- Tourism-induced urbanisation connected with transnational mobilities poses additional challenges to climate resilience and the inherent difficulties for spatial planners and policymakers in implementing strategies for mitigating carbon emissions and adaptation to climate risks and impacts. The growth of second residences and tourist flats within coastal municipalities after the 2008 financial crisis has emerged as a prominent housing justice issue, vis-a-vis the territory's temporal uses, making it challenging to deal with waste, water and energy consumptions.
- Preventing risks against extreme events in high-tourism-intensity areas emerges as a very challenging task when it comes to emergency episodes (e.g., wildfires, droughts, floods) and recovery because of the low preparedness of tourist populations and coastal destinations with high exposure of tourism infrastructures to those natural hazards.

Accordingly, the ICZM Protocol and MSP Directive and their respective regulatory and planning levels should institute a territorial model for sustainable tourism that considers climate agreements and balanced regulations regarding the other coastal activity sectors. However, its implementation depends on the political will, capability, resources, and interests set in place. Altogether, these must be considered to understand how the ICZM Barcelona Convention Protocol and the MSP EU Directive impact sustainable tourism transitions. Through the Practices Handbook, readers can access a diversity of practices to comprehend the potentialities of the ICZM & MSP processes and key elements for sustainable tourism planning and think about how they could be adapted to their specific territorial dynamics. It intends to be helpful to decision-makers and tourism stakeholders who design and implement practices likely to impact the maritime waters of the Mediterranean Sea, including its gulfs, sub-basins and the coastal areas. This approach has been done thanks to identifying a range of practices. More concretely, it illustrates how to translate into action the agreement of the Mediterranean countries from both shores to encourage sustainable tourism that preserves the coastal environment, promotes its specific forms, and regulates it, where necessary, prohibiting the practice of sporting and recreational activities. The geographical coverage, coastal and maritime, will depend on each State's seaward and landward limits application. A comprehensive and integrative approach is always advisable.

3. Methodology: mapping criteria and the analysis of the practice

The methodology to select and analyse the practices involves a scoping review applied to specific databases, including Interreg MED (2014-2020), ENI CBC MED (2014-2020) and other databases such as the European Maritime Spatial Planning Platform and the European Atlas of the Seas. Furthermore, consultation with external experts from the Community4Tourism project and leveraging consultants enhance the search to map potential practices. The following sections introduce the guiding criteria for selecting tourism related practices and how the chosen practices are analysed to illustrate their alignment with the ICZM principles and MSP administrative decisions encompassing regulatory processes.

3.1. Selection criteria

Based on the conceptualisation of the tourism planning and management issues and the review of the ICZM Protocol and MSP Directive approaches, this Handbook applies the following **four criteria** for the mapping of the practices :

1. **Integrated planning**. To apply or reinforce integrated planning and management perspectives, consider diverse administrative scales & policy areas and the economic, social, and environmental dimensions.
2. **Ecosystems and conflicts of use**. Integrate the ecosystem-based approach, manage use conflicts, and consider climate change mitigation and adaptation.
3. **Decision-making processes support**. It consists of various activities, tools, and techniques that support decision-making processes and ensure public participation in integrated planning and management.
4. **Ensure consistency in implementing plans and stakeholder participation**. It refers to the ongoing management of tourism activities and forms of governance.

Accordingly, the scoping review of practices includes diverse typologies of practices and additional **three quality criteria** (selected by the project partner's coordinator on the basis of the Community4Tourism Terms of Reference), ensuring a Mediterranean scope and transferability potential:

1. **Evidence-based**: The cases selected are supported by relevant and descriptive documentation. Each case study has been reviewed by an appropriate key informant, preferably, and when possible, the practice owner.
2. **Mediterranean Scope**: The cases are selected from European and non-European countries, balancing cases from north, south, east and west of the basin.

3. **Diversity**: The cases are diverse in scales, planning and management instruments, and activity sectors, including project-based testing and ongoing implementation. This includes the following types of practices.

   - Knowledge-related practices. Scientific evidence and other knowledge support decision-making and provide solutions for limiting and preventing environmental impacts, managing conflicts and controversies, and monitoring and assessing territorial changes.

   - Planning and management approaches in specific sites and places. In line with the ICZM & MSP, tourism activities are subjected to different forms of spatial organisation and management to prevent/mitigate environmental and social impacts and to reduce conflicts among the diversity of human uses and conservation.

   - Governance and ways of cooperation/participation. How are different stakeholders involved in planning, decision-making, management, and access to information? Forms of multi-level cooperation and interdepartmental coordination.

3.2. Mapping and selection process

The scoping review was undertaken as follows:

1. **Definition of selection criteria**. A coding system based on predefined criteria was used to map practices and facilitate the peer review and final selection (see Annex 1 & 2).
2. **Search procedure**. Consultants used keywords based on the selection criteria. Priority was given to the Interreg cooperation programmes in the Mediterranean. A second step involved searching alternative open data repositories, and finally, an email consultation with external experts was implemented.
3. **Selection of final practices**. Firstly, consultants made the selection, C4T partners involved in the Handbook development, reviewed them and discussed a final set of cases with consultants. During this process, consultation with key informants related to the cases was conducted to collect further evidence and contrast information.

The results of the scoping review of practices in diverse open data repositories of past cooperation projects and political initiatives were identified.

- Total number of entries reviewed (title and summaries): 415.
- First selection under criteria: 33 cases.
- The final selection under criteria and a peer review: 10 cases.

The final selection includes tested and/or implemented practices organised around four domains:

- **Maritime leisure regulations to protect biodiversity**: making a conservation strategy to protect maritime biodiversity while creating the conditions for coexistence with recreational and other human uses.
- **Assessment and monitoring of tourism impacts and threats**: contribute to integrating the ecosystem assessment and stakeholders' participation during planning processes while improving the diagnosis of tourism impacts and threats.
- **Integrated urban planning of tourism uses & spaces**: urban planning tools dealing with over-tourism, integrated coastal planning, and adaptation to climate change.
- **Sustainability in tourism product development**: The Euro-MED cooperation programmes brought an experience that led to the establishment of the MEET (Mediterranean Experience of Ecotourism) Network.

3.3. Analysis of selected cases

The final step involves analysing the ten selected practices. The final cases primarily stem from projects combining governmental initiatives, ongoing implementation (e.g., action plans), and government-initiated efforts outside project funding programmes (e.g., regulations). Most cases are in European regions, and only three are in non-European countries due to the heterogeneous application nature of the ICZM protocol and MSP directive. Indeed, ICZM protocol is not legally binding which may limit the extent to which cases can be taken into account. Moreover, the MSP Directive initially applies to regions on the north rim. The case studies presented in Chapter 4 analyse the context and identify critical issues at stake behind each case, followed by an analysis of how the showcased practices integrate guiding principles from the ICZM Protocol and the MPS Directive during the planning and management of tourism impacts and conflicts; and finally provide insights for adapting the practices into other territories considering identified enablers and barriers, with a focus on each practices transferability.

Accordingly, each practice analysis is structured as follows: (see Annex 4 for details).

- **Political and geographical context**. This entry describes some critical aspects of the geography, the planning and management issues, and the stakeholders involved.
- **ICZM/MSP related aspects**: This entry describes the practice and links to ICZM and MSP processes and principles.

- **Enablers and barriers - Transferability**: This entry offers critical and key lessons and practical conditions for replicating the case study in other Mediterranean coastal regions.

Finally, the storytelling behind each case study is adapted to make the most accurate and instructive description in a two-page format.

Planning and management tools are introduced with a more procedural and technical style, while the cases dealing with planning and management processes relying on regulations and governance introduce measures and the evaluation of the impact concerning the resolution of conflicts and prevention of negative impacts. Each tourism related case includes a reflection on the connection to the ICZM and MSP. The analysed practices display content heterogeneity in their related contexts and shared results[34].

34 Indeed, the different ways to introduce each case study are also based on the diversity and quality of documentary evidence found and the points highlighted by key informants and owners of practices.

4. Best Practices Analysis

4.1 Maritime leisure regulations to protect biodiversity

No. 1: Posidonia regulation of Balearic Islands

Main covered topics	Specific features
Type of practice: Maritime Leisure Regulations to Protect biodiversity **Tourism related aspects**: Leisure boating **Type of issues**: human impacts on Posidonia meadows **ICZM/MSP key related elements**: Ecosystem integrated approach; Strategic Planning; stakeholders involvement; Sustainable Development	**Geography**: Spain **Scale(s)**: Sub-national, regional. **State of development**: Ongoing implementation **Year of approval**: 2018 **Lead responsible(s)**: Balearic Islands government **Involved Stakeholders:** Municipal governments, NGOs, scuba divers, and leisure boating users

Political & Geographical Contexts

The Balearic Islands Government approved Decree 25/2018 on July 27th, strengthening the legal framework for protecting and conserving Posidonia Oceanica. The decree develops the provisions of the Spanish national legislation on biodiversity and maritime space protection (Law 42/2007; Law 41/2010). This regulation aspires to prevent and mitigate human impacts on Posidonia meadows by prohibiting the anchoring of leisure boats, among other uses. The text follows an ecosystem-based approach favouring biodiversity conservation and contributing to the adaptation to climate change by increasing natural defences against sea-level rise. This decree was issued to enforce the legislation against human pressures and threats that jeopardise its good conservation status, among other things, the increasing touristification and leisure boating activity.

Implemented actions - Building an ecosystem-based approach to protect Posidonia

The Posidonia Decree has increased resources for the conservation infrastructure. The crucial components of this progress are:

- Posidonia Surveillance Service: 19 patrol boats[35] operate during the summer season. They oversee and inform about the anchoring prohibition in Posidonia areas and advise large vessels to avoid impacts on this seagrass before or during anchoring manoeuvres.
- Public buoy fields: 13 anchoring fields with more than 420 low-impact buoys in other maritime spaces with sandy seabeds to prevent uncontrolled anchoring in meadows with a high-impact risk.
- Cartography: The Atlas of Posidonia oceanica has entailed exhaustive cabinet and fieldwork that has allowed the maritime habitats in the Balearic Islands to be identified through different techniques, including the Side Sweep Sonar or the photointerpretation of satellite images. The result is a cartography with greater detail of the Posidonia meadows of the Balearic Islands. It also incorporates the "Posidonia GOIB" App, which allows users to know the seabed they intend to anchor through geolocation and in real-time.
- Networked Scientific-based monitoring: created in 2020 by the Balearic government, it aims to monitor the state of Posidonia meadows with technical support from the commissioned public company Tragsatec[36] . The data gathering is implemented with the support of volunteers from 26 NGOs and scuba diving centres. It allows regular data gathering on Posidonia meadows and other maritime species. The monitoring is based on fixed stations and assesses the ecological state of Posidonia meadows (meadow density and cover, global density), invasive algae, or water temperature.

