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COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

EU Action Plan: Protecting and restoring marine ecosystems for sustainable and resilient fisheries

1. INTRODUCTION

Our ocean and seas cover 70% of the planet's surface and more than 65% of the EU territory. Healthy marine ecosystems are essential for life on Earth and play a key role in planetary wellbeing. They are one of the greatest sources of biodiversity and food, they regulate the climate, and are a major carbon sink ([1]). Just as important, they also bring substantial health, social and economic benefits to coastal communities.

According to a recent report from the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services ([2]), one in five people across the world depends on wild species for their food and income, with fisheries being a major source of food from wild species. Preserving these resources by managing them in a sustainable way is, therefore, more critical than ever in order to reach the UN Sustainable Development Goals.

Sustainably managed and caught fish is a source of high quality and affordable protein with a relatively low carbon footprint ([3]). It is essential to food security for many people and to maintaining the economic basis of fishing communities. Ensuring sustainable fishing and sustainably managed fish stocks is also key to protecting ocean biodiversity and fighting against climate change.

Today the marine environment, as well as fishers and the fisheries sector, face a number of difficulties. In addition to the existential threats to the marine environment posed by climate change and biodiversity loss due to multiple anthropogenic pressures, the sector has also been dealing with a series of major challenges, from Brexit, the COVID-19 pandemic and, most recently, the repercussions of Russia's ruthless military aggression against Ukraine ([4]). These shocks have triggered massive market disruptions, shortages of essential raw materials, a sharp rise of fuel and fish feed prices, in addition to the obvious danger posed by military operations and mines in the Black Sea.

In parallel to addressing these immediate challenges, the EU cannot afford to lose sight of the vital need to safeguard the sustainability of its food systems. In line with the EU's

([1]) Report from the Commission to the European Parliament and the Council on the implementation of the Marine Strategy Framework Directive (Directive 2008/56/EC) COM(2020) 259.

([2]) IPBES (2022): Summary for policymakers of the thematic assessment of the sustainable use of wild species of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. J.-M. Fromentin, M.R. Emery, J. Donaldson, M.-C. Danner, A. Hallosserie, D. Kieling, G. Balachander, E.S. Barron, R.P. Chaudhary, M. Gasalla, M. Halmy, C. Hicks, M.S. Park, B. Parlee, J. Rice, T. Ticktin, and D. Tittensor (eds.). IPBES secretariat, Bonn, Germany. 33 pages. https://doi.org/10.5281/zenodo.6425599

([3]) Bianchi, M., Hallström, E., Parker, R.W.R. et al. Assessing seafood nutritional diversity together with climate impacts informs more comprehensive dietary advice. Commun Earth Environ 3, 188 (2022). https://doi.org/10.1038/s43247-022-00516-4.

([4]) Including aquaculture and the fish processing industry.

Biodiversity ([5]), Climate Adaptation ([6]) and Farm to Fork Strategies ([7]), the EU must ensure that the risks stemming from climate change and biodiversity loss do not jeopardise the availability of the goods and services that healthy marine ecosystems provide to fishers, coastal communities and humanity at large.

Making the EU's fisheries more resilient also means ensuring that they contribute to the protection and restoration of marine ecosystems on which they depend. A healthy marine environment with healthy fish stocks and rich biodiversity is the only way we make sure that our fisheries communities have a prosperous future over the medium and long term. Marine ecosystems are under increasing threat from climate change ([8]) and unsustainable or illegal, unreported and unregulated fishing ([9]). Other pressures ([10]) are also linked to human activities, such as maritime transport, energy production, tourism, agriculture, and industry. Therefore, it is important to tackle in parallel also those other pressures to marine ecosystems and fish stocks sustainability, including different forms of pollution, be it from contaminants, agricultural practices, plastics or noise. The EU is fighting marine pollution through a number of legislative and policy initiatives under the broader framework of the zero pollution action plan ([11]). These include setting limits to marine litter, underwater noise, nutrients and contaminants under the MSFD and implementing measures to achieve them. They also include setting a number of zero pollution reduction targets ([12]) and taking action to benefit the marine environment. EU rules on port reception facilities also incentivise the delivery at ports of passively fished waste ([13]).

There is an urgent need to step-up action at EU level to reverse the decline of marine ecosystems by tackling all pressures. As outlined in this action plan, this must include action to make fisheries management more sustainable and modern, in order to protect and

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([5]) Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, EU Biodiversity Strategy for 2030 Bringing nature back into our lives (COM/2020/380)

([6]) Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Forging a climate-resilient Europe — the new EU Strategy on Adaptation to Climate Change (COM(2021) 82 final).

([7]) Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system (COM/2020/381)

([8]) Report from the Commission to the European Parliament and the Council on the implementation of the Marine Strategy Framework Directive (Directive 2008/56/EC) COM(2020) 259 final.

([9]) European Environment Agency, 2019, Marine messages II, *Navigating the course towards clean, healthy and productive seas through implementation of an ecosystem-based approach*.

([10]) The most recent reports from IPBES (Global Assessment Report on Biodiversity and Ecosystem Services (2019); Methodological Assessment Report on the Diverse Values and Valuation of Nature, (2022)) indicate that the health of ecosystems on which we and all other species depend is deteriorating more rapidly than ever and that we are eroding the very foundations of our economies, livelihoods, food security, health and quality of life worldwide.

([11]) Communication from the Commission, Pathway to a Healthy Planet for All EU Action Plan: 'Towards Zero Pollution for Air, Water and Soil', COM/2021/400 final.

([12]) These include, among others, reducing waste and plastic litter at sea by 50%, reducing microplastics released into the environment by 30%; reducing nutrient losses and chemical pesticides' use by 50%; reducing by 25% the EU ecosystems where air pollution threatens biodiversity.

([13]) Directive (EU) 2019/883 of the European Parliament and of the Council of 17 April 2019 on port reception facilities for the delivery of waste from ships, amending Directive 2010/65/EU and repealing Directive 2000/59/EC (OJ L 151, 7.6.2019, p. 116).

restore marine ecosystems and achieve their good environmental status ([14]), as well as encourage and inspire the world to follow suit ([15]).

This action plan is part of the Commission's efforts to achieve a more consistent implementation of the EU's environmental policy and the common fisheries policy with its three – environmental, economic and social - sustainability pillars. It provides a forward-looking strategy on how to better apply the ecosystem-based approach to fisheries management and complements the Communication on the functioning of the common fisheries policy ([16]) and the Communication on the Energy Transition of the EU Fisheries and Aquaculture sector, hereafter energy transition initiative ([17]).

Building on the EU Biodiversity Strategy for 2030 commitment to legally protect 30% of our seas, of which one third should be strictly protected, it addresses the shortcomings identified in the European Court of Auditors' special report issued on the marine environment ([18]), by focusing in particular on marine protected areas (MPAs) ([19]) and on ways in which fisheries management can contribute to more effective protection and restoration of their marine biodiversity, thereby contributing to achieving the objectives of the proposed Nature Restoration law ([20]).

The action plan draws on contributions made by stakeholders and citizens during the broad consultation ([21]).

In the aftermath of the historic agreement on a new global biodiversity framework reached in Montreal at the 15th United Nations Biodiversity Conference of the parties to the Convention on Biological Diversity (CBD COP15), and in the process of negotiating a new legally binding agreements on protecting the high seas and on stopping plastic pollution, this action plan will consolidate EU's global leadership by showing that the EU delivers on what it commits to. The EU was driving the efforts towards an ambitious new global biodiversity framework agreed at COP15. This action plan will help to deliver on some of the global commitments taken, including the commitment to protect 30% of global terrestrial and marine areas and to restore 30% of degraded ecosystems.

([14]) As required by the Marine Strategy Framework Directive (Directive 2008/56/EC).

([15]) The action plan is also relevant for the EU's outermost regions (as listed in Article 249 TFEU), which should also receive special attention, in line with the call of the EU Biodiversity Strategy for 2030 to focus on urgently protecting and restoring these regions' ecosystems, given their exceptionally rich biodiversity value.

