



PLASTIC BUSTERS



European Union



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The Hashemite
Kingdom of
Jordan

Agenda of the 10th Meeting of the UfM Working Group on Blue Economy
Hybrid (Brussels - Albert Borschette Conference Centre, and Interactio)
23 March 2022

PLASTIC BUSTERS INITIATIVE AT MEDITERRANEAN SCALE

Plastic Busters MPAs:
preserving biodiversity from
plastics in Mediterranean
Marine Protected Areas

5.055 M €
PROJECT BUDGET

4.296 M €
ERDF / IPA

48 Months
PROJECT DURATION

COastal Management
and **MO**nitoring Network

for tackling marine litter in Mediterranean sea

Plastic Busters CAP

Advances in monitoring and mitigating the impact of marine litter on Mediterranean habitats and species



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PLASTIC BUSTERS

LITTER-FREE IS THE WAY TO BE

ACTIONS FOR A HEALTHY MEDITERRANEAN



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THE POLICY PAPER

THE ISSUE AT STAKE

Marine litter — and marine plastic pollution in particular — is a major threat due to its significant environmental, economic, social, political and cultural implications. Marine litter negatively impacts **coastal and marine ecosystems** and the **services** they provide, ultimately affecting **people's livelihoods** and **well-being**. Marine plastic pollution is not just an oceans' pollution issue. It is an air pollution and climate issue too as plastic — admittedly an indispensable material of today's

societies — contributes to greenhouse gas emissions at every stage of its lifecycle, from its production to its refining and up to the way it is managed as a waste product.

Plastic pollution in the Mediterranean Sea poses a threat to **countries' wellbeing, economic resilience** and **environmental sustainability**, with potential effects on human health yet to be fully understood.

as estimated in 2015, are at the level of over **260,000 tonnes** per year or **730 tonnes per day**, depending on the coastal population, which may vary depending on the country, representing more than 2% of the total inputs in the world's oceans (UNEP/MAP, 2015).

the resilience of the economic system. It also constitutes a lever to help achieve the UN 2030 Agenda and several of its SDGs.

Within this context, **PLASTIC BUSTERS** is continuously and concretely consolidating and advancing actions towards a litter-free Mediterranean.

The root causes of marine litter in the Mediterranean are the same as anywhere else in the world: a complex combination of **production and consumption patterns, irresponsible behavior of individuals and economic sectors**, weak enforcement and/or **lack of policy and legislative frameworks**, poor solid waste management practices, **misconceptions** related to possible solutions, fragmented understanding of the problem due to the lack of fit-for-purpose data.

Overall, the Mediterranean economy is still marked by a linear system, which over-exploits natural resources, causes pollution and thus undermines fragile ecosystems: in a region considered a biodiversity hotspot, waste prevention and reduction through upstream solutions are urgently needed.

Circular economy is a unique opportunity for Mediterranean countries to 'build back better' after the current COVID-19 crisis and to improve



The Mediterranean basin is **particularly vulnerable** to pressures from its densely populated coasts, highly developed tourism, and heavy maritime traffic (30 percent of the world maritime traffic); a vulnerability exacerbated by the low renewal rate of its waters and the structural lack of proper waste management systems and infrastructure (from collection to recycling) in most surrounding

countries. Litter items found on Mediterranean beaches appear to originate primarily from recreational and tourism related activities, and poor municipal waste management practices.

It is widely acknowledged that the Mediterranean Sea is one of the most affected seas by marine litter worldwide. Inputs of plastics into the sea,





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PLASTIC BUSTERS INITIATIVE

PLASTIC BUSTERS
Connection with key regional frameworks on marine litter as well as with related processes and projects

BARCELONA CONVENTION
Regional Plan on 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
Directive (EU) 2019/904 on the reduction of the impact of certain plastic products on the environment (SUP Directive)
Marine Strategy Framework Directive Technical Group on Marine Litter

ACTION 1 ASSESSMENT VIA HARMONISED MONITORING APPROACHES
Addressing data gaps and needs with regards to marine litter, to complement existing assessments carried out in the region as well as the further development and practical implementation of harmonized monitoring approaches in line with the related advances made at Barcelona Convention and EU levels.

ACTION 2 DEMO ACTIONS FOR TESTING PREVENTION & MITIGATION MEASURES
Developing and coordinating the implementation of demonstration projects showcasing actions to prevent, reduce and mitigate marine litter in the Mediterranean Sea, based on the measures provided by the Barcelona Convention Regional Plan on Marine Litter Management in the Mediterranean, the EU MSFD Programmes of Measures, the EU SUPs Directive, etc.

ACTION 3 GOVERNANCE SUPPORT
Strengthening the science-policy interface by providing fit-for-purpose marine litter data; recommendations for a comprehensive and harmonized marine litter monitoring strategy; concrete showcases and guidelines for operationalizing best practice marine litter measures; capacity building of institutional actors on marine litter related issues, etc.

ACTION 4 CAPACITY BUILDING & AWARENESS RAISING
Designing and coordinating the implementation of awareness raising campaigns and education for sustainable development programmes, tailor-made to the needs of different stakeholders, including the educational community.

PROJECTS WHICH ARE PART OF THE PLASTIC BUSTERS INITIATIVE
Interreg Med — Plastic Busters MPAs >
ENI CBC MED — COMMON >
ENI CBC MED — Plastic Busters CAP >

PROJECTS WHICH ARE ASSOCIATED/LINKED TO THE PLASTIC BUSTERS INITIATIVE
EU W. Water and Environment Support (WES) >
Interreg Med Green Growth Community >
Interreg Med Blue Growth Community >
SwitchMed >
Interreg Euro-Med Strategic Framework >
ENI CBC MED Strategic Framework >
UIM Ministerial(s) on Sustainable Blue Economy, February 2021, and related UIM Working Group >
MED Blue Economy Platform >
UIM Ministerial on Environment and Climate Action >
'GreenerMed Agenda', October 2021, and related UIM Working Group >

OTHER RELEVANT PROCESSES ASSOCIATED LINKED TO PLASTIC BUSTERS:
EU Mission for Oceans, seas and waters >
BLUEMED >
WESTMED >
EUSAIR >

MOVING FORWARD

MOST URGENT ACTIONS TO ADDRESS MARINE LITTER POLLUTION IN THE MEDITERRANEAN SEA

THE PLASTIC BUSTERS INITIATIVE TIMELINE

- 2013: SNDS Registry solution
- 2013: Plastic Busters kick-starts at UNIS
- 2016: UIM label obtained
- 2017: The Plastic Busters consortium is formed with the support of G8
- 2017: The ENI CBC COMMON project starts
- 2019: The Interreg Med Plastic Busters MPA project launches

1. MOVING TOWARDS A CIRCULAR ECONOMY.

Keeping a linear economy and reducing the amount of environmentally harmful materials is not enough to curb the catastrophic path of marine litter. This approach can have more damaging effects by creating a false sense of "environmental consciousness and responsibility" in consumers.

Reducing the consumption footprint and increasing the circular material use rate is a targeted priority, which should also be seen in the context of the European Green Deal. Natural resources underpin national economies, provide crucial raw materials for everyday life, and are necessary to almost every sector of the global economy. In particular, given the size of the demand, raw materials (including both primary and secondary raw materials obtained through recycling) will continue to play a key role in the economy.

A comprehensive intervention is needed with a strong focus on new/sustainable behaviours and lifestyles, different from the current *throwaway culture* in society, with waste prevention becoming a priority. They should include:


- The full embedment of circularity in policy and institutional frameworks. Governments' intervention (national and regional levels) is key to steer the circular economy transition in coordination with the business sector and the civil society. Actions like raising awareness, mobilising private sector and other key stakeholders (i.e. consumers), are critical and need to be coordinated. Likewise, enabling frameworks require coherent measures in large number of relevant policy areas such as industrial development, entrepreneurship, trade, research and innovation and education and skills development.
- Enhance Integrated Waste Management Plans. Ambitious waste prevention (e.g., those integrating zero waste objectives and strategies) and management measures (including through waste prevention and management plans aligned with the waste hierarchy and circular economy objectives; targets for recycling of key waste streams and reducing landfills; extended producer responsibility schemes and deposit return schemes for plastic products and packaging) are urgently needed;
- New business models, are needed to favor resource-efficient production and uptake of clean technologies; promote up-cycling businesses, engage and involve the private sector including the need to implement safe and sustainable approaches in the green stage of product development; use the Green Public Procurement as a lever for new business models.
- Phase out Single Use Plastics and prevent plastic pollution by enhancing the capacities of national and regional authorities in transposing the main requirements of the EU Single-Use Plastics Directive.

WHAT DOES EXPERIENCE TELLS US

Time is not on our favour. Urgent actions are needed to reverse the increase of marine litter pollution in general and marine plastic pollution in particular in the Mediterranean Sea.

