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LITTER-FREE IS THE WAY TO BE

Actions for a healthy Mediterranean

2025 Edition Update



Acknowledgements

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THE ISSUE AT STAKE

Background and International context

A thriving nature – with healthy marine and terrestrial ecosystems – underpins human well-being. However, today's unsustainable patterns of production and consumption are accelerating a triple planetary crisis: biodiversity loss, climate change, and pollution.

Marine litter – particularly marine plastic pollution – is one of the most visible symptoms of this crisis. It has far-reaching environmental, economic, social, political, and cultural consequences, disrupting coastal and marine ecosystems and the services they provide, and ultimately impacting people's livelihoods and well-being. Potential risks to human health are yet to be fully understood.

Importantly, marine plastic pollution is not only an ocean issue; it also contributes to climate change and air pollution, as plastics – undeniably indispensable in today's societies – release greenhouse gas emissions throughout their entire life cycle: from fossil-

fuel-based production and refining to waste management and disposal.

Recognising the urgency of the crisis, the global community is now negotiating a legally binding treaty to end plastic pollution. Since the adoption of a historic resolution¹ at the UN Environment Assembly (UNEA) in 2022, six negotiation rounds have been held, which led to a draft treaty. This evolving text recognises the need for life-cycle-wide action and prioritises the phase-out of certain plastic products, improved waste management, the development of national action plans², and support for a just transition. The most recent session, INC-5.2 in Geneva (August 2025), concluded after ten days of talks without consensus on a treaty text. Despite the lack of agreement, and the fact that no date has yet been set for the resumption of negotiations, participants reaffirmed their commitment to continue discussions toward a comprehensive and effective treaty, widely viewed as the best global solution to end plastic pollution.

This global momentum is mirrored in recent European and regional initiatives. The need for integrated, science-based, and cross-sectoral action is explicitly reflected in Priority 1, “Protecting and restoring ocean health,” which focuses on reducing marine pollution and restoring ecosystems. Complementing this, Priority 6, “Strengthening international ocean governance,” highlights the importance of enhancing global cooperation and EU leadership to address transboundary challenges such as plastic pollution.

These priorities are central to the newly released European Ocean Pact³ – a comprehensive strategy to better protect the ocean, promote a thriving blue economy, and enhance the well-being of people in coastal areas. Closely aligned with it, the newly launched Pact for the Mediterranean⁴ aims

to step up cooperation, connectivity, and economic resilience across the region within a changing geopolitical context.

Complementing these efforts, the UfM GreenerMed Agenda⁵ provides the regional framework for environmental action and sustainable development, while the UfM Sustainable Blue Economy (SBE) Roadmap⁶ and the MED Blue Economy Stakeholder Platform (MEDBESP)⁷ translate this vision into concrete actions for sustainable, circular, and inclusive growth. Together, these frameworks provide an enabling policy environment for initiatives such as Plastic Busters, which directly contribute to protecting marine biodiversity and strengthening the science-policy interface in the Mediterranean.



Plastic Pollution

in the Mediterranean Region

As global efforts to address plastic pollution accelerate, it is crucial to understand how this challenge presents at the regional level. The Mediterranean – a unique and highly sensitive marine environment – is among the most affected seas globally.

As a semi-enclosed basin with limited water exchange, dense coastal development, and waste and effluent management infrastructure deficiencies across many bordering countries, the region is particularly vulnerable. Marine litter is now found even in previously untouched or “pristine” locations.

This vulnerability stems from the combination of:

- Inefficient waste and wastewater infrastructure, particularly in developing coastal areas;
- High population density and urbanization along the coast;
- A heavy reliance on tourism and maritime traffic, which

accounts for around 30% of global maritime traffic.

According to a 2020 IUCN report⁸, an estimated 229,000 tonnes of plastic (range: 150,000–610,000) enter the Mediterranean Sea each year, equivalent to over 500 shipping containers daily.