([16]) Communication from the Commission to the European Parliament and the Council: The common fisheries policy today and tomorrow: a Fisheries and Oceans Pact towards sustainable, science-based, innovative and inclusive fisheries management, COM(2023)103

([17]) Communication from the Commission to the European Parliament and the Council on the Energy Transition of the EU Fisheries and Aquaculture sector, COM(2023)100

([18]) ECA Special Report 26/2020, *Marine environment: EU protection is wide but not deep*, https://op.europa.eu/webpub/eca/special-reports/marine-environment-26-2020/en/.

([19]) Marine protected areas (MPAs) are geographically distinct zones for which protection objectives are set (EEA, 2018). See EEA's latest spatial analysis of MPAs in Europe seas: https://www.eionet.europa.eu/etcs/etc-icm/products/etc-icm-reports/etc-icm-report-3-2020-spatial-analysis-of-marine-protected-area-networks-in-europe2019s-seas-iii

([20]) Proposal for a Regulation of the European Parliament and of the Council on nature restoration, Brussels, 22.6.2022 COM(2022) 304 final 2022/0195 (COD)

([21]) Synopsis of the consultation attached as annex to this Communication.

Finally, the objectives of this action plan are also consistent with the EU's commitments outlined in the Joint Communication on International Ocean Governance ([22]) and with the external dimension of the common fisheries policy (CFP).

2. MAKING FISHING PRACTICES MORE SUSTAINABLE

Today, the marine environment faces multiple pressures that need to be addressed in a coherent way ([23]). In line with the objectives of the new global biodiversity framework and the EU 2030 Biodiversity Strategy to protect 30% of Europe's sea area, the EU can reduce a significant share of this pressure by creating new MPAs and effectively managing existing ones as well as by making fishing practices more sustainable, including through the use of low-impact fishing gears. Effectively managed protected areas minimise incidental catches of sensitive species ([24]), protect fish spawning and nursery areas and juveniles, and reduce impacts on sensitive habitats, in particular the seabed.

The decisions as to when, where and how to fish affect not only the target species, but also the quantity and the size of fish and by-catch, and consequently, the sustainability of fishing operations. The rules governing this aspect of fishing, commonly referred to as 'technical measures', were updated in 2019 ([25]). The new rules provide a coherent set of measures to help meet the environmental objectives and take a regional approach to create the flexibility required. The Technical Measures Regulation contains a set of baseline rules for selective fishing in each sea basin. For example, it specifies different sizes and shapes of mesh in fishing nets to catch only certain sizes of fish, sorting grids and panels allowing certain species to escape or location and time-specific closures of fishing areas, for example during the fish reproduction period ([26]).

Improving gear selectivity and reducing the impact of fisheries on sensitive species

One of the objectives of the baseline rules of the Technical Measures Regulation is to minimise and, where possible, eliminate incidental catches of sensitive marine species. Fish and other marine species face multiple threats including overfishing, pollution, and disturbance or destruction and degradation of their habitats. For some, the incidental capture in fishing gear is one of the main threats. These problems have contributed to the decline of populations of several species, and although most are strictly protected by EU nature legislation, some are still at risk of extinction.

([22]) Joint Communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, *Setting the course for a sustainable blue planet*, Joint Communication on the EU's International Ocean Governance agenda JOIN(2022) 28 final

([23]) Report from the Commission to the European Parliament and the Council on the implementation of the Marine Strategy Framework Directive (Directive 2008/56/EC), COM(2022) 259final.

([24]) As defined in Article 6(8) of Regulation (EU) 2019/1241.

([25]) Regulation (EU) 2019/1241 of the European Parliament and of the Council of 20 June 2019 on the conservation of fisheries resources and the protection of marine ecosystems through technical measures, amending Council Regulations (EC) No 1967/2006, (EC) No 1224/2009 and Regulations (EU) No 1380/2013, (EU) 2016/1139, (EU) 2018/973, (EU) 2019/472 and (EU) 2019/1022 of the European Parliament and of the Council, and repealing Council Regulations (EC) No 894/97, (EC) No 850/98, (EC) No 2549/2000, (EC) No 254/2002, (EC) No 812/2004 and (EC) No 2187/2005 ((OJ L 198 25.7.2019, p. 105).

([26]) Annexes V to XI to Regulation 2019/1241.

Vulnerable species are particularly threatened. These include several sharks ([27]), sea turtles, marine mammals, such as the Baltic Proper harbour porpoise and Mediterranean monk seals, and seabirds, such as the Balearic shearwater. They are all at risk of being caught in static net fisheries. Marine mammals are also often caught in large pelagic trawls, seabirds in longline fisheries and sea turtles in trawls and longlines.

However, there are widely available solutions to avoid incidental captures that are already required under EU environmental legislation and the common fisheries policy (CFP) rules. They include making technical changes to fishing gears or restricting fishing in times and areas when there is a particularly high presence of a sensitive species.

Work, including through pilot projects, to better protect sensitive species across the EU's marine regions is planned or in progress, although with different levels of ambition and speed ([28]). However, more needs to be done to deliver effectively on the commitments under the EU's Biodiversity Strategy for 2030.

The Commission calls on Member States to be more ambitious and take full advantage of the CFP tools to urgently implement measures that are already available and scientifically assessed. These could include the short-term closure of certain fishing areas or the installation of acoustic deterrent devices, which, according to scientific advice ([29]), would help the recovery of Baltic Proper harbour porpoises or common dolphins in the Bay of Biscay. Swift action will also help to reduce incidental catches of seabirds in fishing gears and to protect sharks ([30]). In addition, Member States should improve monitoring systems to identify the extent and distribution of incidental catches.

Achieving maximum sustainable yield levels of commercially exploited fish species is a key principle of the common fisheries policy and contributes to the good environmental status of commercial fish populations. This can be done by limiting catches or fishing effort and by ensuring that fishing activities are highly selective, so that fishers only catch targeted species and only in certain quantities, ages and sizes of these species. Fishing can also benefit from the protection of important fish spawning sites and nursery areas, including through strictly protected areas, as the increased fish stocks spill over into adjacent areas.

Many new and innovative solutions are now available to improve further the sustainability of fishing techniques, such as the use of more selective fishing gear, monitoring tools to

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([27]) Unless specified otherwise, references to ‘sharks’ in this document should be understood as covering all species of the class Chondrichthyes (sharks, rays, skates and chimeras).

([28]) In the Baltic Sea, Member States are preparing to adopt measures to reduce incidental catches of the critically endangered Baltic proper harbour porpoise by closing areas in line with scientific advice. In the Mediterranean and Black Seas, Member States are preparing further mitigation measures in the context of the General Fisheries Commission for the Mediterranean (GFCM) to protect sensitive species, such as reducing catches of endangered sharks and protecting nurseries. In the Black Sea, measures to protect sturgeons and the harbour porpoise are also being prepared. In the northeast Atlantic, contracting parties have established measures under the Oslo-Paris Convention (OSPAR) to enable the recovery of threatened or declining species and marine birds. For the Baltic Sea, the Helsinki Convention (HELCOM) aims to map high-risk areas for seabirds, assess the effectiveness of conservation efforts to protect waterbirds coastal fish species and to limit pressures.

([29]) EU request on emergency measures to prevent bycatch of common dolphin (*Delphinus delphis*) and Baltic Proper harbour porpoise (*Phocoena phocoena*) in the Northeast Atlantic (ICES Special Request Advice, Northeast Atlantic ecoregions, Published 26 May 2020)

([30]) Article 21 and Annex XIII of Regulation 2019/1241.

identify areas of concentration of juvenile fish, and measures to avoid such areas ([31]). Joint action by Member States is necessary to pursue and accelerate work on national measures and joint recommendations ([32]) and to follow the recommendations issued by the General Fisheries Commission for the Mediterranean (GFCM) on the take-up and spread of such innovative tools and practices. To achieve this, it is crucial to provide effective incentives and support for the fishing communities concerned and make good use of available EU funds.

