

One Mediterranean:  
practices, results and strategies for a common Sea

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*BlueMed CSA Final Conference*  
Feb. 22-24, 2021

# Marine Litter in the Mediterranean Sea



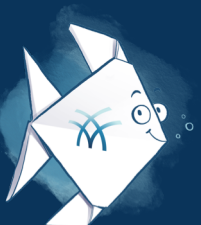
Francois Galgani, IFREMER

**blue****ed** Research and Innovation  
for blue jobs and growth  
in the Mediterranean Area

Production of plastics: to reach 400 M tons



8 M tons of pastic is littered every year in the ocean



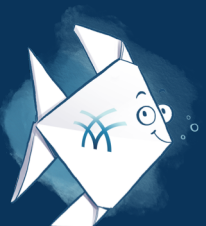


Country	Waste	plastic waste	Plastic littered
Albania	0,77	0,28	1 273
Algeria	1,2	0,44	17 332
Bosnia /Herzegovina	1,2	0,44	613
Croatia	2,1	0,77	2 636
Cyprus	2,07	0,76	1 518
Egypt	1,37	0,5	18972
France	1,92	0,7	11 134
Gibraltar	2,1	0,77	61
Greece	2	0,73	14 229
Israel	2,12	0,77	14 417
Italy	2,23	0,81	32 761
Lebanon	1,18	0,44	2 665
Libya	1,2	0,44	4 240
Malta	1,78	0,65	628
Monaco	2,1	0,77	62
Montenegro	1,2	0,44	273
Morocco	1,46	0,53	2 547
Palestine	0,79	0,29	1 396
Slovenia	1,21	0,44	355
Spain	2,13	0,78	30085
Syria	1,37	0,5	4 691
Tunisia	1,2	0,44	7 616
Turkey	1,77	0,65	41922
<b>TOTAL / MEAN</b>	<b>1,58</b>	<b>0,58</b>	<b>211425</b>

WASTE  
kTons/p/Y

MISMANAGED PLASTIC  
Tons/person/year

PLASTIC LITTERED AT SEA  
[tons/Year]



## MARINE LITTER IN THE MEDITERRANEAN SEA

- An highly urbanized and developed coastline
- A closed basin
- 30% of the maritime traffic
- A touristic destination
- Large rivers (Rhône, Nile, Po)

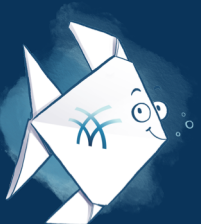
## THE MOST AFFECTED AREA WORLDWIDE FOR MARINE LITTER

- 208 – 760 kg/Year of Municipal Solid Waste generated annually per person
- An estimated 210 tons of plastic is littered every day, differences depending on country
- Cigarette butts may reach 40% of stranded litter
- The highest densities of marine litter on the sea floor, up to 1000,000 items / km<sup>2</sup>
- The highest densities of microplastics (4680,000 items / km<sup>2</sup>, One station at 64 millions)





MARINE LITTER IS DIVERSE





## Sources: land-based (65-75% of litter) and maritime-based sources (20-30%)

- Inputs of microplastics from the Po river may reach a level of 50 billions particles every year
- Some countries have less than 30% of their cities that are controlling discharges
- An estimated inputs from ships at more than 1 million tons every year

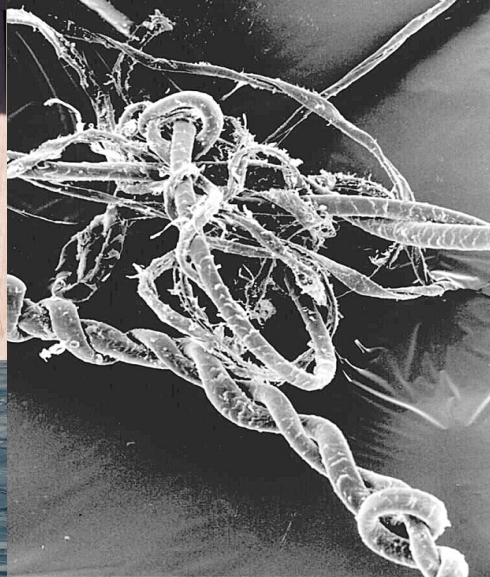
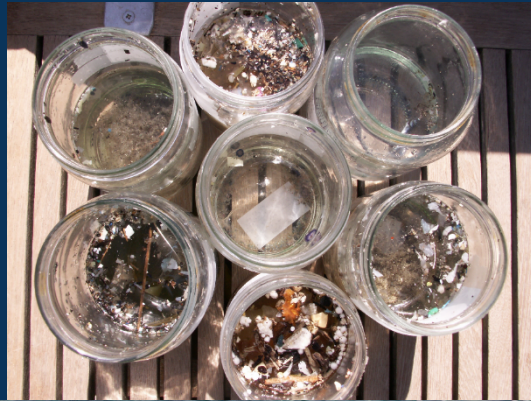




