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ANNEX

ANNEX

to the

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

**Strategic guidelines for a more sustainable and competitive EU aquaculture for the
period 2021 to 2030**

{SWD(2021) 102 final}

ANNEX

RECOMMENDED ACTIONS

2.1. BUILDING RESILIENCE AND COMPETITIVENESS			
Area	Commission	EU Member States	Aquaculture Advisory Council
2.1.1. Space and water	<ul style="list-style-type: none"> • Develop a more detailed guidance document on the planning for space and access to water for marine¹, freshwater and land-based aquaculture. • Provide technical support to EU Member State administrations in the implementation of that guidance, and allow the use by EU Member States of funding under the European Maritime, Fisheries and Aquaculture Fund (EMFAF) for this purpose. • Monitor the implementation of the Maritime Spatial Planning Directive and coordinate the exchange of good practices on non-maritime spatial planning. 	<ul style="list-style-type: none"> • Designate areas suitable for aquaculture according to the principles described in this Communication and future guidance. 	
2.1.2. Regulatory and administrative	<ul style="list-style-type: none"> • Consolidate a guidance document on good practices for administrative procedures. 	<ul style="list-style-type: none"> • Review the regulatory and administrative system on aquaculture as necessary in light of 	

¹ This guidance should take into consideration: (i) experiences shared by EU Member States in the context of the OMC; (ii) results of EU-funded research; and (iii) the work carried out in the context of the FAO General Fisheries Commission for the Mediterranean and Black Sea (GFCM). See ‘A guide for the establishment of coastal zones dedicated to aquaculture in the Mediterranean and the Black Sea’ (www.fao.org/3/ca7041en/CA7041EN.pdf). EU-funded projects such as AquaSpace (<http://www.aquaspace-h2020.eu/>) and TAPAS (<http://tapas-h2020.eu/>) have developed tools for identifying specific sites for aquaculture activities. Among other EU-funded projects relevant for the planning of space for aquaculture is MUSES, which conducted various case studies, including a case study in the Baltic Sea (Danish waters) dedicated to combination of ‘offshore wind production and mariculture’ (<https://muses-project.com/wp-content/uploads/sites/70/2018/02/ANNEX-8-CASE-STUDY-5.pdf>).

<p><i>framework</i></p>	<ul style="list-style-type: none"> • Provide technical support to EU Member States' administrations in reviewing and improving their regulatory and administrative systems in light of those good practices, and allow the use by EU Member States of EMFF funding for this purpose. 	<p>the principles laid down in this Communication and future guidance consolidated by the Commission, and taking into consideration the special needs of SMEs.</p> <ul style="list-style-type: none"> • Set up a single national entity that brings together national and regional public authorities dealing with aquaculture. Involve relevant stakeholders in this entity. 	
<p>2.1.3 Animal health and public health</p>	<ul style="list-style-type: none"> • Map good husbandry practices, in particular 'environmental enrichment', the use of 'functional feed', and selective breeding. Organise training on these practices. This training could be supported using EU funding. • Examine how to improve public access to the main environmental risk-assessment results and relevant toxicological thresholds for medicinal products while respecting confidentiality and data-protection rules. Consider – in collaboration with the European Medicines Agency and Member States – developing guidance on the environmental risk assessment of medicinal products for use in aquaculture (including, where 	<ul style="list-style-type: none"> • Provide training to competent authorities (including under the Better Training for Safer Food initiative) on disease surveillance and notification in relation to listed and emerging diseases under Regulation (EU) 2016/429 and other relevant animal-health matters. • Support and promote research and innovation on animal health, including on shellfish diseases, taking into consideration the priorities identified by the Standing Committee on Agricultural Research (SCAR-Fish). • Support the development of knowledge and skills by aquaculture producers on good husbandry 	<ul style="list-style-type: none"> • Develop codes of good practice on the management of aquatic diseases that are not listed in Council Directive 2006/88/EC or in Regulation (EU) 2016/429. • Support and disseminate the good husbandry practices identified by the Commission among aquaculture producers. • Ensure that EU aquaculture producers are informed about relevant research and innovation on animal-health and public-health matters.