Recent data on beach macrolitter underscore the severity of the problem. A 2024 MedECC report⁹ notes that plastic pollution accounts for up to 82% of observed litter in the Mediterranean sea and will only continue to grow, as the annual plastic production increases at a rate of 4%, without a drastic upgrade of plastic lifecycle management interventions.

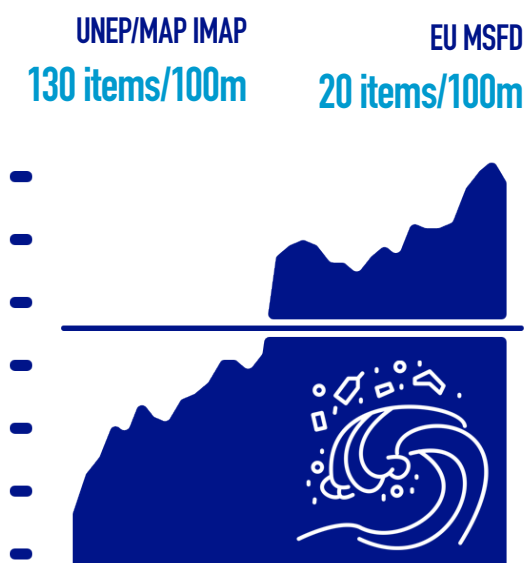
In 2015, UNEP/MAP recorded

the median beach macrolitter density at Mediterranean level to be 659 items per 100-metre of coastline (range: 128-2002 items/100m)¹⁰. The average beach macrolitter density reported in UNEP/MAP's 2025 Summary for Policymakers (SfP)¹¹ is 961 items per 100 metres of coastline for the region. This value exceeds the Threshold Value (TV) set by the UNEP/MAP Integrated Monitoring and Assessment Programme (IMAP) of 130 items/100 m by approximately 7 times, as well as the threshold established under the EU Marine Strategy Framework Directive (MSFD) of 20 items/100 m by approximately 48 times.



Threshold value means a value or range of values that allows for an assessment of the quality level achieved for a particular criterion, thereby contributing to the assessment of the extent to which good environmental status is being achieved.”

Threshold value for macrolitter on beaches:



According to UNEP/MAP's 2025 SfP¹³, only 16% of the 931 monitored beaches achieved Good Environmental Status (GES). 79% of the beaches did not meet the GES criteria with 29% categorised as being in poor condition and 25% as bad.

In coastal and marine protected areas, litter accumulation continues to remain severe, with macrolitter densities 7 to 147 times higher than the MSFD threshold^{12, 13}. Much of this litter consists of single-use items such as cigarette butts, plastic bottles and caps, food wrappers, and sanitary products. While the majority (40-50%) of litter found on Mediterranean beaches, sea surface, and seafloor originates primarily from land-based sources such as recreational and tourism-related activities, and inadequate effluent and waste management from municipal and industrial activities¹⁴, sea-based activities such as maritime transport, fisheries, and aquaculture also contribute significantly (up to 17% in certain subregions stem from fishing and aquaculture)¹⁶, with rivers being recognised as significant pathways bringing in additional litter¹³.

The systemic and transboundary nature of the challenge highlights the urgent need for regionally coordinated upstream interventions such as integrated policies, enhanced monitoring, and preventive measures that target sources

of litter, particularly land-based activities and tourism-intensive areas.

The root causes of marine litter in the Mediterranean mirror those observed elsewhere in the world. They are a complex interplay of:

- unsustainable **production and consumption patterns** in a region still largely shaped by a linear economic model that over-exploits natural resources,
- **behaviour** of individuals and economic sectors that drive over-exploitation of natural resources, generating significant pollution,
- weak **legislative and regulatory frameworks**, and their **enforcement**,
- inadequate **waste management practices**,
- lack of **fit-for-purpose data** leading to misinformation, fragmented understanding and misconceptions resulting in ineffective solutions.

To ease the growing pressure on fragile ecosystems, remedial efforts should exercise caution against short-term and maladaptive measures, while promoting transparent communication and governance actions¹⁵ for lasting and impactful solutions.