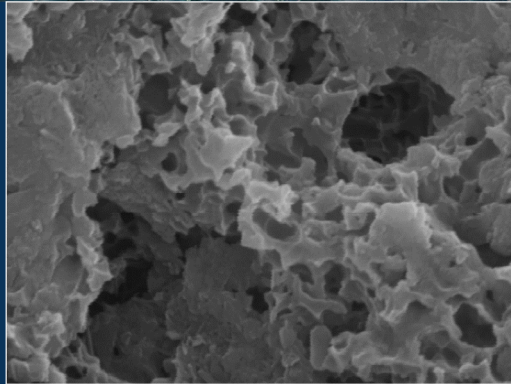
## LITTER ACCUMULATE ON BEACHES, AT SEA SURFACE, ON THE SEA FLOOR







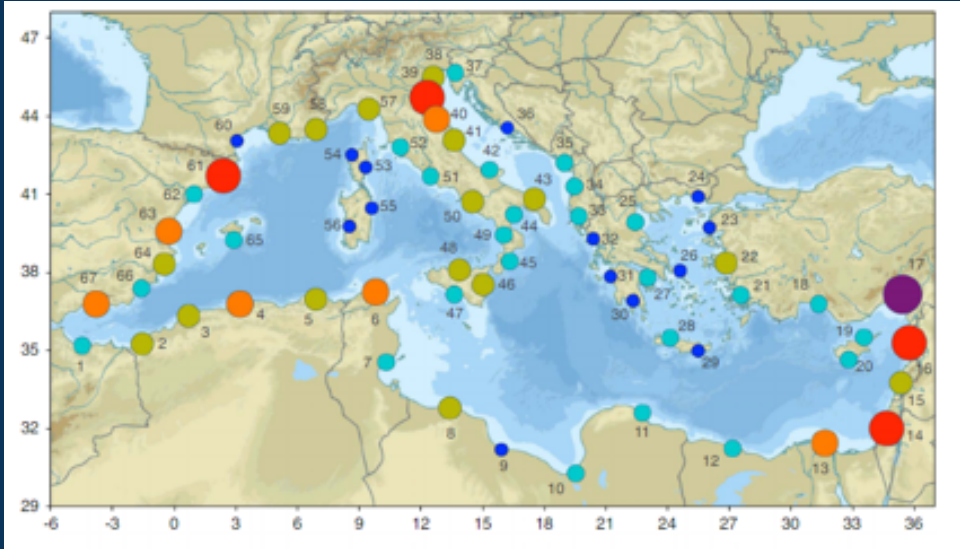
- Up to 64 millions Items/km
- 250 billions floating particles



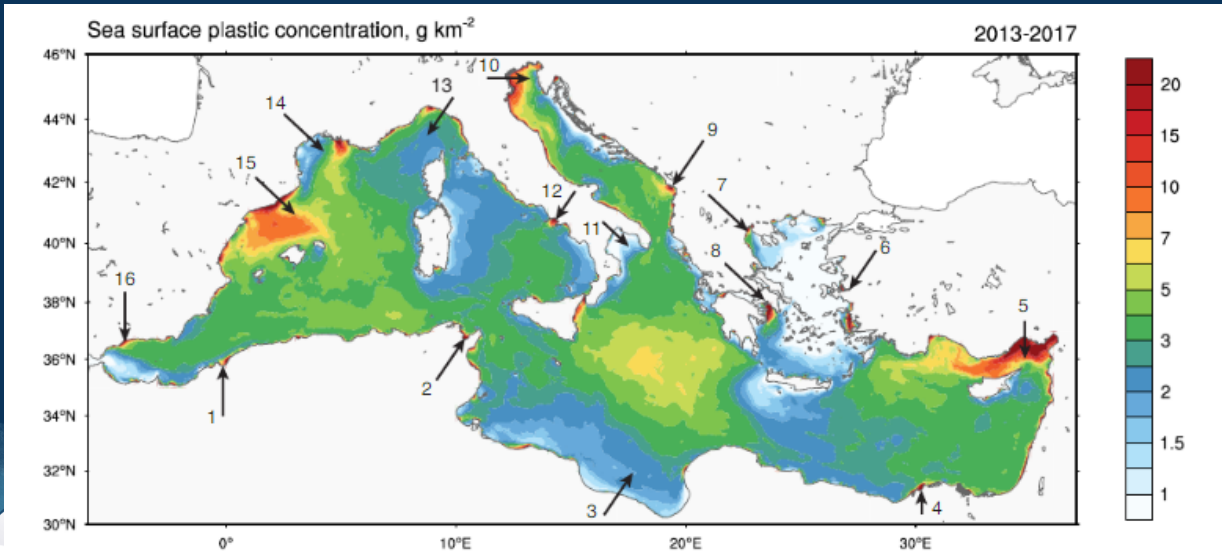
**LITTER DEGRADE SLOWLY AND TO MICROPARTICLES**







