eco-union

Towards a Sustainable Blue Tourism in the Mediterranean

Ecosystem Approach for a better environmental Management of Coastal and Maritime Tourism

Index

1 Introduction 3
2 Environmental impacts and vulnerability of Coastal and Maritime Tourism 4
2.1 Coastal and maritime tourism activities 5
2.2 Impacts of coastal and maritime tourism 6
2.3 Dependency of tourism on natural ecosystems 8
2.4 Tourism vulnerability to climate change 9
3 Community, Eco- and Nature-based Tourism 10
3.1 Eco-tourism in coastal and maritime areas 11
3.2 Tourism in marine protected areas 12
4 Ecosystem services in the tourism sector 13
4.1 The concept of ecosystem services 14
4.2 Ecosystem services in the tourism industry 15
4.3 State of ecosystem services in the Mediterranean 16
5 Ecosystem-based approach 17
5.1 The concept of ecosystem-based approach 18
5.2 Ecosystem-based Management in Europe's seas 19
5.3 Ecosystem-based Integrated Ocean Management 20
6 Ecosystem Approach in European and Mediterranean policies 22
6.1 European policies based on EcAp 23
6.1.1 Marine Strategy Framework Directive (MSFD) 23
6.1.2 Maritime Spatial Planning Framework Directive (MSPF) 23
6.1.3 EU Biodiversity Strategy (EBS) 24
6.1.4 Water Framework Directive (WFD) 24
6.2 European policies related to coastal and marine tourism 24
6.2.1 Blue Growth Strategy 24
6.2.2 European Strategy for growth and jobs in coastal and marine tourism 25
6.3 Ecosystem Approach at the Mediterranean-level 26
6.3.1 The Barcelona Convention 26
6.3.2 The Integrated Zone Management in the Mediterranean (ICZM 27
6.3.3 The Protocol on Land-Based Sources (LBS) 27
6.3.4 Mediterranean Strategy for Sustainable Development (MSSD 2016-2025) 28
6.3.5 Regional Action Plan for Sustainable Consumption and production in the Mediterranean 29
7 Implementation of the Ecosystem Approach in the coastal and marine tourism 30
7.1 European policies based on EcAp 31
7.2 Policy and regulatory tools 32
7.3 EcAp measures 32
7.4 Good practices 34
8 Conclusion 36

Authors: **Jeremie Fosse, Salvador Klarwein, Ioanna Kosmas (eco-union)**
Reviewers: **Alejandro Gonzalez & Lea Meltz (eco-union)**
Coordinators: **Jeremie Fosse (jeremie.fosse@ecounion.eu)**

DOI: https://doi.org/10.5281/zenodo.5137940

Publication date: **June 2021**

Design: **www.magdasoler.com**
Images: **Unsplash**

www.ecounion.eu/en/portfolio/blue-tourism/

Please refer to this report as : *Fosse J., Klarwein S., Kosmas I. & Gonzalez A. (2021). Ecosystem Approach for a sustainable coastal and maritime Tourism in the Mediterranean. eco-union.*

1 Introduccion

This report is part of a global initiative to improve the **Governance of Coastal and Marine Tourism around the Regional Seas**, launched by **eco-union** and **IDDRI** (Institute of Sustainable Development and International Relations), with the support of the French Environment Agency (ADEME) and the French Fund for Environment (FFEM). This study is as an extension of the flagship report **Towards a Sustainable Blue Economy**[1] published in 2019 that provided an exhaustive assessment of the environmental, social and economic impacts of the Coastal and Maritime tourism around the world. Focusing now on the Mediterranean Sea, this report highlights the opportunities to apply the **Ecosystem (based) Approach** (EcAp or EBA[2]) for a better environmental management of coastal and marine tourism.

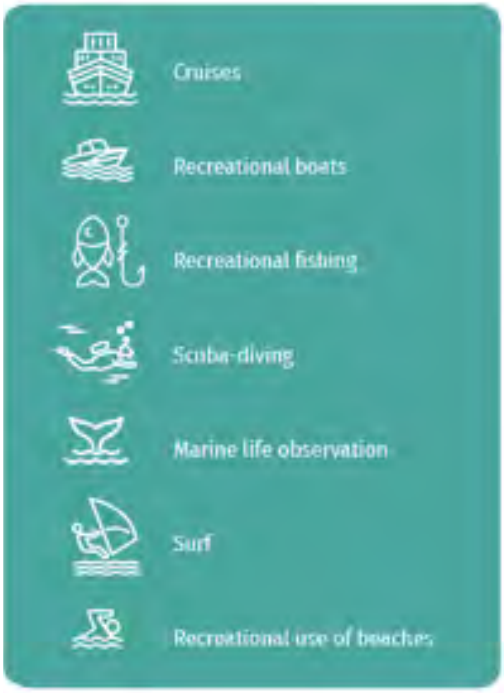
1 eco-union (2019): Towards a Sustainable Blue Tourism around World Marine Regions 2 In this report the terms Ecosystem Approach (EcAp) or Ecosystem based Approach (EBA) are used indifferently.

2 Environmental impacts and vulnerability of Coastal and Maritime Tourism

Coastal and maritime tourism have increasing negative environmental externalities, mainly due to the air, water and waste pollution and the direct and induced land-use change in urban, rural and natural spaces. At the same time this type of tourism is highly dependent on the health of natural ecosystems, which provide much of the attractiveness of the Mediterranean region.

2.1. Coastal and maritime tourism activities

Coastal tourism refers to beach-based tourism and recreation activities, including swimming, sunbathing and surfing, alongside with other activities taking place on the coast and for which the proximity of the sea is advantageous, such as coastal walks or wildlife watching[3]. **Maritime tourism** includes predominantly water-based activities, such as sailing, yachting and cruising, and other nautical sports. Both coastal and maritime tourism are among the oldest and largest segments of the tourism industry[4]. They have evolved from leisure activities reserved to the wealthiest in the 19th century to more 'democratic' activities within the reach of middle and working classes, especially with the mainstreaming of paid vacations and all-inclusive resorts, as well as affordable means of transportation.



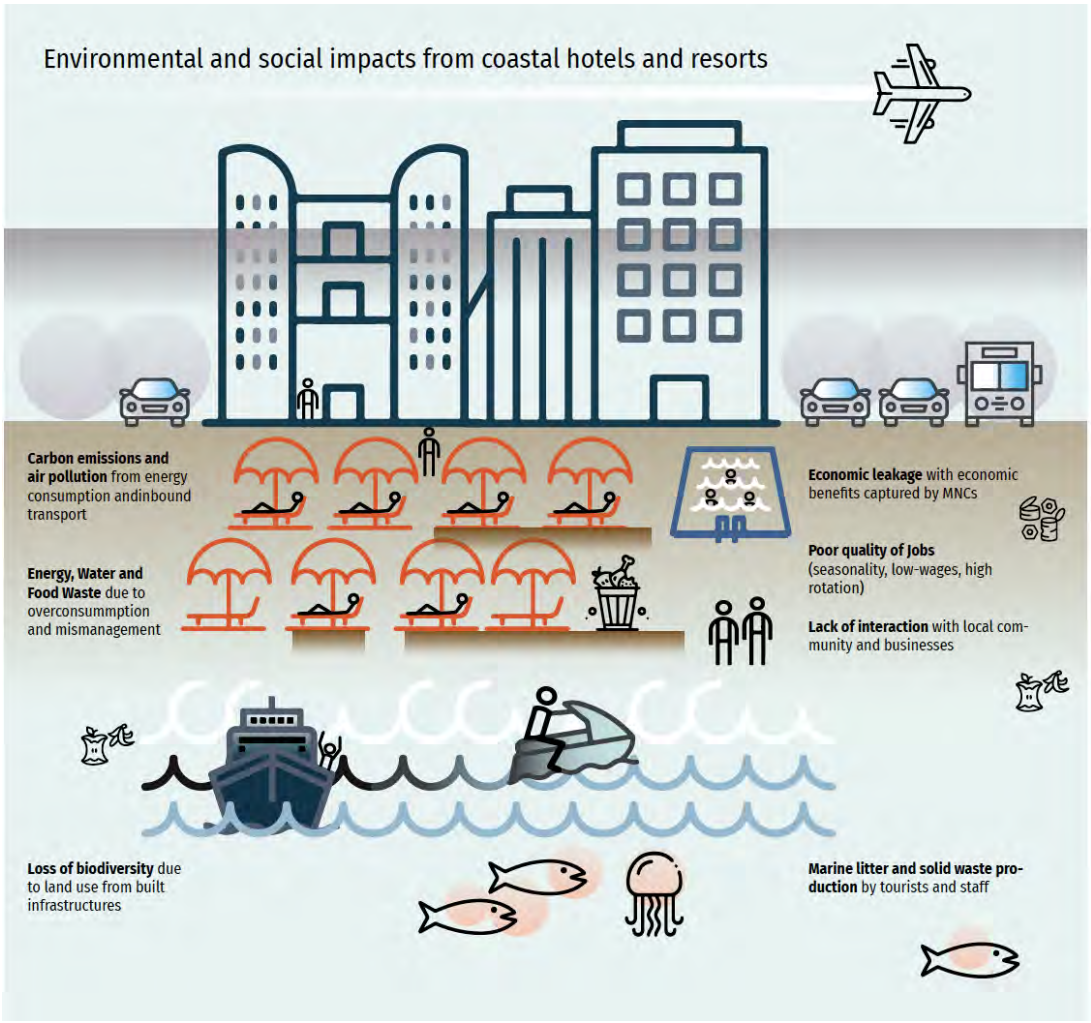
3 Ecorys (2013): Study in support of policy measures for maritime and coastal tourism at EU level **4** Honey M. & Krantz D. (2007): Global Trends in Coastal Tourism.

2.2. Impacts of coastal and maritime tourism

The negative environmental impacts of tourism on the coastal and maritime areas of the Mediterranean originate mainly from the construction and use of infrastructures (hotels, second-home residencies, ports and marinas, waste treatment facilities, etc.) and from maritime or coastal recreational activities (nautical tourism, golf courses, water sports, etc.).

These negative externalities consist of water and energy consumption for tourism services (e.g. swimming pools, golf courses, accommodation, air conditioning)[5], especially in water sensitive areas[6], where they also lead to land change and artificialization of the coast, pollution, and biodiversity loss.

Marine litter is a critical issue: in some Mediterranean tourism areas, more than 75% of the annual waste production is generated during the summer[7] and is directly correlated to the number of tourists[8]. In fact, coastal tourism denigrates ecosystems through multiple pressures, such as waste, water and air pollution, light and noise pollution, alien species, urbanisation, transportation, and resource use. Such pressures do not solely impact the ecosystems within the proximities to the sources of pressures but impact far away ecosystems, such as by marine plastic litter, and air pollution from maritime transport, which rapidly disperse with the marine and air currents respectively.



