

## EBCD & EESC CONFERENCE

### *The Contribution of Fisheries and Aquaculture to Food Security*

14/11/2024

#### **In a nutshell:**

***This event was organised by EBCD in partnership with the European Economic and Social Committee (EESC) and sponsored by the Xunta de Galicia.***

Europe is an important food exporter to the world. We know that aquatic foods are healthy foods, whether for human health or environmental impact. Hunger and malnutrition across the globe are far from being resolved and, there are growing risks that are dramatically aggravating food security worldwide. Pandemics, wars, climate change and biodiversity loss illustrate the vulnerability of our food systems to external factors. The need for resilient and sustainable food systems is essential to ensure food security and is becoming even more relevant with a population expecting to increase by nearly 2 billion people in the next 30 years (UN). At the same time, the climate-food systems nexus has become part of the discussions in the global processes. At the UNFCCC COP 28, more than 150 countries signed a declaration on Sustainable agriculture, resilient food systems and climate action thereby strongly linking the issue of climate change and food systems. In this context, aquatic foods play a considerable role, as they contribute to many UN Sustainable Development Goals (SDGs). Indeed, aquatic foods are an important source of long chain fatty acids, high quality proteins, and essential micronutrients important to human health; while the world will need 50% more food by 2030 due to a rising population (FAO), aquatic foods constitute essential components of a healthy diet. All in all, as aquatic products have a lower carbon footprint than any other animal production industry, fisheries and aquaculture sectors represent real assets to tackle the climate and biodiversity crisis as well as to provide healthy food and livelihoods to a growing worldwide population.

#### **Agenda:**

**Moderator:** Dr. Mark Dickey-Collas (DickeyCollas Marine)

**9.00-9.30 Welcome coffee**

**9.30 – 10.45 Keynote speeches:**

- **Welcome and introductory remarks by Piroska Kallay** – Member of the European Economic and Social Committee EESC Member
- **EBCD – Despina Symons** – Director of EBCD
- **European Parliament**
  - **Francisco Millán Mon** – Member of the Committee on Fisheries of the European Parliament

- **André Rodrigues** – Member of the Committee on Fisheries of the European Parliament
- **FAO – Dr. Manuel Barange** – Assistant Director General, Director of the Fisheries and Aquaculture Division at FAO
- **European Commission – Delilah Al Khudairy** – Director of Maritime Policy & Blue Economy at DG MARE
- **European Council Presidency – Marta Janakakis** – Fisheries Advisor of the Hungarian Permanent Representation

#### **10.45 – 11.00 Coffee Break**

#### **11.00 – 13.00 1st panel on 'Efforts towards healthy and sustainable diets':**

- Aquatic foods' contribution to Sustainable Food Systems – **Ambassador Jón Erlingur Jónasson**, Chair of the UN Aquatic Blue Foods Coalition)
- Benefits of aquatic foods for human nutrition and health – **Livar Frøyland** – Head of Research at the Norwegian Institute for Marine Research
- Challenges and opportunities for the fisheries sector – **Daniel Voces de Onaindi**, Managing Director at Europêche
- Progress towards achieving sustainable fisheries in the EU – **Esben Sverdrup-Jensen** Chair of the European Association of Fish Producers Organizations
- Challenges and opportunities for the aquaculture sector – **Szilvia Mihalfy**, Project Manager at the Federation of European Aquaculture Producers

#### **Q&A session**

#### **13.00 – 14.00 Lunch Break**

#### **14.00 – 15.00 2nd panel on 'Considering the social-ecological system of aquatic foods':**

- Outcomes of the Blue Food Assessment – **Beatrice Crona** – University of Stockholm
- What makes resilient and sustainable aquatic food production? – **Jorn Schmidt** – Director for Sustainable Aquatic Food Systems at WorldFish
- Social-ecological Systems and Ecosystem-based Marine Management – **Debbi Pedreschi** – Irish Marine Institute
- Mission Ocean and Food 2030 – **Nikos Zampoukas** – Policy Officer at DG Research & Innovation

#### **Q&A session**

#### **15.00-15.15 Coffee Break**

#### **15.15 – 16.15 3rd panel on 'Challenges & high-level trade-offs':**

- Climate change mitigation and adaptation: Carbon footprint and decarbonisation – **Antonio Basanta** – General Director of Fisheries, Aquaculture and Technological Innovation
- Climate neutral and nature positive food systems – **Laure Guillevic**, Ocean Policy Officer, WWF EPO

- Conservation/restoration & sustainable management: Nature Restoration Law, 30 by 30 target and sustainable fisheries – **Dr. Mark Dickey-Collas** – DickeyCollas Marine, Member of the IUCN Fisheries Expert Group
- Energy security & food security: spatial squeeze and maritime spatial planning – **Felix Leinemann**, Head of Unit of Blue Economy Sectors, Aquaculture and Maritime Spatial Planning at DG MARE

### Q&A session

#### **16.15-16.30 Closing remarks**

#### **17.00 Reception**

All presentations are available on [EBCD website](#).

#### **5 take-home messages:**

1. **Role of Aquatic Foods in Food Security and Sustainability:** Aquatic foods, including fisheries and aquaculture products, play a crucial role in addressing global food security challenges. They are rich in essential nutrients, have a lower carbon footprint than other animal protein sources, and support the UN Sustainable Development Goals (SDGs). The sectors must be integrated into broader food system policies to tackle global malnutrition, hunger, and climate challenges effectively.
2. **Challenges and Opportunities in Fisheries and Aquaculture:** The fisheries sector is under pressure due to aging fleets, regulatory burdens, declining fish stocks in some regions, and spatial constraints from competing maritime uses. Meanwhile, the aquaculture sector struggles with regulatory complexity and stagnant production in the EU. However, sustainable aquaculture presents significant growth potential if supported by clear policy frameworks, innovation, and investments.
3. **Necessity for Resilient and Sustainable Food Systems:** Building resilience in aquatic food systems is essential for addressing disruptions caused by climate change, geopolitical crises, and biodiversity loss. This requires systemic approaches emphasizing connectivity, diversity, innovation, and inclusivity. Investments in small-scale producers and the adoption of ecosystem-based management practices are critical for sustainability and equity.
4. **Policy and Governance Enhancements:** The conference highlighted the importance of revising EU policies such as the Common Fisheries Policy to balance environmental, social, and economic priorities. Simplifying regulations, embracing technological advancements like AI in fisheries management, and ensuring fair competition for imported aquatic products are vital steps for a robust aquatic food system.
5. **Global Collaboration and Innovation:** International cooperation and multi-stakeholder engagement are pivotal for transforming aquatic food systems. Initiatives like the Blue Food Assessment and the Blue Transformation strategy emphasize the need for inclusive policies, innovative solutions, and resource allocation to enhance the contribution of aquatic foods to global food systems while addressing climate and equity challenges.

## [Summary of the discussions](#)

### [Keynote speeches](#)

#### [Welcome and introductory remarks by Piroska Kallay - Member of the European Economic and Social Committee EESC Member](#)

Piroska Kallay, representing the European Economic and Social Committee (EESC), highlighted the organisation's significant role in fostering sustainable food systems. Kallay, who chairs the EESC's Permanent Group on Sustainable Food Systems, explained that the EESC's mission is to bridge organised civil society with European institutions, ensuring their voices are heard in the EU's decision-making processes. She elaborated that the EESC, established under the Treaty of Rome, acts as a consultative body of the EU, reflecting a broad spectrum of societal interests. The committee engages employers, workers, and various civil society organisations, offering a platform to advocate for inclusive and sustainable policies.

Kallay stressed the importance of developing resilient and sustainable food systems, particularly in light of global challenges such as climate change, biodiversity loss, and food insecurity. She highlighted the unique role of aquatic foods—fisheries and aquaculture—in achieving these objectives, noting their smaller carbon footprint compared to other animal-based food sources. She emphasised that these sectors are crucial in mitigating climate change and supporting sustainable development goals. She added that the EESC has consistently supported EU policies that prioritise sustainability, innovation, and inclusiveness in food systems. Reflecting on recent crises, Kallay explained that the EESC's work has underscored the importance of resilience, particularly in response to the COVID-19 pandemic, geopolitical tensions, and climate-related challenges. She pointed to a recent report commissioned by the Hungarian Presidency on sustainable food systems during crises, recommending it as a valuable resource for stakeholders.

Kallay highlighted the significant role of fisheries and aquaculture in achieving the EU's Green Deal objectives. She explained that the EESC advocates for sustainable practices such as decarbonisation, renewable energy, and digitalisation in aquaculture, alongside efforts to protect marine biodiversity. These measures, she noted, are essential for reducing emissions from food systems and supporting local and regional food security. She further explained that aquaculture is not only an environmental solution but also a vital economic driver for rural areas across Europe. Kallay emphasised that many rural communities rely on aquaculture for income, local economic growth, and job creation, while also preserving cultural traditions. By fostering innovation through sustainable production practices, the sector attracts investment and skilled employment, helping communities thrive.

Kallay stressed the importance of targeted investments, advanced crisis management tools, and enhanced support for vulnerable sectors. She added that collaboration among policymakers, civil society, and industry stakeholders is crucial for ensuring the resilience and inclusiveness of food systems. She expressed optimism that the conference would generate actionable recommendations to further the sustainable management of fisheries and aquaculture.

In closing, Kallay reaffirmed the EESC's dedication to fostering sustainable food systems in Europe and beyond. She emphasised that the sustainable management of natural resources, coupled with robust support for fisheries and aquaculture, is vital to building a secure and equitable food future. She

expressed confidence that, through collaboration, aquatic foods would continue to play a key role in addressing global food security and sustainability challenges.

#### **Despina Symons - Director of EBCD**

Despina Symons, Director of the European Bureau for Conservation and Development (EBCD), warmly welcomed attendees and thanked the European Economic and Social Committee (EESC) for hosting the conference. She emphasised the EBCD's longstanding commitment to highlighting the role of fisheries and aquaculture in ensuring food security. She explained that since the UN Food Systems Summit, EBCD has actively worked to raise awareness about the sectors' contributions to sustainable food systems. She added that the organisation is proud to be a member of global initiatives such as the Aquatic Blue Food Coalition and the Global Action Network, which focus on advancing these sectors' roles in addressing global challenges. Reflecting on recent crises, Symons pointed out the significant impact of pandemics, wars, climate change, and biodiversity loss on food security. She highlighted how these events have underscored the vulnerability of food systems to external shocks and raised awareness at the highest political levels. She noted the recognition of sustainable food systems and the role of blue foods at international forums such as the Climate COP28 and the adoption of the Global Biodiversity Framework, which includes a focus on food from the sea.