The Plastic Busters Initiative:

A regional response

From Concept to Recognized UfM Initiative

Launched in 2013 under the umbrella of SDSN Mediterranean (United Nations Sustainable Development Solutions Network), the Plastic Busters Initiative emerged as a collaborative and science-driven platform to tackle marine litter across its entire management cycle – from monitoring and assessment to mitigation and governance. It has allowed key actors and stakeholders to get together and explore the potential for synergies towards ensuring aligned and synchronized marine litter activities across the Mediterranean.

In 2016, the Initiative was formally labelled by the Union for the Mediterranean (UfM), in recognition of its contribution to scientific knowledge, regional cooperation and environmental protection.



Objectives and Scope

The Plastic Busters Initiative aims to:

- Protect Mediterranean marine biodiversity and ecosystems;
- Prevent and mitigate marine litter pollution;
- Strengthen the science-policy interface;
- Foster policy alignment and coordinated action;
- Contribute to achieving the UN 2030 Agenda and Sustainable Development Goals (SDGs).

Flagship Projects and Scientific Contributions

The Initiative comprises a series of interconnected projects, through which it has consistently and concertedly prescribed safeguarding the Mediterranean sea's fragile ecosystems and the unique biodiversity it supports to improve economic resilience and communities' livelihood.

The first major project, Plastic Busters MPAs, confirmed the high impact of plastic contamination on marine biodiversity, revealing that 96% of the almost 1,300 samples from 46 indicator species analysed had ingested plastic — a clear warning of the pervasive contamination of marine biodiversity. These alarming findings prompted the Initiative to advocate for a shift toward a circular economy as a pathway to reduce plastic production, support sustainable consumption, and help achieve the UN 2030 Agenda and related SDGs, thus contributing to evidence- and science-based support to governance.

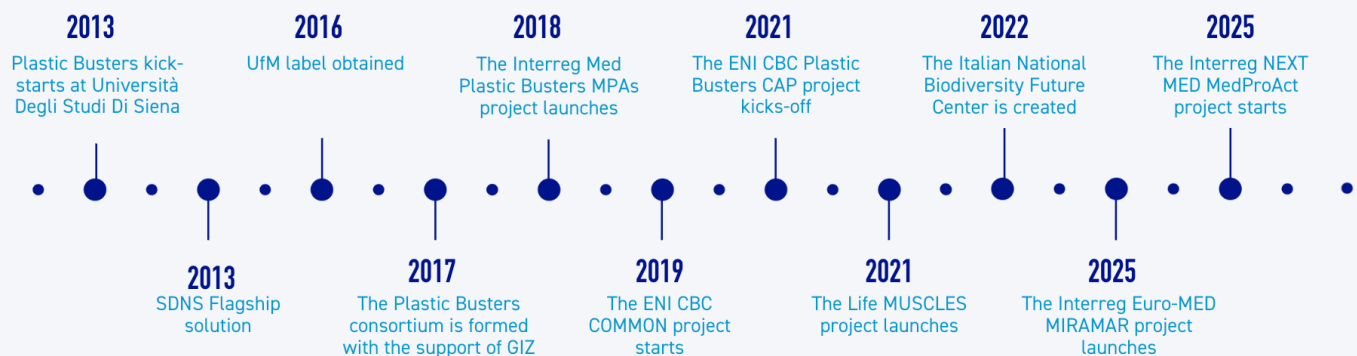
Since the conclusion of Plastic Busters MPAs, follow-up projects have expanded this focus — from capitalizing on existing tools for managing marine litter (Plastic Busters CAP), to addressing the circularity of specific value chains like mussel farming (Life MUSCLES), and more recently, to broader ecosystem-based monitoring, multiple-stressors, and climate resilience.

Through the implementation of MIRAMAR and MedPROACT (the latest projects) the Initiative seeks to develop innovative methodologies to monitor multiple impacts on iconic Mediterranean ecosystems such as Posidonia meadows, wetlands, and habitats of endangered species.