The Mediterranean needs to accelerate the transition towards a regenerative growth model that gives back to the planet more than it takes, advance towards keeping its resource consumption within planetary boundaries, and therefore strive to reduce its consumption footprint and double its circular material use rate in the coming decade.

The processes, initiatives and projects featured in this document, all align in illustrating the need for a shift in production and consumption patterns, coupled with ambitious actions to prevent and mitigate of the marine litter effects. In concrete terms there is urgency in:



<https://ufmsecretariat.org/project/plastic-busters/>

Why Plastic Busters initiative?



Plastic Busters on basin scale

A crucial aspect of the marine litter issue, underlined by the **Barcelona Convention within the Regional Plan for Marine Litter** (Istanbul 2013) is that: "Marine pollution knows no border, pollution in one country affects all other 21 countries, hence there is a need for a regional approach".

Plastic Busters is the first project at basin scale that binds the Southern and Northern Mediterranean countries on the issue of Marine Litter under the umbrella of UNEP/MAP and UfM, with 10 countries already involved in the project and 12 countries endorsing the project.



Diagnosis of the problem to identified specific solutions

- Impact on Biodiversity?
- Impact on Fisheries?
- Identification of Hot spot areas?
- Impact on Human?

**Project coordinator
Maria Cristina Fossi**

Biomarker Laboratory, University of Siena, Italy



UNIVERSITÀ
DI SIENA
1240



Mediterranean



SDSN-MED Flagship project



2013

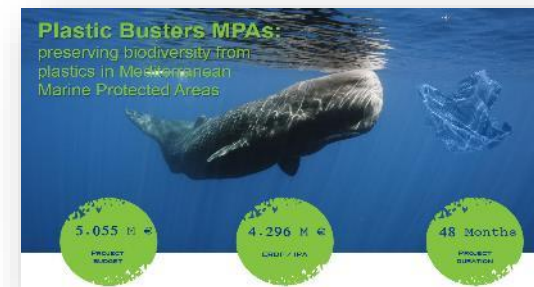
UfM Labelling



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2016

MED-Interreg



2018

ENI -CBC



2019 - 20




PLASTIC BUSTERS ON BASIN SCALE

TRANSFERRING/CAPITALIZATION OF PLASTIC BUSTERS MPAs



ENI
CBCMED
Cooperating across borders
in the Mediterranean

Plastic Busters MPAs:
preserving biodiversity from
plastics in Mediterranean
Marine Protected Areas



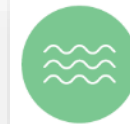
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PROYECT BUDGET

4.296 M €
OPAC / IPA

48 Months
PROJECT DURATION



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COMMON



Water and
Environment Support
in the ENI Southern Neighbourhood region



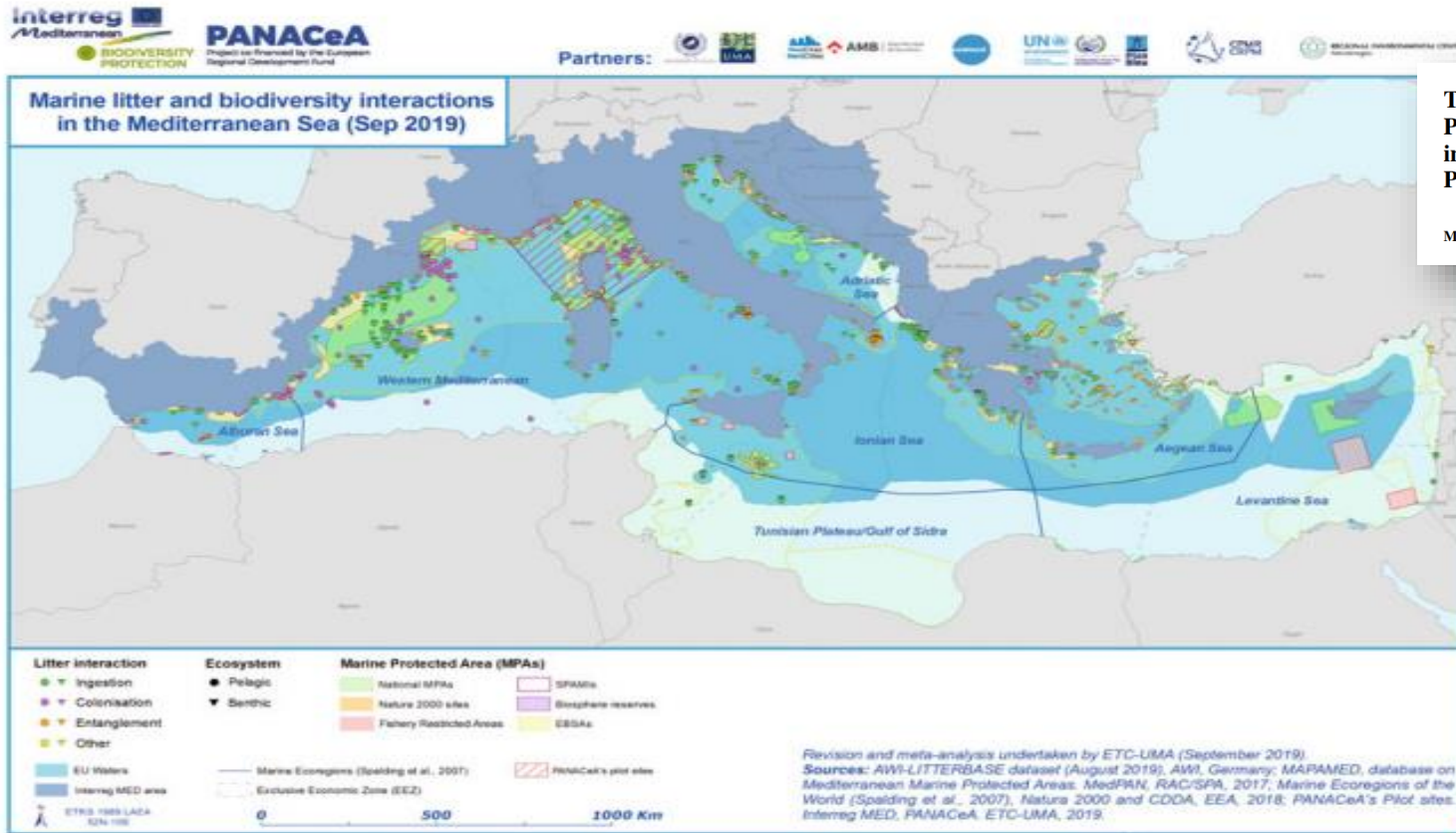
Plastic Busters CAP



PLASTIC BUSTERS
MPAs

Project co-financed by the European
Regional Development Fund

The Impact of Marine Litter in Marine Protected Areas (MPAs) in the Mediterranean Sea



The Impact of Marine Litter in Marine Protected Areas (MPAs) in the Mediterranean Sea: How Can We Protect MPAs?

Maria Cristina Fossi and Cristina Panti



In the whole Mediterranean basis 1231 MPAs and OECMs (Other Effective area- based Conservation Measures) cover 179,798 km for a total surface of 7.14% under a legal designation. Many of these areas are heavily subjected to marine litter pressure.

Plastic Busters MPAs:

preserving biodiversity from plastics in Mediterranean Marine Protected Areas



MINISTERO DELL'AMBIENTE
E DELLA TUTELA DEL TERRITORIO E DEL MARE



5.055 M €
PROJECT BUDGET

4.296 M €
ERDF / IPA

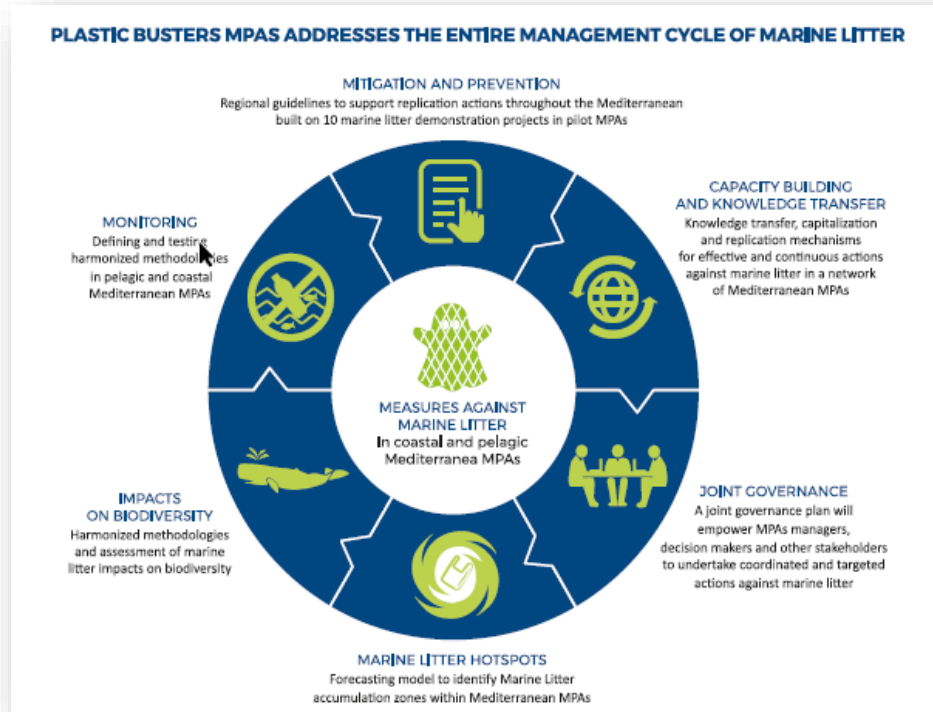
48 Months
PROJECT DURATION



Project co-financed by the European Regional Development Fund

Plastic Busters MPAs general objectives

Novelty - Whole Management Cycle Of Marine Litter



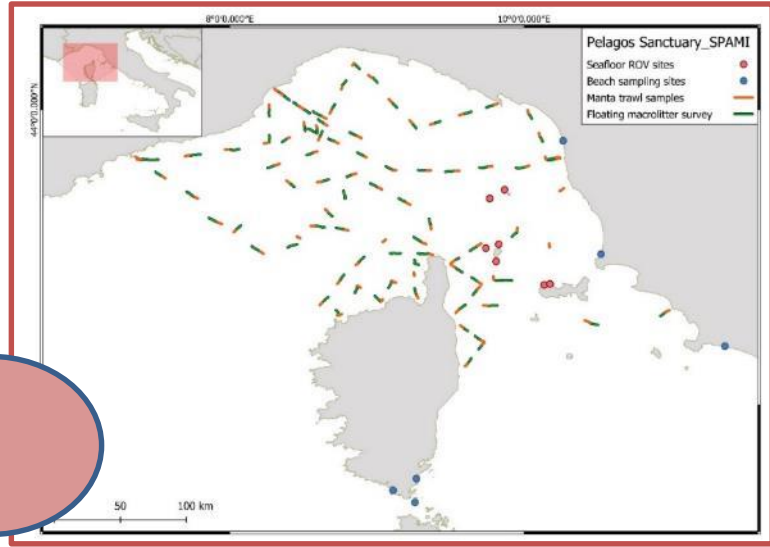
- **PlasticBusters MPAs**, is a 4-year-long project Interreg Mediterranean funded project aiming to contribute to **maintaining biodiversity and preserving natural ecosystems** in pelagic and coastal **marine protected areas (MPAs)**, by defining and implementing a **harmonized approach against marine litter**.
- The project entails actions that address the **WHOLE MANAGEMENT CYCLE OF MARINE LITTER**, from **monitoring and assessment to prevention and mitigation**, as well as actions to **strengthen networking** between and among pelagic and coastal MPAs located in Italy, France, Spain, Croatia, Albania and Greece.
- The project will support the **implementation** of the **MSFD** and the **Barcelona Convention Regional Plan on Marine Litter Management** in the Med.

Large pelagic and coastal areas (SPAMI, EBSA): SPAMI Pelagos Sanctuary

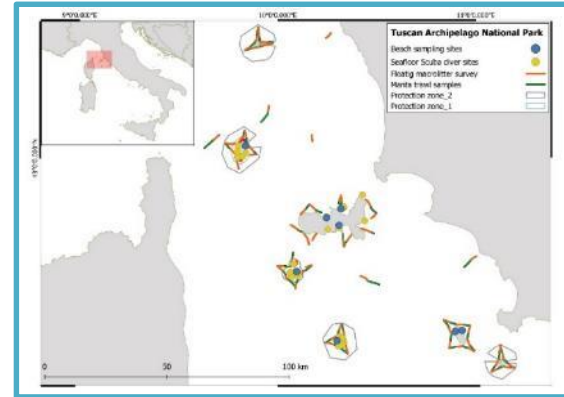
Medium scale MPAs: Tuscan Archipelago National Park

Small scale MPAs: Cabrera, National Park, Zakynthos National Park

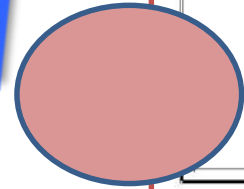
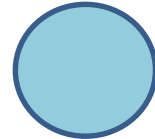
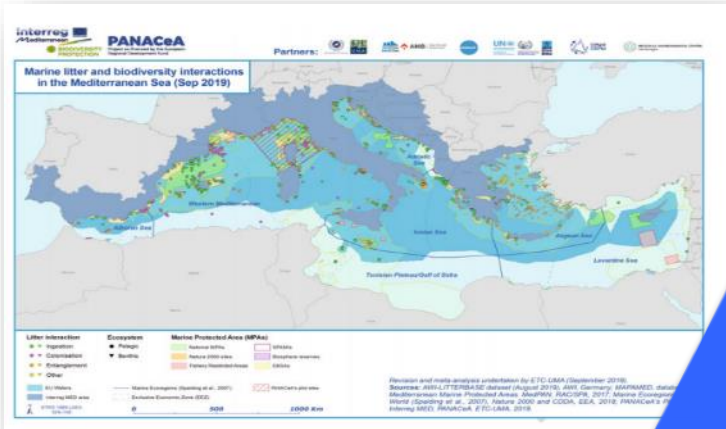
MPAs DIMENSION



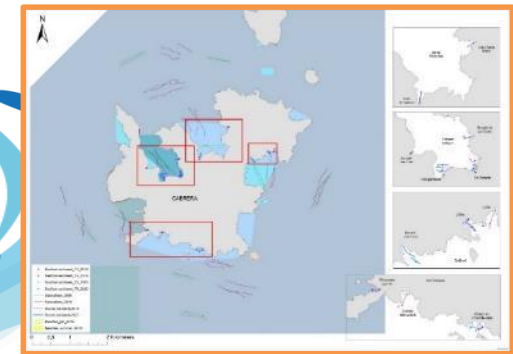
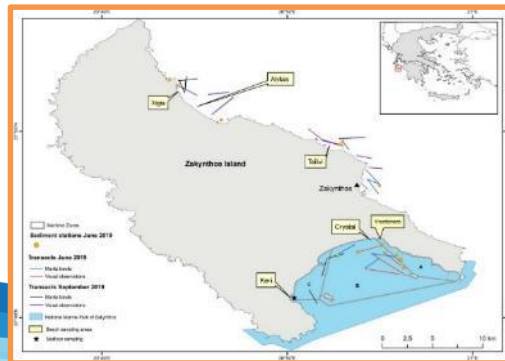
Large pelagic and coastal areas - SPAMI



Medium scale MPAs



Small scale MPAs



BUSTERS

Novelty - Harmonized Diagnosis in the Environment

4.1 – Coordinating WP 4

4.2

Piloting harmonized ML monitoring in Med MPAs to assess ML (macro- and micro-plastics) in the coastal and pelagic environment

4.3

Piloting harmonized ML monitoring approaches in Med MPAs and hotspots to establish the impacts on biota, including endangered species and fishery resources

4.4

Testing the ML forecasting model

4.5

Preparation of the demo projects

4.6

Piloting ML prevention and mitigation measures

Macroplastics

Joint list - MSFD

Microplastics

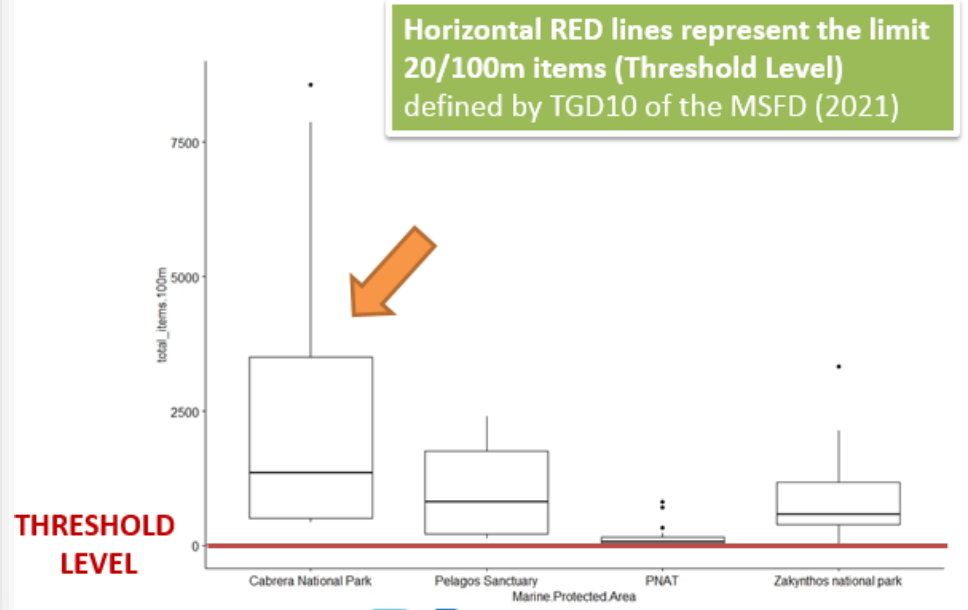
MARINE LITTER MONITORING

TOTAL NUMBER OF SAMPLES ANALYZED IN THE 4 MPAs DURING THE TESTING PHASE

TYPE OF SAMPLE/SURVEY	N°
Floating macrolitter	314
Floating microlitter	213
Beach macrolitter	135
Beach microlitter	810
Seafloor sediment	51
Seafloor macrolitter	51
ROV	7