5 Gössling, S. (2002): Global environmental consequences of tourism. Global Environmental Change; EEA (2014): Horizon 2020 mediterranean report; Briefing European Parliamentary Research Service (2017); EEA (2017): Climate change, impacts and vulnerability in Europe **6** Plan Bleu (2010): Management of energy air transport and tourism in the Mediterranean. **7** Giulietti et al. (2018): Tourism and the environment Towards a reporting mechanism in Europe. EEA Report, ETC/ULS. **8** Grelaud, M., Ziveri, P. (2020). The generation of marine litter in Mediterranean island beaches as an effect of tourism and its mitigation. Scientific Reports.

Cruise tourism is also having strong environmental impacts. Cruise ships travel from port to port polluting the air, impacting public health and degrading natural ecosystems. In fact, the Mediterranean cruise fleet of one single company, consisting of 47 ships, emits about 10 times more SOX than the over 260+ million passenger vehicles in Europe[9]. Equally importantly, is the introduction of alien species through ballast water of cruise ships, which can potentially result in irreversible damages for the entire ecosystem of the Mediterranean Sea. Cruise ships travel relatively close to the coastline where biodiversity is most vulnerable to pollution. Hence, cruise tourism, along with shipping, contribute to the decline of marine species, such as marine mammals affected by ship strike. Noise pollution[10], from cruises and recreational boating, is another major factor which impairs the livelihood of marine fishes and mammals along coastal waters, further impoverishing the marine ecosystem[11]. Given the anticipated sectoral growth[12],

ENVIRONMENTAL IMPACTS OF COASTAL TOURISM

	COASTAL TOURISM TYPOLOGIES				
THREATS FROM COASTAL TOURISM	Cruise	Beach	Urban	Eco	Boating
Airpolution	●	●	●	○	●
Solid waste	●	●	●	○	○
Ecosystem Degradation	○	●	○	○	●
Water pollution	●	○	○	○	●
Noise pollution	●	○	○	●	●
Light pollution	○	○	●	○	○
Wildlife disturbance	○	○	○	●	●
Alien species	●	○	○	○	○
Resource use	●	○	○	○	●

Source: CO-EVOLVE, based on literature review. The level of threat is ranked from low (light), medium or high (dark).

those environmental and social pressures are likely to increase if adequate policies are not implemented at local and national level. As Northern Mediterranean countries are a rather mature tourism destination, most of these pressures are likely to increase in Southern Mediterranean Countries (SMCs) with weaker regulations and poorer enforcement capacities.

9 Abassov, F. and al. (2019): One corporation to pollute them all. Transport & Environment. **10** Transport & Environment (2021): Cruise ships impact.**11** Plan Bleu & UNEP (2020): State of the Environment and Development (SoED). **12** UNWTO Tourism Dashboard.

2.3. Dependency of tourism on natural ecosystems

The environmental pressures from human induced activities also take a toll on the tourist industry as it lowers the **attractiveness of tourist destinations**[13]. This loss of attractiveness due to pressures from coastal tourism is evident from waste pollution, including presence of faecal water in beaches, and degradation of flora and fauna due to water scarcity derived from tourist infrastructure. The development of coastal tourism infrastructure, which is especially dense from Southern Spain to Northern Italy, has eliminated entire ecosystems and has resulted in highly vulnerable economies dependent on mass tourism[14]. Infrastructure leads to light pollution which exacerbates the survival of coastal species as it alters their reproductive cycles and confuses species, such as new-born turtles which race inland towards artificial light instead of to the sea[15].

ENVIRONMENTAL THREATS TO COASTAL TOURISM

	COASTAL TOURISM TYPOLOGIES				
THREATS FROM COASTAL TOURISM	**Cruise**	**Beach**	**Urban**	**Eco**	**Boating**
Airpolution	○	●	●	●	○
Solid waste	●	●	●	●	●
Ecosystem Degradation	●	●	●	●	●
Water pollution	●	●	●	●	●
Noise pollution	○	●	●	●	○
Light pollution	○	●	○	●	○
Wildlife disturbance	○	●	○	●	●
Alien species	●	●	○	○	○
Resource use	●	●	●	●	●

Source: CO-EVOLVE, based on literature review. The level of threat is ranked from low (light), medium or high (dark).

All these impacts have **negative feedback** on the tourism industry as they result in destinations losing attractiveness due to the increased health risk, lingering resources, impoverished ecosystems, and loss of local people. Furthermore, coastal tourism requires aeroplanes, trains, buses, and private vehicles that lead to high GHG emissions, contributing to extreme weather events, ocean acidification, sea-level rise and other climate change-related processes, which are the most harmful factor endangering touristic destinations.

13 Drius et al. (2018): Tackling challenges for Mediterranean sustainable coastal tourism: An ecosystem service perspective. Science of The Total Environment. **14** Greenpeace (2019): A Toda Costa. **15** Elizabeth Howell (2013): Light Pollution Deters Nesting Sea Turtles. LiveScience.

2.4. Tourism vulnerability to climate change

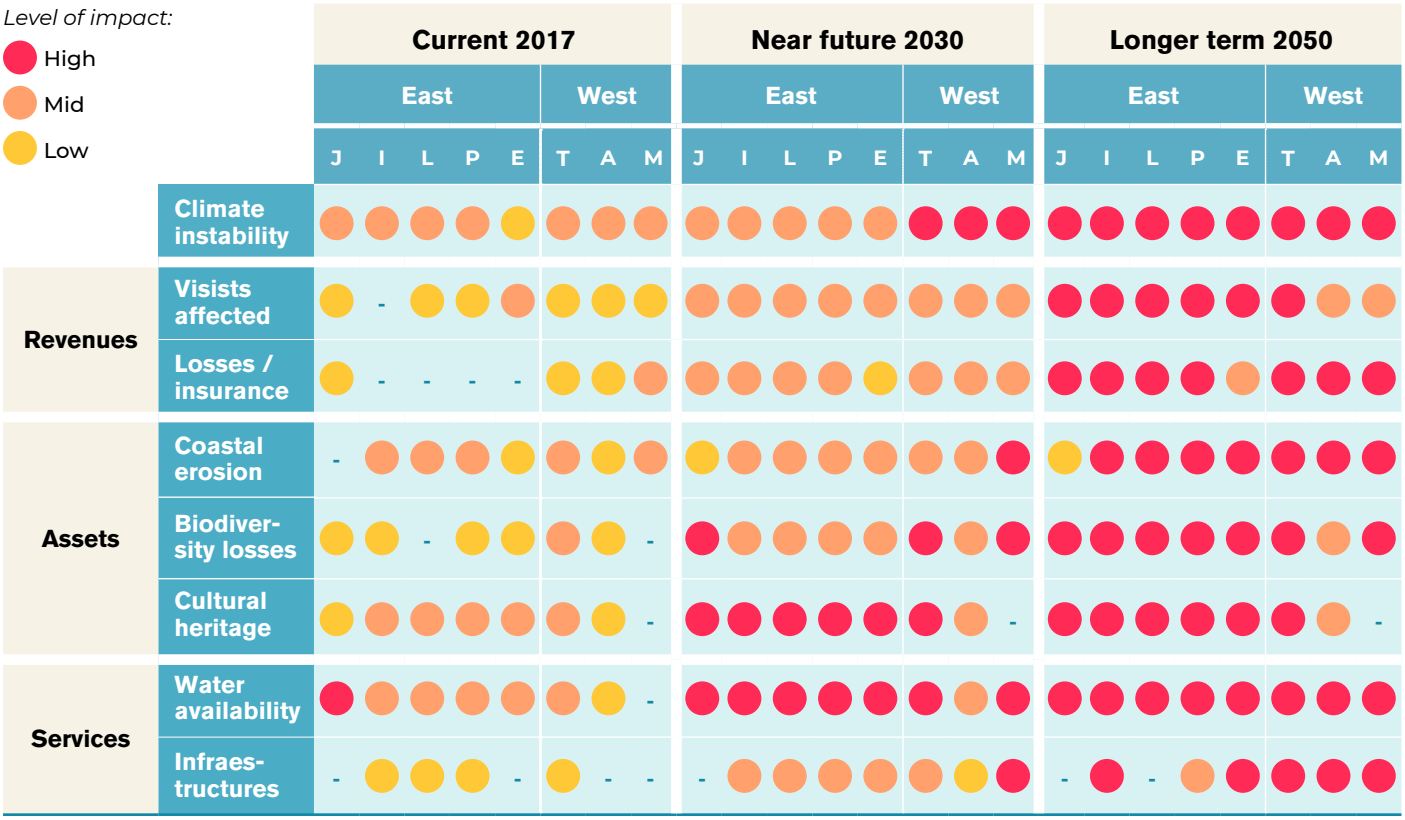
The Mediterranean tourism sector is exposed to growing pressures linked to the effects of **climate change. Coastal erosion**, for example, is already evident throughout the Mediterranean coast, especially in the southern part[16]. Lack of water, coastal erosion, rising sea levels are just some of the challenges that climate change poses to tourism operators and other stakeholders on the shores of the Mediterranean Sea.

The most worrying impacts of climate change on tourism sector in the medium (2030) and long-term (2050) are likely to affect especially the Eastern (Egypt, Israel, Jordan, Lebanon and Palestine) and Western (Algeria, Morocco and Tunisia) southern Mediterranean countries[17]:

- **Direct impacts:** loss of visits and increase in direct costs due to high climate instability that discourages local visitors and in particular international visitors.
- **Indirect impacts:** decrease of attractiveness due to the local biodiversity losses characterizing the destination, as well as the deterioration of local essential infrastructures (transport, hospitality, etc.) due to flood pressure.

IMPACTS OF CLIMATE CHANGE ON THE TOURISM SECTOR IN THE SOUTHERN MEDITERRANEAN COUNTRIES

J=Jordan, I=Israel, L=Lebanon, P=Palestine, E=Egypt, T=Tunisia, A=Algeria, M=Morocco



Source: UfM (2018)[18]

Some important direct impacts on the tourism sector are not immediately visible. This causes a distortion of the climate change risk perception of the tourism sector operators, which, to date, have not given priority to adaptation and mitigation actions to climate change, increasing the vulnerability of destinations in the Mediterranean coast.

16 UfM (2018): Climate change impact on the tourism sector in the southern Mediterranean. Foreseen developments and policy measures **17** Ibid. **18** UfM (2018): Climate change impact on the tourism sector in the southern Mediterranean. Foreseen developments and policy measures. J=Jordan, I=Israel, L=Libanon, P=Palestine, E=Egypt; T=Turkey, A=Algeria, M=Morocco.

3 Community, Eco- and Nature-based Tourism

Nature-based and community-based tourism are emerging options of the tourism industry that aim at redirecting small numbers of travellers to less mainstream locations and activities in order to alleviate their weight on the ecosystems. Sustainable practices are being explored under these markets, such as the use of **ecosystem-based management**, that adapts to the preexisting environment in order to sustain it, interact with it and protect it. However, the implementation of genuinely sustainable and responsible models in the mediterranean is still marginal.