ICZM/MSP related aspects

The reproduction of the existing obligation to protect Posidonia is complemented in a regional regulation specifically focused on simplifying and implementing political actions and different measures to achieve this goal. The implementation of the ecosystem approach has a central role in protecting Posidonia meadows, accompanied by diverse measures to facilitate its implementation, along with, particularly relevant, the inclusion of crucial measures both linked to ICZM Protocol and MSP Directive principles such as **improving open access to environmental**

35 Webpage Atlas Posidonia (Last access April 2024). https://atlasposidonia.com/
36 Tragsatec belongs to TRAGSA group, included in the Spanish state-owned industrial holding company Sociedad Estatal de Participaciones Industriales (SEPI). It carries out engineering works and technical assistance in diverse fields.

information, increasing monitoring & surveillance resources and delimitation and prohibition of human activities to prevent damages to Posidonia. This regulation implies:

- The creation of a special governance committee (Posidonia Committee).
- The definition of many technical concepts to clarify and facilitate their understanding and unify their interpretation.
- The creation of a specific financing found for Posidonia conservation.
- Provisions on the set-up of a protocol on how to manage the Posidonia death' remains.
- The forecast of a cartographical delineation.
- The inclusion of monitoring, surveillance and communications provisions.
- The set-up of a list of prohibited activities due to their potential to damage.
- The inclusion of detailed provisions regulating boat anchoring regulation.

Enablers & barriers - Transferability

The Balearic Posidonia Decree has been developed coherently with the European Union and national legislation. Any Euro-MED territory could adapt its national or regional legislations to strengthen and enforce the protection of Posidonia meadows and adapt its maritime planning to establish a zoning system with an ecosystem approach. Deploying monitoring and surveillance resources and open environmental data are essential to engage nautical users and citizens. Furthermore, participatory maritime monitoring could reinforce political robustness and coherence against governmental changes. Engaging civil society and other stakeholders in monitoring marine habitats, maritime uses, and infractions through volunteer marine data gathering and open-access tools and data reinforces the environmental stewardship capacities of the territory. Finally, regional and national governments could become part of the Mediterranean Posidonia Network to share data and lessons on the conservation of maritime meadows.

No. 2: Multi-Use Management - Parc National de Port-Cros, France

Main covered topics	Specific features
Type of practice: Maritime Leisure Regulations to Protect biodiversity **Tourism related aspects**: Scuba diving, leisure boating, bathing, artisanal & recreational fishing **Type of issues**: fragility of the MPA's socio-ecosystem accentuated by human activity **ICZM/MSP key related elements**: Integrated Approach; Strategic Planning	**Geography**: France **Scale**: Local (MPA) **State of development**: 1963, and subsequent regulation amendments over time **Year of approval**: Subsequent amendments of the regulation over time **Lead responsible(s)**: National Park of Port-Cros & Porquerolles islands **Involved stakeholders**: Artisanal fishers, scientists, residents and municipal governments

Political & Geographical Contexts

The National Park of Port-Cros (PCNP) was established in 1963 and enlarged in 2012, including the Port-Cros and Porquerolles Archipelagos, a vast adjacent maritime area, and a discontinuous continental area. The Port-Cros Archipelago management is based on a multi-use management approach (MUM) that organises human activities to be compatible with habitat and species conservation. It implies designating areas for specific activities while excluding others that would generate conflict of use and organising them. It has had a long management history following strict conservation objectives on the grounds of scientific evidence. In doing so, the implemented measures go from almost total banning recreational fishing, angling and trawling to building cooperation and trust with artisanal fisheries enshrined in a fishing charter. Since 2014, subsequent amendments to the PCNP management regulation have reinforced the display of multi-use management (MUM) in other recreational activities such as boat anchoring, scuba diving, and bathing areas. An essential component of the PCPN's MUM approach is building conservation trust with stakeholders. Regarding the ecosystem context, *Posidonia oceanica* and reef ecosystems of the PCNP rank first in the Mediterranean from the point of view of its functioning[37] , while there is evidence of spillover of fish from the MPAs to the adjacent areas with a positive effect[38] .

37 Boudouresque et al. (2021)
38 Several references citied in Astruch et al. (2018)

Implemented actions - MUM as a tool for the coexistence of uses and conservation

Some situations where conflict management and controversies are relevant in this case:

- The prohibition of recreational fishing, except for trolling in some areas, is perceived as socially acceptable because of several factors: the park authorities, fishers, and scientists' awareness of the impact of the vast catches (beyond maximum sustainable yields), the incompatibility with the desired protectionist image of a national park, and as a management tool to reserve catches for artisanal fishers.
- Boating, anchoring, and fishing are prohibited in areas close to the coast to prevent conflicts with bathing.
- Mooring is not authorised within a 100-meter radius around diving sites and is prohibited for vessels over 15 meters.
- Boating speed limits: 5 knots in 300 meters; 3 knots in the harbour and within a 100-meter radius around the diving device.

Other situations where an ecosystem-based approach informs maritime recreational uses planning:

- A fishing charter based on an agreement between fishers and MPA managers establishes the fishing regulation parameters. It is updated annually based on scientific monitoring and in consultation. The Park's fishing regulations concerning maximum vessel length, soak time, mesh size, net length, and number of hooks and traps are more restrictive than those outside the MPA.
- Scuba diving is temporarily prohibited in some areas, and night-time diving is banned to prevent fish and flora disturbances. In addition, 40 divers are limited simultaneously per site. Divers must hold a diving authorization.
- Leisure boating: Noise disturbances to fish species are controlled through speed limits and spatial restrictions of motorboats to a specific area, while stern drive engines (scooters, jet-skis, etc.) and hauled devices are prohibited in the maritime heart of the national park (600 m)[39] . Mooring is permanently banned in one area, where the reproduction of juvenile fun mussels Pinna nobilis is common, and outside the reserved devices in the other four regions. Any form of discharge is prohibited.

39 Astruch et al. (2018)

ICZM/MSP related aspects

The MUM in the PCPN was conceived to recover maritime species and ecosystems, particularly the 'top predators' compartment. MUM implies a notion of a socio-ecosystem where human uses are managed strictly and scientifically instead of a completely banning (non-take zone approach). The current zoning system incorporates nine areas combining permanent prohibitions and spatiotemporal restrictions of use, with areas for specific uses. Sector-specific regulatory requirements are also in place.

Enablers & barriers - Transferability

The multi-use approach for planning and managing maritime recreation and fishing uses in MPAs seems to have promising outcomes considering the PCPN's experience over 50 years, and it demonstrates the same success as those based on a stricter non-taking zone approach. A pivotal lesson to implement the MUM approach in other MPAs is cultivating long-term cooperation with local stakeholders, prioritising critical uses like artisanal fishing and establishing the fishing charter, which sets up coordinated ways to define the right of use and catches according to scientific information. Prohibiting recreational fishery seems to play an essential role in building trust with local fishers. Moreover, conflicts are managed by providing space to specific users (bathers, boat users, scuba divers and artisanal fishers) while limiting others through the zoning system. Unfortunately, building trust as a vital component of the MUM is open to being disrupted by the change of fishers and leisure operators' new generations. PCNP scientists warn about the fragility of the MPA's socio-ecosystem, where it only takes a few months of unrestricted fishing to empty an MPA of its fish and destroy decades of effort. The second key factor is a regulation with clear and compatible rules based on ecosystems and scientific evidence that offers robust security against changing into less environmentally friendly behaviours.

No. 3: MPA Co-management - The Kuriat Islands, Tunisia

Main covered topics	Specific features
Type of practice: Maritime Leisure Regulations to Protect biodiversity **Tourism related aspects**: Scuba diving, leisure boating, bathing, artisanal & recreational fishing, terrestrial recreational users **Type of issues**: threatening turtles' survival, environmental state threatened by an inadequate water sewage system and a high level of coastal artificialization **ICZM/MSP key related elements**: Sustainable Development; Monitoring and surveillance provisions; Strategic Planning, low-impact recreational infrastructures	**Geography**: Tunisia, Southern Mediterranean **Scale**: Local (MPA) **State of development:** Ongoing implementation **Year of approval:** N/A **Lead responsible(s)**: Ministry of Environment and Spatial Planning; Coastal Protection and Planning Agency (APAL). **Involved stakeholders**: The Kuriat Islands Local Management Support Committee (National Navy, Coast Guard, fishermen's union, NGOs, national international cooperation agencies, scientists)

Political & Geographical Contexts

The Kuriat Islands are two islands in the northeastern part of Monastir Bay (Tunisia) and represent the most critical nesting site for the Caretta sea turtle in Tunisia[40]. The Islands can be visited by up to nearly 700 people daily, with a maximum of 1,200 during weekends[41] , threatening turtles' survival during their nesting period[42]. In addition, the environmental state of Monastir Bay is threatened by an inadequate water sewage system and a high level of coastal artificialization [43]. Since the Bay was recognised as a sensitive natural area by the state (1995), the Caretta sea turtle and Posidonia meadows started being monitored through seasonal scientific camps by a partnership of the Institut National des Sciences et Technologies de la Mer (INSTM), the Coastal Protection and Planning Agency (APAL), the Regional Activity Centre for Specially Protected Areas (SPA/RAC) and the Notre Grand Bleu (NGB) association. Currently, MAPs in Tunisia are regulated by Law 2009/49, but the Kuriat Islands are still in the process of official designation[44] . Conservation management of the Kuriat Islands has been implemented in recent years through

40 Jribi & Bradai (2021)
41 IUCN (2020)
42 Jribi & Bradai (2014)
43 Sallemi, 2017 & PAP/RAC & APAL (2021)
44 Jribi & Bradai (2014; 2021)

a Maritime Protected Area co-management initiative in partnership with the Tunisian government, SPA/RAC and NGOs supported by international donors and volunteers. Although the MPA has yet to be officially declared (in a very advanced stage), the future marine protected area of the islands will benefit from an official co-management system between the APAL and the NGB. The marine protected area of the Kuriat Islands, the first example of co-management in Tunisia, was established in 2017 with the support of MedFund. Thanks to the success of this model in the Kuriat Islands, all Tunisian MPAs are currently co-managed between the administration (APAL) and a local NGO[45] .

