



18/10/2023: ENVIRONMENTAL PERFORMANCE WORKSHOP:
Questions and comments

General comments (structure, scope)

- It would be useful to include a **proof-of-concept** in good practices; a standard selection of examples for all good practices would be preferable, instead of different levels of development in the examples (some research papers and some applied in practice). This inspires confidence and provides contacts for others to ask for more information on implementation. Also, details on the practical exploitation of practices and at what scale they have been implemented.
- If no proof-of-concept: to explain what is necessary to move from experiment to farm implementation and what are the obstacles
- A chapter/examples of good practices related to how farmers develop and grow their businesses in different MS within the existing legal framework would be useful, given that it creates many challenges
- **structure/regrouping of topics** might be improved
- **Legislative part should be expanded**: to provide more information on the objectives of given legislation, how it applies to aquaculture, what the obstacles are to implementing it, what this means for industry in practical terms – the benefits – and recommendations on what to do (for example on MSFD, WFD, Alien species Regulation). More clarity is needed on legislation for producers and MS authorities. Explanations could be given to the level of specific articles that apply to aquaculture.
- There should be a **more comprehensive and well-developed discussion of the good practice examples**. The links to the projects, the guidance documents from the MS, etc. would require a lot of reading to understand what the best practices are, how to structure them and how you can apply them across the EU.
- More information necessary about the **environmental benefits of aquaculture** – sometimes benefits in the document are actually economic not environmental, while economic benefits are well-covered in other documents. Environmental performance information is becoming scattered in many documents and is thereby diluted, making it difficult for governing bodies, the public and industry to find relevant information. A full account of the environmental problems is necessary to improve environmental performance.
- The document sometimes associates circularity with sustainability, and this might not always be true: circular systems should always be assessed in terms of sustainability.
- Policy overview is missing some of the major agreements such as the Paris Agreement and the Montreal Protocol
- Document is **focused on negative impacts of the aquaculture sector, it should be more balanced and promote positive impacts of aquaculture** on ecosystems – proposal to merge first and second working package instead of delivering in two separate packages (given that the second one will focus more on environmental benefits)



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- Good practices would benefit from numbers and recommendations – investors in activities aimed to improve the environmental performance would be interested in knowing where their money would be best spent. Document is missing recommendation in the context of benefits to implementing them
- **There is not enough alignment between the public and industry factsheet items.** Although the topics were aligned, some of the measures were not. For example, integrating the use of shellfish or algae in farms to remove nutrients does not have an equivalent on the public side which could be things related, e.g., to multi-species licensing. Advocating for something on the industry side needs an enabling factor on public side.
- Policy briefs resulting from [AquaVitae](#) project would be useful material for the guidance document, they are also preparing recommendations on monitoring mitigation actions
- Social acceptance was referenced in the policy overview but it did not follow through in the rest of the document and the Factsheets in particular
- **Feed:** FEAC's guidance on advanced feeding techniques identifies that the key environmental challenges linked to feed supply are depletion of resources, how to better integrate fish feed and aquaculture into the circular economy, and how to deal with nutrient losses. It is suggested to include this in the guidance document's section on sustainable feed, specifically identifying problems that we can address through best practices
- Feed sector is highly regulated through DG SANTE, issues like the feed ban and other restrictions relating to food safety present a limit in how far FEAC can push the boundaries on circularity. Expanding on legislative part in relation to this would be useful.
- Suggestion to invite all relevant organisations to contribute to linking these to best practices all along the value chain in a live format given constant change. Reference was made to the initiative by DG SANTE with an open website on best practices across the food chain under the business code for European food chain partners that is regularly updated by all relevant organisations.
- Aquaculture should be treated in the same way as other food production systems like agriculture
- There should be **more focus on shellfish production**, which is an important part of European production and provides ecosystem services to the environment.
- It is essential to integrate aquaculture in EU regulations – the MSFD, the WFD, and the Data Collection Framework, which is currently missing
- There should be a better connection to existing initiatives including the EU Algae Initiative and the EU 'Mission Ocean' initiative that rely on these implementation measures
- Future scenarios by region should be presented, given that different sea regions may be affected differently by climate change, to move toward adaptation.
- we need to close the gap on **circularity** and that **deserves more attention in the document** – circularity of systems, symbiotic systems, better resource management within EU systems, national systems and local systems. We need better resource boundaries within the EU. For example, creating local feed banks and eliminating the need to import closes the cycle of sustainability as well, and mussels and algae are a key factor for success but largely absent from the document.