Symons acknowledged that while agriculture has been widely recognised as critical to food security, the contributions of fisheries and aquaculture have not received equivalent attention. She stressed the need for these sectors to be fully integrated into discussions on sustainable food systems, food security, climate change, and livelihoods. She highlighted the importance of today's event as an opportunity to exchange expertise, share insights, and identify strategies to overcome challenges in achieving balance between food security, sustainability, and energy efficiency. Symons explained the difficulty of bringing together experts from diverse fields—academia, fisheries, aquaculture, EU institutions, NGOs, and others—during a busy time filled with parallel events, hence several presentations were held online. She noted the significance of the presence of MEPs Francisco Millán Mon and André Rodrigues, whose attendance demonstrated the importance the European Parliament places on fisheries, aquaculture, and food security.

Looking ahead, Symons expressed hope that the outcomes of the discussion would contribute to shaping key EU initiatives, such as the Ocean Pact being developed by DG MARE. She assured participants of EBCD's commitment to ensuring that fisheries and aquaculture remain central to these efforts.

#### **Francisco Millán Mon - Member of the Committee on Fisheries of the European Parliament**

Francisco Millán Mon, Member of the European Parliament and of the Fisheries Committee from Galicia, began by emphasising the critical role of the primary sector in times of crisis, particularly in ensuring food security. He pointed out that the lessons learned from recent crises, such as the COVID-19 pandemic and the war in Ukraine, have highlighted the importance of maintaining food security, which is vital to meet the basic needs of citizens. He highlighted the fundamental contributions of fisheries and aquaculture to food security, noting that these sectors are often overlooked in discussions about sustainable food systems. He then praised the decision to appoint a dedicated

Commissioner for Fisheries, stressing that separating the environment and fisheries portfolios was crucial, as these areas often have conflicting interests. He emphasised that seafood plays a strategic role in food security, not only providing highly nutritious food but also contributing to carbon neutrality, as fish has the lowest emissions compared to other animal proteins. He noted, however, that while fishing is a traditional activity in Europe, there is a growing reliance on seafood imports, with 70% of the fish consumed in the EU being imported. This increasing dependence on imports, he explained, undermines EU food security.

MEP Millán Mon painted a concerning picture of the current state of the European fishing sector, citing figures from the Annual Economic Report of the EU Fishing Fleet (STECF). He explained that the number of fishing vessels, employees, fish landings, and profits have all been in decline. Specifically, he mentioned that between 2017 and 2022, the number of fishing vessels in the EU dropped by nearly 15%, with a corresponding 21% reduction in employment in the sector, alongside a 24% decrease in fish landings and a halving of profits over the past decade. Turning to aquaculture, he highlighted the stagnation in European aquaculture production, noting that while aquaculture production globally has surpassed fisheries capture for the first time, the EU sector is lagging behind, with Norway remaining the largest producer in Europe. He stressed the need for immediate action to reverse the negative trends affecting both fisheries and aquaculture, urging for these sectors to become more competitive, resilient, and thriving, while also creating employment.

MEP Millán Mon then addressed some of the key challenges faced by the fishing and aquaculture sectors. He noted that, in the past 15 years, the EU has prioritised environmental protection, which, while necessary, has often led to regulations that focus mainly on environmental sustainability. He pointed out that while healthy fish stocks and a protected marine environment are essential, social and economic sustainability must also be considered in the legislative process. He called for more balanced legislations that consider both the environmental and economic needs of the sector and takes into account the impact on the industry. He also expressed hope that the recent evaluation of the Common Fisheries Policy (CFP) would lead to reforms that would better address the needs of the sector.

He also raised concerns about EU and international regulations that restrict access to certain fishing grounds, emphasising the need for reasonable measures based on scientific criteria, not just environmental considerations. Additionally, he addressed the challenge of offshore renewable energy expansion, stating that this should be done in close dialogue with the fisheries sector to ensure harmony, not confrontation.

MEP Millán Mon further discussed the challenges of generational renewal in the fisheries sector, noting that many younger generations are reluctant to take over the businesses due to the difficult conditions. He highlighted the need for improved training, recognition, and better living and working conditions to attract younger people to the industry. Climate change and the decarbonisation of the fleet were also raised as major issues, with the speaker citing three key obstacles: technological limitations, regulatory challenges, and financial constraints.

He emphasised the importance of using the European Maritime, Fisheries and Aquaculture Fund (EMFAF) to support the decarbonisation of the fleet and called for more ambitious negotiations for the upcoming Multiannual Financial Framework (MFF) for 2028-2034. He argued for increased funding and fewer limitations in the next financial period to address the sector's challenges.

Addressing the decline in fish consumption in certain EU countries, including Spain, Portugal, and France, he emphasised the need to make seafood more affordable to reverse this trend. He explained that his political party in Spain has been advocating for a reduction in value-added tax (VAT) on fish, although progress has been slow.

Finally, MEP Millán Mon turned to the external dimension challenges related to food security, particularly the EU's reliance on imports. He reiterated that food security requires a degree of self-sufficiency, and that increasing domestic production in both fisheries and aquaculture is key to strengthening EU food security.

He stressed that EU's ambition to lead by example needs to be accompanied by the same ambition to achieve a level playing field, so that European fishers do not suffer unfair competition from third countries. He called for aspiring to globalise EU's high standards, through determined leadership of the EU, both in RFMOs (Regional Fisheries Management Organisations) and in the rest of the international organisations. Referring to trade policy and its impact on the European fish processing industry, MEP Millán Mon highlighted the importance for canned seafood to be considered as a very sensitive product, and thus to be excluded from free trade agreements.

#### **André Rodrigues - Member of the Committee on Fisheries of the European Parliament**

André Rodrigues focused his intervention on three key aspects: the importance of aquaculture for the European Union, the EU policy context, and the challenges and needs moving forward. He emphasised that the importance of aquaculture is not merely a political trend but rather a crucial element in EU food security. He explained that the EU is highly reliant on seafood imports, with 70% of its seafood coming from outside the Union. At the same time, EU aquaculture production accounts for only 1.15% of global production. He highlighted the concerning trend in fish consumption, noting that household spending on fishery and aquaculture products in the EU increased by nearly 11% from 2021 to 2022, largely driven by inflation. He added that this rise in prices caused a significant decrease in at-home fish consumption, which dropped by 17.7% in the highest-consuming EU countries.

MEP Rodrigues also pointed out the growing trade deficit in fishery products, which reached nearly 50 billion euros in 2022, a 25% increase compared to the previous year. He noted that the deficit had grown by 56% over the past decade in real terms. However, he highlighted a positive development, as EU aquaculture production grew both in volume and value over the past decade. He mentioned that EU aquaculture production increased by 11% from 2012 to 2021, with its value growing by 34%, equating to an increase of nearly 978 million euros. Additionally, he explained that aquaculture directly supports over 74,000 jobs across the EU, particularly in coastal and rural regions, which are vital for regional resilience and social cohesion.

He then addressed the need for greater policy incentives, stating that sustainable aquaculture aligns with the EU's Green Deal and the Farm to Fork strategy. He referred to the Commission's communication on strategic guidelines for more sustainable and competitive EU aquaculture for the period 2021 to 2030, which, along with other legislative frameworks, supports the sector's development. He explained that what is now needed is better information on Member States' plans and improved coordination among public authorities, developers, and consumers. He noted that the European Parliament's Fisheries Committee recently presented a study on EU oceans and fishery policies, which specifically addressed aquaculture. He quoted the study's conclusion, which

recommended increasing emphasis on growing and diversifying EU aquaculture to meet food security and environmental goals. MEP Rodrigues emphasised that sustainable aquaculture practices, such as multi-trophic and low-impact systems, can help support nutrient cycling, reduce carbon footprints, and restore ecological balance in coastal and freshwater areas.

Next, he turned to the challenges facing the aquaculture sector, citing the European Parliament's October 2022 initiative resolution on striving for a sustainable and competitive EU aquaculture. He explained that one of the main barriers to growth is the complex licensing and regulatory environment. He argued that simplified, transparent, and predictable regulations at the national level are essential to attract investment and encourage sector expansion. He further stressed the importance of investment in alternative feed sources, sustainable practices, and environmental monitoring, particularly in technologies like algae farming and carbon credit systems, which can improve market access and consumer awareness. MEP Rodrigues also pointed out that EU consumers increasingly value sustainability, which calls for campaigns to promote EU aquaculture products. He noted that stable, high-welfare systems in aquaculture operations are essential to meet consumer demand for transparency regarding product origins and environmental impacts. He emphasised that improving welfare standards in aquaculture can reduce the need for antibiotics and improve consumer trust, which is crucial for the sector's long-term success.

Finally, he addressed the need for promoting regional and species diversification in EU aquaculture. He explained that production is currently concentrated in a few Member States and on a small number of species, such as mussels and trout. He advocated for expanding production across more regions and species to increase resilience and supply diversity. He also stressed the importance of integrating aquaculture into climate adaptation efforts. With climate change leading to more extreme weather events, he argued that investments in climate-resilient infrastructure and practices are essential to ensure that aquaculture remains productive and sustainable in the face of changing environmental conditions.

#### **Dr. Manuel Barange** - Assistant Director General, Director of the Fisheries and Aquaculture Division at FAO

Manuel Barange pointed out that FAO's mission is to end hunger and poverty by using natural resources. According to FAO, more than 700 million people worldwide are undernourished today. He emphasised that while the global rate of undernourishment had showed a decreasing trend for many decades, this has been reversed globally since the COVID pandemic. Furthermore, an alarming increase has been observed in some regions, particularly sub-Saharan Africa and small island developing states, over the past decade.

Turning to aquatic systems, Manuel Barange highlighted that they are a source of strong and diverse views globally. He noted the varying perceptions of aquatic systems: some view them as a reservoir of biodiversity to be left untouched, while others believe they should be protected, yet allow for low-impact activities. Some advocate for using aquatic systems to provide more food, ensuring sustainability, while others argue that technology should be maximally harnessed for social and

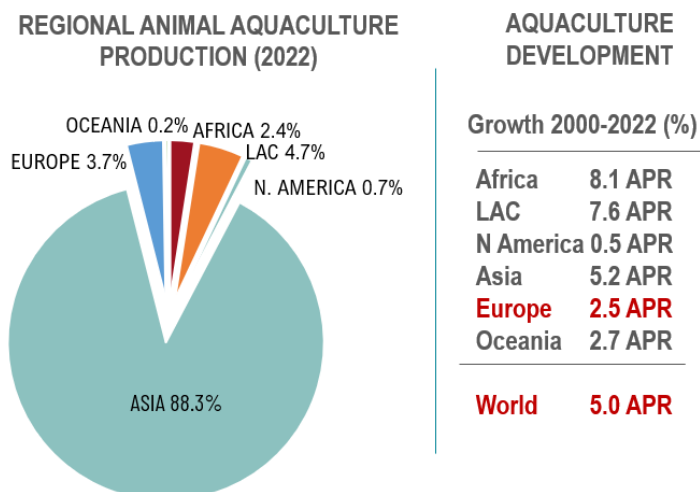


economic development. Manuel Barange stressed that from FAO's perspective, the priority is to ensure that more food is provided from aquatic systems while ensuring sustainability is maintained.