	<p>appropriate, recommendations for risk-management measures).</p> <ul style="list-style-type: none"> • Organise workshops gathering all the European stakeholders involved in the issue of norovirus in shellfish (industry, academics, researchers, governments and policymakers) to discuss possible solutions. • Provide training to competent authorities (including under the Better Training for Safer Food initiative) on disease surveillance and notification in relation to listed and emerging diseases under Regulation (EU) 2016/429 and other relevant animal health matters. • Support and promote research and innovation on animal health, including on shellfish diseases, taking into consideration the priorities identified by the Standing Committee on Agricultural Research (SCAR-Fish)². 	<p>practices.</p>	
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² The Standing Committee on Agricultural Research (SCAR-Fish) has identified priorities for research on ‘disease prevention and management in aquaculture’ (<https://scar-europe.org/index.php/fish-documents>). The Farm to Fork Strategy refers to the microbiome as a key area for research to be supported by the Horizon Europe programme.

<p>2.1.4. Climate-change adaptation and mitigation</p>	<ul style="list-style-type: none"> • Develop a guidance document on sectoral climate adaptation plans and strategies³. • Support climate mitigation in the aquaculture sector, including by ensuring an appropriate policy framework and allowing the use of EU funds. 	<ul style="list-style-type: none"> • Support the development of sector-specific national, regional, transnational or sea-basin climate adaptation plans consistent with national strategies and plans, as well as the corresponding European Committee for Standardization (CEN) standard. • Support training on climate adaptation and resilience for people working in the aquaculture sector. • Support climate mitigation in the aquaculture sector. 	<ul style="list-style-type: none"> • Disseminate in the aquaculture sector guidance on climate adaptation and resilience. • Promote the adoption by EU aquaculture producers of climate-adaptation and climate-mitigation measures.
<p>2.1.5. Producer and market organisation</p>	<ul style="list-style-type: none"> • Organise workshops for relevant public authorities and industry to facilitate the establishment and recognition of producer organisations (POs) and inter-branch organisations by presenting good practices and facilitating the exchange of good practices between actors. • Provide information on the different aquaculture POs in the EU (including 	<ul style="list-style-type: none"> • Promote among producers and operators in the sector the benefits of setting up POs and inter-branch organisations, as well as transnational activities between POs. Continue to support these organisations, in particular their production and marketing plans, including through national and EU funding. 	<ul style="list-style-type: none"> • Promote among aquaculture producers the benefits of setting up POs , inter-branch organisations and transnational activities between POs. Provide support for this if necessary.

³ This guidance should take into consideration the findings of relevant EU-funded projects, such as SOCLIMPACT (<https://soclimpact.net>), CERES (<https://ceresproject.eu>) and ClimeFish (<https://climefish.eu/>). The recommendations developed as part of the ClimeFish project specifically target marine aquaculture, but also freshwater lake and pond production. This project has developed a decision-support framework (DSF) consisting of an electronic tool to support planning processes, including data and good practices. It has also initiated a European standard for sectoral climate-adaptation plans.

	transnational organisations) and inter-branch organisations in the aquaculture sector, as well as the actions taken by these organisations.		
2.1.6. Control		<ul style="list-style-type: none"> • Ensure that the necessary tools are in place to ensure traceability of aquaculture products from their catch/harvest to the retail sale. • Encourage the use of digital tools and artificial intelligence for increased traceability and transparency of aquaculture products across the value chain. 	<ul style="list-style-type: none"> • Encourage the use by the aquaculture sector of digital tools for increased traceability and transparency.
2.1.7. Diversification and adding value	<i>Several recommended actions can contribute to this purpose.</i>	<i>Several recommended actions can contribute to this purpose.</i>	<i>Several recommended actions can contribute to this purpose.</i>
2.2. PARTICIPATING IN THE GREEN TRANSITION			
Area	Commission	EU Member States	Aquaculture Advisory Council
2.2.1. Environmental performance	<ul style="list-style-type: none"> • Develop a guidance document on environmental performance in the aquaculture sector that includes the following: <ul style="list-style-type: none"> (a) Guidance on implementing the legal requirements for the sector laid down in EU legislation⁴, including relevant case-law. 	<ul style="list-style-type: none"> • Promote and disseminate the guidance on environmental performance developed by the Commission among authorities competent for aquaculture and the aquaculture industry (including through training), and support industry efforts to adopt such practices (including by using EU 	<ul style="list-style-type: none"> • Promote in the aquaculture sector the implementation of the guidance on environmental performance. • Promote the prevention of marine litter by aquaculture activities.

⁴ There should also be broader dissemination of Commission guidance documents such as *Guidance on Aquaculture and Natura 2000*.