The Commission will support Member States by seeking advice from scientific institutions on how to improve the current fishing patterns of the EU fleet. Where necessary, on the basis of new scientific advice, it will also make use of its implementing powers under the Technical Measures Regulation related to the design of fishing gears ([33]) to ensure a level playing field in implementing the provisions on gear selectivity.

It is particularly important and urgent to improve conservation for critically endangered species that are commercially fished, such as the European eel. The management and conservation of this migratory species means tackling a range of human activities, so it is necessary to take a comprehensive approach covering different policies.

Action to improve fishing selectivity and reduce the impact of fisheries on sensitive species

The Commission calls on Member States to:

- By end of 2023, develop threshold values for the maximum allowable mortality rate from incidental catches of the species selected by Member States ([34]), as part of the implementation of the Marine Strategy Framework Directive (MSFD) ([35]). Adopt fisheries management measures to implement these threshold values without delay through national measures or, where relevant, by submission of joint recommendations.

- Adopt national measures or submit joint recommendations to the Commission to minimise by-catch (or reduce it to the level that enables the full recovery of the populations) of:

([31]) Such as those looked at under DISCARDLESS, MINOW, and ICES advice on innovative gear.

([32]) As per Article 15 of Regulation 2019/1241 or Article 11 of Regulation 1380/2013 (CFP). See also https://ec.europa.eu/environment/nature/natura2000/marine/docs/Marine%20SWD%20288%20final.pdf

([33]) Articles 8(5) and 24(1) (a), (c), (d), (g) of Regulation 2019/1241.

([34]) Namely, '[s]pecies of birds, mammals, reptiles and non-commercially-exploited species of fish and cephalopods, which are at risk from incidental by-catch in the region or subregion', Commission Decision (EU) 2017/848, Annex, Part II, Criteria and methodological standards, specifications and standardised methods for monitoring and assessment of essential features and characteristics and current environmental status of marine waters under Article 8(1)(a) of Directive 2008/56/EC

([35]) Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive)

- by the end of 2023: harbour porpoise in the Baltic Proper and the Black Sea, the Iberian Atlantic and the common dolphin in the Bay of Biscay ([36]);
- by the end of 2024: angel sharks, common skate, guitarfish, Maltese skate, great white shark, sand tiger shark, smalltooth sand tiger shark, spiny butterfly ray, sturgeons, marine turtles, Balearic shearwater and Mediterranean monk seal;
- by 2030: the remaining sensitive marine species that are at risk of incidental catches ([37]), prioritising those in 'unfavourable conservation status' or threatened by extinction.

- By the end of June 2024, improve the protection of the European eel by adopting or updating existing Eel Management Plans under the Eel Regulation ([38]), in the light of new knowledge and on the basis of the report referred to in Article 9 of the Eel Regulation, in order to strengthen conservation and management measures.

  These eel management plans should address: i) the impact of fisheries (both commercial and recreational and at all stages of the species' life-cycle) and, ii) non-fisheries-related impacts by implementing the related legislation, such as the Water Framework Directive ([39]), the Habitats Directive ([40]) and the MSFD. The plans should include efforts to restore eel habitats, improve the connectivity of rivers and address barriers to migration, and should improve transboundary cooperation.

- By March 2027, update MSFD programmes of measures to include appropriate measures against the loss and discarding of fishing gear and fishing related marine litter, based on approaches identified in the MSFD Common Implementation Strategy.

- By 2030, based on the work by the Scientific Technical and Economic Committee for Fisheries (STECF), the GFCM and other scientific institutions, such as the International Council for the Exploration of the Seas (ICES), present and implement additional measures to boost selectivity, starting with the fish stocks with the highest expected biological gains. The measures should include:
  - new and innovative gear techniques to reduce catches of small fish;
  - location or time-specific measures where there is clear evidence of high concentrations of fish below the minimum conservation reference size.

([36]) For example, by fully implementing measures advised in ICES, 2023, EU additional request on mitigation measures to reduce by-catches of common dolphin (*Delphinus delphis*) in the Bay of Biscay. In Report of the ICES Advisory Committee, 2023. ICES Advice 2023, sr.2023.01. https://doi.org/10.17895/ices.advice.21946634 or measures with an equivalent effect.

([37]) As defined in footnote 35

([38]) Council Regulation (EC) No 1100/2007 of 18 September 2007 establishing measures for the recovery of the stock of European eel (OJ L 248, 22.9.2007, p. 17).

([39]) Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327, 22.12.2000, p. 1).

([40]) Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (OJ L 206, 22.7.1992, p. 7).

- By 2030, create new and effectively manage all MPAs, ensuring strict protection of important fish spawning and nursery areas.

The Commission will:

- In 2023, ask the STECF to provide as part of its ongoing work ([41]) advice on:
  - evaluating the optimum sizes of fish ([42]) to be caught in fishing gear, in order to obtain the highest long-term yield;
  - improving fishing gear, taking into account selectivity, the mix of targeted species, and both the long-term gains and the transitional consequences in social and economic terms.

- By the end of 2024, assess, in the context of the report on implementation of the Technical Measures Regulation, the catching, retaining, transhipping, landing and selling of species threatened with extinction or in 'unfavourable conservation status' under the Habitats Directive.

- By the end of 2024, prepare the adoption of implementing rules under the Technical Measures Regulation to:
  - improve the selectivity of fishing gears,
  - develop detailed specifications for turtle excluder devices in shrimp trawls in the EU waters of the Indian Ocean and West Atlantic,
  - establish rules on bird-scaring lines and weighted lines in all sea basins.

- As soon as threshold values are provided under the MSFD, use the CFP tools ([43]) to propose limits for the incidental catches of the species covered by the threshold values.

Reducing the impact of fisheries on the seabed

Healthy seabed habitats are a key part of healthy marine ecosystems. Their rich biodiversity provides nursery and spawning grounds for many species and contributes to maintaining the structure and functioning of marine food webs, as well as to regulating the climate.

Fishing using certain mobile bottom-contact gear (mobile bottom fishing) ([44]), in particular bottom trawling, is among the most widespread and damaging activities to the seabed and

([41]) Building upon the work by STECF on technical measures: STECF EWG 20-02, https://stecf.jrc.ec.europa.eu/web/stecf/ewg2002 and STECF 21-07: https://stecf.jrc.ec.europa.eu/ewg2107.

([42]) Commercial species as listed in Annex XIV to Regulation 2019/1241

([43]) Such as regulations on fishing opportunities, in line with scientific advice.

([44]) As referred to in Table 1 of the report from the STECF, 'Support of the Action plan to conserve fisheries resources and protect marine ecosystems (STECF-OWP-22-01), Bastardie, F. and Doerner, H. editor(s), EUR 28359 EN, Publications Office of the European Union, Luxembourg, 2022, ISBN 978-92-76-52911-8, doi:10.2760/25269, JRC129455. The list includes boat dredges, mechanised dredges including suction dredges, bottom otter trawl, otter twin trawl, bottom pair trawl, beach seines, Danish seines (anchored seine), pair seines, Scottish seines (fly shooting seine), boat seines and beam trawl.

its associated habitats ([45]). Currently, 79% of the coastal seabed is considered to be physically disturbed, mainly caused by bottom trawling, and a quarter of the EU's coastal area has probably lost its seabed habitats ([46]). The most intensely fished areas are trawled over 10 times a year ([47]).

Our ocean and seas are a major natural carbon sink, in particular ocean sediments. There is growing recognition of the importance of storing and maintaining blue carbon in marine habitats for tackling climate change ([48]). While marine carbon stores are still less well understood than land-based ones, recent evidence ([49]) suggests that disturbing seabed sediment has a direct impact on its capacity to store carbon.

However, seabed biodiversity can recover if the pressure is diminished, for example by reducing mobile bottom fishing ([50]). This brings major benefits for ecosystems and society, including fisheries through the recovery of fish stocks and increasing fish biomass and helps to avoid the degradation of the marine environment.