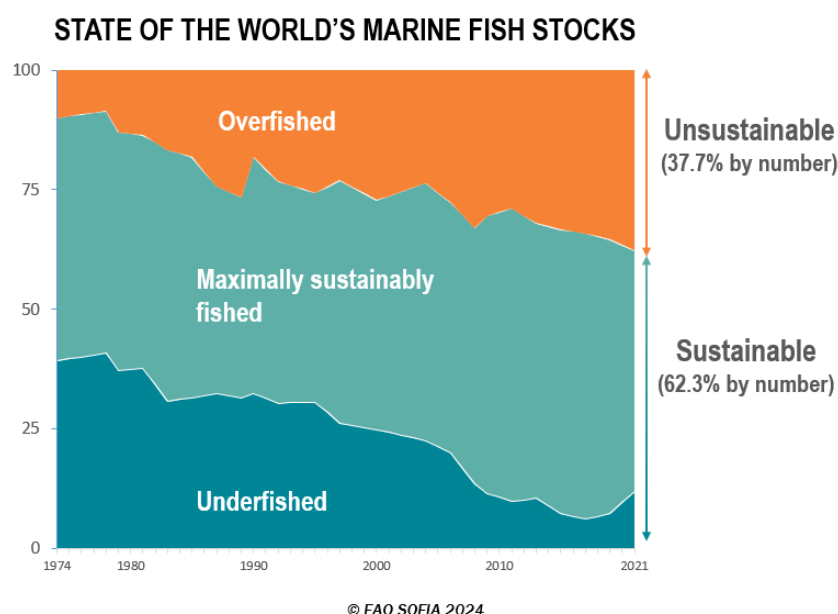
Manuel Barange then provided an overview of the diversity of the aquatic food sector, mentioning that over 3,000 species of aquatic foods have been recorded globally, with more than 700 species cultured in aquaculture. He explained that the production of aquatic animals for human food has been increasing steadily over time, with the total amount reaching a record 165 million tonnes in 2022. The proportion of production not used for direct human consumption has been decreasing since the 1980s, due to improvements in efficiency and sector understanding of the value of the products. Aquaculture has played a major role in this growth, now contributing 57% of global aquatic food production, a significant increase from just 5% in the 1970s. When comparing data from 2022 to 2000, Manuel Barange explained that while global capture fisheries have remained nearly static, aquaculture has been growing at an annual rate of 5% globally. In contrast, Europe has seen growth at only half that rate. He noted that aquatic foods have already contributed significantly to improved nutrition globally, with the consumption of aquatic foods growing at twice the rate of population growth since 1960. This growth is one of the reasons for the increasing global focus on aquatic foods, which were identified as one of the priorities for ending hunger and protecting the planet at the UN Food Systems Summit.

Manuel Barange went on to discuss the broader economic and social implications of the sector, highlighting the exponential growth in trade of aquatic foods, which reached almost \$200 billion in 2022, with the first sale value of aquatic products at nearly \$500 billion. He mentioned that Europe is a net importer of aquatic foods by value but still a net exporter by volume, a trend that has shown significant dynamism over time. He explained that with increasing global population growth, the aquatic food sector would need to grow by 22% to maintain current per capita consumption levels, with Africa needing a 75% increase just to maintain its current consumption rate, which is half the global average. This underscores the urgency of addressing food security and nutrition through sustainable practices.

For this reason, Manuel Barange outlined the FAO's Blue Transformation initiative, which aims to develop a more sustainable and productive aquatic food sector. This initiative was recently identified as a priority for the G20 Agriculture Ministers. The Blue Transformation initiative includes three major objectives: ensuring the sustainable development of aquaculture, improving the management of fisheries, and developing the value chain of aquatic foods. He pointed out that 90% of aquaculture is produced in Asia but that it is developing quickly in Africa and Latin America, with annual growth rates of about 8% since the turn of the century, compared to only 2.5% in Europe. Manuel Barange concluded by discussing some of FAO's recent efforts to support sustainable aquaculture, including the establishment of global guidelines for sustainable aquaculture and the appointment of new reference centres for biosecurity and antimicrobial resistance.

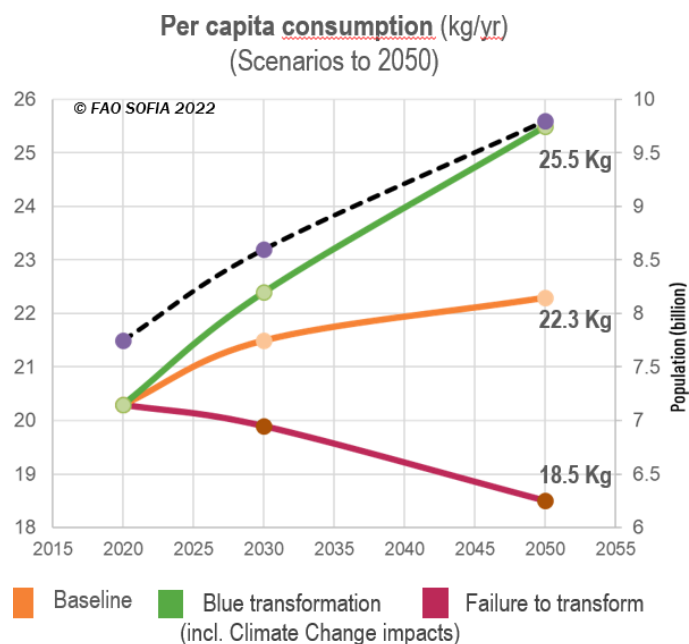


The second objective of Blue Transformation, he explained, is to ensure the effective management of all fisheries, with the goal of having 100% of fisheries under management. He shared FAO's state of world fisheries figures, revealing that 38% of stocks are currently unsustainable. He noted that when fisheries are scientifically assessed and managed, they tend to become sustainable, whereas unmanaged stocks tend to become unsustainable.



The third objective, Manuel Barange continued, is to develop the value chain for aquatic foods by reducing loss and waste, adding transparency and traceability, facilitating market access, and raising consumer awareness about the importance of aquatic foods. He concluded by stating that if the objectives of Blue Transformation are successfully implemented, the world could see a 25% increase in per capita consumption of aquatic foods by mid-century. However, if these objectives are not met,

there is a risk of decreased consumption, leading to more pressure on already strained land-based food systems.



Lastly, Manuel Barange emphasised that the strategies discussed were not only supported by FAO but also by FAO's member countries, as reflected in discussions at FAO's Committee on Fisheries (COFI). He noted that these strategies are backed by the over a thousand participants from more than 130 countries that participate in COFI meetings, ensuring a broad international consensus on the importance of transforming aquatic food systems.

#### Delilah Al Khudairy - Director of Maritime Policy & Blue Economy at DG MARE

Delilah Al Khudairy began her speech by noting the significance of the timing of the discussion, given the global challenges at hand. She highlighted that the issues raised during the session were extremely pertinent, especially considering the current global situation. Referring to the 1996 World Food Summit, Delilah Al Khudairy reminded the audience of the definition of food security, which was defined as ensuring that all people, at all times, have physical and economic access to sufficient, safe, and nutritious food that meets dietary needs and preferences for an active and healthy life. She emphasised that this definition remains valid today, even after almost 30 years, despite the global challenges that continue to grow, such as climate change, population growth, and geopolitical uncertainties. She raised the critical question of how to ensure that food systems remain resilient and sustainable while providing safe and nutritious food for all.

Delilah Al Khudairy underscored the essential role of aquatic food sources, including both fisheries and aquaculture, in addressing these challenges. She pointed out that these sectors are vital pillars of global food security, both within the European Union and beyond. Drawing attention to the statistics presented earlier, she stressed that aquatic foods provide essential nutrients and proteins to billions of people globally. She elaborated that while food security often focuses on the quantity of food available, it is equally important to consider the quality of food. In this context, aquatic food sources are among the most nutritious, rich in essential fats, proteins, and omega-3 fatty acids, which help

reduce the risk of diseases such as cardiovascular conditions. Further, Delilah Al Khudairy explained that global demand for aquatic food is expected to rise by 22% by 2050 to keep pace with the growing population. She referenced Dr. Barange's remarks on the need for increased aquatic food production to combat hunger and malnutrition globally. She stressed the importance of adopting a systemic approach to food systems that includes all components, such as climate goals, economic and social sustainability, and environmental mitigation efforts. Achieving this balance, she said, requires a holistic approach to policy design.

Turning to the EU's role, Delilah Al Khudairy highlighted the need to include sustainable fisheries and aquaculture in decision-making on food system transformation. She added that one of the EU's first priorities for the upcoming mandate is to present a vision for agriculture and food. This vision, to be shared by the Commissioner for Agriculture and Food within the first 100 days of the new mandate, will lay out a roadmap for future initiatives addressing strategic issues for food security.

The economic significance of fisheries and aquaculture was also addressed by Delilah Al Khudairy. She explained that these industries are economic lifelines, particularly in rural and coastal communities, where they provide employment and income. In the EU, fisheries and aquaculture support 500,000 jobs and contribute to both economic stability and social cohesion in these regions. Sustainable fisheries practices, she added, are crucial in maintaining biodiversity and ensuring the long-term stability of food security.

Delilah Al Khudairy acknowledged that while progress has been made through the Common Fisheries Policy (CFP), more work is needed to achieve sustainable fish stocks and ensure long-term yields. She pointed out that this is essential for resilience in the face of climate threats and for ensuring stable supplies of wild-caught fish. She also referenced the EU's commitment to reviewing the CFP regulation, ensuring that it reflects the changing world and includes input from all relevant stakeholders.

Looking to the future, Delilah Al Khudairy outlined the increasing importance of aquaculture. She cited the SOFIA report which revealed that for the first time, global aquaculture production has surpassed world capture fisheries as a source of animal protein. She noted that projections indicate that by 2030, more than half of the world's fish supply will come from aquaculture. In the EU, she said, aquaculture is seen as having great potential, though its production remains marginal. To address this, the EU has adopted a strategy to boost aquaculture production and make the sector more competitive and resilient. Delilah Al Khudairy also spoke about the need for sustainable practices in aquaculture. She cited practices like low-trophic and algae-based feeds, which can reduce environmental degradation and improve the resilience of aquatic ecosystems. These practices can also provide valuable environmental services and help mitigate climate change. Furthermore, she added that aquaculture can offer alternative livelihoods, particularly in regions suffering from declines in fish stocks due to overfishing or environmental challenges. She referenced statements made by Commissioner-designate Mr. Kadis, who underlined that aquaculture can help reduce dependency on imports while creating green jobs and promoting sustainable growth. However, Delilah Al Khudairy also acknowledged that the EU still relies heavily on imports to meet its demand for aquatic food, particularly raw materials for the processing industry. She stated that over 70% of the aquatic food consumed in the EU is imported, with the majority being fishery products. She stressed that it is vital that these imports come from sustainably managed fisheries and aquaculture, ensuring that local communities are not deprived of fish stocks essential for food security and livelihoods.