It focuses on the impact caused by the simultaneous presence of marine litter, legacy contaminants, and emerging contaminants (pharmaceuticals and plastic additives) combined with climate change. This evolution underscores a growing integration of pollution reduction with circular economy approaches, sustainable resource use, and ecosystem restoration.

The Plastic Busters Initiative is centered on scientific, evidence-based actions. It is scientifically coordinated by the University of Siena (Prof. Maria Cristina Fossi) and implemented by a 30-member consortium of Mediterranean partners, supported by the policy leadership of UfM.

The Plastic Busters Initiative Timeline



Contributions to Science–Policy Actions

Over the last 12 years and through its actions and multiple projects, the UfM's Plastic Busters Initiative has addressed key scientific and policy gaps in the Mediterranean region, playing a pivotal role in:

- Filling critical data and knowledge gaps;
- Testing on-the-ground demonstration actions;
- Generating science-based policy recommendations;
- Supporting regional strategies under the UNEP/MAP Barcelona Convention and the EU.

Several initiative outcomes have contributed directly to regional policy frameworks, advancing the case for harmonized monitoring, prevention, and reduction measures. The data, findings, and insights generated by the Initiative are directly relevant to key regional frameworks on marine litter—such as those under the Barcelona Convention and the UfM Ministerial declarations—as well as related EU processes and global efforts, including the ongoing international treaty negotiations to end plastic pollution.

UNION FOR MEDITERRANEAN

UfM Ministerial/s on Environment and Climate Action; UfM '2030GreenerMed Agenda'; related UfM Working Group Environment/Regional Platform on Environment and Climate Change
UfM Ministerial(s) on Sustainable Blue Economy, February 2021, related Roadmap and UfM SBE Regional Platform
MED Blue Economy Platform

BARCELONA CONVENTION

Regional Plan for Marine Litter Management in the Mediterranean Integrated Monitoring and Assessment Programme of the Mediterranean Sea (IMAP)
Regional Cooperation Platform on Marine Litter in the Mediterranean
Ecosystem Approach Correspondence Group on Monitoring Marine Litter

EUROPEAN UNION

Marine Strategy Framework Directive
Strategy for Plastics in a Circular Economy
Green Deal
European Biodiversity Strategy 2030
Circular Economy Action Plan
EU Action Plan: 'Towards Zero Pollution for Air, Water and Soil'
Directive (EU) 2019/904 on the reduction of the impact of certain plastic products on the environment (SUP Directive)
Directive (EU) 2019/883 on port reception facilities for the delivery of waste from ships (2019)

EU's new Packaging and Packaging Waste Regulation EU Regulation on packaging and packaging waste, amending Regulation (EU) 2019/1020 and Directive (EU) 2019/904, and repealing Directive 94/62/EC

EU Nature Restoration Law
Marine Strategy Framework Directive Technical Group on Marine Litter
The European Ocean Pact
The Pact for the Mediterranean

UNITED NATIONS

UN 2030 Agenda for Sustainable Development
UN Convention on Biological Diversity
UNFCCC
UNEA Resolution on a Plastics Treaty (pending consensus as of October 2025)
UN 2021-2030 Decade of Ocean Science for Sustainable Development
MARPOL Convention - Annex V "Prevention of Pollution by Garbage from Ships"

PLASTIC BUSTERS INITIATIVE

UfM labelling of Plastic Busters

PROJECTS WHICH ARE PART OF THE PLASTIC BUSTERS INITIATIVE

Interreg Med - Plastic Busters MPAs
ENI CBC MED – COMMON
ENI CBC MED - Plastic Busters CAP
Interreg Euro-Med - MIRAMAR
Interreg Next MED – MedPROAct

PROJECTS WHICH ARE ASSOCIATED /LINKED TO THE PLASTIC BUSTERS INITIATIVE

EU Water and Environment Support (WES)
Interreg Med Green Growth Community
Interreg Med Blue Growth Community