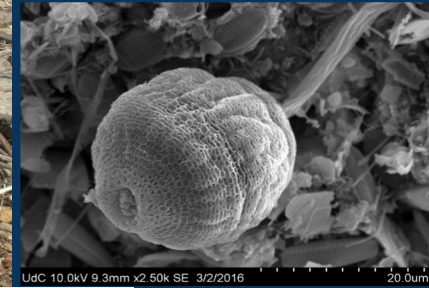
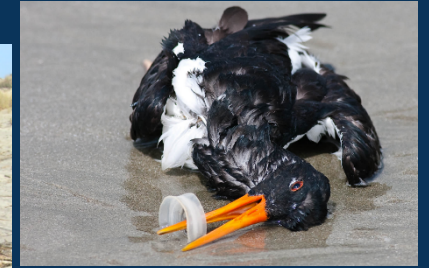
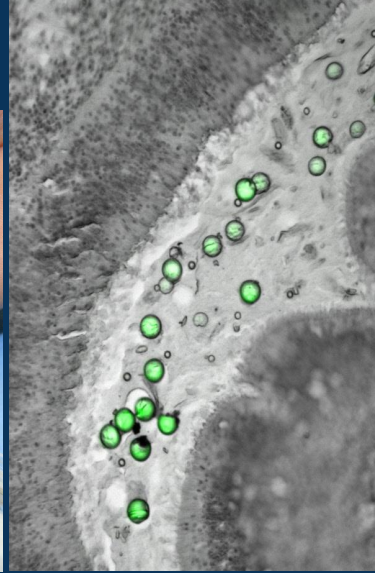
## LITTER IS MOVING AND STRANDING



## REGIONAL DIFFERENCES

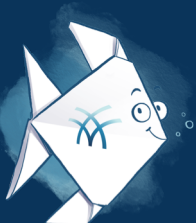


# Entanglement, ingestion, transport of species are the main environmental impacts



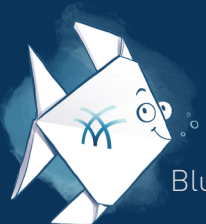


## SOCIO ECONOMIC IMPACTS





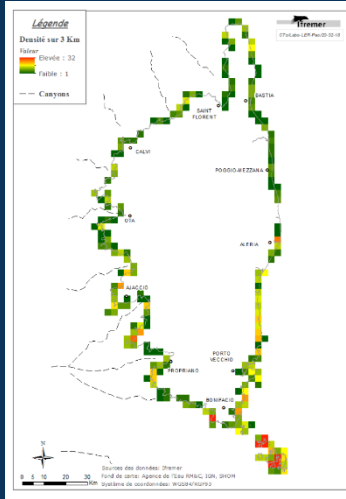
# Not Many Solutions



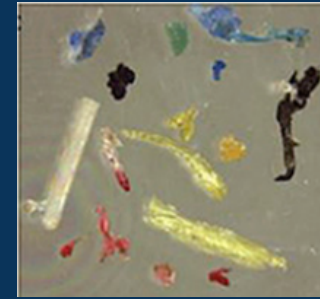
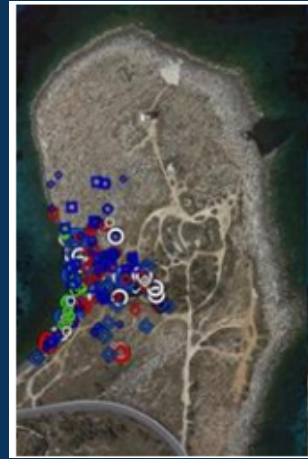