Turning to international cooperation, Delilah Al Khudairy outlined the EU's commitment to promoting sustainable fisheries and aquaculture practices worldwide. She highlighted the importance of the EU's partnerships with third countries, including through free trade agreements and regional fisheries management organisations, to ensure that imported seafood meets the same sustainability standards as EU-produced products. She also emphasised the significance of the FAO's guidelines on sustainable fisheries, considering them a key international instrument for this vital sector.

Delilah Al Khudairy also addressed the sector's dependence on fossil fuels, noting that rising food prices in recent years have made fishing unprofitable in many parts of the EU. This situation, she said, highlights the need to accelerate the energy transition in fisheries and aquaculture sectors. She mentioned the EU's launch of an Energy Transition Partnership, which aims to develop a roadmap for the sector to become more resilient and less vulnerable to fluctuating fuel prices while reducing its environmental footprint.

In her concluding remarks, Delilah Al Khudairy reiterated the importance of robust policy frameworks, international cooperation, and the adoption of sustainable practices in ensuring that fisheries and aquaculture continue to contribute to a resilient, nutritious, and sustainable global food system. She stressed that this can only be achieved through collective efforts across the EU and internationally, and the European Commission remains committed to pursuing these opportunities. She also highlighted the upcoming European Ocean Pact, which will set out a vision for a holistic approach to ocean-related policies, with fisheries and aquaculture as vital pillars of this framework. Delilah Al Khudairy invited all stakeholders to participate in the fisheries and ocean dialogues planned for the development of the pact and expressed her anticipation for the outcomes of these discussions.

#### **Marta Janakakis** - Fisheries Advisor of the Hungarian Permanent Representation

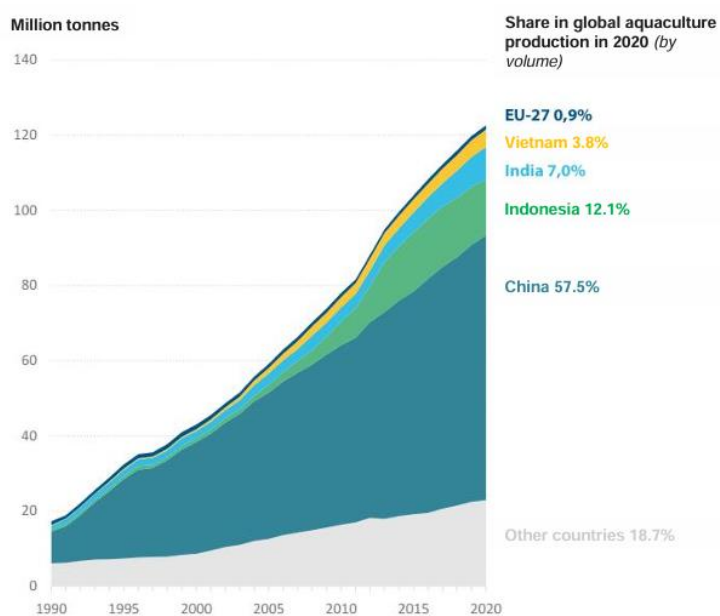
Marta Janakakis began by explaining the structure of the EU presidency, which operates in a trio system. In Hungary's case, the presidency was shared with Spain and Belgium. The trio system ensures continuity, with each country's presidency building on the previous one and paving the way for the next. According to the EU treaties, the order of presidency rotates among member states, and each country outlines its priorities based on national interests. In Hungary's case, being a landlocked country, a key priority was agriculture, which also includes aquaculture, an increasingly important sector for Hungary and the EU as a whole.

Marta Janakakis then focused on Hungary's approach to fisheries, which was shaped by three main areas: legislative procedures, international relations, and the negotiation of fishing opportunities. As co-legislators with the European Parliament, the Hungarian presidency worked on legislative proposals. However, she pointed out that the institutional transitions at both the European Commission and the Parliament meant that legislative progress had been slower than expected. Another crucial aspect was managing the EU's external relations regarding fisheries. This included dealing with regional fisheries management organisations, bilateral agreements, and the so-called Northern agreements. The aim was to ensure the EU's global leadership on fisheries issues while also protecting its interests in international agreements. Hungary now is responsible for negotiating fishing opportunities for the year. At the time of the speech, Hungary was in the midst of negotiating fishing opportunities for various EU seas, including the Baltic Sea, Mediterranean, and Black Sea. These talks

were described as critical for maintaining EU cohesion and ensuring fair and sustainable fishing practices in the wake of Brexit.

She then shifted to the issue of aquaculture, a sector where the EU has been underperforming compared to global competitors. Marta Janakakis presented a graph illustrating the EU's relative position in the global aquaculture industry, emphasising that the EU lags behind in production.

### Global aquaculture production 1990-2020



Source: ECA, 2023, based on World Bank data

She acknowledged that the EU's dependence on imported fish is high, a situation that could be mitigated if EU aquaculture were developed more robustly. She added that in Hungary, being landlocked, aquaculture plays an essential role in meeting the demand for aquatic food. Since 2016, Hungary has banned commercial fishing in its lakes and rivers, meaning all domestically produced aquatic food comes from aquaculture. Hungary relies heavily on fish farming, and one of the major species farmed in the country is African catfish. Despite the sector's importance, Hungary faces challenges such as low fish consumption per capita (6.7 kg annually) and a high dependence on imports. Under Hungary's presidency, aquaculture was a priority, and the government worked hard to integrate aquaculture into EU discussions on food security and sustainability. Marta Janakakis mentioned that two significant events were organised to promote aquaculture's importance. The first was an informal meeting of Director-Generals and Fisheries Attachés, gathering representatives from the 27 member states for a discussion on aquaculture. This event covered various issues, including the legislative framework for aquaculture, its environmental impact, and its role in achieving EU environmental and nature restoration goals. The second event was a more technical workshop on aquaculture, held in Brussels. This workshop focused on practical solutions and was attended by a wide range of stakeholders, including the industry, NGOs, and government representatives. During this event, key issues such as funding, innovation, and the potential for aquaculture to provide economic diversification and income generation for fishermen were discussed.

Through these events, several key findings emerged:

- The need for increased cooperation between member states in the field of aquaculture was highlighted.
- Given the diverse nature of the aquaculture industry, including saltwater, freshwater, and offshore production, a more holistic approach was seen as essential for future development.
- Another finding was the growing importance of aquaculture in achieving environmental objectives. The EU's focus on nature restoration could benefit from incorporating aquaculture practices that are sustainable and aligned with broader environmental goals.
- However, challenges such as spatial planning, raw material supply, and public perception were identified as major hurdles that needed to be addressed.
- The issue of funding and investment was also a recurring theme. Marta Janakakis emphasised the need for both EU and national funding mechanisms to support aquaculture innovation, which could improve the sector's future.
- The potential for aquaculture to complement traditional fishing practices, offering a stable income for fishermen, was also explored.

### 1st panel on 'Efforts towards healthy and sustainable diets'

#### **Aquatic foods' contribution to Sustainable Food Systems - Ambassador Jón Erlingur Jónasson, Chair of the Aquatic Blue Foods Coalition)**

Jon Erlingur Jonasson emphasised the importance of striving for healthier, more inclusive, sustainable, and equitable food systems. He highlighted that in 2019, the UN Secretary-General invited global leaders to the UN Food Systems Summit 2021, focusing on transforming food systems to achieve all 17 Sustainable Development Goals (SDGs) by 2030. According to Jonasson, this summit was unique in its grounding in the SDGs and its focus on food system transformation.

Jonasson proceeded to explain that the conference centres on how sustainable aquatic blue food systems are integral to this transformation. Although this may seem obvious to those gathered, he noted that it was not initially recognised by everyone involved in the preparatory process for the UN Food Systems Summit. In response, the Blue Food Action Group was formed to ensure that aquatic blue food systems were included as a key topic at the Summit. The Action Group, one of the first to emerge, is now among the most active of the 28 Action Coalitions born out of the Summit. He further mentioned the formal launch of the Aquatic Blue Food Coalition at the UN Ocean Conference in Lisbon in 2022. Jonasson explained that the Coalition was created not only out of the recognition that sustainable and equitable aquatic blue food systems are essential for achieving the SDGs but also for advancing international commitments such as the UN Framework Convention on Climate Change and the UN Convention on Biological Diversity. He underscored that the Coalition's work is based on existing international frameworks, including the 2021 Committee on Fisheries Declaration for Sustainable Fisheries and Aquaculture, the High-Level Panel for a Sustainable Ocean Economy, and the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries, among others.

Jonasson elaborated that the Coalition has brought together over 40 members, including countries such as Fiji, Iceland, Japan, and the US, as well as intergovernmental organisations like the African Union Development Agency and the Pacific Community. He also recognised several civil society and

industry NGOs, such as the Environmental Defence Fund, the European Bureau for Conservation and Development, and Oceana, all active participants in the Coalition.

In his address, Jonasson emphasised the Coalition's mission to advocate for the inclusion of blue foods in global food system discussions and policy-making. He explained that they aim to mobilise support, secure funding, and drive on-the-ground action to foster equitable, sustainable, and climate-resilient food systems. He acknowledged the complexity of transforming food systems, with multiple factors like world hunger, poverty, inequality, climate change, and biodiversity loss all affecting food systems and food value chains. Jonasson also highlighted the untapped potential of aquatic blue foods, which could help meet global protein needs and address micronutrient deficiencies, benefiting vulnerable populations and the growing global community. Furthermore, he pointed out the Coalition's recognition of the critical role of these foods as part of the climate solution.

The Coalition, Jonasson explained, serves as a platform and convener, fostering collaboration through events, meetings, and a Project Alliance model. This approach enables shared learning and strategic alignment on blue food priorities across various sectors, including governments, NGOs, academia, and industry leaders. He emphasised that the Coalition's members produce scientific outputs—such as research and policy recommendations—that help advance informed, evidence-based policies for sustainable aquatic food systems at the national level. After two years of activity, Jonasson confirmed that the Coalition's platform is effective, with tangible outcomes at national, regional, and international levels. However, he stressed that to achieve more, additional resources are necessary, especially for engaging with developing countries committed to transforming their food systems. He pointed out that in-kind contributions alone would not be sufficient to support these efforts.

In conclusion, Jonasson invited all attendees to consider how they could contribute to this cause, whether through funding, expertise, or advocacy. He called for continued support and commitment to ensure that the Coalition remains a robust and impactful force for food systems transformation, grounded in sustainability and equity.