EU law already requires the protection and restoration of the seabed. The environmental legislation requires the Member States to take measures to protect the seabed to achieve the 'good environmental status' of EU waters ([51]). They must also take the necessary measures in marine Natura 2000 sites to contribute to achieving or maintaining the 'favourable conservation status' of certain seabed habitats.

Fisheries management tools prohibit mobile bottom fishing in the Mediterranean Sea in the narrow coastal areas and deeper than 1 000 metres, and in the Atlantic they prohibit bottom trawling deeper than 800 metres, with a closure to bottom fishing of 16 419 km^2 of vulnerable marine ecosystems ([52]). Bottom fishing is further restricted in particularly sensitive areas through a variety of measures and regulations ([53]).

In addition, some Member States have taken steps to prohibit or restrict bottom fishing in certain areas through national measures and submission of CFP joint recommendations

([45]) Fishing was found to be the most extensive human marine activity disturbing the seafloor across regional seas of Europe. In the North Sea, a preliminary assessment showed that bottom fishing accounted for about 95% of disturbance causing physical abrasion (ICES 2019). In addition, the EEA has assessed that 79% of the EU's coastal seabed is disturbed by bottom-trawling (EU Commission, MSFD implementation report, 2020).

([46]) Report from the Commission to the European Parliament and the Council on the implementation of the Marine Strategy Framework Directive (Directive 2008/56/EC), COM/2020/259 final

([47]) https://www.eea.europa.eu/data-and-maps/figures/bottom-trawl-fishing-intensity-in.

([48]) 2022 United Nations Conference to Support the Implementation of Sustainable Development Goal 14, 'Our ocean, our future, our responsibility: draft declaration', Lisbon, 27 June–1 July 2022.

([49]) EEA, *Carbon stocks and sequestration in terrestrial and marine ecosystems: a lever for nature restoration? A quick scan for terrestrial and marine EUNIS habitat type*, Wageningen, November 2020; see also: Cavan & Hill, 2021; Duarte et al., 2020; Luisetti et al., 2019; Pusceddu et al., 2014.

([50]) See for instance: Hiddink, J.G., et al, 'Global analysis of depletion and recovery of seabed biota after bottom trawling disturbance', Proceedings of the National Academy of Sciences, 2017.

([51]) As required by Directive 2008/56/EC

([52]) Commission Implementing Regulation (EU) 2022/1614 of 15 September 2022 determining the existing deep-sea fishing areas and establishing a list of areas where vulnerable marine ecosystems are known to occur or are likely to occur, OJ L 242, 19.9.2022, p. 1-141.

([53]) For example, Annex II to Regulation (EU) 2019/1241.

([54]), as a basis for delegated regulations. In November 2022, based on an EU proposal, the GFCM decided to assess the potential impact of changing the depth limits of the current fishing restrictions in depths between 600 and 800 m, with a view to possibly setting restrictions in shallower waters.

Nonetheless, overall mobile bottom fishing still remains widespread in EU waters. For instance, in the Northeast Atlantic, it takes place in 80-90% of fishable areas ([55]), including in many Natura 2000 sites and other MPAs. This undermines the achievement of global conservation targets set by the Convention on Biological Diversity ([56]) and risks threatening the progress on climate change mitigation.

The impact of mobile bottom fishing on the marine environment also puts at risk the sustainability of fisheries and the availability of fish in the medium- and longer-term. Not only does it harm the ecosystems on which those fisheries depend, but it is also extremely fuel-intensive, generating considerable costs for the sector and a particularly high carbon footprint ([57]). By its very nature, mobile bottom fishing is among the least selective fishing methods and produces disproportionate amounts of unwanted catches ([58]) and discards. Discards are particularly concerning, especially at a time when the EU is seeking to reduce food waste ([59]), a highly relevant issue in the broader debate on global food security.

Resolute action is needed to protect and restore the seabed, including by moving away from mobile bottom fishing, while in parallel, ensuring that this technique is not replaced with equal or worse alternatives. Urgent protection and restoration of seabed habitats in MPAs is needed, particularly given their importance as hotspots of EU marine biodiversity, their potential to contribute to the increase in fish stocks and the long-standing legal obligations for their effective management.

To achieve the objectives of the EU Biodiversity Strategy to protect 30% of the EU's seas, the Commission calls on the Member States to make full use of the CFP tools available and to phase out mobile bottom fishing in all MPAs by 2030 at the latest. To start with, Member States should, by the end of March 2024, adopt national measures or, where appropriate, propose joint recommendations to the regional groups to prohibit mobile

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([54]) Since 2013, Member States agreed in five Joint Recommendations to limit bottom trawling in several areas of the Greater North Sea and the Baltic Sea, in part to protect ecologically sensitive reefs. There are also national measures adopted in some Member States, measures included in the management plans under the Mediterranean Regulation and GFCM measures in place.

([55]) International Council for the Exploration of the Sea (ICES) advice for the European Atlantic waters and Baltic Sea, *EU request on how management scenarios to reduce mobile bottom fishing disturbance on seafloor habitats affect fisheries landing and value*, ICES Special Request Advice, 24 June 2021.

According to this ICES advice, similar patterns have been identified in the Mediterranean and Black Seas although differences in methodology means that the results are not directly comparable.

([56]) Dureuil et al., Elevated trawling inside protected areas undermines conservation outcomes in a global fishing hot spot, Science 362, 1403–1407 (2018), DOI: 10.1126/science.aau05.

([57]) Sala, A., Damalas, D., Labanchi, L. et al. Energy audit and carbon footprint in trawl fisheries. Sci Data 9, 428 (2022). https://doi.org/10.1038/s41597-022-01478

([58]) IPBES (2022): Summary for policymakers of the thematic assessment of the sustainable use of wild species of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. J.-M. Fromentin, M.R. Emery, J. Donaldson, M.-C. Danner, A. Hallosserie, D. Kieling, G. Balachander, E.S. Barron, R.P. Chaudhary, M. Gasalla, M. Halmy, C. Hicks, M.S. Park, B. Parlee, J. Rice, T. Ticktin, and D. Tittensor (eds.). IPBES secretariat, Bonn, Germany. 33 pages. https://doi.org/10.5281/zenodo.6425599

([59]) The revision of the Waste Framework Directive, planned for 2023, will help reduce food waste in line with the United Nations Sustainable Development Goals and the Commission's priorities for 2023.

bottom fishing in the MPAs that are Natura 2000 sites designated under the Habitats Directive that protect the seabed and marine species. Also, mobile bottom fishing should not be allowed in any newly established MPAs.

Building on the outcomes of the pledges submitted by Member States to fulfil the Biodiversity Strategy target of protecting at least 30% of EU seas Member States should follow scientific advice and take account of the overall effect of the measures on the marine ecosystem in the fisheries management decisions. In particular, they must avoid triggering changes in fishing practices that could cause harm, such as increasing the impact on marine ecosystems or sensitive species by other types of fishing gear.

With the development of more innovative tools designed to limit the impacts of these types of fishing gear, it is essential to continue discussions with the sector to stimulate further innovation and the take-up of new solutions on the ground. This is also important to ensure that the measures taken remain fit-for-purpose and in step with technological development.

In line with the objectives of the MSFD and the proposed Nature Restoration Law, the seabed must be protected and restored also outside the MPAs. To this end, Member States should swiftly agree on and implement the threshold values for seabed integrity, which are currently being developed under the MSFD.

Action to reduce the impact of fishing on the seabed

The Commission calls on Member States to:

- By mid-2023, finalise the adoption of threshold values for the maximum allowable extent of seabed that can be lost or adversely affected by human pressures, as part of the MSFD common implementation strategy ([60]). They should, without delay, adopt national measures or, where relevant, submit joint recommendations to implement these threshold values.