3.1. Eco-tourism in coastal and maritime areas

Ecotourism in coastal and maritime areas can be defined as tourism of either unexplored or endangered environments with the purpose of supporting conservation efforts done in the area and scientific research developments[19]. By definition, ecotourism in coastal and maritime areas seeks to reduce the impacts and pressures generated by conventional tourism by promoting good practices and/or prohibiting bad practices. Yet, nature-based activities, though controlled and monitored, still generate direct impacts on the protected ecosystems that need to be contained and deflected using the resources generated.

Ecotourism is thus designed to specifically counter environmental degradation. Yet, it can sometimes cause it. Ecotourism involves taking tourists to ecosystems that are relatively untouched by humans. Human presence can disturb these ecosystems, scaring off prey and disrupting hunting patterns for predators, cause soil erosion and habitat loss if the number of travellers increases rapidly. Uncontrolled recreational activities also threaten the wildlife.

IMPACTS OF NATURE-BASED ACTIVITIES ON COASTAL AND MARITIME AREAS

ECOTOURISM ACTIVITIES	BAD PRACTICES	IMPACTS
Skydiving	Damaging corals Perturbing sediments Touching and feeding fish Littering	Damaging reefs, shifting species makeup in coral reefs. Decimating fish species and shifting species makeup; Impacting photosynthesis due to clouding of water; Shifting species makeup and stressing/ disturbing certain fish species; Causing eutrophication and threatening animals.
Swimming	Water contamination from sun-blocks, sun-tan oil and soap	Generating the eutrophication of coastal waters and lagoons
Sightseeing such as underwater or glass bottomed boats activities	Generating wake waves and propeller effects, perturbing sediments and contaminating waters with chemical	Stressing animal species in coastal waters, lagoons and river mouths; Damaging shore and underwater vegetation; Risk of contaminating waters with heavy metals and poisoning animals and plants; Risk of damaging coral reefs and eelgrass meadows.
Nature observation on foot or boat and visiting natural reserves	Disturbing the biodiversity with physical presence and noise	Stressing animal species.
Hiking and cycling	Litter, fecal matter; Breaking plants; Noise and presence disturbance	Affecting plant communities in Sandy beaches through eutrophication, fire hazard and threat to animals; Damaging vegetation and soil erosion; Stressing and disturbing animal species such as turtles laying eggs.

Source: own elaboration

19 Lawal M. Marafa and K. C. Chau (2014): Framework for Sustainable Tourism Development on Coastal and Marine Zone Environment, Tourism, Leisure and Global Change

3.2. Tourism in marine protected areas

Marine Protected Areas (MPAs) refers to the protective management of certain natural areas in the aim of keeping them in their natural state[20]. Preserved for the resources, biodiversity or species they contain, they are delineated in zones inside of which certain identified activities are non-permitted. In order to identify the boundaries of a MPA and the objectives of the conservation, in depth knowledge of the area is needed. MPAs require as well the establishment of surveillance and monitoring mechanisms for compliance. Such environmental conservation initiatives have been proliferating in the past decades. A key aspect of MPAs and its direct impact on tourism is regarding the limitation of the number of tourists that can access the wild area to reduce overcrowding. While it is sometimes difficult to measure the ideal number of tourists to reduce negative environmental externalities without harming the local economy, these practices at least help to set rules that constrain mass tourism and negative derives of eco-tourism.

To estimate the **environmental and socio-economic impacts of MPA**s, a series of tools exist, such as social–ecological systems, impact evaluation, and common-pool resource governance. These complementary scientific frameworks aim at documenting the ecological and social impacts of several conservation interventions such as MPAs. This impact evaluation of governance in social–ecological systems shows that MPAs have a positive impact on ecological dynamics and on the ecosystem in general[21].

MPAs also influence, directly and indirectly, the **well-being of the population** through multiple channels. For instance, introducing new systems of marine resources governance into MPAs results in enhanced or reshaped services in flows of marine ecosystem such as provisioning services (fishery), infrastructures, regulatory services (carbon sequestration) and cultural services (tourism) as well as supporting services.

Moreover, MPAs allow a more **transparent distribution of resources** within and among social groups while reallocating the benefits of ecosystem services. They determine at once the size of the marine economy generated by the ecosystem services, the distribution of property rights and the size of each individual dividend. When accounting for the spillovers of tourism in MPAs, especially from the ecological perspective, one should look at the shift in behaviour of tourists not only in MPAs but also in the peripheral areas, where recreational activities, such as fishing or swimming, are allowed.

Establishing an area as MPAs can have various **indirect impacts**. For instance, redistributing the revenues from fishing of an MPA to other regions (fishing being often prohibited in MPAs), could increase the cost of fishing and lower profitability, given that travel distances might increase, as well as exploratory fishing and the aggregation of fishing pressure in non-MPA locations. Yet, prohibiting fishing in MPA would also result in the increase of fish abundance in the area, benefiting fishable areas, and therefore mitigating some or all of the previously mentioned costs. However, the concept of MPAs implies a protection of a particular area that leaves surrounding areas particularly exposed to the negative impacts of tourism: in short, establishing MPAs increases potential pollution and destruction of nearby areas.

20 IUCN : Marine Protected Areas **21** Michael B. Mascia and al. (2017) : A novel framework for analyzing conservation impacts: evaluation, theory, and marine protected areas

4 Ecosystem services in the tourism sector

The ecosystem approach uses the concept of ecosystem services to value the processes within ecosystems in monetary terms. Ecosystem services take into account the value of ecosystems in markets, which have historically greatly undermined the critical role of ecosystems in enabling natural processes that are necessary for human wellbeing and subsistence. Hence, it introduces an instrument for the introduction of economics in conservation policies and environmental aspects in sectoral policies[22].

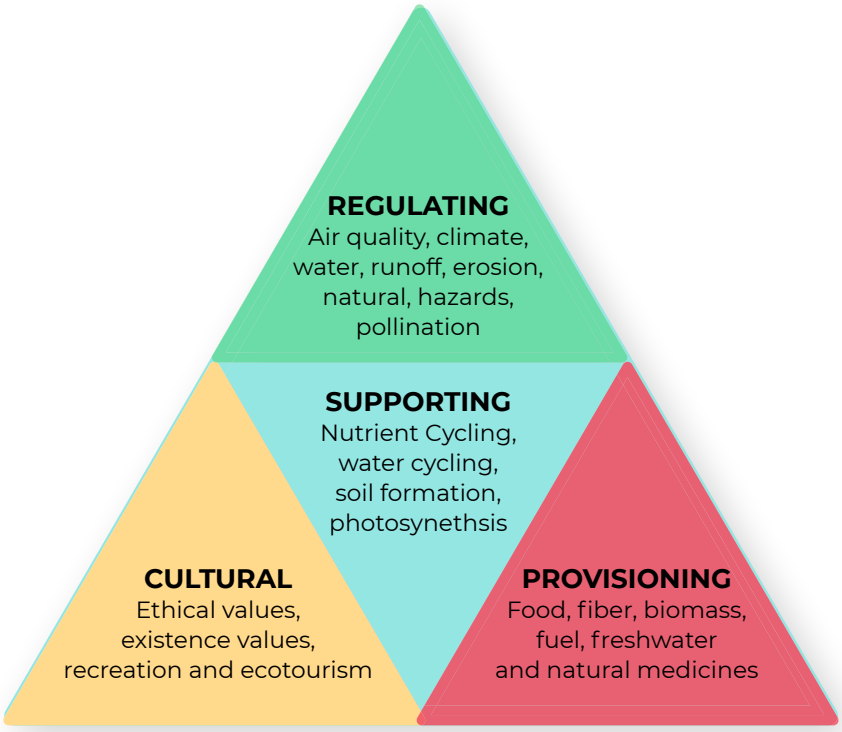
22 Camino Liquete, Chiara Piroddi, Diego Macías, Jean-Noël Druon & Grazia Zulian (2016) : Ecosystem services sustainability in the Mediterranean Sea: assessment of status and trends using multiple modelling approaches. Nature, scientific reports.

4.1. The concept of ecosystem services

Ecosystem services refer to the direct and indirect contributions of ecosystems to human well-being, of whether tangible or intangible benefits[23]. Ecosystem services are generally classified into four categories[24]:

- **Provisioning services** are those that lead to energy outputs such as food, fresh water, wood, fibre, genetic resources, energy, and medicine.
- **Regulating services** are the benefits coming from the regulation of ecosystem processes such as climate regulation, natural hazard regulation, water purification and waste management, pollination or pest control.
- **Habitat or Supporting** services are those which are essential for all other ecosystem services, such as biomass production, oxygen, soil formation and retention, nutrient cycling, water cycling, and provisioning of habitat for species and the maintenance of gene pools.
- **Cultural services** include non-material benefits that people obtain from ecosystems such as spiritual enrichment, intellectual development, recreation and aesthetic values.

IMPACTS OF NATURE-BASED ACTIVITIES ON COASTAL AND MARITIME AREAS



Source: Millennium Ecosystem Assessment

It is important to note that while integrating monetary criteria in conservation aims of incentivising nature protection, there is always a risk of prioritizing monetary-based decisions that do not really benefit conservation[25].