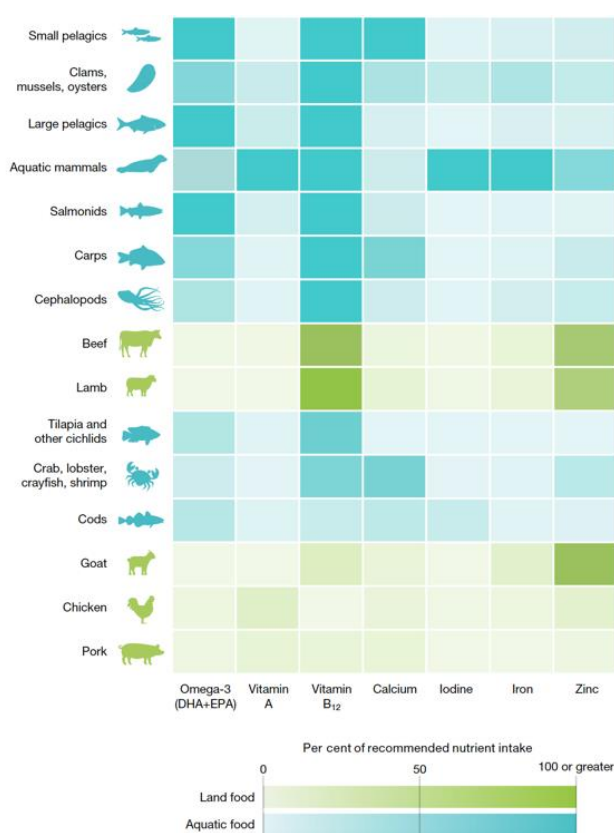
### **Benefits of aquatic foods for human nutrition and health - Livar Frøyland - Head of Research at the Norwegian Institute for Marine Research**

Livar Frøyland began by explaining the definition of food security, emphasising the importance of food preferences. He elaborated that food security exists when all people have access to sufficient, safe, and nutritious food that meets dietary needs for an active and healthy life. He referred to the 2014 High-Level Panel of Experts on Food Security and Nutrition (CFS) Report #7, noting that at the time, fish and seafood were largely invisible in food security strategies. He highlighted that this has since changed, with fish now recognised as critical for reducing micronutrient deficiencies, particularly in areas of greatest need. He acknowledged the policy recommendations that emerged from this report. Frøyland mentioned the 2014 Second International Conference on Nutrition, which stressed eradicating hunger, preventing malnutrition, and enhancing sustainable food systems. Moving forward, he said the 2015 Sustainable Development Goals (SDGs) included several objectives related to aquatic and blue foods.



He further elaborated on the Decade on Action on Nutrition (2016-2025), explaining how Norway, known for its leadership in aquatic food systems, took charge of the Global Action Network on Sustainable Food from Oceans and Inland Waters. This initiative, launched in 2017, aimed to improve food security and nutrition while including large producers of freshwater fish. He noted that Norway has committed to continuing this work under the Decade on Ocean Science for Sustainable Development.

Frøyland pointed out that scientific journals now increasingly focus on aquatic food systems, with publications emphasising their potential to combat malnutrition and reduce food prices. He highlighted the importance of databases on aquatic food composition, which provide crucial data on nutrient content and potential contaminants. He argued that safe and healthy food requires precise monitoring of such metrics. He shared a comparative analysis of aquatic and terrestrial foods, noting that aquatic foods are rich in critical nutrients such as vitamins, minerals, and omega-3 fatty acids. He emphasised that a balanced diet requires both terrestrial and aquatic foods.

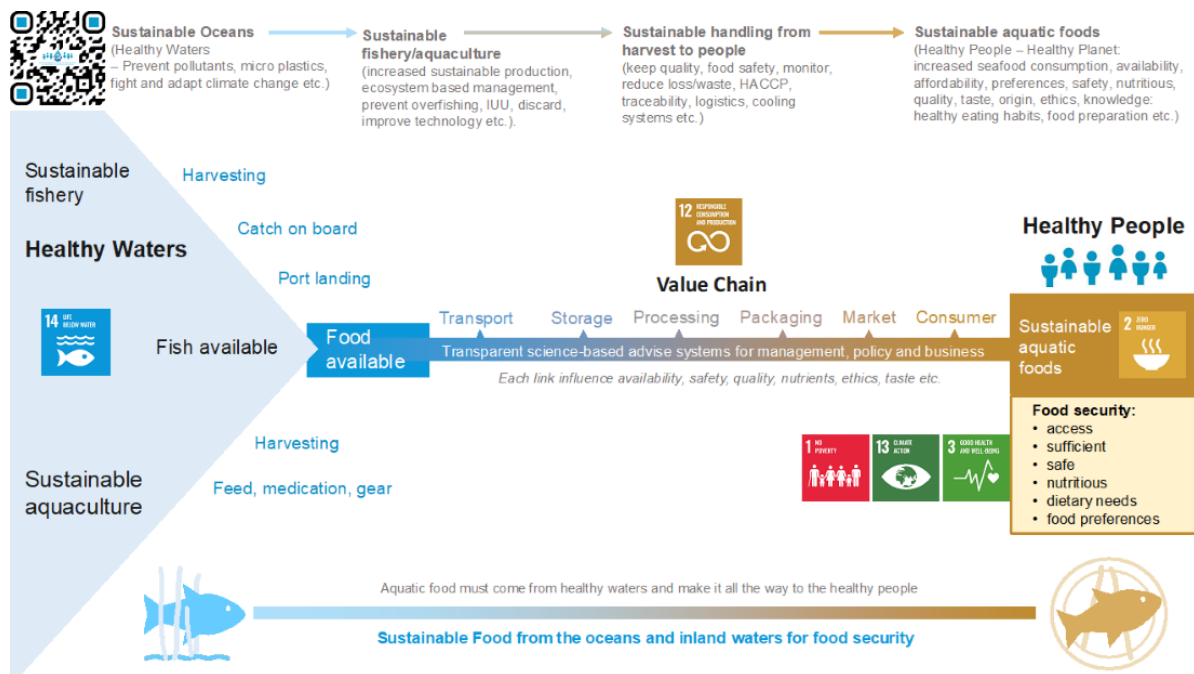


Frøyland explored four ways blue foods can contribute to global food systems:

- Providing critical nutrients.
- Supporting sustainability and health outcomes.
- Having a lower environmental footprint compared to certain terrestrial foods.
- Enhancing livelihoods and economic resilience, particularly in the face of climate change.

He emphasised the need to adapt to challenges such as ocean warming, which affects traditional fish farming, and the emergence of new viruses and diseases. He referenced a comprehensive document prepared for the Joint FAO/WHO Expert Consultation, highlighting the benefits of fish consumption

across all life stages—from pregnancy to adulthood. He stressed the need for ongoing monitoring of both nutritional content and potential risks associated with seafood. Frøyland summarised the broad contributions of sustainable fisheries and aquaculture to food security and the SDGs. He concluded the presentation with a video prepared for the UN Food System Summit Plus Two Stocktaking Moment held in Rome in July.

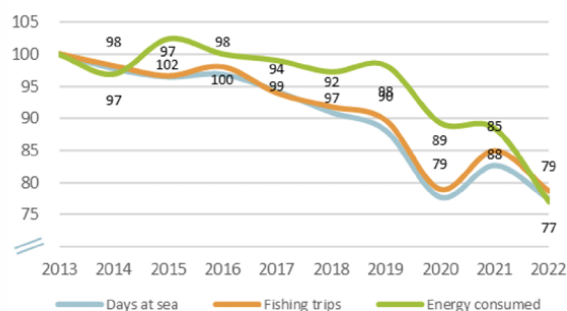
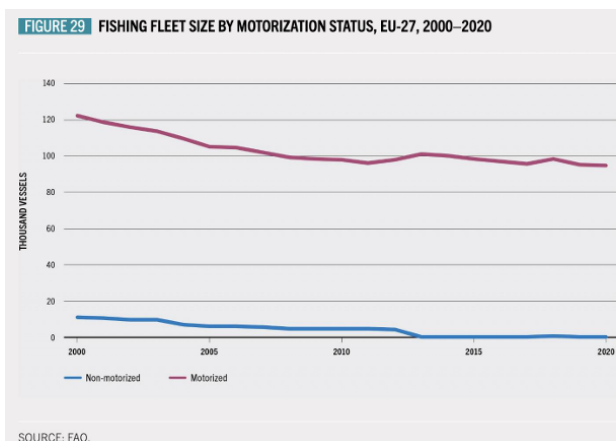



### Challenges and opportunities for the fisheries sector - Daniel Voces de Onaindi, Managing Director at Europêche

Daniel Voces began his presentation by providing a snapshot of the current state of fisheries, focusing on their strengths and challenges. He said that, thanks to the efforts of the fishing industry, many fish stocks in the European Union have been recovered, emissions have been reduced, and the sector is producing "the perfect protein." He noted that the EU fishing industry contributes over 3 million tonnes of fish to the market, supporting healthy diets and environmental improvements. However, he highlighted significant challenges, explaining that the EU fishing fleet and employment are in decline, the workforce is ageing, and the sector is increasingly burdened with regulations and bureaucracy. He added that traditional fishing grounds are shrinking, and geopolitical issues, inflation, and fuel price surges exacerbate the difficulties. Voces also pointed out disparities in standards between EU fleets and those operating globally, creating an uneven playing field, alongside the broader challenge of climate change. Moving to the positives, Voces highlighted reductions in CO2 emissions, showing that fisheries are well-positioned compared to other animal protein sources in terms of their environmental footprint. He said that support should be extended to all EU food producers, including fishermen and aquaculture producers, to maintain progress.

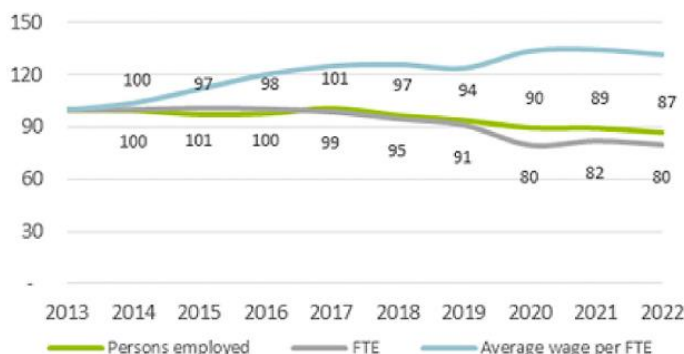
Voces underlined the importance of the social dimension, stating that the welfare of fishermen must remain a priority. He referenced the EU's transposition of the International Labour Convention C188 into EU law, achieved through collaboration with trade unions, as a milestone in improving working conditions at sea.

He highlighted the recovery of fish stocks within the EU, stating that fisheries management has been effective, as evidenced by the increase in the number of stocks managed at Maximum Sustainable Yield (MSY) levels. He cited a significant biomass growth as further signs of improvement. Despite this and a tremendous reduction in fishing effort, Voces explained that achieving MSY levels had not brought the promised benefits. He illustrated this with data from the FAO showing a 28% reduction in the EU fishing fleet since 2000, with vessels ageing and fishing effort decreasing. Employment has also fallen by 20% in the last decade, despite rising wages, and he observed that the workforce is ageing, with the majority of fishermen over 40 years old.