	<p>(b) The identification of environmental indicators and voluntary targets for environmental performance, including a reference method to determine the carbon footprint and impact on ecosystems of aquaculture production.</p> <p>(c) The mapping of good practices at governmental and industry level covering: the use of sustainable feed; energy efficiency; reduction of carbon footprint; reduction of escapees; use of chemicals and medicines; how to achieve nutrient-balanced aquaculture sites; the circular approach and waste management; the management of predators⁵; and the use of genetic aquatic resources and selective breeding.</p> <p>(d) The creation of a reference monitoring system for the aquaculture sector to assess progress and facilitate informed decision-making and long-term planning. The system should</p>	<p>funds).</p> <ul style="list-style-type: none"> • Ensure that competent authorities integrate all environmental aspects in aquaculture planning and licensing, ensuring full implementation and compliance with applicable legislation. These aspects to be integrated include: (i) developing sensitivity mapping of species and habitats to aquaculture pressures; (ii) determining the environmental carrying capacity of sites according to objective criteria; and (iii) developing agreements and schemes for site rotation and area management to reduce emissions of nutrients and organic matter). • Ensure appropriate monitoring and reporting on the environmental performance of the sector, fully implementing applicable legislation. Promote monitoring and reporting by the industry of environmental indicators. • Support efforts to reduce further the environmental footprint of EU 	<ul style="list-style-type: none"> • Promote the monitoring and reporting by the aquaculture industry of environmental indicators. • Ensure that EU aquaculture producers are informed about relevant research and innovation to improve the environmental performance of aquaculture operations.
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⁵ For example, there should be wide dissemination of the INTERCAFE cormorant-management toolbox on methods for reducing cormorant problems at European fisheries. See https://ec.europa.eu/environment/nature/cormorants/files/Cormorant_Toolbox_web_version.pdf.

	<p>include data on the aspects mentioned in the paragraphs above.</p> <ul style="list-style-type: none"> • Support efforts to reduce further the environmental footprint of EU aquaculture. • Support the diversification of EU aquaculture to types of aquaculture with better environmental performance, inter alia by ensuring an appropriate policy framework and allowing the use of EU funds (including to increase the value of this type of aquaculture in the market and throughout the value chain). • Work on limiting the contribution of aquaculture to marine litter by: (i) implementing the requirements of the Single Use Plastics Directive; (ii) supporting the replacement of plastic-based aquaculture gear with sustainable solutions and the adaptation of sites to minimise loss of material to the environment; (iii) ensuring the separate collection of waste; and (iv) promoting innovation in the 	<p>aquaculture</p> <ul style="list-style-type: none"> • Support the diversification of EU aquaculture to types of aquaculture with better environmental performance, inter alia by ensuring an appropriate policy framework and the use of EU funds (including to increase the value of this type of aquaculture in the market and throughout the value chain). • Work on limiting the contribution of aquaculture to marine litter by: (i) implementing the requirements of the Single Use Plastics Directive; (ii) supporting the replacement of plastic-based aquaculture gear with sustainable solutions and the adaptation of sites to minimise loss of material to the environment; (iii) ensuring the separate collection of waste; and (iv) promoting innovation in the packaging of aquaculture and processed aquaculture products. • Support the application of research and innovation to improving the environmental performance of the sector. 	
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	<p>packaging of aquaculture and processed aquaculture products.</p> <ul style="list-style-type: none"> • Support the application of research and innovation to improving the environmental performance of the sector. 		
2.1.3 Animal welfare	<ul style="list-style-type: none"> • Support the development by EU Member States, the EU aquaculture industry, EU scientific bodies and NGOs of a code of good practice on fish welfare based on scientific research and evidence, covering farming, transport and killing. This code of good practice should be widely disseminated⁶. • Support the development by EU Member States and the EU aquaculture industry of common, validated, species-specific and auditable fish-welfare indicators throughout the production chain, including transport and slaughtering. Part of this support should include support to research⁷. • Support and promote research and 	<ul style="list-style-type: none"> • Support and promote research and innovation on animal welfare, taking into consideration the priorities identified by the Standing Committee on Agricultural Research (SCAR-Fish). • Support the development of knowledge and skills by aquaculture producers on good practices for fish welfare. 	<ul style="list-style-type: none"> • Support and disseminate the code of good practice on fish welfare among aquaculture producers. • Ensure that EU aquaculture producers are informed about relevant research and innovation on animal welfare.

⁶ Such a code should take into consideration the work of the own-initiative subgroup of the Animal Welfare Platform of DG SANTE and relevant EFSA opinions.

⁷ The PerformFish Horizon 2020 project (<http://performfish.eu/>) works, among other things, on validating operational welfare indicators that are directly relevant for seabass and seabream farmers in the Mediterranean Sea.