Implemented actions-Building a MPA through a co-management approach

Co-management is implemented by establishing environmental patrols with local NGOs to support the government in monitoring Caretta sea turtles, Posidonia oceanica meadows, Marine Birds, and fish communities and raising awareness among recreational users and artisanal fishers. Beyond the monitoring practice, different levels of involvement exist, such as the cooperation of SPA/RAC and donors supporting conservation. The Institute National des Sciences et Technologies de la Mer (INSTM) is also a collaborator. Monitoring conservation actions and pressures through co-management is essential in countries with less conservation financial capacities. The proposed Management Plan regulates the management of:

- A central protection zone (4,143 ha) dedicated to conservation, where activities are limited and organised to protect the Posidonia oceanica meadow and maërl bottoms and their immediate environment. An in-between area, a buffer zone (15,531 ha) where activities that are not harmful to the environment can be carried out (including artisanal fishing).
- A transition zone (64,389 ha) where human activities are restricted to environmentally friendly practices[46] .

Other actions were undertaken related to further regulation of recreational uses with an ecosystem-based approach: a feasibility study for installing a mooring system (the temporary immersion of six ecological moorings with artificial reefs) and a low-impact buoy field to reduce impacts on seagrass meadows. A visitor trail of flowing visitors away from sea turtle nesting beaches was also established, along with efforts to inform visitors about environmental heritage.

45 An appreciation made by a representative from the SPA/RAC.
46 CAR/ASP - PNUE/PAM (2015)

ICZM/MPS related aspects

This initiative contributes to MPA designation and management, facilitating the integration of ICZM Protocol core elements such as c**o-management and ecosystem-based approach to prevent and mitigate pressures on ecosystems and endangered species** such as Caretta sea turtle and the *Posidonia Oceanica meadows*. This process has also been strengthened thanks to developing a management plan for Kuriat Islands MPA[47] , set up in the context of the MedMPAnet project led by UNED- MAP -SPA/RAC and local organisations to enhance the participatory governance approach[48] .

Enabler & barriers - Transferability

One of the key lessons from the Kuriat Islands is the benefit of international cooperation and the co-management approach to overcome the financial limitations and non-regulation of relevant maritime areas to be protected while engaging local stakeholders in building trust in conservation and organising coastal and maritime activities following an ecosystem-based approach. The conservation actions have improved the conditions for sea turtle reproduction while building basic infrastructures for coastal and maritime recreation in less sensitive areas. Finally, in the context of socio-environmental conflicts reported for Monastir Bay, implementing the Tunisian ICZM plan could offer responses to work in more participatory approaches. The co-management experience during the process of the Kuriat Islands MPA establishment is an excellent example of building trust and stewardship. A report on the Tunisia MPA legislation commissioned by SPA/RAC (2014) concludes that the consolidation of an informal management system on the ground could be envisaged to speed up the legislative process, which is the only guarantee of the future operation of protected areas. Otherwise, it remains fragile due to political uncertainties.

47 The final Management Plan published in 2022 can be accessed by request to SPA/RAC.
48 MedMPAnet Project, implemented by SPA/RAC, with the APAL and the NGO Notre Grand Bleu.

4.2 Assessment & Monitoring Tourism Impacts and Threats

No. 4: The Green Beach Model

Main covered topics	Specific features
Type of practice: Assessment and Monitoring of Tourism Impacts and Threats **Tourism related aspects**: Beach leisure **Type of issues**: anthropogenic pressures on an ecosystem severely affected by climate change **ICZM/MSP key related elements**: Integrated Approach; Monitoring and surveillance provisions	**Geography:** Cross-country, North Mediterranean **Scale**: Sub-municipal **State of development**: ongoing implementation **Year of approval**: 2020 **Lead responsible(s)**: Municipal governments **Involved stakeholders**: Municipal and supra-municipal governments, beach operators

Political & Geographical Contexts

The Green Beach Model (GBM) is a management tool that guides local governments and other private beach operators in integrating environmental, social, and economic dimensions into beach monitoring and management. The GBM is a self-assessment tool developed in the context of the Interreg MED project MITOMED+[49], designed to support private and local beach operators and local authorities in managing recreational beaches more sustainably. The model was tested on 12 pilot beaches in Cyprus, Croatia (Istria), Italy (Tuscany) and Spain (Catalonia) during 2017 and 2018. The GBM is based on other quality schemes, such as Blue Flag, ISO13009:201, Cyprus Green Beaches, Quality Coast Award and many other environmental quality guidelines, which are aligned with well-established approaches to the ecological management of beaches. Beach spaces are one of the essential tourist attractions and motives for tourist arrivals to Mediterranean destinations[50] , bringing diverse anthropogenic pressures into a highly affected ecosystem by climate change[51] . For instance, the Interreg MED project BLUEISLANDS[52] reported three times more waste during the holiday period and up

49 https://keep.eu/projects/21335/Models-of-Integrated-Touris-EN/
50 Brščić & Balamou (2022)
51 Duarte et al. (2013)
52 https://keep.eu/projects/21343/Seasonal-variation-of-waste-EN/

to seven times more on some very frequented beaches[53] .
Implementing the Water Bathing Directive and improving monitoring, cleanliness, and safety on beaches has led to maintaining acceptable water quality in European beaches, with Cyprus being the best-ranked country[54]. Considering this advancement, the MITOMED+ project develops this tool to help "*improve sustainable planning and proper management of coastal tourism development*"[55].

Implemented actions - Knowledge supporting an integrated beach management

The essential aspect of this practice is monitoring the management of beach spaces, allowing municipalities and supra-municipal governments to gather information and amend and implement action plans based on the monitored data. In Cyprus, three participating pilot beaches (Zygi, Ormidia, and Alaminos) developed new or improved existing beach action plans. Based on this experience, Zygi's Beach obtained the Blue Flag. Therefore, pilot cases support integrated management by:

- Ensuring the indicators with an integrated socio-environmental management approach, contributing to the conservation and restoration of beach spaces, social inclusion, access to environmental information, public health and prevention/mitigation of other environmental impacts.
- By improving coordination among municipal departments and multi-level governance as it might involve diverse governmental levels responsible for diverse competencies.

ICZM/MSP related aspects

During the testing on the pilot beaches, municipalities were engaged in developing an assessment of beach management, defining or improving beach management plans, and implementing existing beach environmental standards and regulations. The project funded the installation of diverse facilities and equipment or the introduction of endemic plants. The GBM is aligned with the ICZM Protocol by integrating diverse dimensions of **sustainability and establishing a management tool** that effectively needs the coordination of diverse departments and administrative levels. The indicators assess the sustainability of the beach management through 28 indicators, distributed in eight (8) categories (bathing water quality, beach area quality, safety, information and education, sustainability, green facilities and eco furnishing, accessibility, and management) providing three levels of quality. The beach must meet at least 65% of the scoring to obtain

53 Adolina et al. (2021)
54 EEA (2023)
55 Balamou (2019)

the green beach award during testing. Indicators measure facilities/services and qualities set in place, water quality, the existence and extension of beach endemic and indigenous plants, and marine litter.

Enablers & barriers - Transferability

The GBM supports setting integrated beach management in place, which involves improving cross-cutting and multi-level coordination, helping governments access quality schemes, such as the Blue Flag initiative or ISO 13009:2015. Its long-term commitment involves a continuous investment in facilities, equipment and conservation. Some criteria should be adapted to specific conditions in more isolated beach spaces or within protected areas. This tool could effectively support ICZM of beach spaces if regional or national governments integrate and adapt it to the diversity of beach spaces regarding recreational use, urbanisation, biophysical characteristics, and exposure to sea-level rise and erosion. To further contribute to establishing ecosystem-based [beach] management, governments should consider other aspects not considered in the GBM, such as monitoring environmental and ecosystem impacts and the benefits of beach habitat restoration.

No. 5: Co-Evolve Sustainable Tourism Toolkit

Main covered topics	Specific features
Type of practice: Assessment and Monitoring Toolkit Tourism related aspects: Measuring and monitoring sustainability of tourism destinations in the Mediterranean **Type of issues**: Lack of accurate data reducing knowledge gaps and threats and increasing enabling factors for sustainable tourism **ICZM/MSP key related elements**: Monitoring and surveillance provisions;	**Geography**: Mediterranean **Scale**: Local and sub-local. **State of development**: Tested **Year of approval**: 2022 **Lead responsible(s)**: University of Thessaly **Involved stakeholder**: Institutional data providers.

Political & Geographical Contexts

The Interreg MED Co-Evolve project developed the sustainable tourism indicator toolkit (STI) to monitor tourism and analyse threats and enabling factors for sustainable tourism at local destinations of the Euro-Mediterranean region. The indicators aim to improve diagnosis and decision-making during planning processes based on ICZM/MSP governance principles. It provides an indicator system to be adapted into destinations, including quantitative, qualitative and proxy measures to conduct a sustainability analysis according to data availability. 11 pilot destinations joined the project in Croatia, France, Greece, Italy, and Spain. The STI toolkit was transferred and tested in the CO-EVOLVE4BG, a project developed in the framework of the MedCoast4BG umbrella project. This second project replicated actions in 7 pilot areas in Tunisia, Italy, Greece and Spain. These indicators can be adapted at different planning scales and used in a mix of them according to site-specific challenges derived through the study of threats and enabling factors and the type(s) of tourism activity developed in each destination. Finally, the TIS toolkit is built in coherence with the European Sustainable Tourism Indicator System (ETIS). It also builds from recommendations on tourism indicators and competitiveness from the United Nations World Tourism Organization and the Organisation for Economic Co-operation and Development 's previous works. The Co-Evolve STI reinforces the ETIS system by integrating sub-local indicators to analyse climate change impacts, favouring an integrated planning perspective.