- By the end of March 2024,

    - adopt national measures or, where appropriate, propose joint recommendations to the regional groups to prohibit mobile bottom fishing in the MPAs that are Natura 2000 sites designated under the Habitats Directive that protect the seabed and marine species;

    - provide an overall outline ([61]) of how each of them intends to ensure that by 2030 mobile bottom fishing is phased out in all MPAs. They should provide, for at least 20% of each Member State's marine waters, a more detailed plan of national measures and joint recommendations to be developed including, at least, details to identify the areas where mobile bottom fishing should be prohibited, and details on the Member States and fleets concerned by the measures in those areas.

- To adopt national measures and, where relevant, submit joint recommendations to the Commission to ensure that mobile bottom fishing is phased out in all MPAs by 2030.

(60) As per Article 4 of Decision (EU) 2017/848.

([61]) This planning should constitute part of the roadmaps referred to in chapter 7.

The Commission will:

- Monitor and track progress on the joint recommendations in the Member States' regional groups.

- Support the development and take-up of innovative solutions aimed at limiting the impacts of bottom fishing activities, building on a request for ICES advice on innovative fishing gear, expected by the end of 2023.

3. SECURING A FAIR AND JUST TRANSITION FOR ALL

The European Green Deal as Europe's new economic growth strategy sets out measures to achieve a fair and just transition of society and the economy to reach an inclusive and truly sustainable development model. Fairness and inclusiveness are the preconditions for a successful green transition.

Better conservation and protection of marine species and habitats has clear benefits for society and the economy, in particular for the fishing and coastal communities whose livelihoods directly depend on healthy marine ecosystems. For example, scientists have estimated that if 30% of the oceans were protected, the annual global catches could increase by eight million tons, about 10% of the catches today ([62]).

While the transition is needed and socio-economically beneficial and while the current COVID- and war-induced challenges affecting the fisheries sector, including rising energy prices, are not linked to the actions detailed in this action plan, including the gradual phasing-out of bottom fishing in all MPAs, the latter action in particular will have social and economic impacts on certain operators and communities ([63]) and just transition has to be ensured. The impacts can range from small shifts in fishing operations that can be easily absorbed to larger changes in operations that would require mitigation action to help fishers, their communities and operators throughout the supply chain to adjust to broader, structural changes. Impacts could be partially offset by moving fishing activity to other fishing areas where this is possible.

At the same time, the impacts are expected to be more significant in fisheries-dependent communities where economic diversification is currently limited. This is why it is important to ensure that the transition is gradual and that Member States factor in the specific needs of local communities and support them in this transition, including through financial support. It is important to recognise that, similarly to the experience when introducing the maximum sustainable yield objective, changes in the practices of the fishing sector will be compensated in the medium to longer term, as fish stocks recover

([62]) Sala, E., Mayorga, J., Bradley, D. et al. Protecting the global ocean for biodiversity, food and climate. Nature 592, 397–402 (2021). https://doi.org/10.1038/s41586-021-03371-z

([63]) Scientific, Technical and Economic Committee for Fisheries (STECF) – Support of the Action plan to conserve fisheries resources and protect marine ecosystems (STECF-OWP-22-01). Publications Office of the European Union, Luxembourg, 2022. Available at: https://www.researchgate.net/publication/360642059_Scientific_Technical_and_Economic_Committee_for_Fisheries_STECF_-_Support_of_the_Action_plan_to_conserve_fisheries_resources_and_protect_marine_ecosystems

and commercially fished species move from MPAs to other fishing areas through spill-over effects.

In the short-term, the economic impacts to the sector also arise from the increased energy prices. The gradual shift from fuel-intensive bottom trawling to less energy-intensive fishing methods can also generate major savings. This is fully in line with the Commission's aim to move away from fossil fuels as soon as possible and its ambition to support the EU fishing fleet and the aquaculture sector in their structural energy transition. To accompany this transition, the Commission has also proposed the introduction of a fuel tax in the revision of the EU Energy Taxation Directive ([64]) and is presenting, at the same time as this action plan, the energy transition initiative.

The Commission calls on Member States to encourage and support fishing communities in the transition set out in this action plan and help them to strengthen their resilience, innovate and adapt. This includes making better use of the support available through EU funding instruments, in particular support for innovation and diversification of economic activities, support for the energy transition and increasing gear selectivity. Numerous examples show that that the effective use of EU funds can make a difference, but in the past, the share of EU funding used to support marine conservation was too small ([65]). As confirmed by the Court of Auditors, there is clearly scope to make better use of the available EU budget.

The funds to be used for that purpose are primarily the European Maritime, Fisheries and Aquaculture Fund (EMFAF) ([66]) and the LIFE ([67]) programme. They have a central role in supporting the policy objectives for climate and biodiversity. Moreover, the Commission works closely with Member States to make sure that each programme contributes to achieving the horizontal targets set in the multiannual financial framework for these objectives ([68]).

Other sources of funding, as highlighted in the Commission's 'Find your EU funding programme for the environment' ([69]), include Horizon Europe ([70]), the European Regional

([64]) Council Directive 2003/96/EC of 27 October 2003, restructuring the Community framework for the taxation of energy products and electricity. Published in the Official Journal of the European Union no. L 283, 51 on 31 October 2003.

([65]) Court of Auditors Special Report 26/2020, Marine environment: EU protection is wide but not deep, page 46.

([66]) Regulation (EU) 2021/1139 of the European Parliament and of the Council of 7 July 2021 establishing the European Maritime, Fisheries and Aquaculture Fund and amending Regulation (EU) 2017/1004. 13% of the fund is directly managed by the Commission.

([67]) Regulation (EU) 2021/783 of the European Parliament and of the Council of 29 April 2021 establishing a Programme for the Environment and Climate Action (LIFE), and repealing Regulation (EU) No 1293/2013, OJ L 172, 17.5.2021.

([68]) As regards the EMFAF budget of €5.3 billion available to the Member States for the years 2021 – 2027, Member States draft programmes plan to allocate 29% of the budget to biodiversity, and 56% to climate change (state of play 28 September 2022). The LIFE programme has a budget of €5.43 billion for 2021-2027 and finances projects for the protection and conservation of the marine environment and the reduction of pressure on marine ecosystems.

([69]) DOI 10.2779/768079.

([70]) Regulation (EU) 2021/695 of the European Parliament and of the Council of 28 April 2021 establishing Horizon Europe – the Framework Programme for Research and Innovation, laying down its rules for participation and dissemination

Development Fund (including Interreg) ([71]), the European Social Fund+ ([72]), the European Agricultural Fund for Rural Development ([73]), the Connecting Europe Facility and the Recovery and Resilience Facility ([74]). Member States should use these strategically, increase national funding and encourage investments from the private sector to channel support for the transition, for example, smart specialisation strategies for a sustainable blue economy. The Commission will continue to support Member States fully in this regard.

It is important to make full use of the opportunities for diversification and innovation, starting with those identified in the new strategy for a Sustainable Blue Economy in the EU ([75]). This strategy looks at developing new business models to reduce the environmental footprint of the sector through digitisation and the use of innovative gears and techniques. To ensure that fisheries communities in transition can fully access the range of opportunities for economic diversification arising in other blue economy sectors, the Commission will launch a discussion at the upcoming Blue Forum, in May 2023, involving different stakeholders and groups operating at sea and in our oceans.

Targeted training and upskilling programmes run with EU support under the Erasmus+, EMFAF or ESF+ funds could also help build bridges with other blue economy sectors, such as algae production and regenerative sea farming ([76]), renewable energy and sustainable aquaculture. Improved environmental sustainability, for example through effectively managed MPAs, can provide additional or alternative livelihoods for local fishing communities, such as nature tourism and well-managed recreational fishing. Fishers can also access EU support to help them in their role as stewards of the sea. Several positive examples ([77]) already show how this partnership can help them to retrieve and collect litter and lost fishing gear.