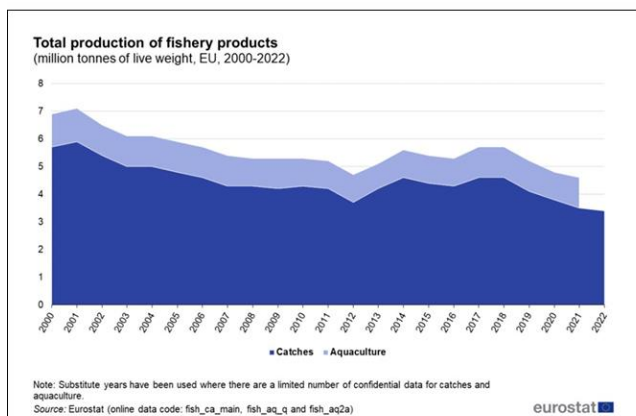


**28% Fleet reduction**  
 Average age: 31.5 years  
 Only 52,830 vessels remain active 

**EU fishing fleet workers**

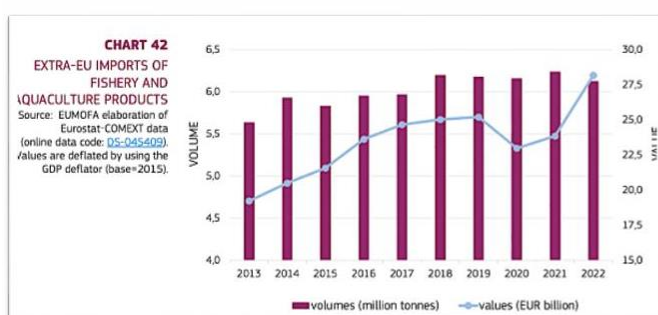
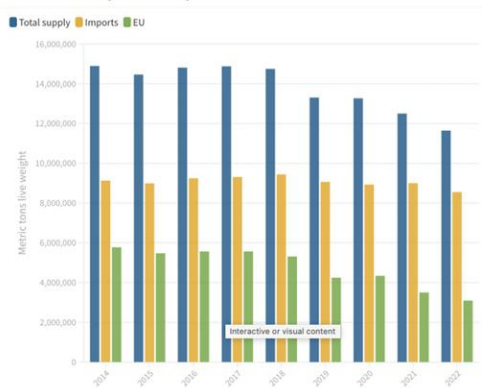


Addressing food production, Voces explained that the EU's declining fish production has increased reliance on imports, with over 70% of consumed fish now sourced externally. This, he noted, undermines the goal of reducing dependency on other countries outlined in the Common Fisheries Policy (CFP). Voces attributed the increased demand for imports to the processing industry's need for cheaper raw materials, facilitated by tariff reductions and derogations. He called for a reevaluation of these practices, as they allow large volumes of fish to enter EU markets without adhering to sustainability standards referring specifically to the Autonomous Tariffs Quotas (ATQs).

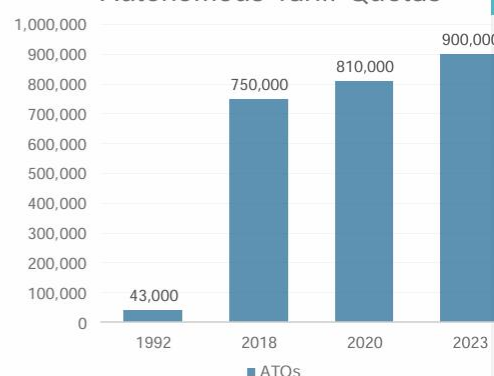


### European Union hits record-low levels of seafood self-sufficiency as dependence on imports grows

The bloc is now dependent on imports for over 70% of all its seafood needs.



### Autonomous Tariff Quotas



He expressed concern over the "spatial squeeze" faced by the fishing industry, explaining that traditional fishing grounds have been reduced due to Brexit, disputes with Norway and the annulment of Morocco's fisheries agreement, expanding offshore wind farms, and area closures for environmental purposes. He added that environmental factors, including predation by seals, dolphins, and cormorants, further complicate matters.

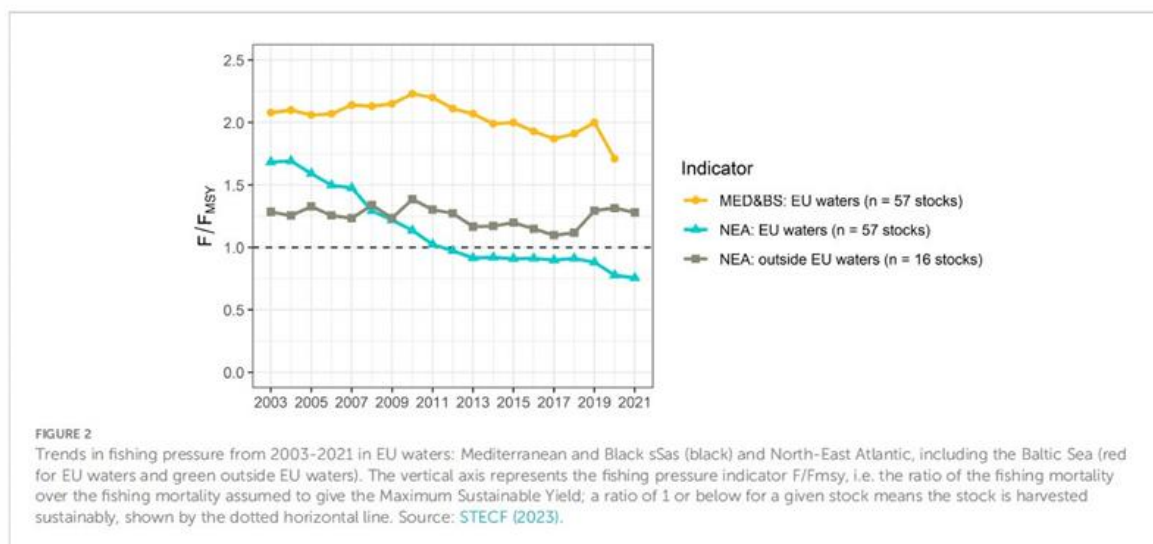
Voces criticised what he described as "destructive campaigns" against the fishing industry, which focus on bans rather than constructive solutions. He said these campaigns are demoralising for industry stakeholders, with many seeking to exit the sector through scrapping schemes, which he called a "sad story."

Despite these challenges, Voces expressed hope, saying fishermen are resilient and solutions are possible under the EU's new Commission mandate. He called for necessary updates to the CFP, including reducing bureaucracy, developing a vision for seafood production, and prioritising access to fishing grounds. He also stressed the importance of balancing environmental, social, and economic sustainability. Voces argued for a decarbonisation strategy grounded in research and innovation rather than emotional responses and calls for prohibitions. He also emphasised the need to renew the EU fishing fleet through adequate funding and tax incentives. Finally, he called for uniform standards across all industries operating at sea, criticising the unequal treatment of fisheries compared to other sectors, such as offshore wind farms, under environmental regulations. He underscored the need to reduce dependency on food imports and highlighted the fisheries sector as a sustainable solution for food production.

## Progress towards achieving sustainable fisheries in the EU - Esben Sverdrup-Jensen Chair of the European Association of Fish Producers Organizations

Esben Sverdrup-Jensen began by outlining the core objective of Producers Organisations (POs), which is to help implement EU legislation in the fishing industry. He explained that POs work to simplify complex EU regulations, making them comprehensible for fishermen and enabling them to comply with these regulations in their daily operations. At the same time, POs advocate for the fishing community's interests within the European institutions, working to shape new policies and revise existing ones.

Sverdrup-Jensen emphasised that while the EU is performing relatively well in terms of sustainable fisheries, there are still challenges that need attention. He presented a map from the FAO, showing that while many areas in the Northeast Atlantic are well-managed, there remain unsustainable practices in parts of the Mediterranean and Baltic. This discrepancy, he noted, requires further attention to bring fisheries in these regions to sustainable levels.



He explained that the EU's approach to fisheries management is based on scientific advice, evidence-based measures, and high standards in environmental and food safety. Additionally, the EU has robust control systems in place and high levels of stakeholder engagement. A positive development, Sverdrup-Jensen noted, was the appointment of a dedicated Commissioner for Fisheries and the Oceans, which could focus more on food security and fisheries in the coming years.

However, he also pointed out several issues hindering progress. One of the main concerns is a dysfunctional Coastal States regime, where some of the largest fisheries in the Northeast Atlantic are not being managed sustainably. Another challenge he highlighted was the slow pace of legislative procedures, particularly in adapting to scientific advancements and environmental changes. He criticised the EU's heavy legislative framework, citing, for example, the lengthy process of updating the control regulation, which still hasn't been fully implemented. Sverdrup-Jensen also discussed the difficulties caused by climate change, which is affecting marine ecosystems faster than the regulatory systems can respond. He mentioned that while the 2013 reform in the EU introduced significant changes, such as the landing obligation - to keep all fish onboard instead of discarding them, these changes have not been fully supported by the necessary legislative adjustments.

To improve the situation, Sverdrup-Jensen proposed embracing novel technologies more rapidly, especially in the scientific community, where tools like AI and new data collection methods remain underutilised. He also stressed the importance of adopting ecosystem-based management principles, better integrating science into fisheries governance, and reviewing the Common Fisheries Policy (CFP) to ensure legislative coherence. Further, he urged for a reduction in bureaucratic barriers, noting that the EU's regulatory jungle often prevents effective action. For instance, POs developed a device called an excluder, which separates small fish from larger ones. Despite its proven efficiency, it took years to be allowed for use in EU waters, demonstrating the slow pace of technological adoption. A critical issue Sverdrup-Jensen raised was the need for legislative stability, particularly regarding fishing rights. To encourage investment in new vessels and technology, the fishing sector requires secure ownership rights and access to fishing grounds. Without these, securing loans for investment becomes impossible. He also mentioned the importance of addressing the unsustainable import of fish from third countries, which can undermine EU fisheries.

In conclusion, Sverdrup-Jensen emphasised that the sector's future depends on legislative reforms, technological advancements, and sustainable management practices, urging for greater collaboration and faster implementation of solutions.

#### Challenges and opportunities for the aquaculture sector - Szilvia Mihalfy, Project Manager at the Federation of European Aquaculture Producers

Szilvia Mihalfy began by introducing the Federation of European Aquaculture Producers (FEAP), which represents 24 national associations from 23 countries, both within and outside the EU, including members from Norway and Turkey. FEAP's members are involved in producing a variety of fish, such as salmon, rainbow trout, seabass, seabream, turbot, sturgeon, and more, with a combined annual production exceeding 2.5 million tonnes of nutritious, safe, and environmentally sustainable fish.