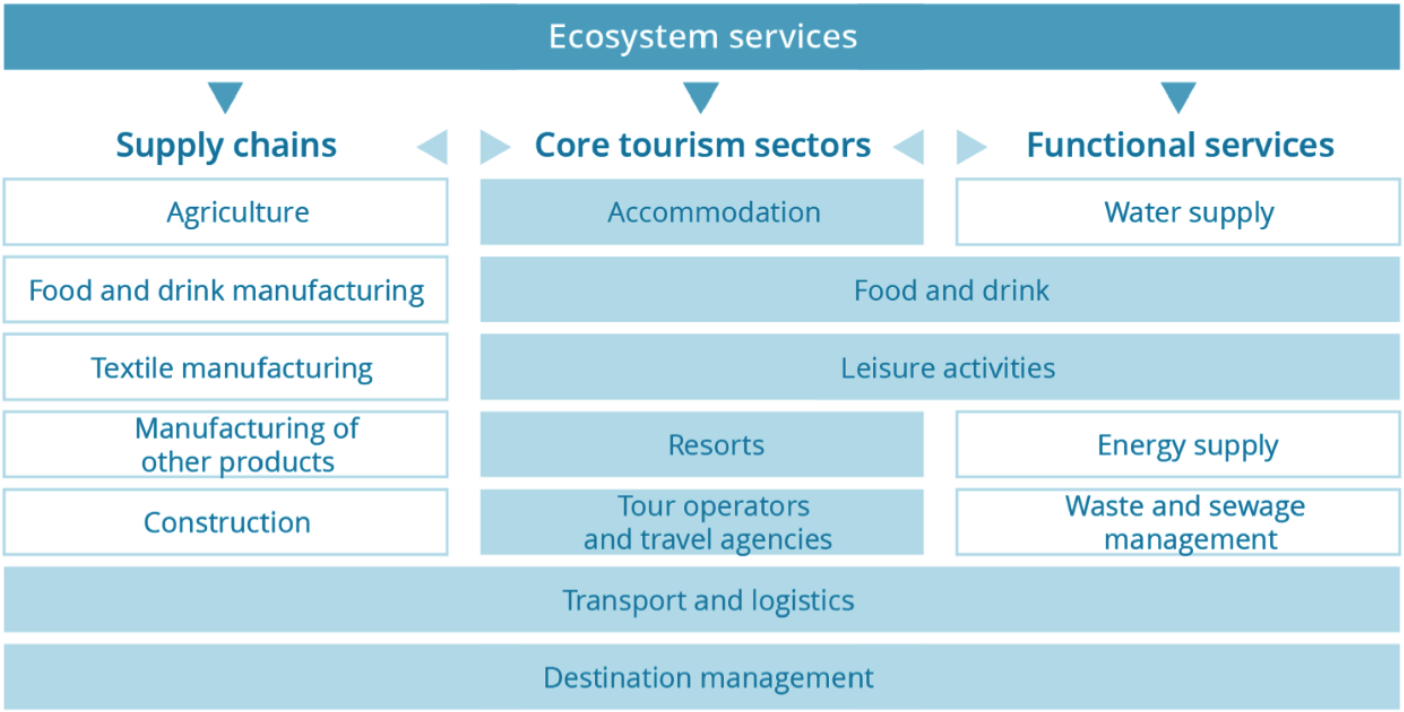
23 https://biodiversity.europa.eu/ecosystems. **24** Millennium Ecosystem Assessment, TEEB, IPEBS, https://www.earthwiseaware.org/what-are-ecosystem-services/ **25** Julian Rode, Marc Le Menestrel, Gert Cornelissen (2015) : Can monetary valuation undermine nature conservation?

4.2 Ecosystem services in the tourism industry

Coastal tourism is a major consumer of provisioning and cultural ecosystem services and significantly depends on regulating services[26]. Coastal tourism provides physical benefits such as those derived from leisure, swimming, and other beach activities. Furthermore, It provides psychological well-being not only due to the reduction of emotional stress by the performance of such activities, but also due to the complex emotional connections people have and experience with ecosystems, including moral, spiritual, artistic, and philosophical experiences[27].

More concretely, the tourism industry is composed of, and interacts with many different economic sectors, such as transport, agriculture, construction or foods & drinks. It also depends on several functional services from natural ecosystems and usually provided by local authorities, such as water, energy supply, waste or sewage management.

ECOSYSTEM SERVICES RELATED TO TOURISM SECTOR



Coastal and Maritime tourism is therefore highly dependent on the quality of natural ecosystems. With 46,000km of coastline and unique marine and fisheries resources, the Mediterranean Sea represents the fifth largest economy in the region, with an overall value estimated at US$5.6 trillion (4.7 trillion euro). It is estimated that ocean–related activities in the Mediterranean sea generate an annual economic value of $450 billion, representing about 20% of the annual global GDP, with tourism accounting for 92% of the Mediterranean sea's economic production.

26 Drius et al. 2019. **27** C. Willis (2015) Journal of Outdoor Recreation and Tourism.

4.3 State of ecosystem services in the Mediterranean

A recent study identified **eleven coastal ecosystems services** in the Mediterranean benefiting tourism[30]. While the total monetary value was not estimated, another study calculated that five Mediterranean ecosystems translate into **26 billion € per year**[31]. According to another study on the sustainability of ecosystem services provided by the Mediterranean Sea[32], **the capacity and the supply of coastal protection are decreasing** in nearly all of the Mediterranean shores, leading to a more unsustainable situation. Furthermore, while the indicators defining the nature-based capacity of coastal recreation in the Mediterranean are stable, individual components of these indicators, such as water transparency and shoreline erosion, show that coastal recreation is losing sustainability.

GENERAL TRENDS OF MARINE AND COASTAL ECOSYSTEM SERVICES IN THE MEDITERRANEAN SEA

ECOSYSTEM SERVICE		WATER REGION	ADRIATIC REGION	CENTRAL REGION	EASTERN REGION
Food provisioning	CAPACITY	▼	▼	▲	▲
	FLOW	▲	▲	▲	▲
Water purification	CAPACITY	▼	▲	▲	▲
	FLOW	◀▶	▲	▲	▲
Coastal	CAPACITY	▼	◀▶	▼	▼
Protection	FLOW	▼	◀▶	▼	▼
	BENEFIT	▲	▲	▲	▲
Lifecycle maintenance	CAPACITY	◀▶	◀▶	▼	▼
	FLOW	▼	▼	▼	◀▶
Recreation	CAPACITY	◀▶	◀▶	◀▶	◀▶
	FLOW	◀▶	◀▶	◀▶	◀▶

Source: Liquete, C, et al. (2016)

28 EEA (2015): european ecosystem assessment & Tourism briefing. **29** Randone et al. (2017): "Reviving the Economy of the Mediterranean Sea: Actions for a Sustainable future", WWF Mediterranean Marine Initiative. **30** Mita Drius, Lucia Bongiorni, Daniel Depellegrin, Stefano Menegon, Alessandra Pugnetti, Simon Stifter (2018) : Tackling challenges for Mediterranean sustainable coastal tourism: An ecosystem service perspective, Science of the Total Environment. **31** Mangos, A., Bassino, J.-P., Sauzade, D. (2010) : The economic value of sustainable benefits rendered by the Mediterranean marine ecosystems. Plan Bleu. **32** Liquete, C, et al. (2016) : Ecosystem services sustainability in the Mediterranean Sea: assessment of status and trends using multiple modelling approaches. Nature.

5 Ecosystem-based Approach

When applied to Coastal and Maritime tourism, the Ecosystem-based Approach (EcAp) facilitates the restoration of natural ecosystems and has the potential to support sustainable tourism activities in the Mediterranean region.

5.1 The concept of ecosystem-based approach

The concept of ecosystem-based approach (EcAp) was developed by the **Convention of Biological Diversity** (CBD) in 1995. It is defined as *"a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way."*[33] It aims at solving issues within a given ecosystem by taking into account, through scientific reasoning, all the biological interactions, processes, and functions within the ecosystem, including the impacts of human beings.

Due to the complex and changing nature of ecosystems, the ecosystem approach requires **adaptive management**, and is not limited to any specific scale of action but rather determined by the targeted issue. There is thus no single way to implement the ecosystem approach and it can be integrated into other working frameworks, so far as they adhere to the complementary and interlinked principles of the ecosystem approach, which are as follows:

THE 12 "MALAWI" PRINCIPLES OF THE ECOSYSTEM APPROACH (CBD)

Principle		Description
1	Land, water and living resources management are a matter of societal choices	• Cultural and biological diversity are central to the ecosystem approach. • Ecosystems should be managed for their intrinsic value and for their benefit to humans.
2	Management should be decentralised to the lowest appropriate level	Low-scale decentralised management involving active participation of all stakeholders, leading to greater efficiency, effectiveness, equity, responsibility, accountability, and use of local knowledge.
3	The effects of their activities on other ecosystems should be considered	Ecosystem management involves in depth analysis and consideration of potential impact on other ecosystems.
4	Ecosystems have to be managed in an economic context	• Markets should take into account the tangible and intangible value of ecosystems. • Incentives should promote biodiversity conservation and enable the "polluter pays" principle. • Costs and benefits in the given ecosystem should be internalized.
5	Conservation of ecosystem structure and functioning should be a priority target	The conservation and restoration of the dynamic relationships between and among species and with their abiotic environment is critical for long-standing biodiversity.
6	Ecosystem must be managed within the limits of their functioning capacity	When establishing management objectives, attention should be given to the environmental conditions that limit natural productivity, ecosystem structure, functioning and diversity.
7	Focus at the appropriate spatial and temporal scales is necessary	The approach should be bounded by spatial and temporal scales that are appropriate to the objectives decided by users, managers, scientists, and indigenous and local people.
8	Ecosystem management should be set for the long term	Ecosystem processes are characterized by varying temporal scales and lag-effects that require long-term management.
9	Management must recognise that change is inevitable	As ecosystems are in constant change, management should anticipate, plan, and adapt to these changes.

33 Convention on Biological Diversity

Principle		Description
10	Appropriate balance between conservation and use of biological diversity should be seek	Biological diversity is critical both for its intrinsic value and its role in providing the ecosystem and other services upon which we all ultimately depend.
11	All forms of relevant information should be considered	Information from all sources is critical to arrive at effective ecosystem management strategies, including scientific, indigenous and local knowledge, innovations and practices
12	All relevant sectors of society and scientific disciplines should be involved	Issues of biological diversity management are complex, with many interactions, side-effects and implications and should involve the necessary expertise and stakeholders at the local, national, regional and international level.

To effectively apply the principles, the CBD proposes five actions when operating a **Biodiversity management plan**[34]:

1. Management should focus on **relationships and processes** within a given ecosystem to better understand its resilience, as well as the cause and impact of biodiversity loss.

2. The **functions provided by biodiversity processes** forming ecosystems are essential for human security and should be valued, protected, and shared for the benefit of the stakeholders, ensuring the good health of the ecosystem.

3. Management should recognise the **changing and complex nature of ecosystems** by adopting learning-by-doing methodologies and flexible decision-making adaptable to uncertainties and cultural and social factors.

