

Mission Area: Healthy Oceans, Seas, Coastal and Inland Waters

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LETS GET STARTED: <https://youtu.be/L-rlQyhQajl>

Ocean Mission Board composition

A pool of experts hailing from a healthy mix of backgrounds (selected following a public EU-wide Call in April 2019):

- marine scientists
- economists
- policy-makers (e.g. former MEPs)
- private and public consultants
- eNGO representatives
- marine stakeholder (e.g. fishers) representatives



Rough timeline of MB's activities to date.....

- Regular Board meetings in Brussels (8 physical or remote meetings since 4th September 2019)
- Participation in special, 'ad hoc' opportunities:
 - European Innovation Days (Brussels, 25th-26th September 2019)
 - Paris Peace Forum (11th-12th November 2019)
 - 2nd World Sea Forum (Bizerte, Tunisia, 15th July 2020)
- Regular liaison with EU DGs (RTD, MARE, ENV) and with the European Parliament (through, for example, the inter-group SEARICA)



Rough timeline of MB's activities to date.....

- Regular liaison with Assembly and Member State representatives (e.g. through activities sponsored by some MS themselves, including a Vienna Mission Café in January 2020)
- Regular liaison with other Missions (mainly through DG RTD and Chair Pascal Lamy)
- Regular liaison with relevant lobbies e.g. IOC/UNESCO, Ocean Energy Europe, Business First
- Regular liaison with Youth (e.g. through European Youth Parliament, European Youth Forum)
- Regular liaison with NGOs, through formation of NGO Contact Group featuring WWF, Greenpeace, OceanUnite, Seas At Risk, Pew and others



Why the starfish?

Mission Starfish 2030

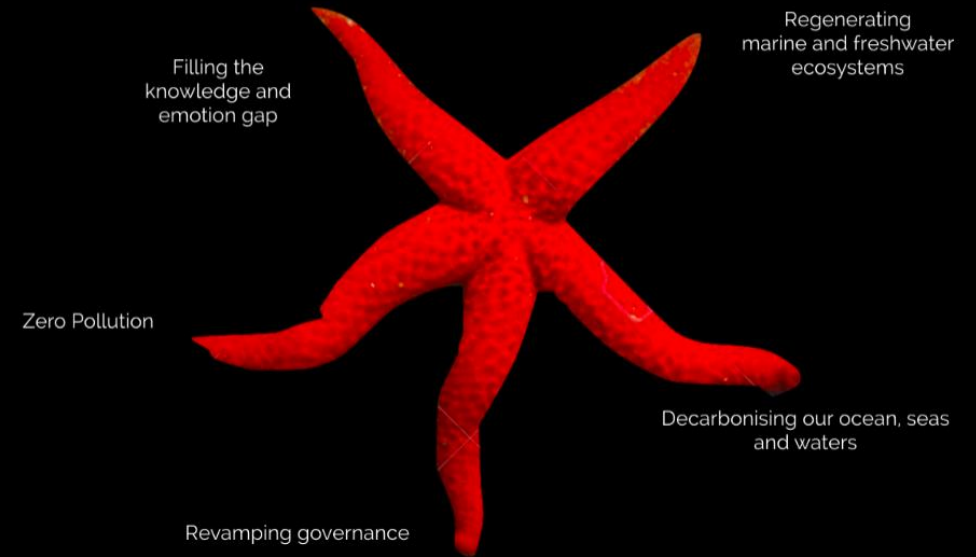
*A child was walking along the beach after a storm and found it covered in starfish. Upset at the sight, the child started putting them back into the water one by one. An old man came up and said: “What are you doing? There are thousands of starfish — way too many for you to make a difference.” The child looked at the old man, picked up a starfish, put it back into the ocean and said, “It made a difference to that one”. (adapted from *The Star Thrower*, by Loren Eiseley)*

The Apollo missions shot for the moon; this Mission reaches for the stars – the starfish at our feet. Instead of developing space technology and exploring the Moon in the national interest, the Mission Starfish 2030 sets out an ambitious, holistic vision to regenerate our ocean and waters for the benefit of all life on earth.