Implemented actions - Data supporting Integrated Planning and Sustainability

The Co-Evolve STI toolkit is well suited to understanding tourism as a spatial-temporal phenomenon and to support the integrated vision necessary to complement a sustainability strategy. The STI toolkit allows coastal planners to collect essential parameters for measuring and monitoring tourism sustainability systematically, according to data availability. Some features that are considered to advance the integrated planning perspective:

- Multi-scale assessment provides essential metrics to integrate spatial, social, and environmental dimensions that inform coastal risk assessment of tourism and recreational activities at local and sub-local scales.
- Assess and monitor climate impacts on the biophysical dimensions of tourism natural resources such as the shoreline (e.g., beach regression and erosion), and reinforce resource consumption dimensions.
- Performing indicators on governance aspects focusing on public and corporate policies (e.g. stakeholder engagement, environmental policies and implementation, etc.).

ICZM/MSP related aspects

One of the key principles of the ICZM Protocol is the establishment of monitoring and surveillance mechanisms. The STI Toolkit provides indicators for measuring the sustainability of tourism practices in coastal areas, enabling regular monitoring and ongoing evaluation, which is crucial for fine-tuning strategies. The STI toolkit is organised into three levels of indicators (119) that assess and monitor different dimensions of sustainability, threats, enabling factors, and governance. The third set of 55 indicators focuses on pilot area-specific indicators and responds better to sub-local scales and temporal changes brought by climate risks and conflicts in coastal and maritime areas, providing data for spatial and environmental planning instruments.

- Threats: climate change and geomorphological stability, littoralization and urbanisation, tourist fluxes and carrying capacity, pollution and other anthropogenic pressures affecting ecosystems, conflicts, and land-sea interaction.
- Enabling factors: Coastal protection measures; ecosystem protection; water cycle and depuration; transport and accessibility.
- Governance: planned and implemented environmental, social, cultural and economic actions; involvement of stakeholders in planning; involvement of tourism businesses in public policy; corporate environmental policies and training.

Enablers & barriers - Transferability

The STI toolkit is compounded by the user's guide and an Excel file adapted to perform an analysis, which could be transferred into more advanced data analysis software. Its application also favours comparisons with local destinations and facilitates regional and national coastal and maritime planning processes. The data gathering will need high cross-departmental coordination. The transferability of Co-Evolve indicators is highly dependent on the quality and availability of data, while they can point to essential data gaps. One of the main problems identified by Co-Evolve is the quality of data regarding spatial resolution, data sources, and data gaps. Implementing the complete list of indicators was impossible in any pilot case in Co-Evolve and CO-EVOLVE4BG. A multi-level planning approach will be favoured if coherent forms of knowledge-based indicators are measured in the same terms; otherwise, it makes the planning process more costly in gathering new data and risks acknowledging the effectiveness of policies and plans while creating barriers to stakeholders' engagement as environmental information is not well displayed.

No. 6: Ecosystem-Based Decision Support System for ICZM

Main covered topics	Specific features
Type of practice: Decision making guidance **Tourism related aspects**: Coastal & maritime tourism infrastructures and activities **Type of issues**: Complex implementation of ICZM Protocol principles to prioritize integrated planning and management actions **ICZM/MSP key related elements**: integrated approach, strategic planning, Stakeholders involvement	**Geography**: Italy, Jordan, Lebanon and Tunisia **Scale**: Sub-regional **State of development**: Test **Year of approval**: 2023 **Lead responsible(s)**: United Nations Development Programme, Jordan Country Office. **Involved stakeholder**: Scientists, governments, NGOs.

Political & Geographical Contexts

The ICZM Decision Support System (DSS) was developed and tested in the Mediterranean Forum for Applied Ecosystem-Based Management project (MED4EBM, 2019-2023). The DSS assisted ICZM actors in four coastal areas of Italy, Jordan, Lebanon, and Tunisia in jointly developing and applying a standard methodology to make ecosystem-based ICZM more accessible to design and implement. DSS supports more effective implementation of Ecosystem-Based ICZM (EB-ICZM) through a participatory and evidence-based approach. The tool is based on the PROGES-ISP software package. This user-friendly Microsoft Windows application can be adapted to several planning and management purposes, such as tourism spatial planning. Tourism and other activities (agriculture, fishing and industries) were considered in three of the pilot areas. The implementation of the ICZM Protocol principles remains problematic and complex, as acknowledged by the FP7-PEGASUS project[56] . Integrating the ecosystem assessment during the ICZM planning processes is critical for effectively prioritising planning and management actions to mitigate and prevent ecosystem degradation and support climate adaptation strategies. Therefore, implementing this participatory assessment tool is expected to contribute to solving this problem.

56 Soriani et al. (2015)

Implemented actions - Supporting Integrated Planning and Ecosystem-based Approach

It offers coastal planners the tools, skills, and competencies for practically integrating ecosystem assessment into decision-making during the ICZM planning process. This DSS tool applies to instituting coastal planners and decision-makers in integrated planning by allowing them to apply:

- Context-specific, spatiotemporal and multi-sectorial dimensions in the ecosystem-based analysis.
- Evidence-based on spatial, economic and environmental data to assist quantitative and qualitative assessment.
- Bringing different disciplines and governance levels of decision-making into a participatory process.

Co-learning and participation: The ecosystem Context Analysis provides a space for dialogue between stakeholders to reach a common understanding of the relevant EB-ICZM context and to structure a practical representation of the biological, environmental, and socio-economic systems that determine the spatial domain of the ICZM plan.

Data management: PROGRES-ISP software provides a user-friendly and effective tool for displaying, synthesising, and assessing the status and trends of environmental, social, or economic dynamics and developing Geographic Information System (GIS)-based cartographies.

Ecosystem cause-effect relations: The System Cause-Effect Analysis offers a procedure to analyse significant cause-effect relationships between the different components of the EB-ICZM system. This supports a shared understanding of ecological risks and socio-economic stress and identifies management measures. The software assists in this process.

ICZM/MSP related aspects

This contribution to the planning tool is linked to **making the ecosystem approach possible with stakeholders' engagement through an iterative process of co-analysis and participatory decision-making**. The DSS combines an operational protocol for executing multidisciplinary ecosystem-based environmental assessments with a software application linked to spatial and tabular databases for handling relevant ecological data and facilitating the elaboration of data-based reports. The operational protocol is a two-stage co-assessment and decision-

making process based on Ecosystem Context Analysis and System Cause-Effect Analysis with the support of the PROGES-ISP software package.

The implementation of the PROGES-ISP methodological protocol to create the ICZM-DSS consists of five main phases which correspond to a planning process:

1. Inception activities: Partner's base training thematic scoping and stakeholder analysis.
2. Ecosystem Context Analysis: Recognising connections within and across ecological and human systems spanning the focus.
3. Indexes and indicators are developed for gathering data and constructing tabular and GIS databases.
4. System Cause-Effect Analysis: Assessment of ecological risks and socio-economic stresses and identification of management interventions.
5. Mainstreaming EB-ICZM measures into local development plans.

Enabler & barriers - Transferability

The technological and financial requirements of PROGRES-ISP DSS are a stable internet connection, training to coastal planners on the methodological and software tools, and the cost of workshops with stakeholders. Albeit the transferability of this tool is technically plausible, it depends on the availability of good environmental and spatial data to exploit its full potentiality, which is considered a critical barrier in ICZM[57] . The MED4EBM partners believe that the Ecosystem Context Analysis method reduces this investment to the minimum possible for a successful application because the assessment of data needs and relevant gap analysis is implemented with the specific set of objective indicators identified through the Ecosystem Context Analysis. In turn, the System Cause-Effect Analysis is based not on quantitative assessment but on indexes and indicators previously created during the process. However, the evaluation can also help identify significant data gaps that the ICZM Protocol could plan to overcome. Meanwhile, the project also created a permanent *Mediterranean Forum for Applied Ecosystem-Based Management* to mainstream the application of EM-ICZM.

57 Soriani et al. (2015)

4.3 Integrated Urban Planning of Tourism Uses & Spaces

No. 7: The Special Tourist Accommodation Plan of Barcelona

Main covered topics	Specific features
Type of practice: Integrated Urban Planning of Tourism Uses & Spaces **Tourism related aspects** :Hospitality, tourist accommodations **Type of issues**: Tourism pressure causing gentrification, housing exclusion **ICZM/MSP key related elements**: Formulation of land use plans covering urban development and socio-economic activities with an integrated approach	**Geography**: Barcelona, Northwestern Med **Scale**: Local (municipality) **State of development**: On-going implementation **Year of approval**: 2017 and updated in 2022. **Lead responsible(s)**: Barcelona City Council **Involved stakeholders**: Citizens and other private associations

Political & Geographical Contexts

The Special Tourist Accommodation Plan (PEUAT) is an urban land-use planning instrument issued by the Barcelona City Council in 2017 and recently updated in 2022. It was the main urban instrument developed in the Barcelona Strategic Tourism Plan 2020 context. The PEUAT regulates tourist accommodation establishments, youth hostels, tourist apartments and shared homes, and temporary stays in short-term student residences. This is the first time Barcelona city has introduced an urban regulation to control the tourist accommodation offered to counteract the city's touristification trend and the problems with housing affordability and access. In 2016, excessive tourism pressure was signalled – for the first time – as the most critical problem faced by the citizens of Barcelona in the annual municipal survey (*Baròmetre Municipal*)[58]. A year before approving the PEUAT, the council introduced a one-year moratorium to ban the concession of tourist licences in the whole city for new accommodation establishments of any type. At the same time, the PEUAT starts the planning process.

58 Russo et al. (2021)

Implemented action - Land use within integrated urban tourism planning

Integrated planning in coastal destinations will favour the insertion of tourism uses as an urban policy beyond pure marketing orientation. The challenge of managing and balancing land-use conflicts and tackling touristification dynamics are critical processes. In this direction, Barcelona's 2020 Strategic Tourism Plan conceives tourism governance as a shared, open and crosscutting urban political issue. This plan incorporates other plans for diverse urban problems, such as the Tourism Mobility Strategy & the PEUAT. Beyond the city administrative limits, the planning scales are an essential feature of integrated planning, and one of the most critical constraining factors of PEUAT is the lack of multi-level land-use planning on tourist flats under the Spatial Metropolitan Plan[59].