1530 Samples/Survey!



Novelty - Harmonized Diagnosis in Biota

4.1 – Coordinating WP 4

4.2

Piloting harmonized ML monitoring in Med MPAs to assess ML (macro- and micro-plastics) in the coastal and pelagic environment

4.3

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4.4

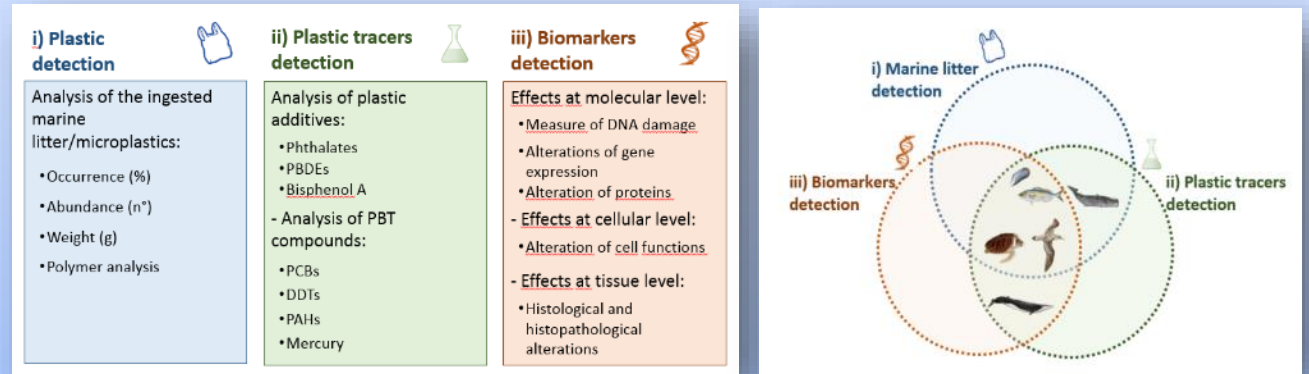
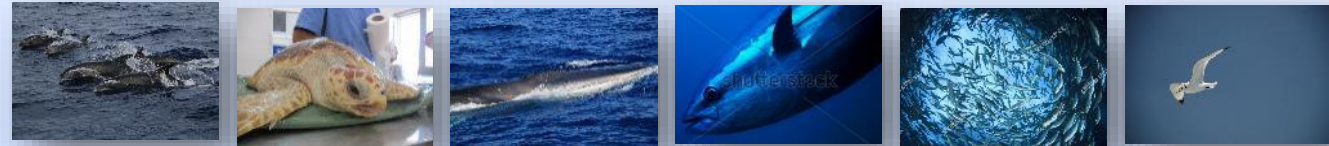
Testing the ML forecasting model

4.5

Preparation of the demo projects

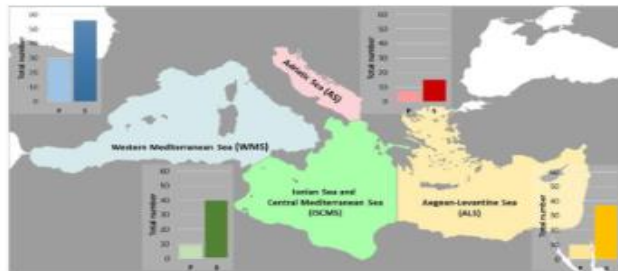
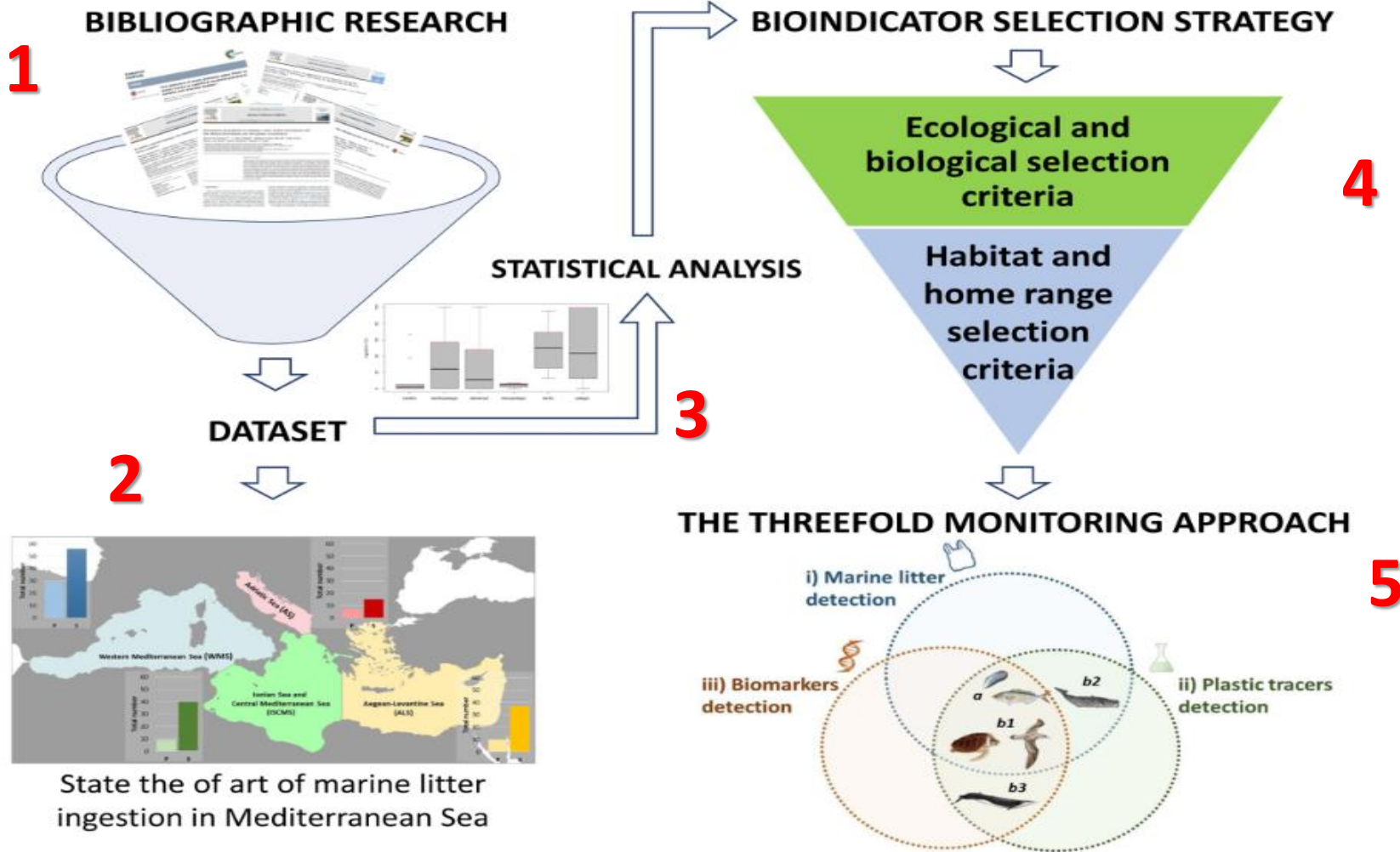
4.6

Piloting ML prevention and mitigation measures



MARINE LITTER IMPACTS ON BIOTA

Identification of marine litter bioindicators



State the of art of marine litter ingestion in Mediterranean Sea



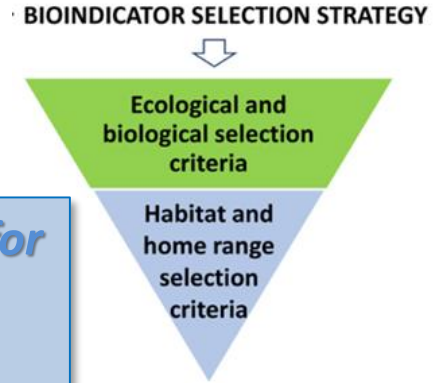
Bioindicator selection in relation to habitat and home range