The starfish’s natural habitat is our home. To care for the health of our ocean and waters is fundamental to the health of our planet, our well-being and prosperity. But the starfish, like all life on earth, is threatened by our lifestyle. To save the starfish, and ultimately all life on our blue planet, we can no longer take its existence for granted, but must engage in a profound, systemic change towards sustainability and resilience.

The starfish is a symbol of life under water. It is an extraordinary creature. For example, its decentralised nervous system enables the regeneration lost arms. Likewise, the Mission Starfish 2030 will enable regeneration of marine and water ecosystems via five interdependent objectives.

Mission Starfish: *know, protect and restore our ocean and waters*

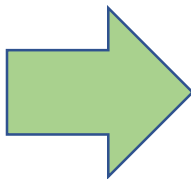


What's our Mission?

The health of our ocean and waters is under pressure like never before. Decades of pollution and damaging uses have severely degraded the condition of aquatic ecosystems. Climate change and ocean acidification come as additional pressures, with more and more measurable impacts. In turn, the capacity of the ocean to regulate the Earth's climate is jeopardized. Finally, the tools at our disposal to restore and manage the aquatic systems are significantly imperfect, for lack of knowledge and lack of public connection to the ocean on the one hand, and poor governance on the other. The proposed Mission addresses all of these challenges.



Challenges addressed



The goal of the proposed Mission is the **full recovery and regeneration of European marine and freshwater ecosystems by 2030**. In order to achieve this goal and recognising the need to taking a holistic approach to address the water system as a whole (oceans, seas, coastal and inland waters), the Mission comprises five main objectives¹¹ - illustrated by the metaphor of a 'starfish' - which will together contribute to the restoration and regeneration of ecosystems:

The 'starfish' metaphor



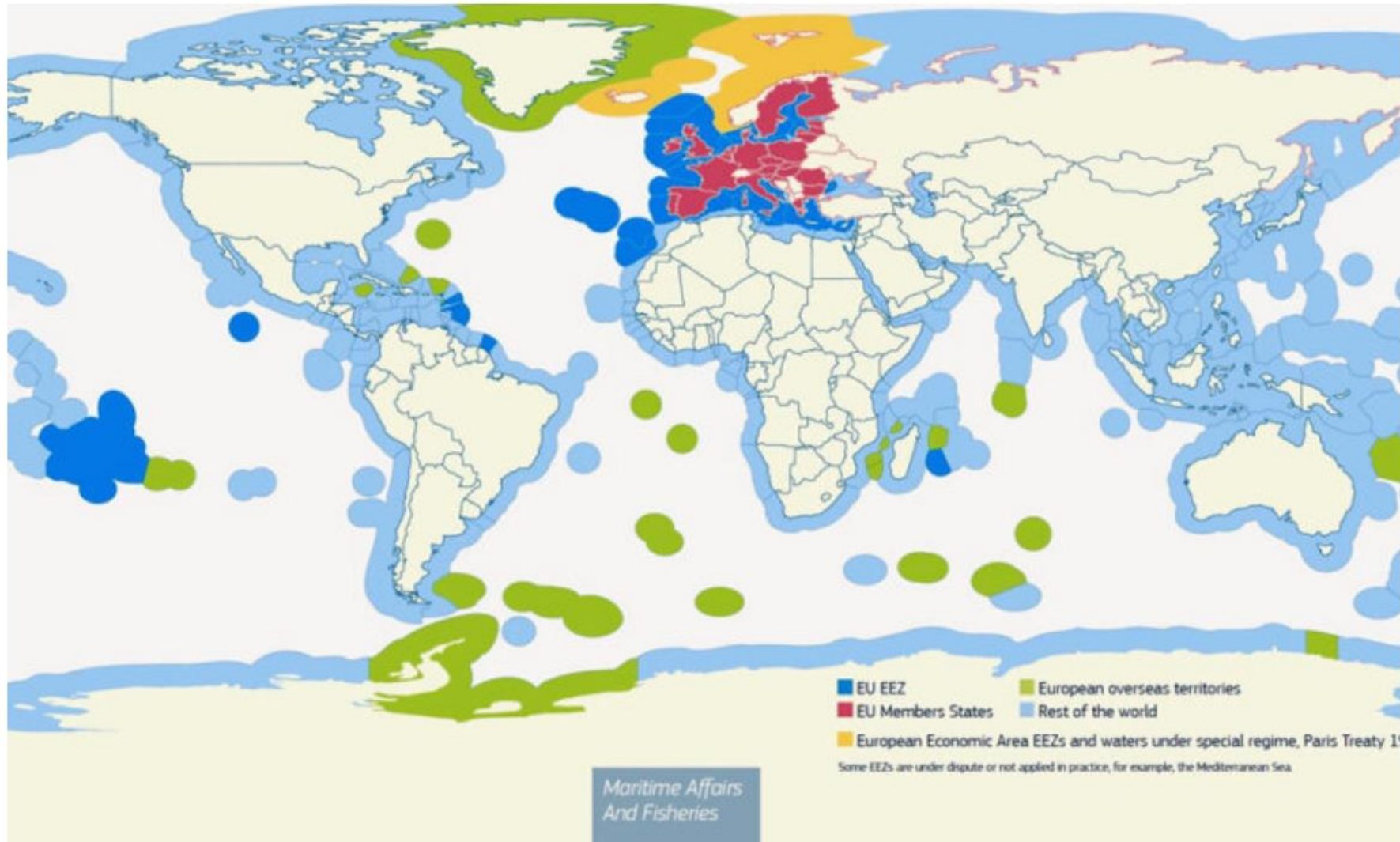
Proposed approach/measures

Why should the EU care about the oceans?

- The European Union is essentially an “Ocean and Seas Union”, with a coastline of over 55,000 km – longer than the coast of Russia (37,654 km) and the USA (19,924 km) – and a combined Exclusive Economic Zone of its Member States which is the largest in the world.
- About 70 European rivers have a catchment area which exceeds 10 000 km².
- Over 40 percent of the EU population lives in coastal areas and for a large proportion of that population, marine and freshwater environments are interlinked with their culture, identity and sense of belonging.