Action to achieve a fair and just transition and maximise the use of available funds

The Commission calls on Member States to:

- Take measures towards the take-up of sufficient funding by strategically mobilising available resources from EU, national or private funding sources, in particular to promote projects to:
    - support the use of less damaging fishing techniques and projects that implement the EU-wide Natura 2000 network, to meet objectives of the

([71]) Regulation (EU) No 1301/2013 of the European Parliament and of the Council of 17 December 2013 on the European Regional Development Fund and on specific provisions concerning the Investment for growth and jobs goal

([72]) Regulation (EU) 2021/1057 of the European Parliament and of the Council of 24 June 2021 establishing the European Social Fund Plus (ESF+)

([73]) Regulation (EU) No 1305/2013 of the European Parliament and of the Council of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD)

([74]) Regulation (EU) 2021/241 of the European Parliament and of the Council of 12 February 2021 establishing the Recovery and Resilience Facility (OJ L 57, 18.2.2021, p. 17).

([75]) Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on a new approach for a sustainable blue economy in the EU Transforming the EU's Blue Economy for a Sustainable Future. COM/2021/240 final.

([76]) Regenerative sea farming means growing seaweed and shellfish in underwater coastal gardens.

([77]) https://oceans-and-fisheries.ec.europa.eu/news/joining-hands-eu-fight-marine-litter-2021-09-29_en; and https://audiovisual.ec.europa.eu/en/video/I-175441?&lg=EN/EN.

action plan and the needs identified in Member States' prioritised action frameworks ([78]);

- help fisheries communities transition to more selective, less harmful and less fuel-consuming fishing practices.

The Commission will:

- Facilitate access to funding opportunities, by:
  - during 2023, organising and hosting a workshop for Member States to guide and promote the use of funding to implement this action plan;
  - working closely with Member States when monitoring the implementation of the EMFAF, to encourage delivery of specific actions supporting the objectives of this action plan, as well as using complementary funding possibilities available from other programmes, including LIFE;
  - implementing smart specialisation strategies to prioritise regional research and investment in innovation in blue economy sectors, including fisheries.
- By the end of 2023, set up grants under EMFAF direct management with a value of over €7 million to support projects that contribute to the development of next-generation blue economy skills and provide opportunities for attractive, sustainable maritime careers.

4. STRENGTHENING THE KNOWLEDGE BASE AND RESEARCH AND INNOVATION

The design and development of initiatives to manage fisheries and protect the marine environment require a sound knowledge base. This, in turn, requires systematic data collection and scientific monitoring, based on robust methodologies. Although the lack of complete scientific information cannot justify postponing or failing to take the necessary measures, it highlights the need for greater investment in identifying and closing knowledge gaps.

Member States use a range of approaches and a combination of instruments to monitor marine ecosystems and environmental pressures, notably through the Data Collection Framework (DCF) ([79]) and monitoring programmes under the MSFD, the Birds Directive ([80]) and the Habitats Directive. However, more effort is needed to ensure that monitoring and data collection are adequate for assessing the impacts of fishing on marine habitats and species.

([78]) Adopted by Member States under Article 8 of the Habitats Directive.

([79]) Regulation (EU) 2017/1004 of the European Parliament and of the Council of 17 May 2017 on the establishment of a Union framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the common fisheries policy and repealing Council Regulation (EC) No 199/2008. OJ L 157, 20.6.2017, p. 1-21. EU multiannual programme for data collection as set out in Commission Delegated Decision (EU) 2021/1167.

([80]) Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (Birds Directive) and Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive).

This work should include designing targeted monitoring programmes to improve observations and reporting of incidentally by-caught species. The programmes should cover high-risk fisheries and the potential impacts of all relevant fleet segments, including smaller vessels. They should also look at data on recreational fisheries, including recreational fishing boats, and their impact on the stocks and the marine environment. The updated and modernised Control Regulation ([81]), once adopted by the co-legislators, will play an important role in making these improvements.

More research and data collection is also needed to build knowledge on the status of the seabed and the impacts of fisheries on seabed habitats, including the distribution and frequency of bottom fishing activities ([82]) and their impact on carbon sequestration. The Commission will launch a study to quantify the carbon storage capacity of different seabed habitat types in EU waters and the potential impacts of bottom fishing on this capacity.

The transition to more selective and environmentally less damaging fishing practices requires a systematic assessment of the costs and benefits, to help fishers, other businesses in the sector and society as a whole. This requires better modelling methods to predict and assess the social, economic and environmental effects of current and future conservation measures. By the end of 2023, the Commission will start developing a modelling tool to incorporate the concept of 'natural capital' in economic decisions. This will involve assessing and quantifying both the economic value of marine ecosystem services and the socio-economic costs and benefits derived from keeping the marine environment healthy.

It is essential to send requests for scientific advice to bodies such as the ICES and the STECF, to ensure that policy is guided by the best available scientific advice. For this reason and given the CFP legal requirement to consult the STECF on secondary legislation, the composition of the new STECF (2022-2025) provides expertise in the fields particularly relevant to implementing and supporting this action plan.

The European Environment Agency (EEA) also provides essential support to the Commission in mapping and assessing the coherence of the marine protected area network in EU waters and in assessing the state of marine species, habitats and ecosystems and the pressures on them. The EEA's support in implementing the Biodiversity Strategy focuses on protected areas, including tracking the fisheries management measures in MPAs, and will be particularly relevant to the work outlined in this action plan. The Commission is intends to strengthen cooperation with the EEA to help implement this action plan, including by adapting current environmental reporting systems.

The European Marine Observation and Data Network (EMODnet) will also underpin the efficient implementation of this action plan, as it is another essential tool to build up the knowledge base for European Seas. It provides free and unrestricted access to marine data collected in the field, covering seven thematic disciplines ([83]). EMODnet and Copernicus Marine will provide the data at the core of the European Digital Twin Ocean, a digital

([81]) Council Regulation (EC) No 1224/2009 of 20 November 2009 establishing a Community control system for ensuring compliance with the rules of the common fisheries policy, amending Regulations (EC) No 847/96, (EC) No 2371/2002, (EC) No 811/2004, (EC) No 768/2005, (EC) No 2115/2005, (EC) No 2166/2005, (EC) No 388/2006, (EC) No 509/2007, (EC) No 676/2007, (EC) No 1098/2007, (EC) No 1300/2008, (EC) No 1342/2008 and repealing Regulations (EEC) No 2847/93, (EC) No 1627/94 and (EC) No 1966/2006. OJ L 343, 22.12.2009, p. 1-50.

([82]) Data recording under the updated and modernised Control Regulation plays a crucial role in this context.

([83]) Such as on seabed habitats, bathymetry, geology, human activities (e.g. windfarms, aquaculture, vessel traffic) as well as on physical, chemical and biological parameters of the marine environment.

modelling platform that will boost our ability to assess and evaluate policy alternatives for the marine environment by testing different management scenarios. To do this, the platform will incorporate environmental, social and financial information.

The EU research and innovation agenda supports the sustainability of fisheries, conservation and restoration of marine biodiversity. In particular, support is available through Horizon Europe, both within its general work programme ([84]) as well as through the Mission "Restore our Ocean and Waters by 2030'' (Mission Ocean and Waters) and its regional basin lighthouses ([85]). It can support research and innovation on the sustainability of fisheries and the conservation and restoration of marine biodiversity.

The Mission Ocean and Waters sets ambitious objectives to protect and restore marine and freshwater ecosystems and biodiversity. The priorities include smart and environmentally friendly fishing gear, multi-purpose use of marine space, green and energy-efficient small scale fishing vessels, increasingly powered by renewable and low-carbon fuels and related operations. In combination, it will involve building up knowledge of various ecosystem components, developing breakthrough solutions to protect marine resources and habitats, and improving monitoring methods, including through the use of artificial intelligence.

Additional support for data collection, research and innovation is available through EMFAF and LIFE programmes.

Action to strengthen the knowledge base, research and innovation

The Commission calls on Member States to:

- Identify and develop solutions and incentives to reduce the environmental impacts of fishing, such as innovative fishing gear, new patterns of fishing, and improved fishing practices. For this, Member States can draw on dedicated national and EU funding for research and stakeholder involvement, in particular to fund outreach and specialised (and regional) training, for example on good practices in marine stewardship.