# Water treatment

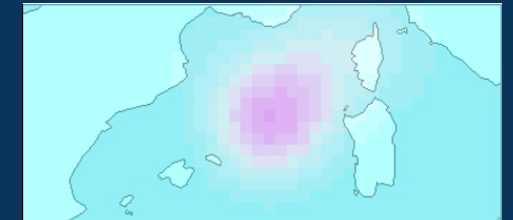
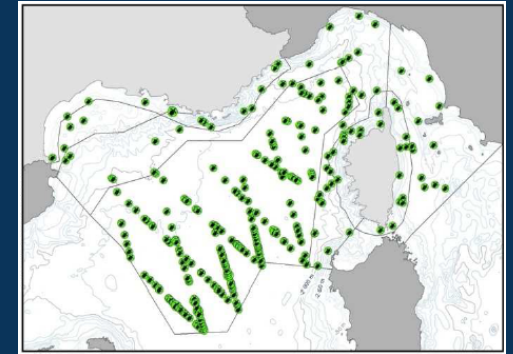
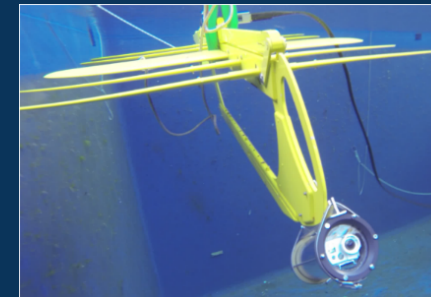
## Cost-effective methods