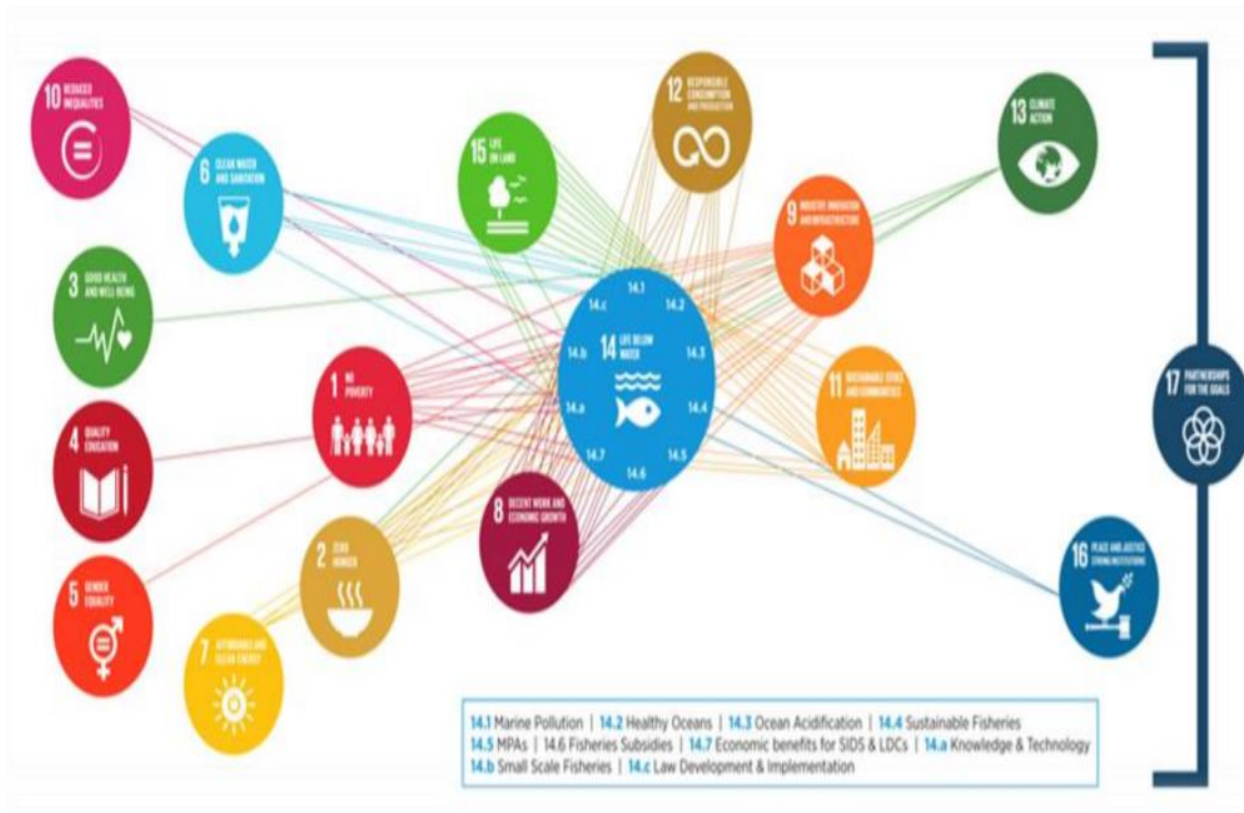
Regenerating our ocean, seas, coasts and waters therefore is in the interest of and for the benefit of European citizens and the Union as a whole.

Why should the EU care about the oceans?



The EU is a global marine player indeed, at least in terms of sheer collective EEZ size (but also through other descriptors, such as volume of imported seafood)

Taking stock of the SDGs.....



- The regeneration of ocean and waters and **SDGs 14** and **SDG 6** interact with most of the other Sustainable Development Goals (see illustration). Amongst other, the water cycle plays a central role in the Earth and climate system, thus affecting climate action (**SDG 13**) and life on land (**SDG 15**). Regenerated ecosystems provide food security (**SDG 2**) and sustain livelihoods (**SDG1**). Moreover, a decarbonised blue economy can provide affordable and clean ocean energy (**SDG7**), foster circular and responsible production and consumption patterns (**SDG 12**), thus improving the sustainability of cities and communities (**SDG11**) and providing decent work and economic growth (**SDG 8**). Moreover, the strong research, innovation and training fostered by the proposed Mission will provide strong innovation (**SDG 9**) and quality education (**SDG 4**). Last but not least, the proposed Mission would not be successful without engaging in global partnerships (**SDG17**).

The Ocean Mission Board's contribution to the post-COVID 19 recovery plan.....

Contribution of the Mission Board Healthy Oceans, Seas, Coastal and Inland Waters for inclusion in the Stimulus Package