- By the end of 2023, under EU environmental and fisheries law, define objectives and specific data needs for each sea basin to monitor the impact of fishing on ecosystems and carbon sequestration, involving authorities at regional level as appropriate, and then allocating sufficient funds for these activities.

- By the end of 2024 ([86]), submit updated national DCF work plans ([87]) to improve data collection planning and efforts, including in relation to by-catch of sensitive species and impact of fishing on the seabed.

([84]) And more specifically through "Cluster 6: Food, Bioeconomy, Natural Resources, Agriculture and Environment" of Horizon Europe's Work Programme.

([85]) EU Mission: Restore our Ocean and Waters: https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/restore-our-ocean-and-waters_en

([86]) Or for some Member States 2027, depending on the timeframe of the current work plans.

(87) As required by Art 6 of EU Regulation 2017/1004

The Commission will:

- Throughout the 2021-2027 budget period (and the next work programmes for Horizon Europe, including the Mission Ocean and Waters, EMFAF and LIFE, in particular) promote the use of funding for advice, research and innovation. The funding should specifically target action to design and test innovative gear and techniques addressing incidental by-catch, and to quantify the EU's seabed carbon sequestration capacity and the potential impacts of bottom fishing.

- By the end of 2023, start developing a modelling tool to incorporate the concept of 'natural capital' in economic decisions. This implies assessing and quantifying both the economic value of marine ecosystem services and the socio-economic costs and benefits derived from keeping the marine environment healthy.

- By the end of 2023, gather EMODnet's seven thematic areas of bathymetry, geology, seabed habitat, chemistry, biology, physics and human activities on a single-entry portal, to improve visibility and user friendliness.

- In 2024, launch a study quantifying the EU's seabed carbon storage capacity and possible impacts of bottom fishing activities on this capacity.

- In 2024, launch preparatory work to develop an interactive platform on selective and innovative fishing gear, sharing knowledge and good practices.

- By the end of 2025, through the next Horizon Europe work programmes 2025-2027, including the work plan of the Mission Ocean and Waters, develop scalable solutions designed to conserve fisheries resources and protect marine ecosystems by creating marine protected areas, reducing and halting marine pollution, and reducing the environmental impact of fishing.

5. MONITORING AND ENFORCEMENT

EU fisheries and environmental legislation are only as good as their implementation. Member States need to take action to implement, monitor and enforce the rules, and the Commission needs to monitor the Member States' compliance with them.

Member States' monitoring and enforcement of the CFP rules ([88]) are mainly regulated by the Fisheries Control Regulation, which the Commission proposed to strengthen in 2018 ([89]). After almost five years of interinstitutional discussions and negotiations, there is an urgent need to finalise the revision and put in place an updated, more modern and more effective monitoring system to support the transition to more sustainable fisheries.

([88]) Rules of the common fisheries policy means EU legislation on the conservation, management and exploitation of living aquatic resources, on aquaculture and on processing, transport and marketing of fisheries and aquaculture products (Article 4(2) of Council Regulation (EC) No 1224/2009).

([89]) Proposal for a Regulation of the European Parliament and of the Council amending Council Regulation (EC) No 1224/2009, and amending Council Regulations (EC) No 768/2005, (EC) No 1967/2006, (EC) No 1005/2008, and Regulation (EU) No 2016/1139 of the European Parliament and of the Council as regards fisheries control {SEC(2018) 267 final} - {SWD(2018) 279 final} - {SWD(2018) 280 final}

In addition to implementing the Environmental Crime Directive ([90]), the Commission's enforcement action over the past two decades has been central to progress with the correct implementation of EU laws on biodiversity and the CFP rules ([91]). The Biodiversity Strategy strengthened the Commission's commitment to enforce these laws, for example, on the completion and effective management of Natura 2000 sites and the by-catch of protected species.

The Commission will step up enforcement under the MSFD, which so far has only focused on reporting requirements, and it will pursue more substantive cases of incorrect implementation of the Directive. In the context of the ongoing review of the Directive, the Commission will also assess if there is a need to clarify certain legal obligations.

Member States have so far underused the provision to request action by the EU institutions wherever they identify an issue that has an impact on the environmental status of its marine waters that they cannot tackle through national measures or that is linked to another policy, such as fisheries ([92]). The European Court of Auditors concluded that this weakens coordination between policy areas ([93]). The Commission is assessing the above provision as part of the review of the MSFD and, based on its findings, may propose a revision to improve its effectiveness.

The European Fisheries Control Agency (EFCA) ([94]), supported in certain areas by the European Maritime Safety Agency (EMSA) and the European Border and Coast Guard Agency (FRONTEX), also assists Member States and the Commission in fulfilling their tasks and obligations mandated by the CFP. In future, EFCA's work programme should encompass action on monitoring fisheries that specifically contribute to achieving the objectives of this action plan. This should entail specific action in EFCA's joint deployment plans, in line with the Commission Implementing Decision ([95]) establishing specific control and inspection programmes (SCIPs).

Action to improve implementation, monitoring and enforcement

The Commission calls on Member States to:

- With regard to negotiations on the new Fisheries Control Regulation, improve the monitoring of fisheries, for example, by using innovative tools such as remote electronic monitoring, through enhanced catch recording and reporting of sensitive species and distribution of fishing effort. They should also ensure that

([90]) Directive 2008/99/EC of the European Parliament and of the Council of 19 November 2008 on the protection of the environment through criminal law, OJ L 328, 6.12.2008, p. 28-37.

([91]) The second five-year report on implementation of the Control Regulation provides a state of play on the enforcement action taken by the Commission between 2015 and 2019: EUR-Lex - 52021DC0316 - EN - EUR-Lex (europa.eu)

([92]) Article 15 of the MSFD.

([93]) Special Report 26/2020, Marine environment: EU protection is wide but not deep, page 47, recommendation 87, reference to Article 15 of the MSFD.

([94]) Regulation (EU) No 2019/173.

([95]) Commission implementing Decision (EU) 2018/1986 of 13 December 2018 establishing specific control and inspection programmes for certain fisheries and repealing Implementing Decisions 2012/807/EU, 2013/328/EU, 2013/305/EU and 2014/156/EU, OJ L 317/29 of 14 December 2018.

EMFAF allocations are channelled into effective and strong action on monitoring, inspection and enforcement.

- Allocate sufficient resources to assess compliance with environment and fisheries rules review or adapt the measures needed to implement this action plan.

The Commission will:

- Step up implementation and enforcement of environment and fisheries rules by:
  - continuing or initiating infringement proceedings;
  - using the tools available under the CFP, such as audits and monitoring action plans together with the Member States.

- Continue working with the co-legislators to achieve swift adoption of an ambitious and revised Control Regulation.

- In 2023, begin revising the Commission Implementing Decision establishing specific control and inspection programmes (SCIPs) for certain fisheries ([96]), with the objective of aligning it to this action plan by 2024.

- Work with EFCA to align the joint deployment plans to the revised SCIPs and align the future work programme to the objectives of this action plan.

6. GOVERNANCE, STAKEHOLDER INVOLVEMENT AND OUTREACH

Successful implementation of environmental and fisheries management measures requires the support of all stakeholders, in particular fishers. Therefore, when developing and implementing measures, it is essential to work with transparency, cooperation, outreach, information and inclusiveness.

Member States have clear responsibilities and obligations for the protection of the marine environment. The CFP provides tools to implement the fisheries measures needed to meet these obligations. In particular, the CFP provides the basis for all stakeholders to work together through regional groups and Advisory Councils to define and agree on the most suitable fisheries measures for every local or regional factors. This approach has the potential to achieve the transition and translate it from a political ambition into real action on the ground.

Although at the outset Member States in implementing the regional approach mostly focused on the landing obligation, it has delivered broader achievements in recent years, particularly since the adoption of the Technical Measures Regulation in 2019. However, work on the necessary fisheries management measures in marine Natura 2000 sites under Article 11 of the CFP ([97]) has progressed at a very uneven pace in the different sea basins.