ICZM/MSP related aspects

Land-use planning is a prominent instrument which the ICZM Protocol recommends, particularly in **gathering tourism accommodation data at a census scale and defining zoning systems**. The PEUAT establishes four specific zones with regulations articulating diverse tourist accommodation planning scenarios. Each one is characterised by the distribution of tourist accommodation in its territory, the ratio of available tourist places and the current resident population, the scope and conditions under which specific uses are provided, the impact of these activities on public areas, the presence of tourist attractions and the morphological characteristics of the area. Restrictions on tourist flats, shared rooms and student accommodations are more restricted, particularly the former, which have been prohibited since 2015 through the moratorium and the PEUAT. The four areas are displayed below:

- **Negative-growth area**. No new accommodation of any type is permitted, nor is any increase in the number of places in existing establishments. Opening another one will not be allowed when one accommodation ceases its activity.
- **Zero growth area**. The current number of places and establishments will be maintained, and no expansion of existing establishments will be allowed.
- **Controlled Growth area**. Based on the area's morphological capacity and the existing level of tourist accommodation, new accommodations may be opened, and existing ones may be expanded.
- **Four big development areas**. Areas with diverse characteristics in terms of urban location and building density.

59 Arias, 2022

This instrument's current orientation is a zero-growth policy. Meanwhile, implementing the PEAUT concerning hospitality platforms and unlicensed tourist flats requires sustained resources to ensure full deployment. The city developed a new task force to monitor illegal accommodation and room-letting through hospitality platforms and to deploy inspections.

Enablers & barriers - Transferability

ICZM Protocol provides a legitimate framework for the application of PEAUT by integrating tourist land use planning to control tourism-led urbanisation while preventing and mitigating environmental change. At the planning stage, a moratorium on tourist accommodation has been helpful in Barcelona. At the same time, this legal instrument might be applied as a permanent measure in cities and towns with high levels of touristification and prevalent housing access issues. Data at the census level also needs to be improved, and diverse studies regarding housing exclusion dynamics or regulatory compliance must be developed. During implementation, governments need to ensure sufficient and permanent monitoring and inspection resources on platform hospitality, as well as the deployment of open data to ensure citizens and other stakeholders are informed on the impacts of the regulation. Multi-level land-use planning is desirable to extend its benefits, prevent rebound effects in the metropolitan region, and incorporate a more urban disciplinary status on tourist accommodation while envisioning a coherent urban policy at the regional & national level to prevent and mitigate social exclusion dynamics and environmental impacts-based land-use changes.

No. 8 : Kaštela Coastal Zone Management Plan

Main covered topics	Specific features
Type of practice: Assessment and Monitoring of Tourism Impacts and Threats **Tourism related aspects**: hotel business (tourism accommodation), visits of heritage sites, tourism mobility **Type of issues**: climate change, land-use conflicts, high tourism development **ICZM/MSP key related elements**: Integrated approach, stakeholders involvement, public participation; climate change adaptation	**Geography**: Croatia **Scale**: Local (municipality) **State of development**: ongoing implementation **Year of approval**: 2018 **Lead responsible(s)**: RERA S.D. / Town of Kastela town council. **Involved Stakeholders**: civil society, tourism stakeholders, public institutions, research centres

Political & Geographical Contexts

Kaštela coastal town, located northwest of Split, adopted its Coastal Zone Management Plan, funded by the Interreg MED Co-Evolve project. The plan was coordinated by Public Institution RERA S.D. with the University of Split as the contractor and the support of the town of Kastela and the Kaštela Tourist Board. The Kâstela Coastal Plan aims to implement a systematic, sustainable, and thoughtful model of coastal management. The length of the coastline is 23 km, and almost all of the coast has become increasingly urban, where the high tourist development has reinforced the inadequate urban development in certain areas, exerting significant pressures on natural resources and cultural heritage sites in the narrow coastal region. The Kaštela area is extremely unfavourable when it comes to the effects of climate change. Its geomorphological and urban characteristics, poorly planned urbanisation, inefficient surface water drainage, and coastal protection systems expose inhabitants to coastal erosion and sea-level rise. Accordingly, the plan diagnosis anticipates this risk scenario that will subject the coastal area to threats affecting critical touristic resources. The plan also coordinates with the Climate Change Adaptation Plan[60] to manage the *Jadro* River.

Implemented actions - Enhancing the tourism planning processes under ICZM

- **Planning diagnosis**: The Coastal Plan draws on strategic and planning documents, scientific information, and expert knowledge while integrating climate change scenarios. The plan combines the Co-Evolve indicators toolkit (see case No.5 in this handbook) to assess threats and enabling factors for sustainable tourism in parallel with a large-scale vulnerability analysis at the household level. The diagnosis also includes a catalogue of coastal infrastructure affected by climate risks. This diagnosis is critical to integrate diverse planning dispositions for climate adaptation and integrated tourism management.
- **Stakeholder participation**: an essential pillar in preparing the Plan, including a stakeholder analysis, five participatory workshops, and a summary of the Coastal Plan was published during the process and a Citizen's Handbook with adaptation measures that citizens can take themselves. Approximately 150 participants join the process.
- **Action Plan for Sustainable Tourism**: A specific planning goal approaches tourism, "Goal 3 - Development of sustainable tourism tailored to the specifics of coastal historic cities.". It includes an action plan for tourism integrating climate adaptation measures such as land-use planning dispositions and nature-

60 ded by the Interreg ChangeWeCare project

based solutions for coastal protection, improving stakeholders' cooperation and encouraging responsibility tourism stakeholders, among other measures oriented to enhance marketing and accessibility of cultural and natural attractions.

ICZM/MSP related aspects

The Kaštela Coastal Plan timeframes until 2030, while the developed climate change scenarios cover the period up to 2100. The Co-Evolve project was conceived to promote tourism planning under the ICZM Protocol and MSP Directive frameworks. This plan is among the pilot cases that follow an integrated planning approach and present a tourism strategy. This involves:

- Determining the maritime domain's boundaries strengthens the resilience of coasts and infrastructure to climate change by combining environmentally sustainable and respectful solutions to the existing ones.
- Improve the use of more sustainable transport to reduce traffic congestion.
- Spatial dispositions in the most valuable coastal zone to protect the architectural heritage, improve the quality of the built environment and reduce land consumption.

Enablers and barriers - Transferability

This case is highly transferable to other locations to improve tourism planning at the municipal level by following an integrated approach. The planning cost of Kaštela was approximately € 100,000, plus the technical support of local authorities. Tourism planning will be favourable if regional or state levels have already developed a regulation and ICZM plan to designate planning and governance disposition at municipal levels. Without this supra-municipal framework, it is recommendable to review and adapt, if necessary, municipal land-use regulations and integrate supra-municipal regulations affecting tourism spatial development. Implementing municipal ICZM plans will favour integrating MSP processes in defining and managing land-sea interactions. Still, a coordination mechanism needs to be determined with regions and state authorities to avoid undefined boundaries of a maritime domain on a large part of the coast. To favour stakeholder participation, the planning process must include stakeholder analysis, deploy accessible open data, and design open, participatory mechanisms for co-analysing risks, impacts and conflicts while improving democratic deliberation processes and enhancing social acceptance. However, information about the deliberative

process during the implementation stage is not highlighted in the Kaštela planning documents. Meanwhile, during the implementation stage, the inclusion of permanent stakeholder committees is expected to improve deliberation and access to information. This is a critical issue when confronting the conflicts concerning land-use changes in urban settlements. Finally, due to the uncertainties of climate risks, a certain level of flexibility during the planning period is desirable for adapting actions to more-than-common unexpected events.

No. 9: Izmir Nature-based Urban Recreation

Main covered topics	Specific features
Type of practice: Assessment and Monitoring of Tourism Impacts and Threats **Tourism related activities**: Cycling & walking, recreational spaces **Type of issues**: Urban heat island, flooding **ICZM/MSP key related elements**: Sustainable development, climate change adaptation and monitoring; surveillance provision	**Geography**: Turkey **Scale**: Local **State of development**: Implemented **Year of approval**: 2019 **Lead responsible(s)**: Izmir city council **Involved stakeholders**: Research & technology centres, local government, and citizens

Political & Geographical Contexts

This urban regeneration project integrates nature-based solutions (NBS) in different urban spaces in the coastal city of Izmir (Turkey). Izmir is Turkey's third most populated city. This pilot project tackles the urban heat island effect, floods and landslides, and high air pollution, particularly aggravated by heat waves and irregular and extreme rainfall patterns. In addition, spatial planning in urban Turkey lacks a systematic approach and a lack of sound regulation concerning connectivity and the multi-functionality of open and green spaces. Izmir's green spaces in the central districts cover just 1.45% of the surface. The Horizon 2020 Urban Green Up project funded the project to co-develop Renaturing Urban Plans focused on climate change mitigation and adaptation leading to a better living environment for the inhabitants and seasonal tourists. NBS is increasingly promoted as a design

principle towards sustainable urban regeneration[61] . The city council of Izmir, the SME Demir Energy, and the Izmir Institute of Technology participated in its implementation. Although the urban regeneration project was implemented, evidence regarding its integration into an urban policy was not found. The Peynircioglu Ecological Corridor was awarded as one of the finalist climate-related urban projects of the AIPH World Green City Awards 2022.

Implemented actions - Ecosystem-based approach in Coastal Planning

The project design attributes integrate the ecosystem approach by restoring nature in rivers and increasing tree cover. This project expects to reduce greenhouse gas emissions, increase adaptive capacity, protect biodiversity, and improve health and well-being by tempering the heat island effect. The new green corridor supports Izmir's greenways and cycling routes, including a heritage route of 9.6 km, a new green cycle line, re-naturing the existing bike line, and a new corridor with 4000 trees. The corridor connects coastal promenades and linear parks encompassing Izmir Bay with the Sasalı Natural Life Park and Southern Gediz Delta.

- Expected ecosystem benefits include carbon sequestration in vegetation, pollutants removed by vegetation, and an increase in shadow surface.
- Expected impacts: Increased bike and pedestrian mobility; more carbon sequestration and pollutant removal; stormwater run-off mitigation; microclimate regulation through shading and evaporation; habitat and food provision for biodiversity; and recreational services.