Destination	Targets 2025 ¹	Description of actions	Investment Needed 2021;2021-2025 (5 years)	Jobs Creation Potential
1. Coastal and offshore energy production programme	<ul style="list-style-type: none"> ✓ Increase coastal energy production by 200% from offshore renewable energy ✓ [X] islands powered by <u>renewable</u> energy and storage 	<p>Offshore turbine installations being grid connected. Port Facilities with increased capacity Multi-use platforms with aquaculture, marine observation, tourism, MPAs, grid connected Biomass in the EU energy mix Smart Grid / Storage integrated initiative</p> <p><u>Example A: Estimation from the Canary Islands</u></p> <p>The Canary Islands could allocate up to 30% (900 MW) of offshore wind energy by 2025, if the funding would be available.</p> <p>The number of jobs created could be increased using the same space and small increments in the investments by the multipurpose approach, but depending on the combined activities, the number of jobs could vary significantly (e.g. aquaculture requires</p>	<p><u>2021:</u> 6bn EUR</p> <p><u>2021-2025:</u> 69bn EUR (51 billion EUR installations 12 billion EUR grids, 6 EUR billion ports)</p> <p><u>Estimation from the Canary Islands</u> 3.6bn EUR (4MEUR/MW) The total effect on the Spain GDP would be over 3.4mEUR/MW during the</p>	<p><u>Estimation from the Canary Islands</u> Up to 7200 jobs in Spain (up to 6000 on Canaries)</p> <p>The required investment should be</p>

- Presented in mid-May 2020 to the Commission
- Includes 10 concrete avenues through which the Ocean can contribute to a European economic recovery in a post-COVID 19 scenario
- Other measures ('destinations') include: clean vessel programme, zero-carbon aquaculture, water management, coastal tourism renovation, blue parks programme, de-damming of rivers, plastics technology upscaling, ocean education and the digital twin of the sea.

Main deliverable of Ocean Mission Board



Launched in July 2020 and available online for download through:

<https://op.europa.eu/en/web/eu-law-and-publications/publication-detail/-/publication/d0246783-b68a-11ea-bb7a-01aa75ed71a1>

Legal basis for proposals made.....

- **Bold and inspirational** – Regenerating our ocean and waters is vital for human existence, wellbeing and the livelihoods of European citizens.
- **Ambitious** - The proposed Mission not only aims to halt the degradation of the water and marine ecosystems, but seeks to regenerate their health thus making an ambitious and positive contribution, which will require a concerted effort at European, national, local and global level.
- **Measurable** - Activities of and proposed outcomes of the proposed Mission are a set of concrete targets for 2025 and 2030 defined for each of the five main objectives and strands of the portfolio as outlined in the following section

Objective	Target	
<i>Filling the knowledge and emotional gap</i>	1	Each European is a citizen of the sea
	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% of EU waters are highly to fully protected
	4	Active regeneration of 20% of degraded habitats
	5	<u>Renaturalise</u> 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 maritime 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 EU system of ocean and water governance
	17	EU leadership for effective global ocean governance

Table 1 – Five objectives, 17 targets

Starfish arm 1: Zero pollution by 2030

In line with and to complement the objectives of reaching good ecological and/or chemical status in all water bodies under the EU Water Framework Directive and good environmental status¹⁷ under the EU Marine Strategy Framework Directive, specific targets for the mission are:

By 2025:

- Zero plastics-pollution to be piloted in the Mediterranean Sea and its main river catchments.
- EU ban on all single-use plastics
- Dumping of red muds, mining residues and dredged sediments in rivers and seas is halted
- Advanced waste water treatment to be piloted in coastal areas
- Construction of 50 plastic recycling plants across the EU

- Thousands of pupils have taken part in citizens science initiatives and schools have introduced 'specific plastic/litter free modules' in school curricula
- Implementation of a fully operational European assessment register of all anthropogenic sources of underwater noise, and a coordinated monitoring system

By 2030:

- A zero plastic/ litter-free Mediterranean and other Sea basins (Atlantic, , Baltic, Black, and North Sea) including their main river catchments (95% decrease in litter inputs, X% of litter taken each year)
- All plastics on the EU market is reusable or recyclable
- Eutrophication of European Seas and waters is halted
- 100% of urban wastewater is subject to tertiary (advanced) treatment
- Reduce significantly the losses of nutrients into the environment by at least 50% and the reduction of use of fertilisers by at least 20% by 2030
- 100% of the critical raw materials recovered from wastewater treatment are both reused and carbon neutral in new wastewater treatment plants
- Reused water contributes to an average of 20% of total irrigation (currently 5%)¹⁸
- 100% of waste water is treated and reused in new cruise ships
- Zero spill of persistent organic pollutants
- The release of pharmaceuticals has been reduced by 50%
- Based on the newly established underwater noise register, definition of noise impact mitigation measures in each European marine region and in continental sub-aquatic environments aiming at a reduction of at least 50% of anthropogenic acoustic emissions.