4. The **scale of action** should be appropriate to solve the issue effectively.

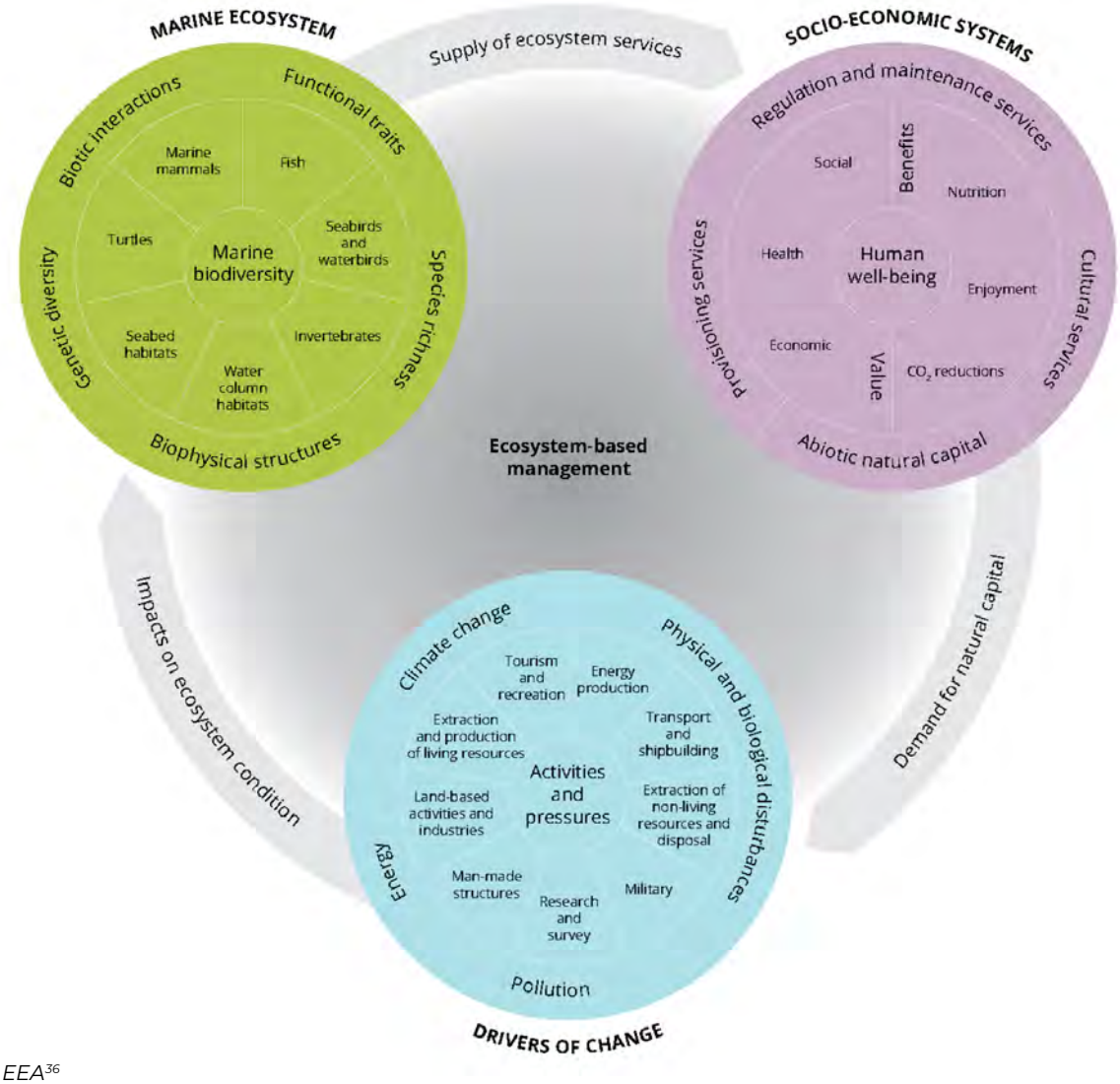
5. Management should seek and ensure inter-**sectoral cooperation**.

5.2 Ecosystem-based Management in Europe's seas

Marine assessments that apply the Ecosystem-based approach facilitate the identification of the conditions and trends of the biological interactions within the marine ecosystems as well as the impacts of human activities on them. They aim at managing natural capital in a sustainable manner, ensuring the renewal of marine natural capital, and, therefore, the maintenance of marine ecosystem services. The report 'State of Europe's seas' (SOES)[35] reviewed the state of the marine environment and trends in maritime activities, providing a framework to use Europe's marine natural capital sustainably in order to ensure the continued provision of ecosystem services to, and associated benefits for, European citizens.

34 Convention on Biological Diversity **35** EEA (2015): State of Europe's seas.

CONCEPTUAL FRAMEWORK OF ECOSYSTEM-BASED MANAGEMENT IN EUROPE'S SEAS



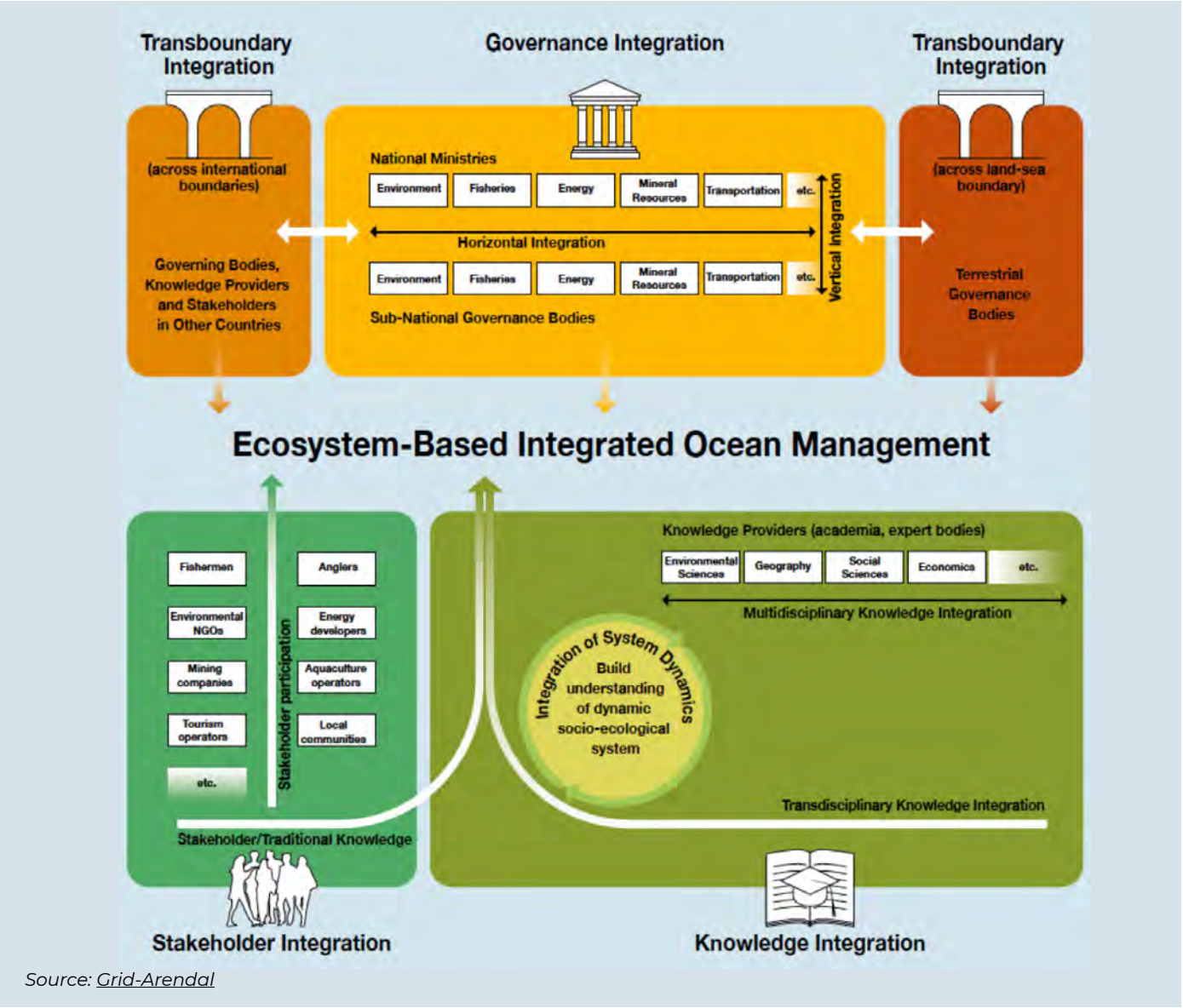
Source: EEA[36]

5.3 Ecosystem-based Integrated Ocean Management

Ecosystem-Based Integrated Ocean Management (EB-IOM)[37] provides a framework for a strategic governance approach towards a sustainable ocean economy. EB-IOM is an adaptive approach for governing human activities at sea, rooted in the ecosystem approach, guided by the SDGs, with a strong focus on improving the ecological status of the ocean and on strategic integration across governance, knowledge and stakeholder silos. It integrates multiple concepts, including marine spatial planning (MSP), that share a focus on more holistic and strategic management, with ecosystem-based management (EBM) at its core.

36 EEA (2020): Water and Marine Environment - Thematic Assessment. **37** Lieberknecht, L. (2020). Ecosystem-Based Integrated Ocean Management: A Framework for Sustainable Ocean Economy Development. GRID-Arendal.

CONCEPTUAL FRAMEWORK OF ECOSYSTEM-BASED MANAGEMENT IN EUROPE'S SEAS



Source: Grid-Arendal

Governance integration refers to mechanisms of communication, information exchange, coordination or collaboration between public sector organisations that manage activities taking place at sea. At the national level, different ministries often have responsibility for different maritime sectors. Similarly, there are often different sectoral management bodies that operate at a sub-national (e.g. province, state or municipal) level. Integration mechanisms are therefore needed both horizontally (to integrate management across sectors) and vertically (to integrate across scales of governance). **Transboundary integratio**n is needed to coordinate governance and information exchange across international boundaries and across the land-sea boundary. S**takeholder integration** refers to mechanisms that engage ocean actors in planning, decision-making, implementation, monitoring and evaluation of management measures. **Knowledge integration** refers to the need to draw knowledge from multiple fields of academic expertise (through multidisciplinary and interdisciplinary approaches) and from stakeholders who often hold valuable local or traditional knowledge of relevance. The purpose of knowledge integration is to build a comprehensive understanding of the **socio-ecological system dynamics** of the planning region, creating the information base needed to underpin sound management measures.

6 Ecosystem Approach in European and Mediterranean policies

The implementation of the Ecosystem Approach in policies relies on diverse environmental policy domains, where tourism is often not a special issue of consideration. Moreover, the diverse institutional complexities related to the governance of the Mediterranean Sea complicates an effective unified policymaking. In this chapter we review the main Mediterranean and EU-level policies applied to the Mediterranean Sea and their significance in the integration of the ecosystem approach within coastal and marine tourism-related policy and management.

6.1 European policies based on EcAp

While the European Union has advanced quite significantly in the integration of EcAp in environmental policies, the lack of coordination among different european legislation makes it difficult to manage coastal and marine tourism in an integrated approach[38].

6.1.1 Marine Strategy Framework Directive (MSFD)

Similar to the Barcelona Convention, the Marine Strategy Framework Directive (MSFD) approved in 2002, integrates the EcAp approach and aims at achieving good environmental status (GES) and a Healthy Environment in the Mediterranean by 2020 through the cooperation of national authorities[39]. The MSFD obliges Member States to adopt marine strategies with an ecosystem-based approach to ensure that human pressures are compatible with the achievement of good environmental status by 2020 while enabling the sustainable use of marine goods and services by present and future generations[40]. Furthermore, strategies that include Marine Spatial Planning must be based on the EcAp. Thus, it allows planning of activities and uses that respect the carrying capacity of ecosystems along with their maintenance and possible restoration. Although the MSFD establishes 2020 as the deadline to achieve GES, most countries have either not reported their estimated timeline, reported that they cannot estimate it or have reported to achieve GES after 2020[41].