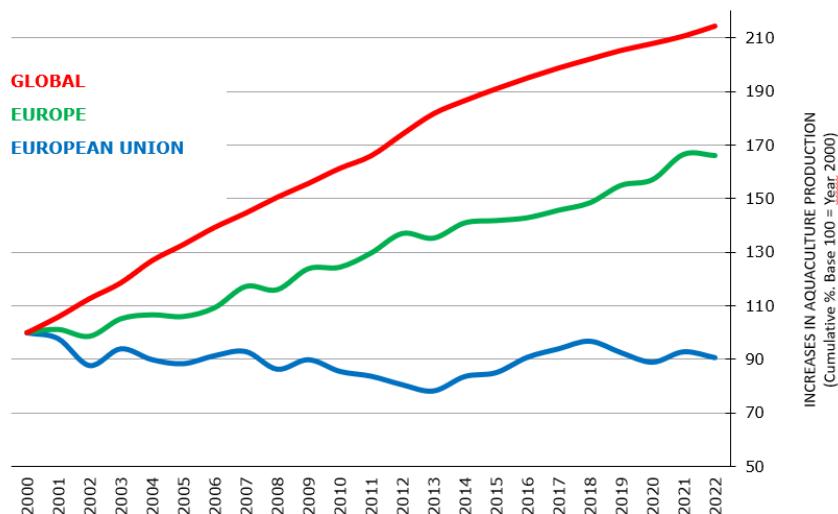
Reflecting on the earlier discussions, Mihalfy expressed her gratitude that the MEPs had acknowledged the challenges faced by the fisheries and aquaculture sectors, which she felt was a good start. She also praised the Commissioner's responses, noting that they showed an understanding of the sector's challenges, and expressed hope that the Commission would work harder to deliver solutions for aquaculture.

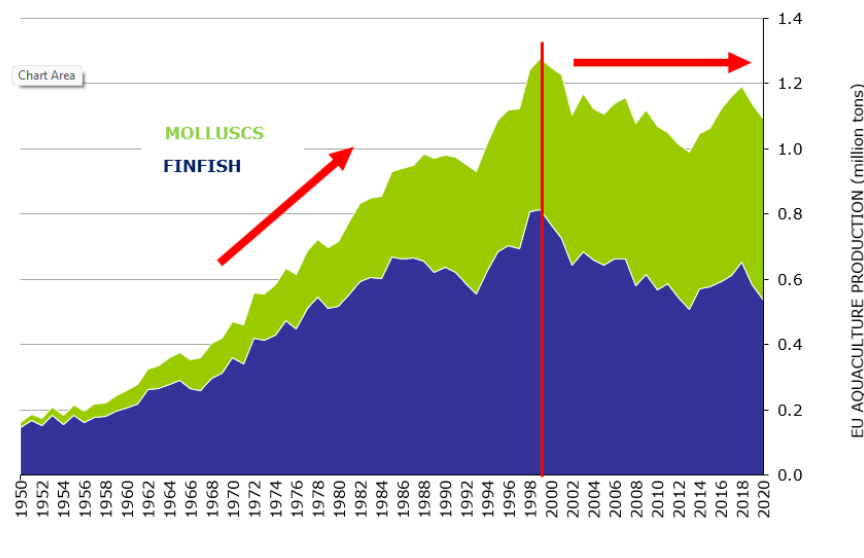
She stated that everyone agrees that aquaculture plays a major role in the future of global food supply. However, she expressed some frustration that the topic of food systems and food sovereignty wasn't addressed earlier. While there is a need for food security in the EU, it should be aligned with circular economy principles and a drastic reduction in food waste. Mihalfy went on to express her concerns about the future of aquaculture, highlighting that the European Commission's policies, particularly in the Mission Ocean, focus heavily on the environmental aspects, sometimes to the detriment of food security. She pointed out that the Commission promotes low-impact and extensive aquaculture but these policies lack clear connections to food production needs and food sovereignty. She also noted that the term "sustainable aquaculture" is frequently used without a clear definition.

On the other hand, Mihalfy praised the FAO for having a more balanced approach, focusing not just on environmental sustainability but also on the social and economic dimensions of aquaculture. She highlighted that the FAO promotes all types of aquaculture, from extensive to intensive, and stresses the importance of adapting to local conditions, which she believes is key to the future of the sector.

Mihalffy also pointed to the stagnating production of fish in the EU and the heavy reliance on imports, with more than 70% of fish consumed in the EU coming from outside the region. While agreeing with the FAO's perspective on the future of aquaculture, she expressed disappointment with the European Commission's narrow focus on certain production methods, suggesting that it was too shortsighted and overlooked the need for a holistic food system approach. She emphasised that finfish is a critical part of the European diet, providing essential proteins, fats, and nutrients, and that EU dietary guidelines continue to recommend eating fish regularly, particularly oily fish such as salmon and trout. Mihalffy suggested that changes in dietary habits should be based primarily on nutritional benefits and secondarily on environmental considerations, which should complement each other. She also stressed that finfish farming, when done responsibly, has a relatively low environmental impact, including in terms of carbon footprint. She argued that the European Commission should place more focus on developing EU aquaculture and prioritise it at the policy level.

Mihalffy pointed out the barriers to aquaculture growth, including the complexity of EU regulations and the difficulty in updating them to reflect the latest scientific research. She noted that while EU policies on aquaculture were numerous, they often lacked the specificity needed to support the sector effectively. Furthermore, she highlighted the public image challenges faced by intensive fish farming, exacerbated by policy papers that sometimes give a negative perception of the sector. Innovation was a key theme in Mihalffy's presentation, where she argued that more EU research funding should be directed towards making intensive fish farming more efficient, rather than only focusing primarily on seaweed farming or low-trophic aquaculture. She pointed out that there was currently little support for improving the efficiency of intensive fish farming, despite its potential.





Mihalffy concluded with a call for a coherent approach to EU aquaculture policies, which should not only focus on sustainability and environmental protection but also on increasing food production to meet demand. She stressed that the future of aquaculture in the EU could be unlocked if food production was given equal importance alongside environmental concerns. With the right actions and decisions, she believes that the stagnation of EU aquaculture, including finfish farming, can be addressed, and the time for change is now.

#### Q&A session

**Comment (Javier Garat – Member of the EESC and President of Européche):** Javier Garat shared that, in July 2023, the European Economic and Social Committee (EESC) approved an [opinion](#) on the decarbonisation of the fishing fleet. Alongside this, the Committee developed a strategic vision for the future of a sustainable fisheries sector in the European Union. The document, titled "Friends of Fish and Fishers," outlines a vision for the sector in alignment with the FAO's Blue Transformation Strategy. This is part of the broader European Union Blue Deal, which aims to promote sustainable aquatic food systems. The document highlights the importance of increasing the contribution of aquatic food systems to healthy, safe, nutritious, and affordable diets for all, with the ultimate goal of reducing the EU's dependence on fish imports. The report touches on several key issues, including: (1) Biodiversity; (2) Decarbonisation; (3) Fair wages; (4) Safety and working conditions; (5) Rural and remote coastal areas; (6) Healthy and sustainable diets; (7) Strategic autonomy and (8) The role of aquaculture. Garat encourages stakeholders to read the document and take note of the comprehensive approach it proposes for tackling sustainability, equity, and the future of the fisheries sector in the EU.

**Question (Javier Garat):** Javier Garat asked why two aquatic food initiatives - one from Iceland and the other from Norway- are not collaborating, despite having similar objectives. He also inquired about how the fishing industry, particularly national and European organisations, can get involved in these initiatives, without seeking financial support, as many fishing industry organisations are facing financial challenges.

**Answer 1 (Jon Erlingur Jonasson):** Jon Erlingur Jonasson explained that, although the initiatives may seem separate, they are in fact working together in some respects. He highlighted the challenges of coordinating a large coalition of stakeholders and stressed the complexity of transforming food



systems. He argued that more collaboration is beneficial, particularly in addressing global challenges in both the Global South and North. Jonasson acknowledged the potential of involving private sector stakeholders and mentioned the support from various members in advancing these efforts.

**Answer 2 (Livar Frøyland):** Livar Frøyland agreed with Jonasson, pointing out that the initiatives are country-driven networks but stressed the importance of collaboration. He clarified that his role is more supportive, representing scientists through the Norwegian Institute for Marine Research. Frøyland emphasised the importance of aquaculture and broader aquatic food systems, encouraging further collaboration and exploration of existing documents and the Global Action Network, where productive dialogue can continue to improve efforts in the future.

**Comment (Delilah Al Khudairy – DG MARE):** Delilah Al Khudairy expressed optimism about the future of fisheries and aquaculture, highlighting several ongoing initiatives and opportunities. She noted the importance of resilience, especially in light of recent global events like COVID-19 and the invasion of Ukraine, which had revealed vulnerabilities and risks. Al Khudairy stressed the need for a holistic, interconnected approach to address these challenges, ensuring preparedness for future uncertainties.

Key developments included:

- The evaluation of the Common Fisheries Policy (CFP), which would also consider aquaculture.
- An assessment of the Common Market Organisation, addressing issues like fair competition, standards, and labelling.
- The development of a vision for fisheries and agriculture by 2040, incorporating a holistic view of food production.
- Upcoming priorities for maritime spatial planning to address challenges such as spatial constraints for fishing and aquaculture.
- The importance of a positive political environment, with the presence of a dedicated commissioner for oceans and fisheries, facilitating international and EU-level action.

Al Khudairy also discussed the role of Member States in overcoming challenges, particularly in aquaculture, by promoting consumer demand and addressing issues like licensing, permits, and access to space. She mentioned an upcoming campaign to promote aquaculture products, emphasising the need for a strong "social contract" to foster support for aquaculture. In conclusion, Al Khudairy was optimistic, seeing the current challenges as opportunities, and believed that with the right instruments and political will, the fishing and aquaculture sectors could continue to move forward.

**Answer (Esben Sverdrup-Jensen):** Sverdrup-Jensen mentioned the difficulties often faced when starting out in the fishing industry. He pointed out that while it's common to feel frustrated and negative, especially due to legislation that has primarily focused on limiting fishing rather than developing the sector, there is still much potential in seafood. This includes the nutritional benefits, the joy of eating it, and the possibility of providing carbon-neutral proteins once sustainable technology is developed for fishing vessels. Sverdrup-Jensen highlighted the resilience of the fishing sector, noting that during the COVID-19 pandemic, European fleets continued to operate, and fish consumption even increased in certain markets. This trend suggested that the next generation of consumers would likely be more interested in sustainability and health, presenting a huge opportunity for the sector. However, he emphasised the need for changes in how fisheries are managed and communicated, particularly by embracing FAO's Blue Transformation and new technologies.

Despite the challenges, Sverdrup-Jensen stressed the urgency of acting now to support the fishing industry. There was concern that the sector could lose many members, particularly with the aging workforce. He added that the average age of fishermen was nearing retirement, and there was no

clear next generation to take over unless clear signals and promises were made to the younger generation. Sverdrup-Jensen was optimistic about the opportunity presented by the new Commissioner for fisheries, whose plan included engaging with youth, which was seen as an important step in reassuring the sector that it would be supported, not shut down.