Interreg Euro-MED Innovative Sustainable Economy Mission
Interreg Euro-MED Natural Heritage Mission
Interreg Euro-MED Green Living Areas Mission
Interreg Euro-MED Sustainable Tourism Mission

SwitchMed
AdriCleanFish
Life Muscle
MORINET

OTHER RELEVANT REGIONAL PROCESSES ASSOCIATED/ LINKED TO PLASTIC BUSTERS

EU Mission for Oceans, seas and waters
BLUEMED
WESTMED
EUSAIR
Interreg Euro-Med Strategic Framework
NEXT MED Strategic Framework

Areas of Intervention

To support Mediterranean countries in tackling marine litter and advancing shared sustainability goals, the Plastic Busters Initiative has worked and continues to work through the following areas of intervention:



Action 1

Harmonized Monitoring and Assessment:

Promote alignment on marine litter data collection across Mediterranean countries, using fit-for-purpose methodologies that meet both Barcelona Convention (IMAP) and EU MSFD standards.



Action 2

Demonstration of Prevention and Mitigation Measures:

Deploy on-the-ground solutions at pilot sites, supporting implementation of the Regional Plan on Marine Litter Management and EU directives. Introduce and lever a multi-stressor approach – addressing plastic pollution alongside climate impacts, invasive species, and habitat degradation – to inform ecosystem-based management.



Action 3:

Strengthening Governance and the Science–Policy Interface:

Provide policy-relevant evidence, tools, and training to support decision-making and intergovernmental coordination. Activities include developing guidance on monitoring strategies, scaling best practices, and building institutional capacity.



Action 4:

Education, Outreach, and Stakeholder Engagement:

Foster behavioural change and multi-actor collaboration through awareness-raising, citizen science, and community engagement, encouraging shared responsibility across sectors and societies.

To scale these efforts, Mediterranean policymakers are encouraged to integrate Plastic Busters outcomes into national marine litter strategies, foster cross-sectoral partnerships, and commit to sustained financing for science-policy initiatives. These actions will support the alignment of regional priorities with both global treaty negotiation outcomes and developments in EU environmental policy.



MOVING FORWARD

Tackling marine litter in the Mediterranean demands a decisive shift from fragmented interventions to comprehensive, long-term, and integrated strategies.

Building on the collective experience and outcomes of regional initiatives that began over 15 years ago, it is urgent to scale up and align action across sectors, stakeholders, and borders.

Along the lines of the recently released European Ocean Pact and the newly launched Pact for the Mediterranean, presented below are some of the most pressing actions that regional initiatives—such as the UfM's Plastic Busters Initiative—have highlighted for Mediterranean countries, stakeholders, and institutions to champion for a litter free Mediterranean:

1. Advance integrated monitoring, research, and knowledge sharing

- Harmonize and expand monitoring protocols, using shared indicators and methodologies (e.g., under IMAP and the Marine Strategy Framework Directive), and promote citizen/participatory science and bioindicator species.
- Close knowledge gaps on sources, transport, accumulation, and ecological impacts of marine litter, particularly microplastics, through targeted research and cross-sectoral data partnerships.
- Support science-policy-society interfaces to foster innovation, feedback loops, and evidence-based policymaking.

2. Integrate land-sea action and ecosystem restoration

- Target upstream interventions to reduce land-based litter leakage from urban, tourism, industrial, and agricultural sources.
- Prioritize litter removal in hotspots, ensuring actions restore environmental status and avoid harm to marine ecosystems.
- Improve urban and stormwater management, integrating ecological, hydrological, and waste system planning in

vulnerable coastal areas.

3. Enhance sector-specific measures to reduce marine litter sources

- Fishing and aquaculture: Support retrieval of lost gear, responsible gear design, and litter-reduction certification schemes.
- Ports and shipping: Upgrade port reception facilities and enforce ship waste discharge controls.
- Agriculture: Phase out unnecessary plastic inputs and improve collection and treatment of agricultural plastics.
- Tourism: Promote sustainable tourism practices that integrate litter prevention in coastal areas and marine activities.