	SEA SURFACE	COASTAL WATERS	OPEN WATERS	SEAFLOOR	COAST LINE AND BEACH SEDIMENT
BASIN SCALE (Mediterranean Sea)	<i>Calonectris diomedea</i> , <i>Puffinus yelkouan</i>	<i>Calonectris diomedea</i> , <i>Puffinus yelkouan</i>	<i>Balaenoptera physalus</i> ; <i>Cetorhinus maximus</i> <i>Xiphias gladius</i> ; <i>Thunnus thynnus</i> <i>Xiphias gladius</i> ; <i>Thunnus thynnus</i> <i>Caretta caretta</i> <i>Physeter macrocephalus</i>		
MEDIUM-SCALE (Mediterranean UN Environment/MAP sub-regions)			<i>Thunnus alalunga</i> <i>Urophycis hippoclinoides</i> <i>Caretta caretta</i> <i>Thunnus alalunga</i>		
SMALL-SCALE (FAO GSA)		<i>Boops boops</i> <i>Trachinotus ovatus</i>	<i>Maurolicus muelleri</i> <i>Engraulis encrasicolus</i> <i>Sardina pilchardus</i> Myctophids	<i>Mullus barbatus</i> <i>Merluccius merluccius</i> <i>Gadus morhua</i> <i>Gadus morhua norvegicus</i> <i>Galeus melastomus</i> , <i>Merluccius merluccius</i> , <i>Solea spp.</i> <i>Galeus melastomus</i> , <i>Scyliorhinus canicula</i>	
LOCAL SCALE				Holoturians	<i>Mytilus galloprovincialis</i> <i>Arenicola marina</i> Decapods (e.g. <i>Carcinus sp.</i>)

BLUE: bioindicator for macrolitter

RED: bioindicator for microplastics



Local Scale



The Threefold Monitoring Approach



NEW

Environmentally relevant species



Protected species



The simultaneous investigation in bioindicator species of:

A) the analysis of **gastro-intestinal content** to evaluate the **marine litter** ingested by the organisms;

B) the analysis of **plastic additives** and PBT compounds used as plastic tracers;

C) the analysis of the effects **by biomarkers responses** at different level of biological organization

... will allow a **more complete assessment of the real impact** related to plastic debris ingestion by marine organisms.



Plastic detections

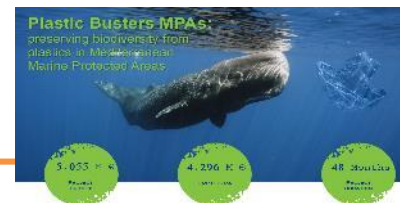
- Analysis of the gastro intestinal (GI) contents:
 - Occurrence (%)
 - Abundance (n°)
 - Weight (g)
 - Polymer analysis

Plastic tracers detections

- Analysis of plastic additives:
 - Phthalates
 - PBDEs
 - Bisphenol A
- Analysis of PBT compounds:
 - PCBs
 - DDTs
 - PAHs
 - Mercury

Biomarkers detections

- Effects at molecular level:
 - Measure of DNA damage
 - Alterations of gene expression
 - Alteration of proteins
- Effects at cellular level:
 - Alteration of cell functions
- Effects at tissue level:
 - Hystological and histopathological alterations



BIOINDICATORS SELECTION IN RELATION TO HABITAT AND HOME RANGE

Local Scale



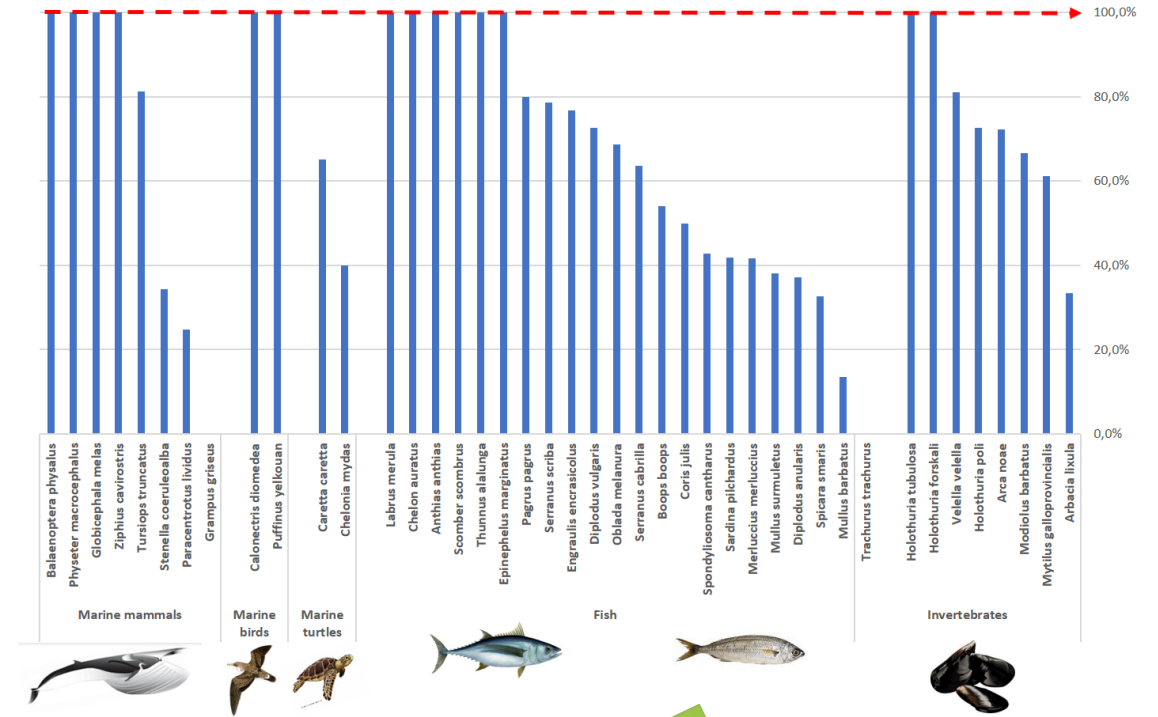
Basin Scale

ML Harmonized Diagnosis in the Mediterranean Biodiversity

Taxa	N° species	N° specimens
Invertebrates	9	551
Fish	22	1223
Reptiles	2	190
Birds	3	56
Pinnipeds	1	12
Cetaceans	7	81

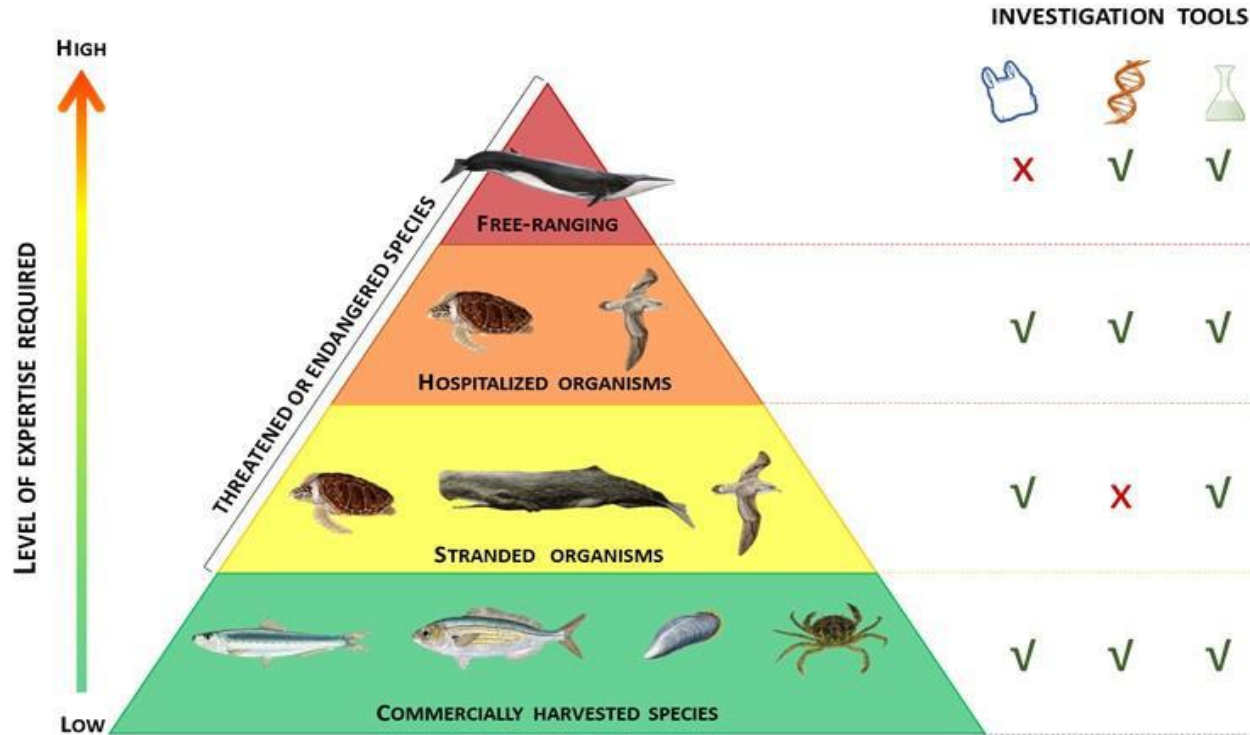
2113 Specimens!