Starfish arm 2: Regeneration of degraded habitats

By 2025:

- Regeneration of 10% of degraded habitats through removal of pressures, reforestation (Blue Park Programme starting with a Pilot Blue Recovery Nursery) and other ecological engineering as well as full ecosystem-based management of local activities
- Each Member State to participate in at least one large-scale regeneration project with citizen stewardship, and establish a European regeneration voluntary corps with branches in all European countries
- EU introduces full ban on all activities causing seabed habitat loss or degradation and actively restore 10% of EU degraded seabed habitats through reforestation, rewilding and other ecological engineering as well as full ecosystem-based management

- At least 5% increase of scaled up ecosystem-based services, nature based solutions to improve resilience from sea level rise, floods and coastal erosion
- Invest in local communities to become co-manager of marine protected areas and ensure an effective protection level in 30% of EU waters
- Restore 10-15% of surface water bodies in the EU suffering hydro-morphological pressures
- Removal of 10-15% of obsolete dams in Europe by 2025, i.e. 6000-9000 dams

By 2030:

- At least 30% of EU waters under highly protected MPAs
- 20% of all degraded habitats are regenerated, 50% of coastal habitat-building and oxygen producing species, including all biodiversity hotspots protected
- At least 20% increase of scaled up ecosystem-based services, nature based solutions to improve resilience from sea level rise, floods and coastal erosion
- 30% of Europe's rivers are de-dammed
- Restore 30% of surface water bodies in the EU suffering hydro-morphological pressures
- Continuity of watercourses is restored: 100% for sand, 30% for coarser sediments
- 50% decrease in total water abstraction and 20% decrease of groundwater abstraction compared to 1990

Starfish arm 3: Decarbonising our waters, ocean and seas

- Targets for an 'Increased share of renewable ocean and coastal energy'
- Targets for a 'Decreased environmental footprint of fisheries and aquaculture'
- Targets for a 'Decreased environmental footprint of shipping'
- Targets for 'Blue tourism: regeneration, well-being and sustainability'

Starfish arm 4: A transparent ocean that is fully known, predicted, understood, mapped, sequenced appreciated and well-funded

Closing knowledge gaps

By 2025:

- European digital twin pilot of European ocean and waters is operational (all available observation data is pooled in an open-source, real-time, easily accessible and understandable interface and matching application)
- The North Atlantic Seabed is mapped in high-resolution
- European marine and freshwater observation is streamlined: all data collected by EU MS is pooled centrally and made accessible to all.
- All European countries have a full functioning fit for purpose predictive capability and early warning systems in place

By 2030:

- Global digital twin of the ocean and waters is operational (all globally available observation data is pooled in an open-source, real-time, easily accessible and understandable interface and matching application)
- Complete and coherent high-resolution mapping of the European seabed
- Global marine and freshwater observation is streamlined: all data collected is pooled centrally and made accessible to all
- All EU countries have established fit for purpose flooding early warning systems and put necessary coastal and river protection into place
- 50% of the DNA of life in the ocean and waters is fully sequenced

Connecting and engaging Europeans with the ocean and waters through education, training and culture

By 2025:

- At least 50% increase in ocean/water literacy, citizens science and engagement activities in EU thanks to initiatives to be launched in all Member States to replenish 'emotional deficit' of European citizens with ocean and waters. This includes the launching in all European countries of blue solidarity corps; ocean/water ambassadors, blue schools, curricula, teacher training, apprenticeships and lifelong gender-balanced learning opportunities for all ages to re- and up-skill a blue gender balanced workforce; the creation of a pan-European education/training Programme as well as Blue ERASMUS-like programme (mission specific masters and PhD programmes) etc. and enhanced ocean/water literacy mainstream actions.
- Scientists, artists and filmmakers to captivate relevance of Mission objectives in all its forms and champion excitement in the exploration of Europe's ocean/water systems and 30% increase in media products, through educational media for all ages to make the water system from source to sink understandable, vitally relevant.
- 20% of data collections comes from citizen's science initiatives (e.g. build on and further develop the Plastic-pirates Initiative)
- X cultural events with a blue dimension (Museum, exhibitions, media campaigns, festivals, competitions etc.) to be organised in all Member States, starting with those most affected by the Covid19 crises, first virtually but physically from 2021 onwards. As of 2021 every country to organise a blue week every year with focus also on blue/water cultural heritage and art

By 2030:

- European citizens overcome the 'emotional gap' they have with ocean and waters and are actively engaged 'shareholders' of the Mission

Starfish arm 5: Adequate European and international ocean governance

By 2025:

- All harmful fisheries subsidies have been eliminated, including fuel and new vessel construction subsidies
- All fisheries partnership agreements involving the EU are compatible with sustainable management of fish stocks, protect marine biodiversity and are fair and equitable"
- International ban on all activities causing seabed habitat loss and degradation is enacted
- Contribution to the successful implementation of the UN Decade of Ocean Science for Sustainable Development
- The EU to create an integrated system of ocean and water governance led by a newly created European Ocean and water agency

By 2030:

- IUU fishing is eradicated
- Strong and enforced BBNJ Treaty
- International ban on all activities causing seabed habitat loss and degradation takes effect
- Fully established European Ocean and Water Agency

Missjoni għal Oċean, Ibħra u Ilimijiet Interni u Kostali f'Saħħithom

Starfish 2030: niskopru, niproteġu u nirrestawraw l-Oċean u l-Ilimijiet tagħna



Citizen summaries of V1 of Ocean Mission Board report (Regenerating our Ocean and Waters) released in all 23 EU official languages in July 2020

Missjoni Starfish 2030: niskopru, niproteġu u nirrestawraw l-Oċean u l-Ilimijiet tagħna

Pjaneta blu f'saħħitha hija kruċjali għall-futur tagħna. L-oċean, l-ibħra, u l-ilmijiet kostali u interni jiffurmaw sistema unika li tkopri madwar 75% ta' wiċċ id-dinja. Hu l-aktar sors għani ta' bijodiversità, isostni ħabitats uniċi u hu marbut ferm ma' komponenti oħra tas-sistema klimatika bi skambju dinji tal-ilma, l-enerġija u l-karbonju. L-oċean u l-ilmijiet tagħna huma beni pubbliċi. Ahna responsabbli lkoll, b'mod individwal u kollettiv, għall-protezzjoni u s-saħħa tagħhom. Għalhekk irridu nbiddlu l-perspettiva tagħna. Irridu nagħrfu li l-oċean u l-ilmijiet tagħna jiswew mitqлу deheb u allura rridu nsostunhom mhux indgħajfuhom.

Kull bniedem fuq l-art jiddependi direttament jew indirettament mill-oċean, mill-ibħra u mill-ilmijiet interni. Mingħajr oċean u ilmijiet f'saħħithom tgħib kull ħlejqa fid-dinja.



Jekk l-ilmijiet tal-baħar u l-ilma ħelu tagħna jkunu ndaf, inkunu nistgħu nirrestawraw il-bijodiversità rikka tagħhom u l-ekonomija blu tagħna ssir sostenibbli u favur il-klima. Din il-missjoni għandha l-għan li niskopru u nirrestawraw l-ekosistemi tal-baħar u tal-ilma ħelu Ewropej sal-2030.