The water intervention consists of renaturing the Peynircioglu riverside as an urban carbon sink with a rain garden and a green pavement. This includes installing 250 natural pollinators' modules, green fences, and four fruit walls. Culvert work is integrated along a 1 km length to transform the unnatural and impermeable riverbank with the new green pavement.

- Ecosystem benefits: run-off coefficient concerning precipitation quantities (mm/%), absorption capacity of green surfaces, bioretention structures and single trees, absorption capacity of green surfaces, increased drainage surface, decrease in mean or peak daytime local temperatures and heat wave risks, pollutant removal by vegetation, increase in pollinator species, and carbon sequestration in vegetation.
- Expected impacts: Increase in water retention capacity, natural vegetation cover, biodiversity, water infiltration, enhancing evapotranspiration, providing storage areas for stormwater and removing pollutants, public use of the riverside and the amelioration of urban heat island effect, increased biodiversity, more carbon

61 Tozer & Xie (2020)

sequestration and storage and pollutant's removal, microclimate regulation through shading and transpiration, and increase in community ties and creates green consciousness.

ICZM/MPS related aspects

The project includes 25 interventions in three areas integrating diverse NBS based on re-naturing, water interventions, green singular infrastructures and citizen participation initiatives such as urban gardening. For this Handbook, the pilot project named "sub-demo C" of Re-Naturing Urbanisation through green corridors for recreational uses is introduced as a climate-adapted urban recreational space. An area formed by a 10 km long green corridor from the coastal areas' riverbeds to susceptible nature protection areas. The proposed green corridor favours cycling & walking and includes special sections like the Bio-Boulevard that will provide essential ecosystem services.

Enablers & barriers - Transferability

Instituting NBS as a critical practice in urban coastal adaptation through ICZM plans should be prioritised, considering their relatively low cost while delivering multiple additional long-term benefits for people and nature. The technical specifications report of the sub-demo C project accounted for 1.157.000 €. The cost of permanent maintenance of the routes and river stream needs to be considered. For the effective implementation of this project, cross-cutting management among city council departments (e.g. mobility, public parks) is required during planning, execution and management. The cross-cutting nature of climate action needs to be translated into more integrated planning and management across government departments and multi-level governance, particularly in highly dense urban agglomeration areas like many Mediterranean coastal settlements. This is a primary barrier when making NBS part of an integral urban climate adaptation policy.

4.4 Sustainability in Tourism Product Development

No. 10: MEET (Mediterranean Ecotourism Experience) Network

Main covered topics	Specific features
Type of practice: Sustainability in tourism product development **Tourism related aspects**: Nature-based tourism, Ecotourism **ICZM/MSP key related elements**: cross border cooperation, environmental management, Integrated Approach, stakeholder involvement, sustainable development	**Geography**: Cross-country, Mediterranean **Scale**: Local (Protected areas) **State of development**: Ongoing implementation **Year of approval:** 2018 **Lead responsible(s)**: MEET Network association **Involved stakeholders**: Protected areas managers, tourism stakeholders, local community, NGOs

Political & Geographical Contexts

This practice reflects the collaborative development of ecotourism packages in Mediterranean Protected Areas (PAs). The Mediterranean Experience of Ecotourism (MEET) was conceived through the ENI CBC MED cooperation programme in 2013 and further developed through the Interreg MED DestiMED and DestiMED Plus projects from 2016 to 2022. In 2018, the MEET Network Association was founded by the IUCN Centre for Mediterranean Cooperation, MedPAN, and the Shouf Biosphere Reserve to develop and market ecotourism packages in Mediterranean Protected Areas. MEET has involved 44 protected areas in 10 Mediterranean countries throughout its journey. It has 11 PAs members and applicants continuing to "incentivise local communities for nature conservation by linking economic benefits to healthy, well-managed protected areas". The MEET Network aligns with the European Charter for Sustainable Tourism in Protected Areas, reinforcing its principles by integrating ecological footprint measurements and community-based tourism. The association is now participating in activities by other international organisations, such as the Travel Foundation and the Global Footprint Network, and a commercial partnership with the B-Corp tour operator Intrepid Travel to bring MEET ecotourism packages to the international market.

Implemented actions - MEETs Ecotourism Model for Integrated Management in Protected Areas

The MEET Network offers ecotourism packages in European countries (Albania, Croatia, Greece, France, Italy, Spain) and the southern Mediterranean (Lebanon and Tunisia). These tours, lasting 5 to 7 days, are expected to significantly boost the economic impact on local tourism suppliers. Environmental practices range from offering low-footprint food and providing sustainable transportation within a destination, phasing out single-use plastics or reinvesting benefits in conservation efforts. Walking and hiking tours through nature reserves are a relevant catalogue feature. Other practices involve integrating local supply chains through family-owned accommodations and local food providers while engaging with local artisans and environmental conservation projects. MEET's ecotourism model strengthens public-private cooperation which favour integrated coastal tourism product planning through the following mechanisms and forms of product management:

- **Stakeholder collaboration:** The model envisages the establishment of a **Local Ecotourism Cluster (LEC)**, a private-public tourism cluster supported by the PA and composed of multi-sector stakeholders. This cluster ensures collaborative development of local ecotourism products, shared monitoring of their performance, and marketing and promotion through the network. Expected benefits include facilitating agreements among PAs and tourism stakeholders, providing a basis for a governance framework, and fostering a cooperative environment.
- **Transboundary Cooperation**: It also includes **Regional Ecotourism Coordination tables (RECs)**, which were set up under DestiMED PLUS project and which now form the Mediterranean Ecotourism Consortium (MEC) hosted by the Sustainable Cultural and Maritime Tourism Task Force of the CPMR's Intermediterranean Commission. These mechanisms aim to advocate for integrated ecotourism policies/governance in the Mediterranean basin following a Mediterranean Ecotourism Policy Roadmap based on ICZM principles.
- **Reducing environmental impacts**: Ecotourism packages are based on a sustainability monitoring process based on the Ecological Footprint (EF) methodology. This approach increases the participation of local supply chains, reinforces environmental awareness, and promotes heritage stewardship. The novelty of its standards is the inclusion of an EF tool that guides the design and management of ecotourism products by calculating the global hectares (gha) consumed by the entire eco-tourism itinerary and tourists per day, providing recommendations according to the results. This tool assists the LEC in managing local supply chains effectively.

ICZM/MPS related aspects

While this protected area-based tourism initiative does not involve regulating land and marine uses or any form of area planning, it can help **manage conflicts between conservation and recreational users. By fostering social acceptance of tourism development that prioritises balancing tourist experiences with reducing environmental impacts, raising conservation awareness, and strengthening connections with local suppliers and cultural heritage, this practice contributes to instituting stricter and more controlled recreational use within PAs**. It promotes a recreational model that favours the slow discovery of territories beyond short visits, which often have low potential for distributive benefits and strain the limited resources of PAs in managing recreational activities.

Enabler & barriers - Transferability

The MEET Network association supports PAs by guiding and supporting them in developing ecotourism packages aligned with conservation values. The first step is establishing a Local Ecotourism Cluster (LEC), a working group responsible for developing multi-day ecotourism packages that undergo rigorous sustainability and quality monitoring. Finally, the LEC is supported in marketing these ecotourism packages to international tour operators through MEET business-to-business services. Additionally, the MEET Network recommends key strategies and actions that protected area managers should implement. The Regional Ecotourism Coordination tables, composed of regional tourism and conservation departments, enable the replication of the LEC in other PAs of the destination. By joining the Mediterranean Ecotourism Consortium, Mediterranean regional conservation and tourism departments are invited to follow the MEET methodology and exchange on ecotourism's integrated governance.

5. ICZM Legal Provisions related to the practices - Administrative processes-guiding elements

The types of practices presented in this handbook have in common the need to be accommodated within a legal framework that deals with the difficult task of matching the economic activity linked to tourism & leisure with environmental protection and limiting the negative impacts on local communities. They refer to coast, sea, and their ecosystem protection, to the law on land and urban planning, the regulation of tourism commercial activities across all their dimensions, and the ways tourism activity providers offer their products, and those tourists and leisure users consume them. Two are the international binding regulations on the Mediterranean basin. Both have been evaluated and scanned to identify the basic "building blocks'' from which the showcased practices have been constructed and from which governance processes' patterns and regulatory standards might be developed.

Based on the above signalled legal guiding schema and the features of each type of case, the following paragraphs refer to the main elements that, according to our interpretation, should build up the ICZM administrative processes and procedures, respecting the international legal framework. "MSP can be considered the main tool/process for the implementation of the ICZM in the marine part of the coastal zone and specifically for its sustainable planning and management"[62].

5.1 Initial analysis to organise human activities

Knowledge, data collection, and processing are the first steps; in other words, the initial analysis which is needed to launch and properly inform an ICZM governance process. From an integrative approach, all the elements required to act or plan must be identified and previously evaluated. To do so, knowledge-based management tools appear helpful and necessary.

For example, a compressive mapping of geology, biodiversity and spatial cartography of tourism activities is the initial task in planning and regulating the zones to be delimited in a given area and how to protect them. In this line, scientific evidence is essential to support and guide efficient regulations. Scientific knowledge is needed to evaluate the ecosystem mitigation and adaptation capacity and, thus, calibrate the human pressure to be allowed, if any, as well as to calculate the related impacts, design nature-based solutions, or, in general, plan the development of public infrastructures or any policy related to tourism management and environmental protection. Not exceeding the carrying capacity of a coastal zone is a requirement that needs to be respected and evaluated through a baseline analysis.

62 Conceptual Framework for Marine Spatial Planning in the Mediterranean UN Environment/MAP Athens, Greece (2018).

Table 1: This table synthesises the nature and the significance of initial analyses of human activity in each type of practice

Types of practices	Initial analysis of data relating to human activities
Maritime tourism regulations to protect biodiversity	A scientific study with concrete results (reports, databases, sampling, etc.) on the risks to ecosystems and a rationale for specific regulations aimed at reducing the impact of tourism on them are essential.
Assessment & Monitoring Tourism Impacts & Conflicts	Diagnosis (qualitative/quantitative) could be part of an initial analysis and also the point of comparison when referring to the monitoring and/or assessment exercise.
Integrated Urban Planning of Tourism Activities & Spaces	A report on the capacity of tourism activities in the planning area is essential
Sustainability in Tourism Product Development	A benchmarking analysis is necessary.