MPs Frequency of Occurrence in Selected Bioindicators



44 Species!

A New Approach for Monitoring Marine Litter Ingestion and Impact in Mediterranean Biodiversity



i) Plastic detection

- Analysis of the ingested marine litter/microplastics:
 - Occurrence (%)
 - Abundance (n°)
 - Weight (g)
 - Polymer analysis

ii) Plastic tracers detection

- Analysis of plastic additives:
 - Phthalates
 - PBDEs
 - Bisphenol A
- Analysis of PBT compounds:
 - PCBs
 - DDTs
 - PAHs
 - Mercury

iii) Biomarkers detection

- Effects at molecular level:
 - Measure of DNA damage
 - Alterations of gene expression
 - Alteration of proteins
- Effects at cellular level:
 - Alteration of cell functions
- Effects at tissue level:
 - Hystological and hystopathological alterations

Plastic Busters MPAs:

Joint strategy for monitoring marine litter and its impact on biodiversity

SYNERGY BETWEEN MPAS MANAGER AND RESEARCHERS



Synergy



Project co-financed by the European Regional Development Fund

Monitoring activities in small scale MPAs: Zakynthos National Marine Park



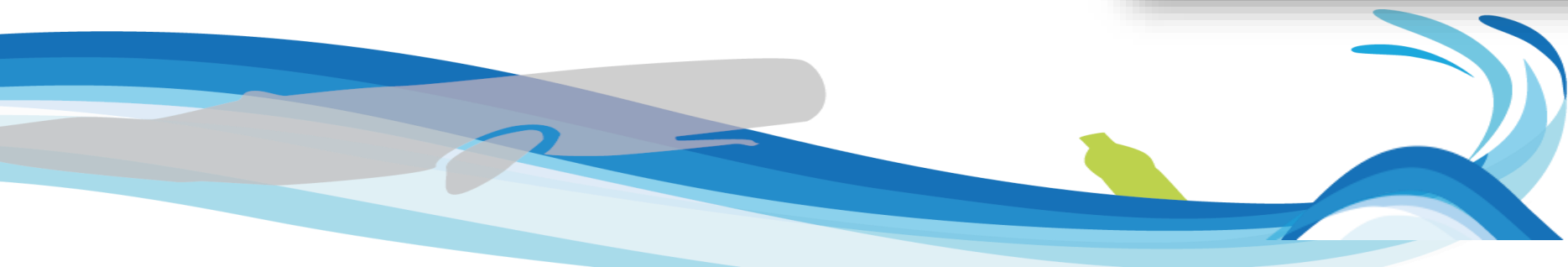


Monitoring activities in small scale MPAs: Cabrera National Park



GOVERN
ILLES
BALEARS

CAIB

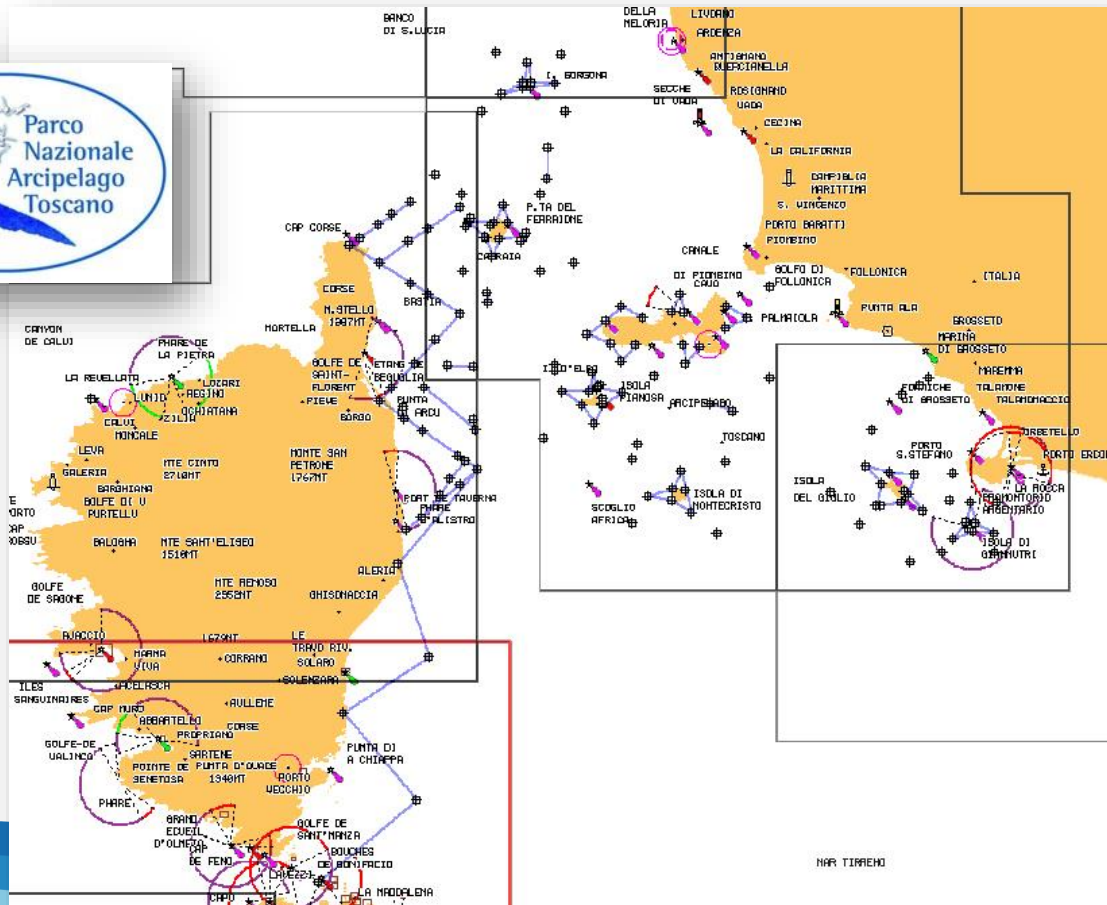


Interreg 

Interreg 
Mediterranean

 PLASTIC BUSTERS
MPAs

Monitoring activities in Medium scale MPAs: Tuscan Archipelago National Park



PLASTIC BUSTERS MPAS
Marine litter research expedition

TUSCAN ARCHIPELAGO NATIONAL PARK

8 July - 23 July

**7 ISLANDS MONITORED
IN 15 DAYS**

**19 RESEARCHERS
FROM 7 MED INSTITUTIONS**

Summary of the activities:

- 71 manta-trawls
- 131 floating marine litter surveys
- 11 cetacean skin biopsies
- 120 mussel samples
- 20 pools of neustonic indicators
- 100 fish samples

With the collaboration of UNISI, ISPRA, Ifremer, OEC, PNAT, Pelagos Secretariat and LaMMA