4. Empower communities and foster inclusive engagement

- Invest in public awareness and behavioural change, emphasizing shared responsibility and active participation in waste reduction and cleanup.
- Promote a just transition, ensuring marine litter policies respect the rights and livelihoods of vulnerable groups, including informal waste workers, artisanal fishers, and small businesses.
- Encourage broad stakeholder engagement, through participatory governance, high-

visibility campaigns, and inclusive policy dialogues.

5. Strengthen waste governance and infrastructure

- Support integrated waste prevention and management systems, particularly at the local level, in line with the waste hierarchy and disaster resilience needs.
- Build institutional capacity, especially in southern and eastern Mediterranean countries, through training, funding, and inclusive governance structures.
- Reinforce legal frameworks and compliance mechanisms, with clear provisions for producer responsibility, liability, and penalties for non-compliance.

6. Accelerate the transition to a Circular Economy

- Embed circularity in policy frameworks at national and regional levels, linking marine litter objectives with strategies in trade, industry, education, innovation, and green jobs.
- Promote eco-design and Extended Producer Responsibility (EPR) to ensure products are durable, reusable, recyclable, and traceable across their lifecycle.
- Increase transparency of chemicals in plastic products, enabling safer materials, improved recycling, and alignment with global frameworks such as the upcoming international plastics treaty.
- Prioritise waste prevention and reduction, setting ambitious targets for reducing single-use plastics and scaling deposit-return schemes, reuse models, and local

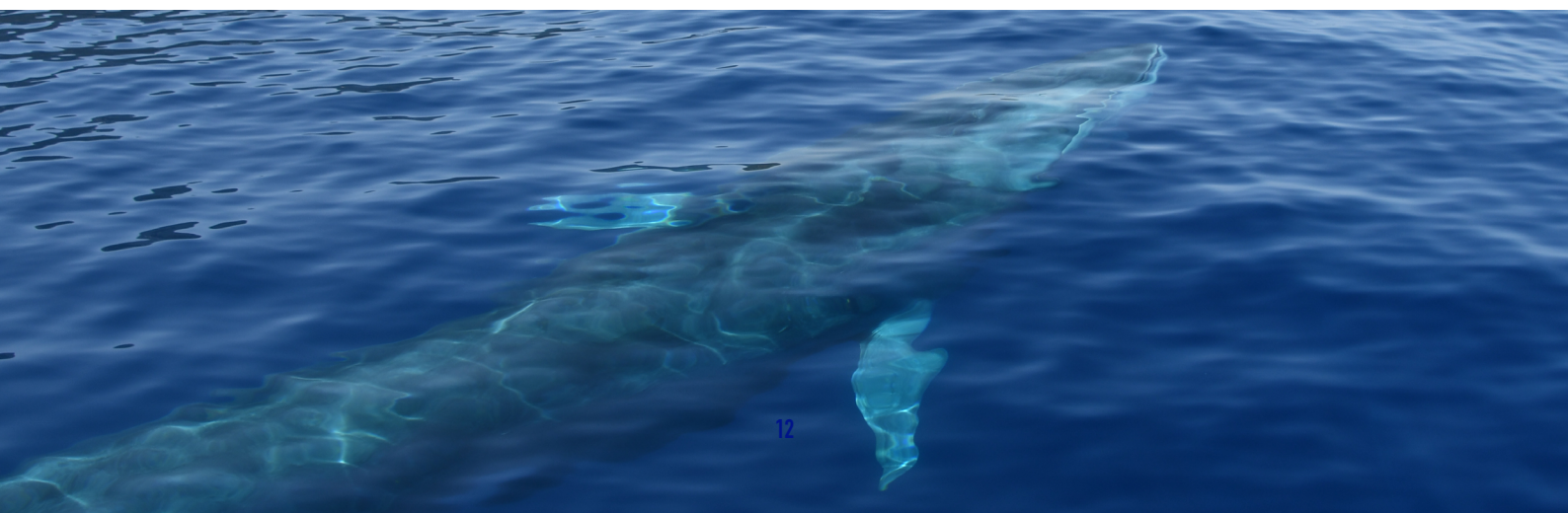
zero-waste systems, in line with the EU Single-Use Plastics Directive¹⁶.