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- Document would benefit from graphs related to the content

Factsheets:

- To present regional cooperation in the context of MSP, with more information on good practices in MS related to cumulative carrying capacity analysis at sea-basin level.
- More guidance for industry needed with respect to plastics use, with more long-term responsibility for recycling and repurposing equipment when their original customers finish using it.
- To add columns in the Factsheets to capture opportunity costs related to environmental performance and better inform decisions involving trade-offs between benefits and costs. For example, one cannot 'avoid' organic enrichment, only reduce or minimise it. If one does this with technology, there are opportunity costs – on the economic aspects of sustainability and potentially on climate.
- German guidelines for organic enrichment and nitrogen and phosphorous emissions of fish farms are referenced in the document: Fish farmers and water authorities can compute emissions and environmental impact and categorise farms by intensity. It is a useful document but not with open access. It is not clear if water authorities use it and it would be useful to see papers on topics helping fish farmers and water authorities cooperate.
- Some details are missing from the factsheets: marine pollution addresses organic enrichment and plastics but neglects toxic substances.
- Suggestion to include good practices on strategies to manage veterinary medicines as well as cleaning and disinfection agents and anti-fouling substances - there are regional good practices on these topics in the OSPAR and HELCOM Baltic Sea and North Sea document that could be included.
- Sludge management should be under the organic enrichment and discharge limits for nutrients.
- There should be a topic on seal scaring in the predator management section given the challenge of reducing marine noise.
- Staff training should be highlighted because it is essential to implement measures
- Recommendation to standardise terminology with respect to the MSFD and the WFD, for example, rather than favouring 'eco-friendly substances' as used in the guidance document.
- Example from IT: Aquaculture management is currently regional. The country is establishing a regulatory framework that will unify this at the national level in cooperation with the Ministry of the Environment and other relevant ministries. For example, the framework will regulate discharge and effluents (targeting improving the environmental performance of aquaculture and fisheries by reducing plastics and monitoring discharge and effluents levels).
- Reference was made to the past and ongoing activities of FAO related to plastics and environmental performance in aquaculture, and particularly areas suitable for aquaculture (ASAs). In 2012, FAO approved a resolution on MSP. It included allocated zones for aquaculture considering aspects including environmental monitoring and impact to encourage improved legislation in the Mediterranean. Plastics are a key focus of activities, at the last meeting of the scientific Committee



on Aquaculture in Rome, three key topics were: decreasing plastics, decarbonisation, and approval of regulatory guidelines for environmental monitoring programmes.

- Suggestion to **add sustainability as a topic**. It is very difficult to separate circularity and strategies to reduce organic enrichment, which are highly interrelated in the circularity of IMTA systems such as when integrating algae and shellfish production into marine finfish farms.
- Data management requires international coordination and this should be part of the document – it is currently coordinated on the national level
- **Terminology**: use *aquatic food* instead of *seafood*, to encompass freshwater-based food; a connection to the WFD which discusses ‘good environmental status’ would be preferable instead of ‘environmental balance’; ‘enrichment’ would be better represented as ‘eutrophication’
- HU to send a guidance document for good aquaculture practice related to nutrient sinks, which would be beneficial in good practices
- **Predator management** chapter needs a change in the approach and scope (not only birds and mammals) – it is a complex topic which might benefit from a **separate document**. More information needed on predator management and legislation
- It is necessary to address the **link between environmental performance and economic and social ‘performance’**, noting that social and economic mechanisms are necessary to encourage or reinforce environment good practice, and that both can contribute to inclusion of more positive impacts or aspects of aquaculture. For example, on the financial side, nutrient trading schemes can reward the offer of ecosystem services, and ecosystem services are a positive. On the social side, transparency and access to data that demonstrates good environmental performance can improve the industry’s public image.
- it is unclear what the **definition of environmental performance** is in the document, but this definition affects how industry attempts to measure and monitor it. A question was realised whether all MS are monitoring the same things to comply with e.g. the Habitats Directive or the Birds Directive. When applying for a license, one must ensure their farm does not impact these protected areas and wild populations – predators in some cases – at significant cost to industry as well as the public sector.
- Two sets of documents were mentioned as useful for the good practices for plastics: 1) the AAC documents on marine litter and 2) the Global Coast Guard initiative with best practice guidance boxes for aquatic debris for aquaculture, both in the UK and worldwide. It was noted that most large-scale plastic litter results from accidental loss such as due to failed moorings during storms. Plastic litter should be linked to both technical standards, which was mentioned in Norway and Scotland in particular, and EIAs when they are written for larger farms, and this should include contingency planning on how to recover the cages via some sort of risk assessment of cage farms, particularly pen logs or facility logs.
- Content should be expanded to address two potential technical/infrastructure applications in the Mediterranean and their challenges. 1) Regarding intelligent feeding in the document, there should be guidance about application of non-invasive remote monitoring systems in the Mediterranean where systems used in the salmon industry may face challenges in terms of the apparatus. 2) Further,



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many Mediterranean farms still operate using wind tunnels or even less advanced technologies which lead to a much higher FCR than can be achieved with a barge. Barges face two potential challenges: they are not feasible everywhere and, where they could be used, they would require a large infrastructure investment. Nevertheless, barges reduce the FCR substantially and, if they are hybrid or electric, they could also reduce the farm's footprint as has been achieved by some companies.

- A reference was made to an example of a solution how to reduce organic enrichment (carp farming) in PL, which worked at small scale and is not being scaled up. It was a simple solution that worked well and enhanced the relationship between farmers and environmentalists.