5.2 Timely participation of stakeholders is essential

The governance procedure should allow relevant stakeholders to intervene, whether to approve a law or other regulation, a strategic plan, different strategies, or design zoning systems. The involvement of stakeholders at a decision-making level would also lend dynamism to the process and link it with reality. Regarding binding regulations, the appropriate procedural moment should be when stakeholders can still contribute to the decision-making process. Stakeholders have a remarkable co-leadership role in initiatives based on the trust and commitment of the parties (supported by charters, voluntary agreements, or other non-binding documents). If a good collaborative, awareness, and commitment basis is set up, it might have impactful results. In these cases, the tourism activity and all its actors are intended to respect the agreed-upon uses of the coast and sea. Actors' responsibility must be encouraged. This exercise could also be the preliminary step in obtaining a binding regulation approval.

Table 2: This table synthesises the nature and the significance of the participation of stakeholders in each type of practice.

Types of practices	Participation of stakeholders
Maritime tourism regulations to protect biodiversity	Imperative. Procedural moment: when it is still possible for the stakeholders to intervene in the decisions. The lack of it could invalidate the regulation.
Assessment & Monitoring Tourism Impacts & Conflicts	Technical monitoring schemas could be, theoretically, implemented without an open public participation procedure. It is highly recommended that stakeholders be involved, at least in identifying conflicts.
Integrated Urban Planning of Tourism Activities & Spaces	Imperative. A minimum requirement for a planning procedure. The plan's content success and effectiveness depend on it.
Sustainability in Tourism Product Development	For their commercial success and social acceptance, it seems convenient to consider stakeholders' views.

5.3. Guiding objectives identified and stated

Sustainable development of coastal zones can only be ensured if the aim of the regulation and/or the policy in place has been well defined and never disregarded along the process, from the definition to the implementation and the monitoring. ICZM Protocol is a tool conceived to achieve ecological, economic, and social objectives. These objectives are the fundamental pillars to guide this process. This exercise must also clearly state monitoring and surveillance provisions and the best way to follow the implementation. To do so, proper indicators could be monitored as part of the text's provisions. Alternatively, supporting quality schemas or ad-hoc toolkits has proven very effective.

Table 3: This table synthesises the nature and significance to focus on each type of practice's ecological, economic and social objectives.

Types of practices	Ecological, economic, and social sustainability cornerstone objectives.
Maritime tourism regulations to protect biodiversity	Imperative. The regulation clearly states the objectives (aim and objectives).
Assessment & Monitoring Tourism Impacts & Conflicts	Imperative. The objectives need to be precise when indicators monitoring schemas are linked to their implementation.
Integrated Urban Planning of Tourism Activities & Spaces	Imperative. The objectives are always clearly stated in the plan or strategic document (aim, objectives).
Sustainability in Tourism Product Development	It is highly recommended that objectives be stated, but it is challenging to implement. Sustainable production and consumption depend on producers' and consumers' will.

5.4. Ensure the coordination of all the competent authorities involved

Coastal and maritime management is a task shared by authorities from several administration levels: local, regional, and national, depending on the cases. Furthermore, integrated management forces public authorities to focus on several policies and public management areas involved and build up spaces for cooperation. Effective governance needs coordination and team-play among all the competent authorities. Indeed, it is necessary to study the interactions among stakeholders, as overlapping responsibilities and jurisdictions often create confusion and complexities that are difficult to overcome. Such coordination is essential from the design and approval of regulations to decisions on binding issues, coastal zoning issues and publicity, among other aspects. Thus, cooperation must also play a central role in the implementation sphere. For example, relevant practices, such as anchoring surveillance systems, have been implemented thanks to the joint efforts of several public authorities (in many cases, together with stakeholders).

Table 4: This table synthesises the nature and significance of the coordination of all the involved competent authorities in each type of practice.

Types of practices	Coordination
Maritime tourism regulations to protect biodiversity	Imperative. Regulations should include governance provisions that specifically encourage coordination among the involved authorities (and, whether possible, other actors).
Assessment & Monitoring Tourism Impacts & Conflicts	Only a few of the involved actors could evaluate and monitor. The results analysis, conclusions, and linked recommendations should be coordinated among all the involved actors.
Integrated Urban Planning of Tourism Activities & Spaces	Imperative. Plans and strategies should include a governance provision that encourages explicit coordination among the involved authorities (and, whether possible, other actors).
Sustainability in Tourism Product Development	Key when planning ecotourism activities. At least tourism environmental departments should coordinate.

5.5. Financial instruments

Finally, no ICZM would only be in place if the financial instruments that make it possible are foreseen. The funding must be linked to several factors (depending on the cases): one-time budgetary projections, political will, donors' awareness, financial capacity, etc.

On the other hand, Integrated Coastal Zone Management (ICZM) within the Mediterranean is supported by an array of financial tools designed to facilitate the ICZM Protocol's execution. Indeed, international and regional funding programmes such as the Interreg Euro-MED and LIFE, which offer significant grants for environmental and sustainability projects. The Mediterranean Action Plan (MAP) also significantly contributes by coordinating financial resources through its Regional Activity Centers, aiding national and local ICZM efforts. Additionally, the Global Environment Facility (GEF) and the World Bank provide funding and technical support for large-scale environmental management endeavors. Increasingly, **Public-Private Partnerships (PPPs)** are being employed to attract

private sector investment in coastal management, with innovative financial mechanisms like green and blue incentives, emerging to support sustainable development and conservation efforts. PPPs are a critical financial instrument, enabling collaboration between government bodies and private sector entities to fund and manage coastal projects. They can be particularly valuable for financing large-scale infrastructure developments, such as ports, coastal defenses, and wastewater treatment plants, with the private sector sharing both the risks and rewards.

But, more can be done and other tools exist that could also be capitalised-on. For instance, **environmental taxes and fees** levied on activities impacting the coastal environment, such as tourism, fishing, and industrial operations, can provide a significant revenue stream, which can be earmarked for essential conservation efforts, waste management, and pollution control in coastal areas. Another innovative financial tool is the issuance of **green/blue bonds**, designed to raise capital specifically for marine and coastal projects. Such bonds can prove well-suited for funding sustainable fisheries, marine protected areas, and infrastructure that is resilient to climate change. **Payments for Ecosystem Services (PES)** schemes offer yet another financial mechanism, compensating landowners or communities for managing their land or resources in ways that provide ecological benefits. They can incentivize the preservation of vital coastal ecosystems such as mangroves and wetlands, which offer natural protection against storms and erosion.

However, the effective implementation of these financial instruments faces some challenges in the Mediterranean. Fragmented governance is one of them, as the region encompasses multiple countries with varying legal frameworks, governance structures, and priorities. Therefore, it is essential to harmonise policies and regulations across borders and establish or capitalise-on regional governance bodies or agreements to facilitate cooperation and integrated management. Inadequate funding is another critical issue, with ICZM projects often suffering from insufficient and inconsistent financial support, especially for long-term initiatives. Meanwhile, unsustainable practices are fueled by economic incentives (Environmentally Harmful Subsidies - EHS) that generally favour an expansion of economic activity at the expense of conservation and restoration, often causing environmental damage. On a global scale, EHS are estimated to be 5 to 6 times higher than those that benefit the environment. Securing sustainable funding sources is vital and phasing-out EHS is a necessity[63] . Meanwhile, engaging all relevant stakeholders, including local communities, is crucial but often difficult to achieve. Implementing inclusive governance frameworks that involve stakeholders at all levels is necessary for the success of ICZM projects. Furthermore, the lack of

63 Plan Bleu and UNEP/MAP. (2024). Unraveling the Impact of Environmentally Harmful Subsidies in the Mediterranean: Plan Bleu Edited Volume, edited by Robin Degron and Constantin Tsakas, forthcoming.

data and monitoring hampers effective planning and decision-making. Investing in data collection, monitoring systems, and research is essential to support evidence-based management practices. Balancing economic development with environmental protection is another challenge, particularly in areas where coastal tourism and real estate pressures are high. Encouraging sustainable development practices through financial incentives, enforced regulations, and promoting eco-friendly industries can help mitigate these pressures. Lastly, political and institutional instability in some Mediterranean countries can disrupt efforts. Building strong, stable institutions and ensuring political commitment at the highest levels are necessary for the long-term success of ICZM initiatives.

Overall, the successful deployment of these financial tools hinges on several enabling factors that ensure their effectiveness, sustainability, and scalability. A strong and coherent policy framework that aligns national and regional policies with the ICZM Protocol is essential, underpinned by clear regulations, legal structures, and institutional support. Efficient governance structures and robust institutional capacities are crucial for the effective management and allocation of resources.

Engaging the public and stakeholders through participatory approaches builds support for ICZM initiatives, attracting funding from varied sources. Access to reliable and comprehensive data on coastal zones aids informed decision-making, targeted financial strategies, and effective monitoring and evaluation. Financial innovation and diversification, including the creation of blue and green incentives, open new funding avenues and enhance financial resilience.

Technical assistance and capacity building ensure that local authorities and stakeholders possess the necessary skills and expertise to utilise funds effectively. Finally, strong partnerships between the public and private sectors, international organisations, and local communities foster a collaborative approach to coastal management, resulting in co-financing arrangements and shared responsibilities. By focusing on these enabling factors, financial tools can be more effectively mobilised and utilised to support the sustainable management and protection of coastal zones in the Mediterranean, ensuring long-term environmental and socio-economic benefits.

6. Conclusions

The Practices Handbook offers insightful experiences in Integrated Coastal Zone Management and Maritime Spatial Planning, particularly through case studies that demonstrate how key elements of these processes are applied to tourism-related activities.

This Practices handbook is the first step in disseminating practices for implementing sustainable tourism into a more systematic benchmark at the Mediterranean level through cooperation initiatives like the Community4Tourism project.

However, one of the key limitations of this Handbook was identifying planning and management practices beyond cooperation projects (Interreg Euro-MED and others). Indeed, it remains difficult to assess how governments integrate sustainable tourism into their coastal and marine plans, and, conversely, how these plans incorporate and address sustainable tourism. These challenges, along with understanding how they evolve over time, require further resources and time.