Din hi r-raġuni għalfejn li niskopru, niproteġu u nirrestawraw l-oċean, l-ibħra u l-ilmijiet tagħna huma wieħed mill-isforzi vitali ta' żmienna. Is-sistema konnessa tal-ilma hija **s-sors ta' kull ħajja fid-dinja**, u l-eżistenza tal-bniedem fuq din il-pjaneta tiddependi

minnha. L-oċean u l-ilmijiet **jipprovdu l-ilma li nixorbu u l-arja għan-nifs**, u allura jipproduċu 50% tal-ossigenu fuq il-pjaneta tagħna. Ikopru madwar tliet kwarti ta' wiċċ id-dinja u huma **r-raġuni essenzjali għalfejn l-umanità għadha tgawdi klima stabbli u li ssostni l-ħajja**. Dawn jilqgħu **bijodiversità rikka** u speċijiet uniċi. Jipprovdu l-ikel, **enerġija nadifa, mediċini ġodda, u jsostnu l-ghajxien** ta' ħafna nies fil-komunitajiet tagħna. Jostru fihom bosta **ħlejqu** li għad irridu niskopru.

Input from citizens

- The Mission Board embarked on a number of citizens and stakeholders events throughout the **scoping phase**, with particular attention given to the engagement with citizens and youth. The results of these discussions have provided invaluable input to the deliberations of the Board and have shaped the scoping process. Continued engagement is foreseen over the summer 2020, as well as throughout the implementation of the mission. ‘
- Inspired by the Swedish citizen engagement experience, members of the subgroup of the Horizon Europe Shadow Programme Committee from Denmark, Estonia, Finland, Poland, Sweden and Norway, in close collaboration with Board and Assembly members, have set up an **informal working group for the organisation of surveys and citizen engagement activities** in their respective countries. The survey was launched at the end of May and was followed by online co-design sessions in June.
- Furthermore, the Board has identified Ireland and Romania for the organisation of the first two official citizen engagement events in June and July supported by a European Commission **pilot service contract**.
- A citizen survey was carried out in Italy and a stakeholder survey had been organised in Finland with the support of two Board Members.

Input from the Assembly

- The Mission Assembly has also provided feedback to the Board as the Chair has invited members to share written input on the scope of the mission around three guiding questions:
 1. What would be a major challenge our oceans, seas, coasts and inland waters are facing that a mission could contribute to solve through research and innovation or other EU programmes?
 2. Why are these challenges so far removed from public perception and discourse and how could a mission best engage European citizens in tackling these?
 3. How should the mission be designed to create a European public good?

The Mission Assembly provided very valuable input as the state of the oceans, seas, coastal and inland waters as well as the lack of awareness thereof, making a strong call for citizen engagement, bridging the need for a systemic approach with targeted approach. Moreover, Assembly members **emphasised that citizen engagement and storytelling needs to be at the heart of the mission.**

What's next?

EUROPEAN RESEARCH & INNOVATION DAYS



22→24
SEPTEMBER

20
20



PROGRAMME



EUROPEAN RESEARCH & INNOVATION DAYS

22 → 24 20
SEPTEMBER 20

 **VIRTUAL EVENT**

DRAFT

22 SEPTEMBER

MORE SESSIONS
TURN THE PAGE >>

	PLENARY	HUB 1 POLICY	HUB 2 GREEN DEAL	HUB 3 DIGITAL	HUB 4 HORIZON EUROPE	HUB 5 MISSIONS
09.00 → 09.30	OPENING					
09.30 → 10.30	CEREMONY: Handover of the EU Missions final reports					
10.30 → 11.30	EUROPEAN GREEN DEAL & Just Transition					
11.30 → 12.30				ARTIFICIAL INTELLIGENCE & Robotics, Today & Tomorrow	Impact lab: Estimating the climate IMPACT OF HORIZON PROJECTS	Mission area: OCEANS
12.30 → 13.30		More investment, better policies, stronger COOPERATION	UNCROSSING PLANETARY BOUNDARIES: How to get nutrient flows back within safe ecological limits?		SYNERGIES: New opportunities on the Horizon	Horizon Europe Missions: CITIZENS ENGAGEMENT
13.30 → 14.00	BREAK					