## Aerial / satellite surveys

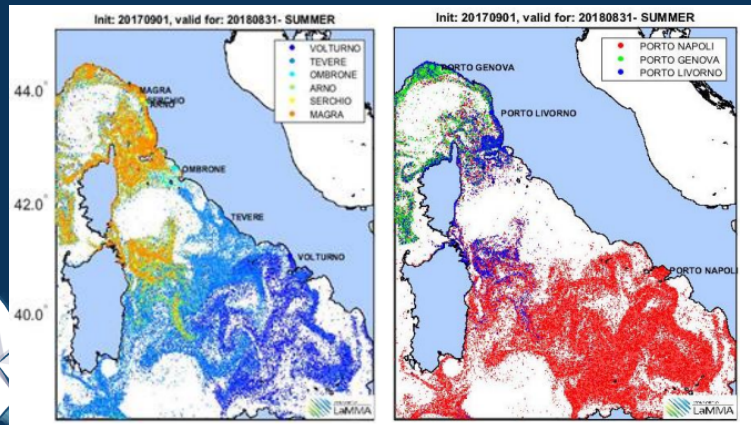


# Automation

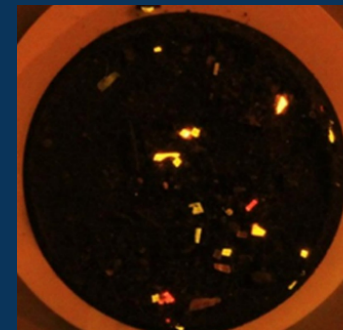


## Risk assessment

# Modelling

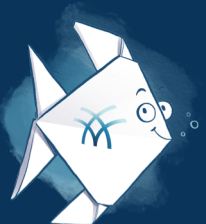
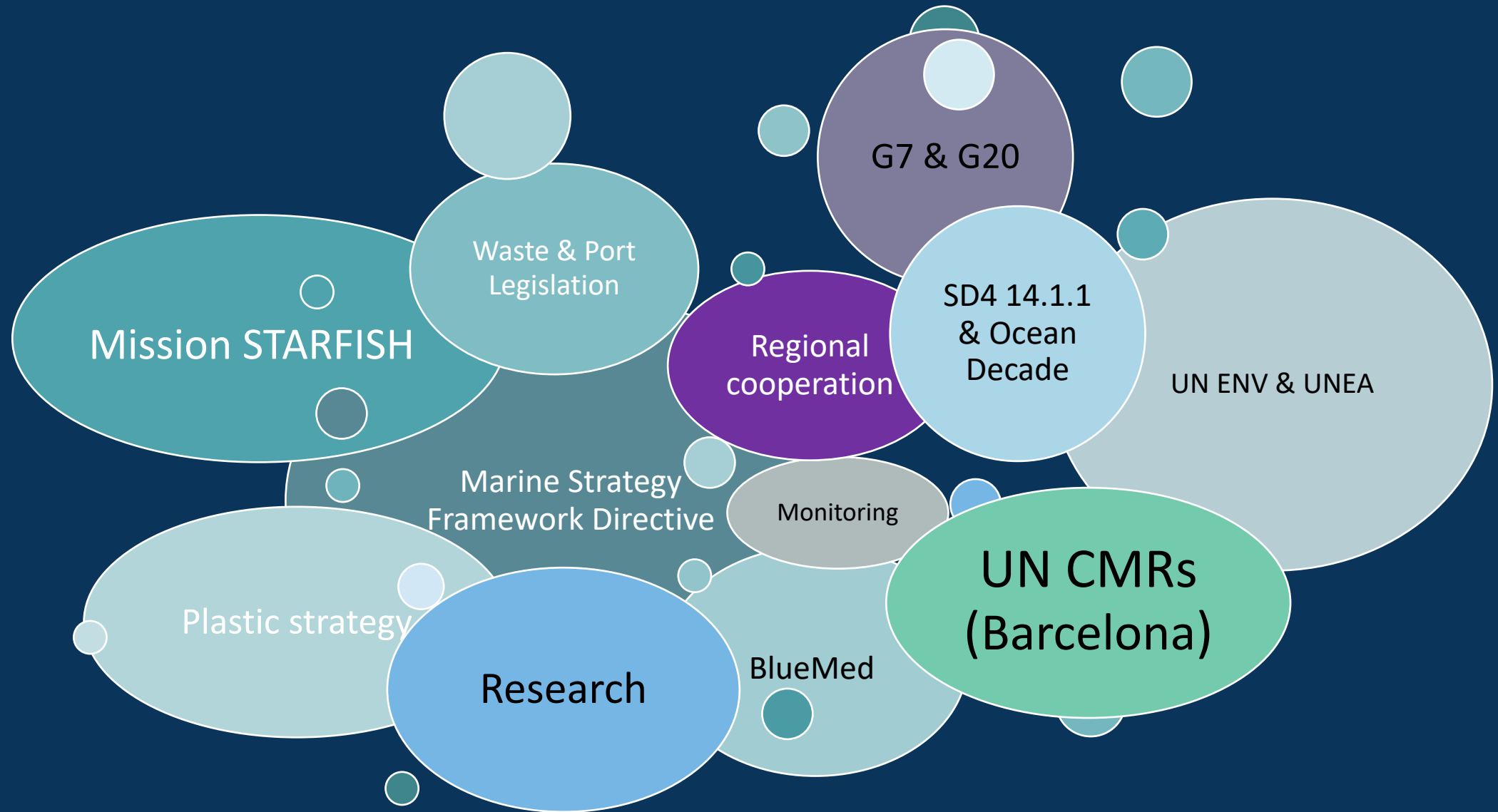


# understand harm



## Small sized particles

# WHO IS DOING WHAT ?





# Mission Starfish: objectives and targets



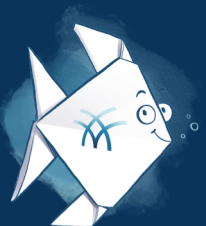
Objective	Target	
<i>Filling the knowledge and emotional gap</i>	1	Each European is a citizen of our ocean and waters
	2	Marine and freshwater observation is streamlined and accessible to all via a digital twin of the ocean and all waters
<i>Regenerating marine and water ecosystems</i>	3	30 percent of EU waters are highly to fully protected
	4	Active regeneration of 20 percent of degraded habitats
	5	Renaturalise rivers and waters
	6	End overfishing
<i>Zero pollution</i>	7	Zero plastic litter generation
	8	Eutrophication of European seas and waters is halted
	9	Zero spill
	10	Underwater noise is regulated and reduced
<i>Decarbonising our ocean, seas and waters</i>	11	Climate-neutral waterborne transport
	12	Support the energy transition through renewable, low-impact ocean energy
	13	Zero-carbon aquaculture
	14	A thriving blue biotech
	15	Climate-neutral blue tourism
<i>Revamping governance</i>	16	An integrated and participatory EU system of ocean and water governance
	17	EU leadership for effective global ocean governance

Table 1. Five objectives, 17 targets





**THANK YOU**



## Additional information:

EU commission : [https://ec.europa.eu/environment/marine/good-environmental-status/descriptor-10/index\\_en.htm](https://ec.europa.eu/environment/marine/good-environmental-status/descriptor-10/index_en.htm)

Vital graphics: [https://ec.europa.eu/environment/marine/good-environmental-status/descriptor-10/pdf/Marine\\_litter\\_vital\\_graphics.pdf](https://ec.europa.eu/environment/marine/good-environmental-status/descriptor-10/pdf/Marine_litter_vital_graphics.pdf)

GESAMP reports: <http://www.gesamp.org/publications/guidelines-for-the-monitoring-and-assessment-of-plastic-litter-in-the-ocean>

UN links: <https://www.un.org/pga/73/plastics/>

UNEP/ GMPL/GPA : <https://gpmarinelitter.org>

UNEP/MAP marine litter: <https://web.unep.org/unepmap/>