Interreg

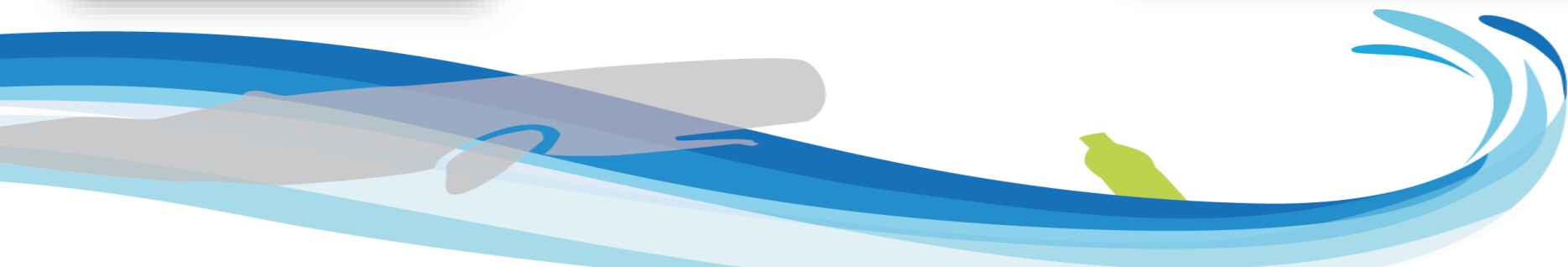
Mediterranean

PLASTIC BUSTERS MPAS

Project co-financed by the European Regional Development Fund

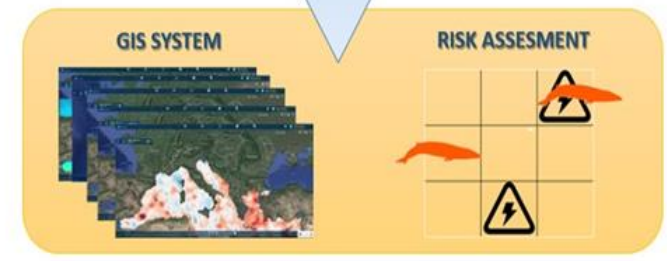
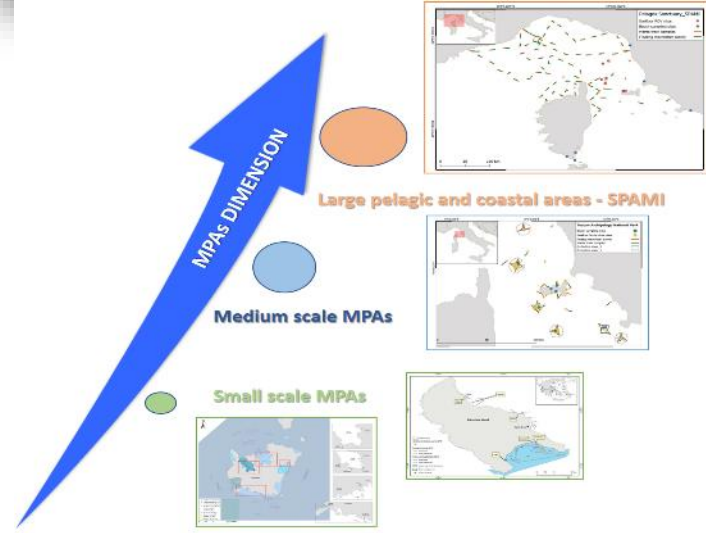


Monitoring activities in Large pelagic and coastal areas: SPAMI - Pelagos Sanctuary



Plastic Busters MPAs activities in MPAs

Novelty - Risk Assessment - From Diagnosis to Mitigation



Diagnosis



Prevention and Mitigation

The Mediterranean lighthouse
 Objective: preventing and eliminating pollution of our ocean, seas and waters.

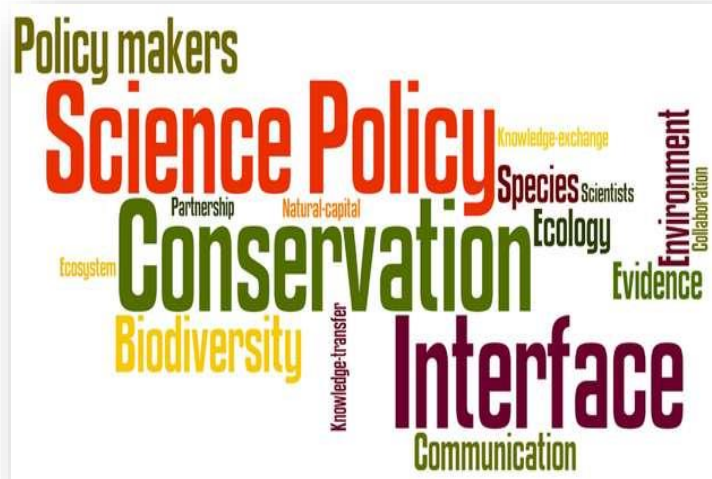
Targets:

- Reduce by at least 50% plastic litter at sea.
- Reduce by at least 30% microplastics released into the environment.



Project co-financed by the European Regional Development Fund

Plastic Busters MPAs WP5: *Novelty – Transferring in other MPAs*



WP5 tackles one of the main challenges of our era and one of the main challenges of all science-policy-society projects which is to bridge the gap between science, policy and society and connect the information production and knowledge generation to its use in the decision making process at different levels.

- ✓ WP5 activities are important for the project success as these are expected to strengthen knowledge exploitation, **networking exchange, stakeholders' collaboration** and dialogue towards concrete, effective and continuous actions against marine litter in Med MPAs.
- ✓ The **transferring activities** will create the enabling environment for a truly transnational **Mediterranean common approach against marine litter in Med MPAs**.
- ✓ They will guarantee that the necessary tools and competences are in place in order to promote the uptake of the project results **by additional Med MPAs** (see Act.6.3), **policy and decision makers** (see Act.6.4) and other **relevant stakeholder**.

The Mediterranean lighthouse

Objective: preventing and eliminating pollution of our ocean, seas and waters.

Targets:

- Reduce by at least 50% plastic litter at sea.
- Reduce by at least 30% microplastics released into the environment.



Italy



Greece



Spain



Lebanon



Tunisia



Egypt



Jordan



Plastic Busters CAP



Union for the Mediterranean
Union pour la Méditerranée
الإتحاد من أجل المتوسط

PLASTIC BUSTERS ON BASIN SCALE
TRANSFERRING/CAPITALIZATION OF PLASTIC BUSTERS MPAs



"Marine litter pollution knows no border [...] hence there is a need for a regional approach".

Interreg
Mediterranean

PLASTIC BUSTERS
MPAs

Project co-financed by the European
Regional Development Fund



Plastic Busters CAP

Plastic Busters CAP



Union for the Mediterranean
Union pour la Méditerranée
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PLASTIC-BUSTERS

For a Mediterranean free from litter/UfM-INTERREG MED/Feb 2018-Jan 2022



MPA-ADAPT

Guiding Mediterranean MPAs through the climate change era: Building resilience and adaptation (MPA-ADAPT)/INTERREG MED/Nov 2016-May 2019

COMMON

COastal Management and MONitoring Network for tackling marine litter in Mediterranean sea (COMMON)/ENI CBC MED/Sep 2019-SEP 2020

Co-Evolve4BG

Co-evolution of coastal human activities & Med natural systems for sustainable tourism & Blue Growth in the Mediterranean (Co-Evolve4BG)/ENI CBC MED/Sep 2019-Aug 2020

MED4EBM

Mediterranean Forum For Applied Ecosystem-Based Management (MED4EBM)/ENI CBC MED/Oct 2019-Oct 2022





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From the Diagnosis to the Mitigation