	<p>innovation on animal welfare, taking into consideration the priorities identified by the Standing Committee on Agricultural Research (SCAR-Fish)⁸.</p>		
2.3. ENSURING SOCIAL ACCEPTANCE AND INFORMATION TO THE CONSUMER			
Area	Commission	EU Member States	Aquaculture Advisory Council
<p>2.3.1. Communicating on EU aquaculture</p>	<ul style="list-style-type: none"> • Develop a user-friendly brochure explaining the legislation with which the aquaculture sector needs to comply. • Conduct a study on the state-of-the-art of scientific information on the impacts (positive and negative) of EU aquaculture from the economic, environmental and social points of view to facilitate a well-informed debate. • Organise a stakeholders’ conference following the adoption of this Communication. • Develop tools for a coordinated EU-wide campaign on EU aquaculture to be used at national and regional level⁹. 	<ul style="list-style-type: none"> • Support and ensure the broad dissemination at national level of the coordinated EU-wide campaign on EU aquaculture, with the full involvement of regional authorities; aquaculture producers; retailers; and to the extent possible, NGOs and media. • Promote self-regulatory initiatives by the aquaculture sector (e.g. good practices, codes of conduct, and traceability) and the communication of these initiatives to the consumer. Promote brands and quality labels with appropriate control mechanisms. • Promote the use of digitalisation tools and artificial intelligence for the traceability and transparency of aquaculture products. 	<ul style="list-style-type: none"> • Support and ensure the broad dissemination by members of the coordinated EU-wide campaign on EU aquaculture. • Promote self-regulatory initiatives by the aquaculture sector (e.g. good practices and codes of conduct) and traceability (including the use of digital tools) and their communication of these initiatives to the consumer. Promote the use of brands and quality labels with appropriate control mechanisms. • Promote the use of digitalisation tools and artificial intelligence for the traceability and transparency of aquaculture

⁸ SCAR-Fish has identified priorities for research on fish welfare (<https://scar-europe.org/index.php/fish-documents>).

⁹ The development of these tools should take into consideration the experience gained with the ‘Farmed in the EU’ campaign.

	<ul style="list-style-type: none"> Assessing the possibility to define standards for aquaculture products under the review the marketing standards framework. Following the publication of the report on the results of the application of the Regulation on the common organisation of the markets for fisheries and aquaculture products (CMO Regulation), consider whether any guidance or follow-up actions are necessary. Explore further the role of digitalisation tools and artificial intelligence for the traceability and transparency of aquaculture products. 		products.
2.3.2. Integration in local communities	<ul style="list-style-type: none"> Provide good practices on the early involvement of local stakeholders as part of the guidance documents for spatial planning and administrative procedures¹⁰. Collect good practices on the integration of the aquaculture sector in local communities, in 	<ul style="list-style-type: none"> Ensure the early involvement of local stakeholders according to the good practices provided by the Commission as part of the guidance documents for spatial planning and administrative procedures. Promote the integration of the aquaculture sector in local 	<ul style="list-style-type: none"> Disseminate among members the good practices on integration of the aquaculture sector in local communities. Promote among members the involvement by the aquaculture industry of local stakeholders in their activities,

¹⁰ The EU-funded project Mediterranean Aquaculture Integrated Development (MedAID) is looking at ways to involve local stakeholders in aquaculture development (see <http://www.medaid-h2020.eu/index.php/wp7-social-acceptability-and-governance>).

	<p>particular in developing synergies with other sectors and a ‘circular economy’ approach. Promote such practices, including through the EU Aquaculture on-line platform mentioned in this Communication.</p>	<p>communities and the development of synergies with other sectors, taking into consideration the good practices collected by the Commission.</p>	<p>as well as the need to show the concrete benefits of those activities to local communities, including through greater transparency.</p>
<p>2.3.3. Data and monitoring</p>	<ul style="list-style-type: none"> • Map reporting obligations on the aquaculture sector under different pieces of EU legislation¹¹. • Identify and define common environmental indicators for reporting by Member States on aquaculture. • Review and where appropriate adjust the data collection on aquaculture. 	<ul style="list-style-type: none"> • Submit to the Commission data on freshwater aquaculture as well as environmental indicators for which collection and reporting is required under national legislation. • Implement reviewed data-collection obligations on aquaculture under the Data Collection Framework (EU Multiannual Data Collection Programme applicable from 2022). • Encourage industry and industry associations to take voluntary commitments to report to national authorities and make public environmental data, including on escapees and the use of veterinary medicines. 	<ul style="list-style-type: none"> • Encourage industry and industry associations to make voluntary commitments to report to national authorities and make public environmental data, including on escapees and the use of veterinary medicines.