6.1.2 Maritime Spatial Planning Framework Directive (MSPF)

The EU Maritime Spatial Planning Framework Directive (2014/89/EU) (MSPF) calls for a coordinated, integrated and transboundary ecosystem-based approach to promote the sustainable growth of maritime economies, and the sustainable use of marine resources ensuring that pressures are compatible with achieving GES. Hence, MSPF presents a flawed objective in pursuing “sustainable growth” as well as pursuing GES, as consumption of marine resources has to reduce dramatically to achieve GES. Furthermore, states should apply MSP with EcAp as referred to in Article 1(3) of Directive 2008/56/EC.

The ecosystem-based approach should allow for adaptive management which ensures refinement and further development as experience and knowledge increase. Member States should take into account the precautionary principle, as well as the principle of preventive action, as laid down in Article 191(2) of the Treaty on the Functioning of the European Union[42]. While the MSPF Directive obliges member states to pursue the sustainable development of energy sectors at sea, of maritime transport, and of the fisheries and aquaculture sectors, it leaves at the discretion of the member states to pursue promotion of sustainable tourism as optional. The optionality given to the promotion of sustainable tourism is unfortunate as tourism is one of the sectors with the greatest impact on the quality of ecosystems.

38 WWF (2021). Ecosystem-based approach to MSP in Europe. **39** Ramieri, E., Bocci, M., Markovic, M. (2019) : Linking Integrated Coastal Zone Management to Maritime Spatial Planning: The Mediterranean Experience. **40** EC (2008) : Marine Strategy Framework Directive. **41** EC (2018) : assessing Member States’ programmes of measures under the Marine Strategy Framework Directive. **42** European Parliament and Council (2014) : DIRECTIVE 2014/89/EU establishing a framework for maritime spatial planning.

This will likely disregard land based litter, and the impact of recreational boating by the maritime plans required by the MSPF. Thus, the MSPF will only contribute to the integration of the EcAp in tourism policy in those states which choose to promote sustainable tourism within its maritime plans required under the directive.

6.1.3 EU Biodiversity Strategy (EBS)

The EU Biodiversity Strategy (EBS) originally launched in 2011[43] and renewed in 2020[44] aimed to halt biodiversity loss and the degradation of ecosystem services. It is a key policy for the integration of the ecosystem approach in natural protected areas. Hence, its objectives can have a significant impact on the regulation of tourism using EcAp. To achieve the EU biodiversity targets, the Commission engaged stakeholders from six different sectors - agriculture, extractive industries, finance, food supply, forestry and tourism - to share their experiences and best practices[45]. However the 2030 strategy only mentions tourism marginally without concrete actions. Instead the European Commission decided to focus on 3 primary sectors: Agriculture, Food and Drinks and Construction. The EC aimed to establish a larger EU-wide network of protected areas on land and at sea, which can clearly benefit coastal and marine tourism, in particular related to Nature-based activities.

6.1.4 Water Framework Directive (WFD)

The Water Framework Directive (WFD)[46] establishes since 2000 a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater. It follows the precautionary, polluters pay and subsidiarity principles; ensure protection and sustainable use of water; integration of protection and sustainable management of water in various policies, including tourism. It is complemented by the **Bathing Quality Water Directive** (2006)[47], with the aim to preserve, protect and improve the quality of the environment and to protect human health. While it does not directly cite EcAp, it encourages Member countries to achieve good bathing water quality and thus, by doing so, it promotes the protection of the environment.

The WFD does not clearly establish the link between ecological status/potential (GES/GEP), as well as other of its objectives with the ecosystem services. However, the accomplishment of WFD will benefit a wide variety of ecosystem services, such as recreational and tourism opportunities. Some of the coastal recreational uses (e.g. bathing, snorkelling...) strongly depend on the quality of waters. Fully adopting EcAp in the fulfilment of the WFD can have a significant impact on the facilitation of Recreational services, which are essential for the tourism sector. Hence, integrating EcAp in restoring water systems, such riparian buffer zones, coastal waters leads to an increase in recreational uses, which need to be controlled through different policies, including tourism, in order to maintain water quality.

6.2 European policies related to coastal and marine tourism

The European policies related to coastal and marine tourism are mostly aiming to the growth of visitor flows and the increase of economic competitiveness. This approach jeopardises the implementation of measures that effectively mitigate significant environmental impacts from tourism on coastal and maritime ecosystems.

6.2.1 Blue Growth Strategy

Blue Growth[48] is the european long-term strategy to support economic growth in the marine and maritime sectors (Coastal tourism, Maritime transport, fisheries and aquaculture, non-living resources, port activities,

43 EC (2011) : Our life insurance, our natural capital: an EU biodiversity strategy to 2020. **44** EC (2020): EU Biodiversity Strategy for 2030 Bringing nature back into our lives **45** EC (2011): Our life insurance, our natural capital: an EU biodiversity strategy to 2020. **46** European Parliament (2000): Directive 2000/60/EC establishing a framework for Community action in the field of water policy. **47** European Parliament (2006): DIRECTIVE 2006/7/EC concerning the management of bathing water. **48** http://blue-action.eu/policy-feed/blue-growth.

and shipbuilding and repair). The strategy was endorsed in 2012 at the ministerial level and in 2014, the Commission published a **Communication on Innovation in the blue economy**[49]. The communication describes how Member States and EU policies are supporting the blue economy. It identifies specific areas where targeted action could provide an additional stimulus. A set of initiatives was subsequently launched to explore and develop the growth potential in these areas.

However, neither the initial communication nor the follow-up reports assesses the importance and challenges for integrating the EcAp in the Blue Economy agenda. Again, it is important to note that many of the targeted sectors, such as fisheries, aquaculture, tourism and maritime transport, are today negatively impacting the Good Environmental State (GES) of the Mediterranean sea. The growth of other sectors, such as eco-tourism, are prima facie inherently sustainable, but they are significantly dependent on high-emitting transport, such as aviation. Therefore their "sustainable growth" potential is also limited. Given the need to reduce the environmental impact of the blue economy activities, it is paramount that the European blue growth strategy promotesEcAp for ensuring that the development of the blue economy sectors respects ecological limits.

6.2.2 European Strategy for growth and jobs in coastal and marine tourism

The EU coastal and marine tourism strategy[51] approved in 2014 gives special relevance to sustainable tourism and promotes ecotourism, the implementation of the ICZM/MSP and strategies of waste prevention in member states. As part of this plan, the Commission promoted a structured dialogue on cruise tourism in 2015[52] to enhance synergies in the sector, targeting best practice sharing in innovation, competitiveness and sustainability strategies. It also held a conference on **Smart cooperation in coastal and maritime tourism**, encouraging transnational partnerships through clusters and networks[53]. However the EC has not followed up on those initiatives although interesting projects have been financed through the Interreg Med financial mechanisms[54]. The European parliament has also a Committee on Transport and Tourism and the intergroup SEARICA on Seas, Rivers, Islands and Coastal Areas, discussing on a regular basis marine and coastal tourism issues.

49 EC (2014): Innovation in the Blue Economy: realising the potential of our seas and oceans for jobs and growth. **50** EC (2017): Blue Growth Strategy; EC (2019): EU Blue Economy Report 2019. **51** EC (2014) : A European Strategy for more Growth and Jobs in Coastal and Maritime Tourism. **52** https://ec.europa.eu/growth/content/pan-european-dialogue-between-cruise-operators-ports-and-coastal-tourism-stakeholders-0_en **53** https://ec.europa.eu/growth/content/smart-cooperation-coastal-and-maritime-tourism-encouraging-transnational-partnerships-0_en. **54** https://sustainable-tourism.interreg-med.eu/

6.3 Ecosystem Approach at the Mediterranean-level

The Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean, known as the Barcelona Convention, first signed in 1976, is the pillar of the UN Mediterranean Action Plan (MAP) and the only international legal instrument protecting the entire Mediterranean marine and coastal environment. Its 21 bordering Mediterranean contracting parties have agreed on the objectives of the convention: "*to prevent, abate, combat and to the fullest extent possible eliminate pollution of the Mediterranean Sea area" and "to protect and enhance the marine environment in that area so as to contribute towards its sustainable development"* (Barcelona Convention, art. 4).

6.3.1 The Barcelona Convention

The Barcelona Convention has adopted the **Ecosystem Approach** (EcAp) as the guiding principle to the implementation of its protocols. The contracting parties adopt the EcAp to pursue the goal of achieving a **Good Ecological Status** (GES) in the Mediterranean through informed decisions based on integrated quantitative assessment of the Mediterranean environment. **The MAP ecosystem roadmap** (Decision IG.20/4) establishes 11 ecological objectives for the Mediterranean.

THE MAP ECOLOGICAL OBJECTIVES FOR THE MEDITERRANEAN [55]

1 Biodiversity is maintained or enhanced
2 Non-indigenous species do not adversely alter the ecosystem.
3 Populations of commercially exploited fish and shellfish are within biologically safe limits.
4 Alterations to components of marine food webs do not have long-term adverse effects.
5 Human-induced eutrophication is prevented.
6 Sea-floor integrity is maintained.
7 Alteration of hydrographic conditions does not adversely affect coastal and marine ecosystems.
8 The natural dynamics of coastal areas are maintained and coastal ecosystems and landscapes are preserved.
9 Contaminants cause no significant impact on coastal and marine ecosystems and human health.
10 Marine and coastal litter does not adversely affect coastal and marine ecosystems.
11 Noise from human activities causes no significant impact on marine and coastal ecosystems.

55 UNEP: Mediterranean Action Plan.

The Convention has also agreed on the principles for integrated monitoring of biodiversity, non-indigenous species, pollution, marine litter, and coast and hydrography in an integrated manner using 27 indicators (Decision IG. 22/7).[56]

6.3.2 The Integrated Zone Management in the Mediterranean (ICZM)

The Barcelona Convention has given rise to seven protocols on issues regarding the environment of the Mediterranean Sea, all of which integrate the EcAp approach. The protocols most relevant to the management of tourism is the Protocol on **Integrated Zone Management in the Mediterranean** (ICZM), adopted in 2008, which is the only international legal instrument regarding coastal zone management. It defines ICZM as a *"dynamic process for the sustainable management and use of coastal zones, taking into account at the same time the fragility of coastal ecosystems and landscapes, the diversity of activities and uses, their interactions, the maritime orientation of certain activities and uses and their impact on both the marine and land parts."* (ICZM Protocol, art. 2f). Article 6c protocol establishes the EcAp as one of its guiding principles, which shall be applied in coastal planning and management to ensure the sustainable development of coastal zones (ICZM Protocol, Art. 6c).

The ICZM Protocol aims[57]:
(I) to encourage sustainable coastal tourism that preserves coastal ecosystems, natural resources, cultural heritage and landscapes;
(II) to promote specific forms of coastal tourism, including cultural, rural and ecotourism, while respecting the traditions of local populations;
(III) to regulate or, where necessary, prohibit the practice of various sporting and recreational activities, including recreational fishing and shellfish extraction.