Moreover, it is important to note that finding concrete examples of tourism practices that have explicitly integrated ICZM and MSP processes or protocols remains difficult. There is often no clear or direct link between tourism policies and these wider governance frameworks, suggesting that tourism decision-making processes may not always adequately incorporate these environmental and spatial planning tools. This gap in integration is a significant barrier to achieving a more holistic and sustainable approach to coastal and maritime tourism governance.

Another significant limitation lies in evaluating the impacts of the practices, as the evidence collected primarily relies on documentation. Future research must critically engage with these practices, assessing the real impact/benefits of policies, plans and cooperation initiatives, particularly in how these impacts are shaped by political interests. Tracing the social construction of impact assessments within sustainable tourism planning is an area that warrants deeper exploration.

Despite these limitations, the Handbook's findings shed light on how diverse cooperation and management tools can help overcome complex processes, like the implementation of ecosystem-based approach, and improving stakeholder engagement. Increased inter-departmental coordination is necessary to define land-use instruments and management tools that mitigate the impacts of urban touristification. Moreover, the analysed practices illustrate how environmental sustainability in tourism can be enhanced, for example, by developing Solutions to adapt recreational spaces to climate risks, improving data for sustainable tourism strategies, or advancing low-carbon tourism products development in Protected Areas. Unpacking the potential of key elements of ICZM and MSP needs to be apprehended

through the practices itself on the field, which offer guidance for policy decision-makers and tourism stakeholders on the challenges of implementing sustainable tourism.

The practices compiled in the Handbook can serve as inspiration and support for destinations aiming to boost their sustainability. Highlighted compliant practices provide guidance for decision makers that plan and manage tourism and leisure activities that may impact the marine waters of the Mediterranean and the coastal areas, ensuring integrated management of tourism-related policies.

According to relevant reports[64] , this work aims to help practitioners such as coastal managers and tourism and environmental stakeholders, overcome the challenges of implementing the ICZM Barcelona Convention Protocol and the MSP EU Directive. Funding programmes should advance in supporting open-access virtual spaces to share practices on how tourism and leisure are integrated into coastal and maritime plans, fostering knowledge sharing across Mediterranean countries and territories. This handbook, considered as knowledge transfer practices, is necessary to access current practices, (planning methodologies, and tools), helping to overcome a critical knowledge gap and contributing to a display of the Common Framework for Integrated Coastal Zone Management [65]. Future research should use qualitative methods to explore contextual issues and power dynamics, providing a deeper understanding of the planning and management processes necessary for sustainable coastal and maritime tourism.

64 UNEP / PAP-RAC (2016); EU Commission (2022)
65 https://iczmplatform.org/storage/documents/Ab5KKfiwRSrOLYPvVRYdKBdr0GAkl0Mx14KtOfRo.pdf

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8. Annex

8.1 Annex 1

The following table displays the coding system used to map and select this handbook's practices.

Table 5: A coding system to map and select practices.

DOMAIN	CODE	DESCRIPTION	POSSIBLE ENTRIES
Diversity of practices	Case study	It refers to an identified practice to be analysed. The denomination needs to use keywords referring to the practice and location	Single: a short description of the practice
	Country	Name the country(ies)	Several: name of country
	Region	Name of the region(s)	Several: name of the region
	Source of information	List of sources of information	Several: Interreg MED; ENI CBC; MSP-Platform; European Atlas of the Sea; Experts
	Name of project	It indicates if the practice was developed under a specific cooperation project or similar.	Single: Name of the project / N.A.
	Tourism Activity	Indicates the affected tourism activity(-ies).	Several: name activity / multi-activity / N.A.
	Typology of practice	Indicates the typology of practice according to criteria	Several: knowledge-making/tools, spatial planning, management tools/techniques, institutional cooperation, stakeholders' collaboration.

	State of implementation	Indicates the state of development of the practice: theoretical (like a model or method), tested (in a project), or implemented (in a real scenario)—it might be endorsed through an MoU but not implemented.	Several: theoretical; tested; implemented
	Scale	Indicates the scale of this practice, which can be administrative or area-based	Single: municipality, other sub-regional, conservation site, regional, sea-demarcation national, transboundary
	Leading actor(s)	Indicates the organisation (s) responsible for the implementation of the practice.	Several: Government, NGO, research centre, businesses, multi-actor
	Short description	Summary of the case indicating what it is about, its relevancy, and explaining why it is in the selected category(-ies)	Single: description
Evidence-based	Contact Reference Point	Indicates what kind of Key Informants are accessible, which involves contacting them. There are three types of KIs: the practice's responsible person, a partner collaborating in its design or implementation, or any other person whose position as an observer makes him/her valuable knowledge.	Several: lead responsible; partner; external expert

	Contextual information	Indicates if the secondary information gathered provides contextual information about the issues at play, the related policies and regulations, and especially information about how this practice has been implemented.	Single: fair enough, partial, limited
	Comprehensive description	Indicates if the secondary information gathered is substantial to analyse the practice from problems to design and implementation	Single: fair enough, partial
	Impact monitoring	Indicates if the secondary information gathered provides reports analysing the implementation and the related impact	Single: Yes/No
	Alternative evaluation	Indicates the existence of secondary information on evaluating the impact and implementation of the practice.	Single: Yes/No
**	Notes	Provide insights about the case study regarding any issue related to practices that should be considered.	Single: description

8.2 Annex 2

The following table displays the guiding questions used to make the final selection of practicess.

Table 6: Guiding questions for selecting final practices.

DOMAIN	GUIDING QUESTIONS
Case Study	
To what extent is the selected practice relevant for the handbook in the context of ICZM/MSP implementation and regarding transferability potential within the Mediterranean region?	Support integrated planning (systemic, multi-level), approach sustainability perspectives and deal with use conflicts. Practices might be oriented to support planning processes or management of plans, leisure spaces, and tourism activities. Different instruments (planning, regulation, assessment), management (monitoring, surveillance, governance, etc.). Explain the reasons why the selected practice supports ICZM or MSP processes.
	EcAp approach practical application. To what extent does this practice integrate the EcAp?
	Involvement of stakeholders (diversity, planning, monitoring, management). To explain how the practice involves stakeholders during its testing or implementation and foresee the potential involvement of stakeholders or diverse governments or departments.
	Ensuring implementation (regulation enforcement, cooperation mechanism, management tools/techniques, stakeholder agreements, resource deployment)

Is the information sufficient to understand the solution, the implementation, and the impact?	Diversity of secondary sources integrating contextual information, comprehensive description, impact monitoring, alternative analysis
	Key informants have offered additional information.
	Significant information gaps about implementation progress
Is the final selection sufficiently diverse and geographically balanced?	Are practices sufficiently comprehensive in diversity and quality of information?
	Scale
	Tourism activities
	Is there a good balance of north-south-east-west?

8.3 Annex 3

The following table displays the scoping review results through open databases.

Table 7: Results of the scoping review.

Sources	*Searching entries* (kewords, thematic areas)	*Displaying* (No projects = 11; No. selected cases = 141)	*Cases selected after discards for repetition* (n= 33)	*Discard reasons*
Interreg MED	Sustainable Tourism;` Blue Growth	total number of **projects** displayed in the thematic areas: 27 selected projects: 6	10	Not directly related to tourism; Not directly interlinked to MSP/ICZM;
ENI CBC MED	Environmental protection, climate change adaptation and mitigation	total number of **projects** displayed in the thematic area: 25 Selected **projects**: 2	2	Not directly related to tourism; Not directly interlinked to MSP/ICZM;
MSP Platform	Tourism, ecosystem, conflicts, data.	total number of **entries** in the platform: 65	2	Year of implementation; Not directly related to tourism;
European Atlas of the Seas	Integrated Coastal Zone Management	93	2	Year of implementation; Not directly related to tourism;
Consultation to stakeholders and other sources	N.A	indicate the number of cases facilitated: 13	13	Not directly connected with MSP/ICZM; Lack of information;

8.4 Annex 4

The following table displays the content entries to analyse the handbook's practices.

Table 8: Analysis of Selected Practices.

Denomination: name of the practice		
Type of practice: strategic plan, regulation, tool, etc.		
Tourism activities: activity; multi-activity		
Type of issue: coexistence of issues, data, cross-border cooperation, EcAp, land-uses interactions, data, stakeholders, etc.		
Geographical I (country/region/municipality), when several countries (cross-country)		
State of development (tested/ongoing implementation)		
Scale: indication of institutional scale of operation.		
Year of testing/implementation		
Domain	**Criteria**	**Description**
Political & Geographical Context	To what impacts and conflicts respond?	Justification of the need, policy context and geographical or sectorial issues.
How does the practice contribute to ICZM/MSP processes?	What is the practice in terms of planning and management of tourist activities? Particularly on the ecosystem approach, managing environmental impacts and conflicts .	Explain what the practice is about and what precisely constitutes practice concerning the principles of ICZM/MSP.
	How is an integrated perspective, conflict management or/ and ecosystem-based management implemented?	How are other components, departments, and stakeholders mobilised to deal with the issue, and what resources are deployed or needed?
	To what extent does this practice engage stakeholders?	Explain how different stakeholders are involved in the testing or implementation.

Transferability	Key lessons learned for implementation. What implementation issues need to be considered to deal with barriers and expected impacts.	Which resources and agencies need to be mobilised? It could refer to limitations of the implementation to be considered (Funding & resources, Skills, Stakeholder engagement, Political changes).
Regulatory analysis	Coherence with MSP/ICZM.	How could the practice be adapted to EU and non-EU countries? It considers coherence with the legal frameworks of ICZM and MSP.

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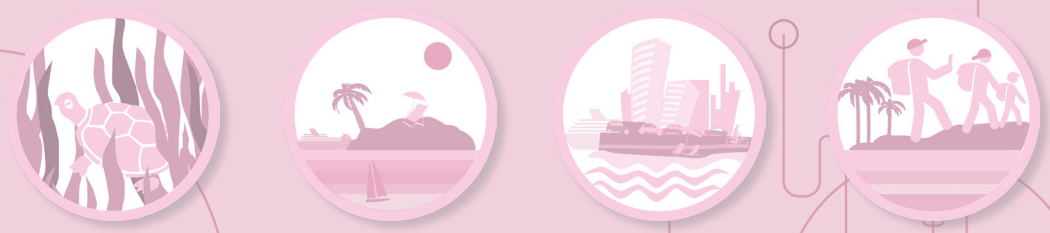

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