¹¹ These include: (i) data collected by Eurostat under Regulation (EC) 762/2008 on the submission by Member States of statistics on aquaculture; (ii) the data collected under the Data Collection Framework Regulation (Regulation (EU) 2017/1004); and (iii) data collected under animal-health legislation or legislation on organic production.

2.4. INCREASING KNOWLEDGE AND INNOVATION			
Area	Commission	EU Member States	Aquaculture Advisory Council
	<ul style="list-style-type: none"> • Set up, as part of the EU aquaculture on-line platform mentioned in these guidelines, a site where all EU-funded research projects on aquaculture are registered and their results made publicly available. • Foster the development and matching of research and innovation strengths – across Member States and regions, as well as related business opportunities, including through Smart Specialisation Strategies aimed at building full value chains across the EU. • Foster the creation and implementation of solid dissemination-and-exploitation plans for funded projects on research and innovation. • Support research and innovation 	<ul style="list-style-type: none"> • Set up a framework of cooperation bringing together public authorities, industry, and research and educational institutions, and promote the development of clusters for aquaculture¹³. • Disseminate information on national research and innovation projects and their results. • Support (including using EU funding) skills development in the aquaculture sector and the regular training of aquaculture professionals. • Coordinate and support research and innovation in line with identified priorities, including those priorities reflected in the reports of the Standing Committee on Agricultural Research (SCAR-Fish). • Support the upscaling and commercialisation of innovative 	<ul style="list-style-type: none"> • Encourage aquaculture producers and other stakeholders to work together with research and innovation institutes and public authorities to find solutions to the challenges of the sustainable development of EU aquaculture. • Disseminate information on research and innovation projects and their results among members. • Promote the uptake by the EU aquaculture industry of existing innovation. • Promote in the aquaculture sector the regular training of aquaculture professionals, in particular on how to incorporate innovative practices.

¹³ EU cluster initiatives launched under the COSME programme to support SME innovation and growth are a good example of advancements in the area; e.g. the French aquaculture and marine resources cluster, which brings together over 170 members (including more than 60 SMEs).

	<p>on sustainable aquaculture, in particular through Horizon Europe and its identified priorities.</p> <ul style="list-style-type: none"> • Support (including with the use of EU funding) skills development in the aquaculture sector¹². 	practices in the aquaculture sector.	
FUNDING			
Area	Commission	EU Member States	Aquaculture Advisory Council
Funding	<ul style="list-style-type: none"> • Provide an overview of the wide range of available EU funding programmes¹⁴. • Ensure coherence, synergies and complementarity in support of aquaculture under the different EU funds managed by the Commission. • Ensure that information about projects funded in the sector is provided publicly and regularly. • Take into consideration the priorities set out under this Communication for programming commitments and 	<ul style="list-style-type: none"> • Coordinate the planning, commitments and expenditure on aquaculture under different funds under the Multiannual Financial Framework, ensuring coherence, synergies and complementarity between them. • Ensure that information about projects funded in the sector is provided publicly and regularly. • Take into consideration the priorities set out under these guidelines in programming support under national and EU funds. 	<ul style="list-style-type: none"> • Promote among EU aquaculture producers and other stakeholders the use of existing funds and tools to attract investment to implement the objectives laid down in this Communication.

¹² The Commission has funded projects on skills development in the EU aquaculture sector under the EMFF-Blue-careers action (e.g. Entrefish (http://www.entrefish.eu/?page_id=3554&lang=en)). It has also funded through the Erasmus+ programme more than 100 projects related to aquaculture (see https://ec.europa.eu/programmes/erasmus-plus/projects_en). However, more should be done in the future.

¹⁴ For example: the European Maritime and Fisheries Fund (EMFF) and the future EMFAF, Horizon 2020, and Horizon Europe, Environment and climate action (LIFE+), the European Regional Development Fund (ERDF), Competitiveness of Enterprises and SMEs (COSME), and the European Earth Observation Programme (Copernicus).

	<p>expenditure of EU funds.</p> <ul style="list-style-type: none">• Continue to support investment in innovative and sustainable solutions for the aquaculture sector through the BlueInvest initiative and InvestEU.	<ul style="list-style-type: none">• Support investment in innovative and sustainable solutions for the aquaculture sector.	
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