THE PLASTIC BUSTERS MPAs DEMOS ON MARINE LITTER PREVENTION & MITIGATION MEASURES

10
MPAs
Testing

5
MPAs
Replication

4
types of
measures



Setting up a scheme
to phase out the use
of single use plastics



Developing
awareness raising
campaigns

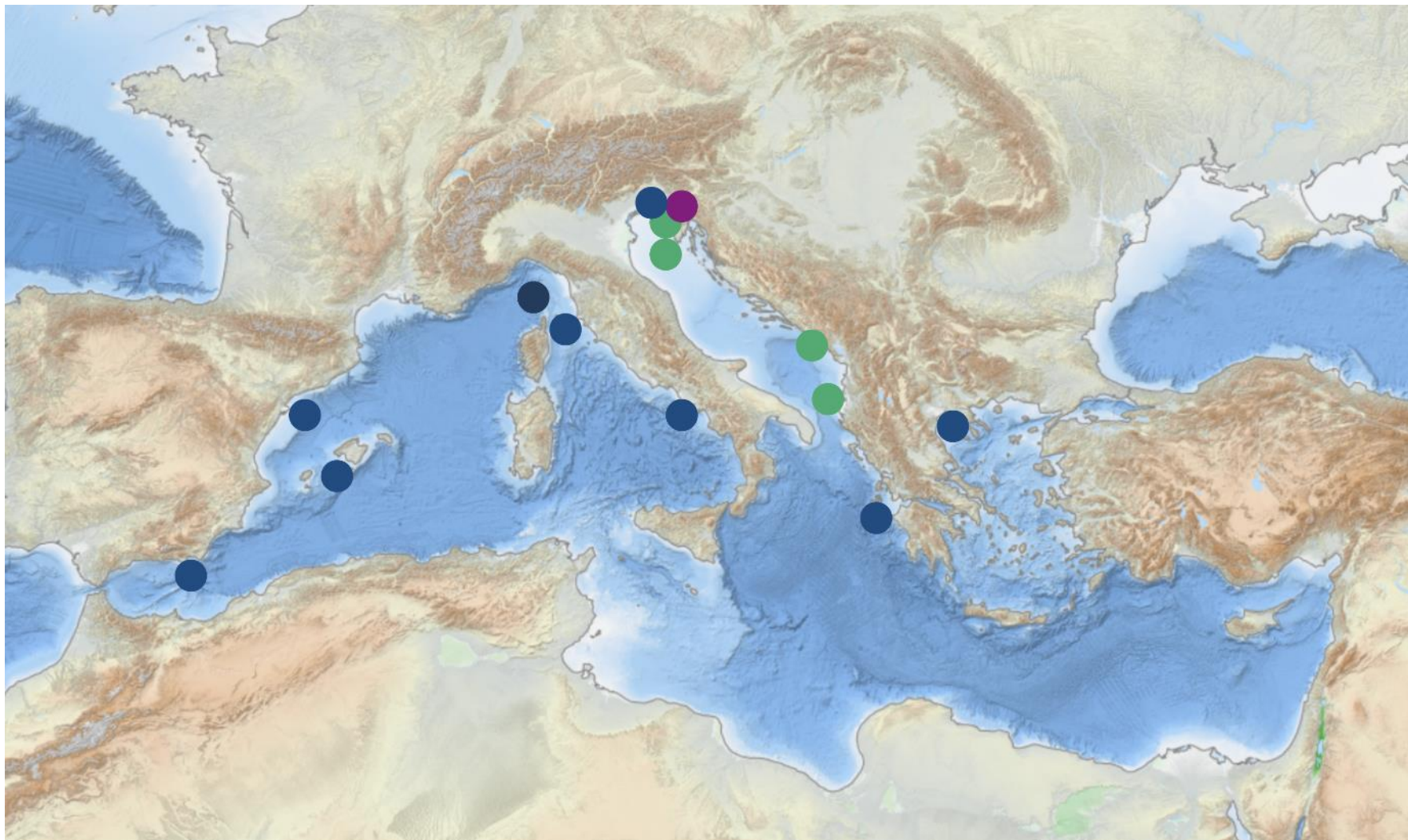


Establishing a
derelict fishing gear
management
scheme



Implementing an
extended producer
responsibility scheme

OUR PARTNER MPAs



● Testing Actions

- FRANCE - Pelagos Sanctuary
- GREECE - National Marine Park of Zakynthos
- GREECE - Thermaikos Gulf Protected Areas
- ITALY - Miramare MPA
- ITALY - Pelagos Sanctuary
- ITALY - Tuscan Archipelago National Park
- SPAIN - Cabo de Gata-Níjar Natural Park
- SPAIN - Cabrera National Park
- SPAIN - Natural Park of Ebro Delta

● Replication Actions

- ALBANIA - Karaburun-Sazan MPA
- CROATIA - Brijuni National Park
- MONTENEGRO - Platamuni MPA
- SLOVENIA - Debeli Rtič Landscape Park

● Testing & Replication Actions

- SLOVENIA - Landscape Park Strunjan

THE PILOTED & REPLICATED MEASURES



Setting up a SUPs-free network of coastal food and beverage outlets



Setting up the adopt-a-beach scheme



Establishing an ALDFG scheme to tackle fisheries & aquaculture litter



Promoting the sustainable management of mussel farming nets



Developing an awareness raising campaign for cigarette-butt free beaches



Developing a network of collection points for beverage containers



Setting up a reusable cup delivery system for beach bars

MIO-ECSDE's SHOWCASES



Photo: Ales Rosa

**Plastic Busters MPAs demos in Strunjan, Slovenia:
400 stakeholders engaged in concrete actions to
combat marine plastic pollution**

Local partners: Public Institute Strunjan Landscape Park,
Chamber of Commerce and Industry of Slovenia, Zavod TRI NIT



**The Plastic Busters MPAs demo at Thermaikos
Gulf Protected Areas concludes with the recovery
and recycling of 11 tons of derelict mussel nets**

Local partners: Non-profit non-governmental Organization for the Preservation of the
Aquatic Ecosystems, Management Authority of Thermaikos Gulf Protected Areas,
BlueCycle

...TO THE WISE USE OF PLASTICS WITHIN A CIRCULAR ECONOMY



THE WASTE HIERARCHY

Avoid	1	Maximum conservation of resources
Reuse	2	Reusing materials
Recycle	3	recycling & reprocessing materials
Waste to energy	4	energy recovery prior to disposal
Disposal of waste	5	zero conservation of resources



TURNING SCIENCE INTO POLICY & ACTIONS | THE MAIN CHALLENGE OF OUR ERA

**Fit-for-purpose
data**

**Participatory
decision-making &
bottom up
approaches**

**Feasible & effective
solutions**

**Coordinated &
multilevel actions**

**Methodologically-
sound processes**

**Paradigm shift in
the way we
produce &
consume**



2. DEVELOPING INTEGRATED GOVERNANCE AND ACTIONS.

The Mediterranean Sea has to be considered as a whole, and marine litter as a multi-dimensional challenge for which non-coordinated responses offer little effectiveness and impact. Geographical, administrative, sectoral boundaries cannot constitute a hurdle to action. In that sense it is urgent to:

- Strengthen the **cooperation among all Mediterranean initiatives**, from both the North and the South rims of the Mediterranean basin, maintaining a clear overview of the entire management cycle of marine litter, **ensuring land/sea dimensions. Capitalize on current results and advance towards a region-wide approach**, ensuring long term support to the ongoing process. Disseminate and exchange best practices and, where relevant, compare the different circular economy initiatives, to take forward partnership initiatives.

- Although useful data on marine litter exists and has been recently improved in the region (types, quantities, etc.) it is inconsistent and geographically restricted mainly to the North Mediterranean. Standardized monitoring data for assessment purposes concerning the problem of litter across the whole Mediterranean is still a necessity and information sharing between and among NGOs, IGOs, research institutes, relevant authorities, etc. in the region regarding marine litter related data needs to be improved through **an enhanced common information sharing system**.

- Map domestic policies and regulatory frameworks** in Mediterranean countries on the management of natural resources (e.g. water, soil, minerals, biomass) and the circular economy transition, including sustainable use, improving circularity, and strengthening resilience to climate change impacts. Enhancing the implementation of selected ML policy/regulatory prevention and reduction common measures at sub-regional/national levels and sharing of related best practices.

- Developing and applying regionally harmonized approaches, guidelines and tools to ensure effective implementation of selected measures. Improve, and/or widely implement a **Harmonized Marine Litter monitoring strategy at the Mediterranean level**, working with a novel, harmonized protocol to detect the presence and impact of marine litter on biodiversity via a set of bioindicator species (ranging from invertebrates to marine mammals) across the entire Mediterranean basin, in line with both MSFD and IMAP indicators. Such harmonized protocol shall allow the identification of hotspot areas for marine litter threats to marine biodiversity as well as of prevention and mitigation actions (such as banning single use plastics; establishing derelict fishing gear management; banning specific activities, introducing extended producer responsibility; implementing awareness raising campaigns). Significant efforts should be addressed on enlarging the geographical scope of marine litter monitoring programmes to assess the presence and effects of marine litter in marine protected areas, within the context of the SDG 14 Life Below Water

- Reinforce the role of the Science-Policy-Society interface**. This should be strengthened by favouring Research & Development projects gathering industry and academia and by encouraging the connection between scientific research and societal needs to address marine litter. Effective implementation of such interface must also be enabled via adequate capacity building programs and proper financing of key actors, such as MPA management bodies, local and national environmental protection agencies, and the alike.

- Enforcing current **legislation and policy measures addressing marine litter including on responsibility and liability issues** and further develop and upgrade them.

3. ADOPTING A SYSTEMIC, INTERCONNECTED APPROACH.

- Going forward, a more holistic and systemic approach shall be adopted to fight marine litter in order to really understand (and address via new diagnostic systems) the whole set of impacts and stressors that human activities are posing on biodiversity and on oceans' health. **Cumulative direct and indirect stressors** caused by marine litter, chemical contamination, climate change, and emerging pathogens among others, concur in destabilizing the precarious balances of marine biodiversity, marine ecosystems, and their services.

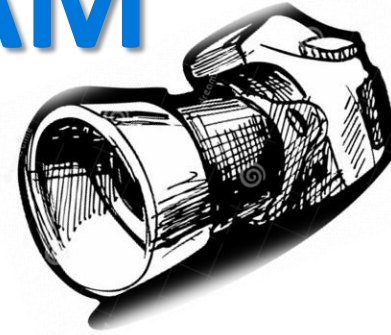
- A paradigm shift should then be embraced to recognise the health-environment nexus as the core of planetary health and evolve **from cost-benefit analysis to recognition of**

'co-benefits'. A new approach to addressing environmental problems is needed that does not recognise a trade-off between 'saving the economy' and 'saving lives', nor between 'the economy' and 'the environment', but rather works towards the concurrent achievements of the preservation of oceans, marine economic activities, and human livelihood and wellbeing.

- To this end, it is of priority to link **human livelihood and well-being with ocean health** and realize that monitoring and addressing cumulative stresses on the oceans via a co-benefits approach means not only to preserve the health of ocean ecosystems but also to preserve human livelihood via accessing better quality ecosystem services (e.g., fisheries, climate stabilization, etc.).



PLASTIC BUSTERS TEAM



Project co-financed by the European Regional Development Fund