Furthermore, when managing and planning coastal and marine zones, the due environmental assessments should take into consideration the cumulative impacts on the coastal zones and their carrying capacities (Article, 19c). Tourism is one of the major polluters of coastal and marine environments of the Mediterranean, hence, the implementation of the ICZM Protocol has major implications for the tourism sector. In particular, the implementation of the ICZM Protocol shall lead to a common framework for the integrated management of the Mediterranean coastal zone, whereas the parties facilitate the sustainable development of coastal zones, ensuring their environments, landscapes, ecosystems, sustainable use of resources for future generations, and the prevention and reduction of climate change (ICZM Protocol, Article 5).

6.3.3 The Protocol on Land-Based Sources (LBS)

Adopted in 1980 and entered into effect in 1983, the protocol calls to eliminate pollution of the Mediterranean Sea Area caused by any other land-based source and activities within their territories, including those derived from the tourism sector (Article1). Among the list of substances that the LBS calls to eliminate, litter, crude oils and hydrocarbons are significantly linked to tourism activities (Annex 1). The amendments to the LBS Protocol demand for particular attention to the increasing environmental pressures due to coastal tourism (Preamble). In the process of the elimination of the land-based substances, parties have the obligation of implementing national and regional action plans containing measures and timetables for their implementation using the best available techniques (BATs) and best environmental practices, always taking preventive measures to reduce environmental impacts (Article 5). All such plans shall integrate the EcAp.

However, despite that the **Strategic Framework for Marine Litter Management** acknowledges tourism as one of the main sources of marine

56 UNEP: Mediterranean Action Plan. 57 ICZM Protocol (2008), article 9.2 (d). **57** ICZM Protocol (2008), article 9.2 (d).

litter it has not developed any specific action plan for the reduction of tourism-based marine litter[59]. Instead it has developed a **Marine Litter Regional Plan** which positions fishermen as key stakeholders for the removal of marine litter ("fishing for litter")[60]. Nevertheless, the Strategic Framework for Marine Litter Management limited its recommended actions to informing tourists, education programmes, the adoption of financial incentives and promoting the private sector to get involved in CSR schemes and the adoption of Blue flag Programme for beaches. Hence in order for the LBS Protocol to have a meaningful impact for the integration of EcAp in tourism regulation it should develop action plans specific to tourism obliging parties to adopt the above-mentioned recommended actions as well as others that effectively cap waste consumption from the tourist sector.

The current conventional coastal mass tourism, dominated by the demand for "sun, sand, and sea," coastal urban tourism, and cruise ships, is incompatible with the objectives of the Barcelona Convention, the ICZM Protocol, and the LBS protocol. The protocol's require more stringent actions to reduce the environmental impacts from tourism. The objectives of the Barcelona convention and its protocols can only be achieved through actions that lead to a radical transformation of the tourist industry towards sustainable tourism supporting long-standing high-quality ecosystems, livelihoods, and economy.

6.3.4 Mediterranean Strategy for Sustainable Development (MSSD 2016-2025)

In 2016, the parties to the Barcelona Convention adopted a renewed Mediterrenan Strategy for Sustainable Development (MSSD) to adapt the UN2030 Agenda to the Mediterrannean region by guiding national strategies and regional cooperation in the achievement of sustainable development. The MSSD 2016-2025 recognises in a strategic direction (1.1) that to achieve sustainable development in the region it is essential to implement the ICZM Protocol and the application of the ecosystem approach roadmap adopted in Decision IG. 17/6 and its objectives (stated above in MAP), indicators and timetable developed in Decision IG 20/4[62].

The **Action Plan** provides objectives for tourism, which address practices and solutions for efficient use of natural resources and the reduction of environmental impacts of tourism through the respect of the carrying capacities of destinations. It urges for legislative and financial measures to mainstream sustainable consumption and production in tourism, reduce tourism seasonality, and promote local community mobilisation[63].

58 Unep: LBS Protocol, Article 1. **59** UNEP(DEPI)/MED (2012): Decision IG.20/10 - Adoption of the Strategic Framework for Marine Litter management **60** UNEP(DEPI)/MED (2016): Decision IG.22/10 - Implementing the Marine Litter Regional Plan in the Mediterranean. **61** Plan Bleu (2017): Mediterranean Strategy for Sustainable Development 2016-2025. **62** UNEP(DEPI)/MED: IG.21/9 Annex II – Thematic Decisions, Decision IG.21/3 on the Ecosystems Approach including adopting definitions of Good Environmental Status (GES) and targets. **63** Plan Bleu (2017): Mediterranean Strategy for Sustainable Development 2016-2025.

ECAP RELATED TO TOURISM IN THE MEDITERRANEAN STRATEGY FOR SUSTAINABLE DEVELOPMENT 2016-25

The specific actions that contribute to the integration of EcAp in tourism management are:

Action 2.1.6: Develop socio-economic models for national strategic choices for water allocation between agriculture, industry, tourism, and domestic uses, taking into account environmental and social aspects, as well as economic development needs.

Action 2.4.3: Prepare action plans to support the development of rural tourism that will alleviate overcrowding in coastal cities and resorts, stimulate the utilization of locally produced products and generate local employment opportunities.

Action 2.5.2: Undertake initiatives to raise awareness on environmental, economic and social benefits of consuming local products, including in the tourism sector.

Action 3.1.2: Ensure that legally-binding instruments for tourism development are put in place for those areas that suffer from tourism pressures, and related real-estate expansion and coastal deterioration.

Action 4.4.1: Mainstream climate change into national legislation and policies with a focus on measures concerning energy and transport and on delivering no/low regret adaptation measures across all vulnerable sectors and territories such as coastal and urban areas, water management, agriculture, health, and tourism; introduce climate change measures into urban and coastal policies and plans.

As the EcAp is a guiding principle to the MSSD 2016-2025, the EcAp approach must be considered within the adoption of its actions, thus the achievement of the above-mentioned actions would have a significant impact on the integration of EcAp within tourism management.

6.3.5 Regional Action Plan for Sustainable Consumption and production in the Mediterranean

The regional action plan for sustainable consumption and production (SCP RAP)[64] was adopted in 2016 by the contracting parties of the Barcelona Convention (Decision IG.22/5). As all instruments to the Barcelona Convention, the SCP Action Plan integrates the ecosystem approach in its aim to achieve the shift to sustainable patterns in four priority areas of consumption and production, namely food, fisheries and agriculture; goods manufacturing; tourism, housing, and construction.
The SCP Action Plan aims at achieving a circular and sustainable economy for the Mediterranean by 2027, preserving natural resources and energy, a clean environment and the wellbeing of society. Tourism is a key sector with three operational objectives developing relevant measures to the application of **EcAp in tourism**, such as the definition and promotion of **sustainable destinations**; the promotion of ecotourism, the integration of sustainable consumption and production principles in tourism-related legislation; and the adoption of **green financial instruments**, such as eco-taxes; and the mandatory use of **tourism carrying capacity assessment**[65]. However the state of advancement of the SCP RAP is rather weak and highly dependent on the country's willingness and capacities.

64 https://wedocs.unep.org/bitstream/handle/20.500.11822/20731/unepmap_SCPAP_eng_web.pdf?sequence=1&isAllowed=y **65** https://switchmed.eu/policy/regional-action-plan-sustainable-consumption-production/

7 Implementation of the Ecosystem Approach in the coastal and marine tourism

Coastal and maritime tourism is one of the most important blue economy sectors in the Mediterranean and a driver force for environmental and spatial change with a strong impact on biodiversity and ecosystems preservation. Shifting the way blue tourism is planned, regulated and governed according to ecosystem-based approach (EcAp) is critical to reduce the environmental impacts of tourism and guide its management in overcrowded spaces.

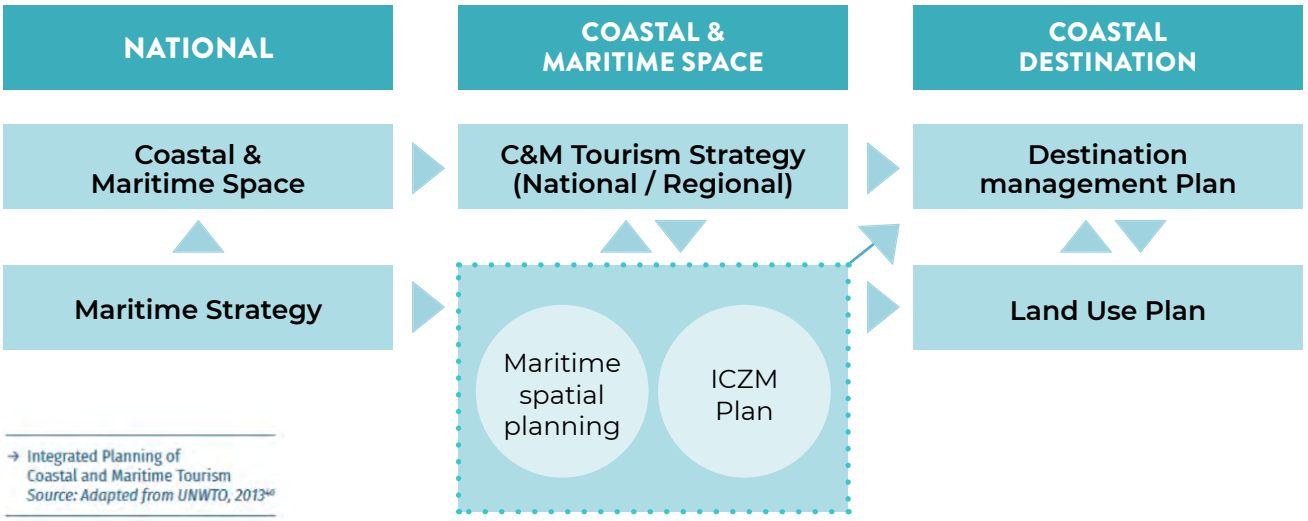
7.1. Integrated planning and management

The combined use of maritime spatial planning, integrated coastal zone management and land-use planning is necessary to develop a systemic land-sea monitoring and management framework relevant in targeted areas

Planning tool	Approach	Benefits
Marine Spatial Planning (MSP)[12]	Planning of human activities in marine areas through ecosystem-based, integrated, adaptive, strategic and participatory processes.	• Achieves Good Environmental Status (GES) • Improves climate resilience • Prevents overflow of tourism • Distributes environmental pressures
Integrated Coastal Zone Management (ICZM)[13]	Integration of terrestrial and marine environments taking into account ecosystems, landscapes, human activities and their interaction	• Avoid conflicts between coastal users • Adds value to product with eco-labelling • Ameliorates environmental status • Encourages participation • Prevents overflow of tourism
Land-use planning	Intends to manage land (including coastal zones) to optimise the social, environmental and economic outcomes through the practice of zoning	• Targets economic, social, and ecological objectives.

→ Table: MSP, ICZM, and Land-Use Planning
Source: eco-union

The integration of marine and terrestrial planning with the tourism management plan at local, regional and national level will then strengthen the environmental governance of tourism in coastal and maritime spaces.