Joint recommendations for fisheries measures within MPAs started to accelerate only as of 2021, but the overall number is still very low and their conservation scope limited. The take-up is insufficient, given the importance of these fisheries management measures for

([96]) Referred to in Article 95 of Regulation Council Regulation (EC) No 1224/2009

([97]) See Footnote 29 on Article 11 of Regulation 1380/2013 (CFP).

the effective implementation of and compliance with EU legislation on the protection and the restoration of the marine environment.

It is clear that to tackle the planetary crises and accelerating loss of marine biodiversity and ecosystem integrity, which has detrimental socio-economic consequences due to declining fish stocks and food security risks, Member States have to speed up and raise the ambition of the regional approach. There is a need to renew the EU's collective commitment to marine conservation and secure a clear political commitment of all stakeholders and institutions to implement the environmental legislation effectively, use the current CFP policy tools and make them work.

It is essential that this process is transparent and involves all stakeholders and authorities. Under the EU treaties, the conservation of marine biological resources is the EU's exclusive competence, but environmental policy is a shared competence with Member States. As a result, separate and uncoordinated decision-making processes have developed at all levels, preventing the adoption and implementation of coherent management measures. It is crucial to improve the links between the two policy areas and significantly enhance transparency and coordination between the multiple authorities and stakeholders. This would enable the EU to design and develop win-win solutions that benefit both the fishers and the environment.

To reflect the commitment to accelerate action and improve transparency, Member States should prepare and publish roadmaps, with a timeline, outlining national measures and other measures they plan to put forward through joint recommendations, that are necessary to fulfil the objectives of this action plan. This should include relevant measures defined in chapters 2, 3 and 6 of this Communication. The roadmaps should build on the Member States' pledges to fulfil the objectives of the Biodiversity Strategy for 2030. To facilitate the process, the Commission will provide a template for the roadmaps.

To support Member States with the implementation of the action plan and ensure coherence and effectiveness, the Commission will create a new joint special group for Member States, with stakeholders as observers. The aim will be to facilitate knowledge sharing and discussions between fisheries and environmental communities, as well as to give the Member States' a platform for transparency and dialogue on the implementation of their roadmaps. The Commission will also continue to encourage other EU institutions and national authorities to increase transparency and cooperation between fisheries and environmental parties and experts.

To improve clarity and facilitate implementation of the current legal framework, the Commission has provided guidance on the roles and responsibilities of all actors in the procedures laid down in Article 11 of the CFP ([98]). The Commission will also provide further guidance on Article 6 of the Habitats Directive and fisheries legislation.

To reduce the impact of fishing on the marine environment, consumers and markets must also take an active role. This is crucial to stimulate demand for fish sourced with minimal environmental and climate impacts. Private-sector eco-labelling initiatives are popular, showing that consumers are keen to purchase products that take a more sustainable approach to the management of fish stocks. It is important that these initiatives are methodologically sound to avoid misleading consumers. This will be further ensured via

([98]) Commission Staff Working Document on the establishment of conservation measures under the Common Fisheries Policy for Natura 2000 sites and for Marine Strategy Framework Directive purposes, SWD 288 final.

the adopted proposal on the Consumer Empowerment for the Green Transition and the upcoming proposal to tackle false green claims.

As announced in the farm to fork strategy, it is important to continue work on the sustainable food system initiative that the Commission plans to propose in 2023 for a harmonised EU approach to sustainable food production.

While enhancing the standards of conservation of marine biological resources and the protection of marine biodiversity and ecosystems as described above, the EU should hold its vessels to at least the same standards when they fish on the high seas or in the exclusive economic zone of non-EU countries as when they fish in EU waters. In addition to the work done in RFMOs, sustainable fisheries partnership agreements (SFPAs) also contribute to fostering international fisheries governance through promotion of sustainable fisheries in partner countries. The MSFD also requires regionalised decision-making, including through cooperation with non-EU countries, bilaterally and/or through relevant international instruments such as regional sea conventions ([99]).

Improving governance, stakeholder involvement and outreach

The Commission calls on Member States to:

- by the end of March 2024, prepare and publish roadmaps ([100]) outlining all the measures needed to implement this action plan, including timelines for their adoption / submission, and proposals to improve coordination between national authorities and stakeholders.

The Commission will:

- In 2023, establish a joint special group for Member States, with stakeholders as observers, specifically tasked with providing support to the Commission in implementing the action plan and monitoring its progress.

- By the end of 2024, adopt a guidance document on Natura 2000 and fisheries

- Regularly inform the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions on the implementation of this action plan.

7. FRAMEWORK TO IMPLEMENT THIS ACTION PLAN

This action plan sets out a range of actions and support measures to better protect fisheries resources and marine ecosystems and to improve coherence and coordination between environmental and fisheries policies at all levels. It is designed to ease the fisheries sector's transition towards more sustainable fishing practices and to help it achieve greater

([99]) Four regional sea conventions cover EU marine waters: the Convention for the Protection of the Marine Environment of the Baltic Sea (Helsinki Convention - HELCOM), the Convention for the Protection of the Marine Environment of the North-east Atlantic (Oslo-Paris Convention - OSPAR), the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention – UNEP-MAP) and the Convention for the Protection of the Black Sea against Pollution (Bucharest Convention). The EU is a contracting party to the first three.

([100]) The Commission will provide templates for the roadmaps to guide the Member States in the process.

resilience. It is a guide for Member States to help them prioritise measures, with a focus on the protection of sensitive species, the seabed and on improving fishing selectivity.

To implement these measures and make them work effectively, fisheries, environmental bodies, the Commission, the European Parliament, the Council and the Member States, must work closely together. While a renewed political commitment and impetus is necessary, the CFP regional approach remains the right framework to implement this action plan, as it takes full account of regional differences and circumstances. In this process, the ongoing work in the context of the RFMOs requires particular attention, given the state of the shared and straddling stocks and the need to work with non-EU countries operating in EU waters.

The Commission proposes the following framework to implement this action plan.

- In Spring 2023, the Commission will provide to Member States a template and guidance to facilitate the preparation of the roadmaps
- In autumn 2023, the Commission will call the first meeting of the new joint special group to support Member States in preparing their national roadmaps and start the tracking process.
- By the end of March 2024, Member States will submit roadmaps to the Commission and make them public. These roadmaps should outline the national measures and other measures they intend to propose through joint recommendations in order to meet the objectives of the action plan, including a timeline to 2030.
- During the first half of 2024, the Commission will adopt its second report on the Technical Measures Regulation. This will feed into the mid-term review of the Biodiversity Strategy, also due in the first half of 2024, which will assess progress in implementing this action plan. Progress on the implementation of this action plan will be assessed against (1) the measures announced and outlined in the roadmaps for 2030, and (2) the national measures or joint recommendations, taken or submitted by March 2024.
- Depending on its assessment of progress made, and in line with its right of initiative, the Commission will consider whether further action is needed to improve implementation of any of the measures presented in this action plan, including by issuing a legislative proposal based on a thorough impact assessment.

8. CONCLUSION

The EU has been a driving force behind efforts to reach an agreement on ambitious targets for the new global biodiversity framework and now needs to translate this into deliverables.

Countering the triple crises our planet faces: climate change, biodiversity loss and pollution has become more urgent than ever in order to protect and restore Europe's seas and oceans and ensure Europe's food security and socio-economic wellbeing for fishers, coastal communities and societies at large. There is an urgent need to support EU fisheries and help them in increasing their resilience and contributing to the protection and restoration of marine ecosystems on which they depend.

As part of the Fisheries and Oceans Pact under the CFP Communication ([101]) and together with actions stemming from the energy transition initiative, the Commission calls on all involved – Member States, European Parliament and Council - to be ambitious in the implementation of this action plan and work together in close cooperation with stakeholders, to implement the EU environmental and fisheries policies in full coherence to ensure a thriving sustainable fisheries sector in coexistence and synergy with healthy and biodiverse marine ecosystem.

([101]) COM(2023)103