- Foster innovation and circular business models, especially through public procurement and private sector incentives that reward refillable, upcycled, or service-based product systems.

7. Leverage regional cooperation and policy alignment

- Treat the Mediterranean Sea as one ecosystem, strengthening cross-border coordination between northern and southern shores and aligning efforts with UNEP/MAP Barcelona Convention, and the Union for the Mediterranean.
- Scale up and replicate successful local solutions, including those piloted under Plastic Busters, through coordinated regional strategies and funding mechanisms.
- Align with international commitments, including UNEA resolutions and the forthcoming global treaty on plastic pollution, ensuring national action plans reflect regional goals while addressing country-specific realities.

This suite of scientific, evidence-based actions outline a roadmap for transforming how Mediterranean societies produce, consume, and manage plastics – one that fosters regeneration, equity, and resilience. Through collective leadership, cross-sector collaboration, and strengthened regional cooperation, marine litter pollution can be significantly reduced, contributing to the broader goals of ocean health, climate resilience, and sustainable development.



Notes

- 1 See <https://www.unep.org/inc-plastic-pollution>
- 2 The draft treaty text includes provisions on eliminating harmful plastic products and chemicals; managing plastic production and supply; reducing pollution from pellets and fishing activities; strengthening plastic waste management through tools such as Extended Producer Responsibility (EPR); supporting informal sector workers and small-scale fishers; enabling international cooperation and technology transfer; and requiring countries to develop national implementation plans.
- 3 See https://oceans-and-fisheries.ec.europa.eu/european-ocean-pact_en
- 4 See https://commission.europa.eu/news-and-media/news/pact-mediterranean-enhancing-jobs-energy-and-security-2025-10-16_en
- 5 See <https://ufmsecretariat.org/ufm-environment-agenda/>
- 6 https://south.euneighbours.eu/wp-content/uploads/2025/02/UfM-SBE-report-2024-English-version-fin_compressed.pdf
- 7 See <https://medblueconomyplatform.org/>
- 8 See <https://iucn.org/news/marine-and-polar/202010/over-200000-tonnes-plastic-leaking-mediterranean-each-year-iucn-report>
- 9 MedECC, 2024: Summary for Policymakers. In: Climate and Environmental Coastal Risks in the Mediterranean. [Djoundourian, S., Lionello, P., Llasat, M.C., Guiot, J., Cramer, W., Driouech, F., Gattaceca, J.C., Marini, K. (eds.)]. MedECC Reports. MedECC Secretariat, Marseille, France, pp. 28, ISBN: 978-2-493662-03-3, doi: 10.5281/zenodo.10722133
- 10 UNEP/MAP, 2015.
- 11 United Nations Environment Programme (2025). Summary for Policymakers. Mediterranean Quality Status Report: The state of the Mediterranean Sea and Coast from 2018-2023. Athens, Greece.
- 12 Plastic Busters CAP, 2023. Roadmap for marine litter policy priorities. Deliverable 4.3.2. MSFD threshold.
- 13 Fossi et al., 2022. Report on the results and findings of the piloted harmonized marine litter monitoring approach in Mediterranean MPAs. Interreg Med Plastic Busters MPAs project.
- 14 See <https://planbleu.org/wp-content/uploads/2020/04/Factsheet-TacklingMarineLitter.pdf>
- 15 UNEP (DEPI)/ MED (CoP 23) Decision IG.26/3 The 2023 Mediterranean Quality Status Report and a Renewed Ecosystem Approach Policy in the Mediterranean
- 16 https://environment.ec.europa.eu/topics/plastics/single-use-plastics_en



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