→ Integrated Planning of Coastal and Maritime Tourism
Source: Adapted from UNWTO, 2013[40]

7.2 Policy and regulatory tools

Policy tools are also essential to ensure long-standing sustainable management of tourism. Although their success in achieving sustainable tourism greatly depends on the political will of the relevant authorities, access to finance, engagement of all stakeholders, as well as the availability and quality of data.

Policy Tool	Description
Green taxes	Green taxes are directed to penalize practices that are harmful to the environment
Tourist tax	Levies on tourist establishments to restore negative impacts of the tourism activities
Carrying capacity	Establishing a physical limit to tourist activities and number of visitors to ensure long -term environmental/ social sustainability
Ecological footprint	Indicator that measures the biologically productive requirements to assimilate the consumption and waste produced in a destination by tourism activities
Life Cycle Assessment (LCA)	Integrated indicator measuring the environmental impact of each component of tourism (such as accommodation, transport, food...)
Sustainable tourism indicators	Broad set of indicators developed by public or private bodies for measuring the state of sustainable tourism in a destination[64]

→ Table: Policy Tools Supporting Sustainable Tourism
Source: eco-union

7.3 EcAp measures

A number of concrete regulatory or management measures can be developed and implemented by local or national authorities, with the involvement of stakeholders, to reduce the environmental impact of tourism in coastal and maritime spaces.

THE 12 "MALAWI" PRINCIPLES OF THE ECOSYSTEM APPROACH (CBD)

	EcAp Measures in Coastal and maritime Tourism	Description
1	**Carrying capacity in MPAs**	Calculate the carrying capacity of marine ecosystems in MPAs to reduce overcrowding and cumulative impacts (see DESTIMED plus project)
2	**Tourism management models**	Management models based on the results of MITOMED+ and other EU funded and MED projects[66].
3	**Coastal custody**	Sponsor a coastal space to help its conservation, management and knowledge through local volunteerism, environmental education and outreach.

66 https://sustainable-tourism.interreg-med.eu/

	EcAp Measures in Coastal and maritime Tourism	Description
4	**Ecological mooring**	City councils as active promoters of a more efficient way of protecting the Posidonia meadows through ecological mooring
5	**Sanctioning procedures**	Improve the detection of infringements and the imposition of sanctions
6	**Cruise and boating greening plans**	Joint plan of measures of good practices and technical improvements for cruise and boating traffic
7	**eco-labelling**	Promote the use of sustainable certificates/labels by companies
8	**Identification of environmental hotspots**	Application of simple models; e.g., quantification of recreational carrying capacity of beaches
9	**Indicators system adapted to the local context**	Develop indicators system that incorporate the specific requirements of Mediterranean coastal destinations
10	**Ecotourism footprint calculator**	System for measuring the impacts of (eco)tourist behaviour on ecosystem services (ecological footprint)
11	**Training of tour operators**	Training in good practices, in knowing the ecosystem where they work and in transmitting this knowledge to the client
12	**Incentives to alternative accommodations/activities**	Encourage alternative accommodations and activities in more remote coastal areas

More concretely, specific guidelines to apply the EcAp in the management of nautical tourism (recreational boating) in Marine Protected Areas[67] are recommending the following steps:

- Mapping marine ecosystems and calculate the carrying capacity
- Develop environmental monitoring and surveillance schemes through geo-data
- Sharing access to data in an open format
- Regulate anchoring and enforce compliance
- Raising awareness and ensuring stakeholder engagement

67 González D., A., Campanales, S., Grimalt, M. (2020). Managing the environmental sustainability of nautical tourism in Mediterranean MPAs. eco-union.

7.4 Good Practices

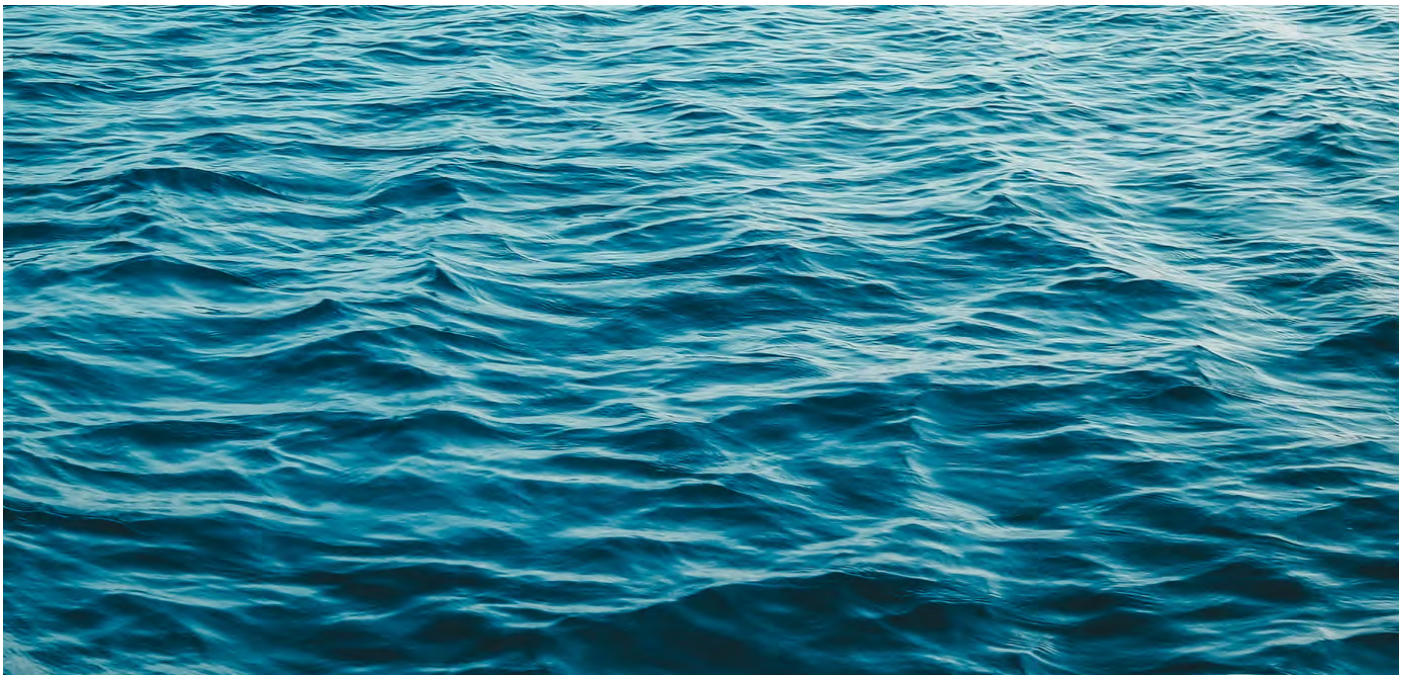
A selection of good practices have been identified to provide concrete examples on how EcAp is being applied in the Meditteranean coastal and marine tourism.

RELEVANT GOOD PRACTICES IN COASTAL AND MARINE TOURISM

NAME OF ACTION	LOCATION	DATE	LEADER	SCALE OF ACTION	KEY AREA OF ACTION	DESCRIPTION
Legislation and Planning						
Posidonia regulation in Balearic Islands	Spain	2018	Government of Balearic Islands	Regional	Planning, Local management, conservation	Through the creation and incorporation of a cartography of location of posidonia meadows in the nautical charts, it seeks to organize nautical activities in maritime spaces, with the aim of conserving and preserving the posidonia oceanica. It limits the access and anchorage to the boats, especially to the recreational boats.
Carrying Capacity						
Diving tourism in Medes islands (Catalonia)	Spain	2017	Government of Catalunya	Local	Planning, Local management, conservation	The instrument allows planning the management of the protected area based on ensuring the conservation and improvement of the natural values of this area, regulating tourism, recreational, sports, educational and scientists, as well as professional fishing.
Labels and certifications						
Blue flag	Global		Foundation for Environmental Education	Local	Marina and boating tour operators	The Blue Flag Programme promotes sustainable development in freshwater and marine areas with local authorities and beach operators to achieve high standards in water quality, environmental management, environmental education and safety.
European Charter for Sustainable Tourism	Mediterranean Sea	1995	Europarc	International (European)	Land use planning, conservation integrated management	Governance and certification tool for management of sustainable tourism in protected areas, structured in three parts: sustainable destination and protected areas, sustainable local tourism businesses within the charter area, and sustainable tour operators bringing visitors in the areas.

7.4 Good Practices

NAME OF ACTION	LOCATION	DATE	LEADER	SCALE OF ACTION	KEY AREA OF ACTION	DESCRIPTION
Destination/Product development						
Mediterranean Experience of Eco Tourism (MEET)	Mediterra-nean Sea	2013	IUCN	Internatio-nal Med	Management and coordination, charter	Project aiming to promote low impact and sustainable tourism experience in natural areas and parks of the Mediterranean region, through the development of sustainable ecotourism products and tools for destination management.
Protected area						
World Surfing Reserve	Portugal	2009	Save the Waves Coalition	Global	Protection and conservation of the coastal environment, economics and social values	The program serves as a global model for preserving wave breaks and their surrounding areas by protecting the key environmental, cultural, economic and community attributes of surfing areas.



8 Conclusion

The exponential increase of coastal and marine tourism in the Mediterranean region has created growing environmental impacts in local and regional natural ecosystems. New planning and management instruments are needed to avoid further degradation of the environment and prevent conflicts in the use of the sea and natural resources highly disputed by economic, social and political actors. EcAp applied to tourism therefore represents an opportunity to advance the sustainability of the blue economy and contribute to the Agenda 2030 (in particular SDG14 on Ocean), biodiversity protection (CBD Aichi targets) and the Mediterranean Strategy for Sustainable Development from the Barcelona Convention.

☞ For more information

Tourism Recovery Tracker (UNWTO): https://www.unwto.org/unwto-tourism-recovery-tracker
Blue Tourism Initiative (eco-union, IDDRI, ADEME): https://www.ecounion.eu/en/portfolio/blue-tourism/
Tourism Policies Monitoring (OECD): https://www.oecd.org/cfe/tourism/
State of Environment and Development in the Mediterranean (Plan Bleu): https://planbleu.org/en/soed-2020-state-of-environment-and-development-in-mediterranean/

eco-union

ECO-UNION
Eco-union is a citizen Think and Do tank working to accelerate the transition of our society towards sustainable development, with a strong focus in the areas of green and blue economy, responsible tourism, clean mobility, renewable energy and climate change.
www.ecounion.eu

ADEME
AGENCE DE LA TRANSITION ÉCOLOGIQUE

ADEME (Financial Support)
ADEME is the French public agency active in the implementation of public policy in the areas of environment, energy and sustainable development, providing expertise and advisory services to businesses, local authorities and communities, government bodies and the public at large.
www.ademe.fr