**Question (Janne Posti – Conxemar):** Janne Posti highlighted that 70% of EU seafood consumption comes from external sources, and the EU's primary sector can only meet 30% of the demand. He welcomed the EU's efforts to evaluate the Common Fisheries Policy (CFP) but expressed concern that there is no commitment to develop effective strategies and trade policies for imported seafood. He stressed the importance of ensuring that imported seafood complies with EU standards for sustainability and social responsibility. His main question was about the vision for what standards non-EU countries should comply with, and what practical instruments and policies could be implemented to ensure compliance.

**Answer 1 (Daniel Voces):** Voces thanked the questioner for raising the issue of the EU's seafood imports and the need for a level playing field. He acknowledged the EU's dependence on imported seafood and the importance of ensuring sustainability across global fisheries. He noted the EU's progress in setting sustainability standards for its own fleets but emphasised the challenges of applying these standards to third countries due to WTO regulations. He pointed out that many non-EU countries have not ratified key international conventions, which complicates efforts to enforce sustainable practices. He also expressed concern that the EU's use of autonomous tariff quotas sometimes undercuts European producers by allowing cheaper imports to compete unfairly in the market. However, Voces welcomed the EU's efforts to push for international sustainability standards and legislation such as the IUU regulation and the due diligence directive. He concluded that while it is difficult to impose EU standards on third countries, progress can be made through international agreements and stricter regulations to compel better practices in the fishing industry.

**Answer 2 (Szilvia Mihalfy):** Mihalfy thanked the questioner for raising the issue of a level playing field and shared some observations. She highlighted the importance of consumer education, particularly with regard to healthy eating and sustainable food choices. She noted that there is a growing awareness among younger generations, who are exposed to more information at an earlier age than previous generations. She suggested that the EU should focus more on educating children about healthy diets and sustainable food production, as this could help shift consumer behaviour over time. Additionally, Mihalfy touched on the impact of climate change, particularly the rising sea levels and temperatures, which are already affecting certain species. She stressed that while some challenges related to climate change are predictable, many others remain uncertain, and this will affect food production. She called for simplification of administrative processes, more flexible legislation, and prioritisation of food production within EU policy to address these urgent challenges.

**Question (Mark Dickey-Collas – moderator):** Dickey-Collas asked how the burden of legislation might prevent or slow down the potential of new solutions and technological advancements in the sector.

**Answer 1 (Esben Sverdrup-Jensen):** Sverdrup Jensen discussed how the fishing industry has developed innovative solutions, such as excluder gear for selective fishing, which allows small fish to be kept while large fish are released. However, the adoption of such new technologies is hindered by strict and slow-moving legislation in the EU, which involves complex co-legislation with member states, the council, and parliament. This bureaucratic process delays the introduction of new fishing gear and technology. The challenge is not only in legislation but also in how new technologies like AI, which could improve fishing operations, are not being integrated due to regulatory constraints.

Sverdrup-Jensen noted that the scientific community has been slow in embracing novel technologies like AI and EDNA (Environmental DNA), which could help in better data collection and quicker responses to changes at sea.

**Answer 2 (Daniel Voces):** Voces added that bureaucracy and policy-making processes also hinder the adoption of proven fishing gear innovations. He mentioned the frustration within the fishing industry regarding slow regulatory processes, especially when scientific evidence supports the benefits of new technologies. He pointed to specific examples, such as the Dutch fishermen's efforts to reduce fuel consumption and increase selectivity, efforts that were met with a ban under EU fisheries policy. Regarding the energy transition, Voces emphasised three levels of barriers: regulatory, capacity ceilings for equipment changes, and funding limitations. The European Maritime Fisheries and Aquaculture Fund, which could support modernisation, has been reduced, adding further difficulty for the industry to embrace new technologies.

## 2nd panel on 'Considering the social-ecological system of aquatic foods

### Outcomes of the Blue Food Assessment - Beatrice Crona, University of Stockholm

Beatrice Crona began by providing an overview of the report aimed at decision-makers on the Blue Food Assessment (BFA), which builds on eight papers, five of which were published in various *Nature* outlets. Crona noted that the assessment was also presented at the first UN Food Systems Summit, emphasising the importance of aquatic foods in global discussions on food systems. She explained that blue foods encompass animals, plants, algae, or seaweed cultivated or captured in freshwater and marine environments. These foods, which include over 2,500 species, are harvested from oceans, rivers, lakes, ponds, raceways, and tanks worldwide. For simplicity, Crona referred to all of them as blue foods throughout her presentation.

The BFA was created to address the growing need for aquatic foods in global sustainable food system discussions. As co-chair of the BFA alongside Professor Ross Naylor from Stanford, Crona highlighted that the report, while not entirely comprehensive, aims to fill significant gaps in understanding the potential roles blue foods could play in global food systems—both currently and in the future. The assessment focuses on an integrated look at environmental, nutritional, and social justice issues linked to blue food production, consumption, and trade. A core theme from the BFA, as Crona noted, is the tremendous diversity of blue foods. She explained that this diversity is found across species, nutritional content, production modes, environmental footprints, and global demand. Understanding and leveraging this diversity could be pivotal in achieving multiple sustainability goals. By emphasising these diverse aspects, blue foods have transformative potential in improving human health, environmental sustainability, and social equity.

Crona discussed how blue foods provide more than just protein, being rich in essential micronutrients such as omega-3 fatty acids, vitamin B12, calcium, zinc, and iron. In fact, many blue foods have higher concentrations of these nutrients than red meats like beef, pork, or chicken. She emphasised that blue foods can help combat malnutrition, particularly in low-income populations, while also reducing the incidence of diet-related diseases in wealthier regions. She concluded that modest investments in expanding blue food supplies could yield significant returns in global health.

Turning to the environmental aspect, Crona pointed out that while some blue foods, especially widely produced fish and invertebrates, have less negative environmental impacts than red meats, there are still opportunities to reduce these impacts further. For example, improving conversion ratios, adopting deforestation-free inputs in aquaculture, and shifting to species with lower environmental footprints could help. Crona also highlighted that species like bivalves or seaweed produce negligible emissions and can even improve water quality. She stressed that blue foods, if managed sustainably, could contribute significantly to global goals on climate change, biodiversity, land and water conservation, and food security.

Crona outlined the economic importance of blue food systems, particularly in rural and national economies. While large-scale fisheries and aquaculture continue to play a major role, she stressed the need to better support small-scale producers, who represent about 90% of jobs in the aquatic food sector and support around 800 million livelihoods globally. Policies aimed at improving equity and justice within blue food value chains, supporting local innovation, and empowering marginalised communities—especially women and youth—are key to achieving a fairer, more inclusive food system.

Crona concluded by sharing five actions that could help realise the potential of blue foods:

- **Adopt an ambitious social and environmental responsibility agenda:** This includes committing to environmental sustainability, adopting third-party certifications, shifting to lower-impact species, and ensuring supply chain transparency. Social justice efforts should focus on human rights and supporting small-scale producers.
- **Embrace the diversity of blue foods:** Crona emphasised the need to invest in the production of a wider range of nutrient-dense species, which would increase flexibility and resilience in food systems.
- **Foster innovation in production and processing practices:** Innovations in gear, breeding, aquaculture feeds, and other areas could improve environmental outcomes and increase the affordability and accessibility of blue foods.
- **Invest in small-scale producers' capabilities:** Large-scale producers should support small-scale actors by extending financial services, developing local infrastructure, and reducing waste, all of which would enhance food security.
- **Collaborate across sectors:** Crona emphasized that the transformation of blue food systems requires collaboration across the entire sector—small and large scale—to implement systemic changes and policies that support sustainability and equity.

In closing, Crona reiterated the importance of understanding the potential of blue foods to address global challenges in health, environment, and equity. She encouraged further engagement with the Blue Food Assessment and mentioned that various synthetic briefs for different audiences, including decision-makers, were available on their website.

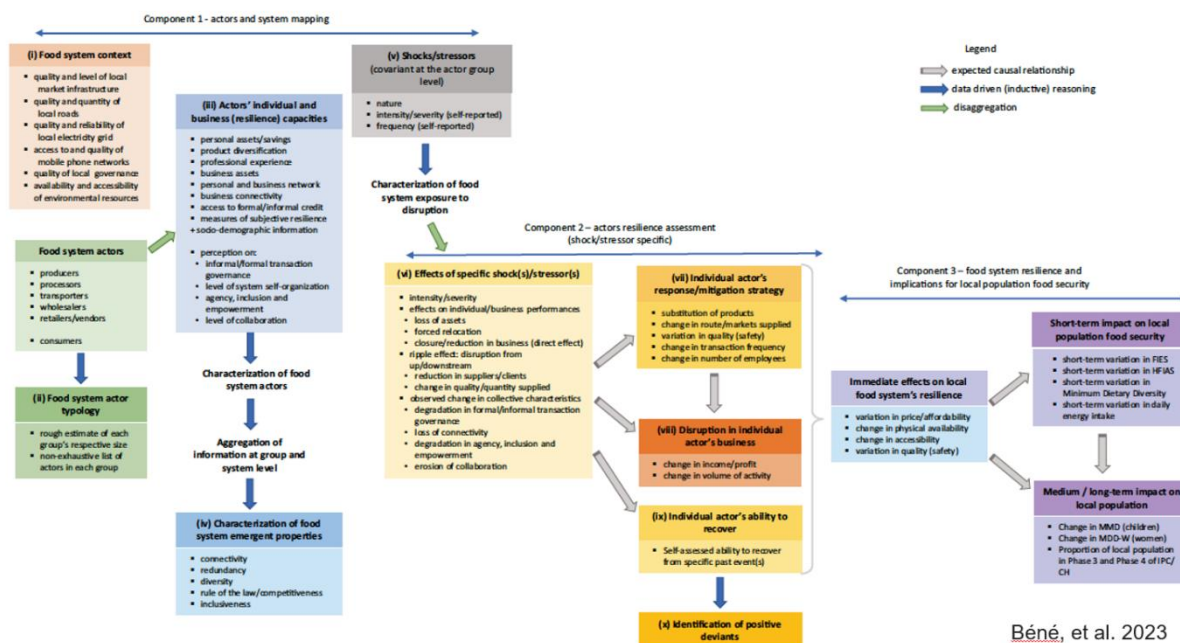
## What makes resilient and sustainable aquatic food production? - Jorn Schmidt, Director for Sustainable Aquatic Food Systems at WorldFish

Jorn Schmidt began by introducing WorldFish, a research-for-development organisation working on fisheries and aquaculture in both marine and inland waters. Schmidt highlighted the organisation's mission to end hunger and advance sustainable development by 2030 through science and innovation, transforming food, land, and water systems for healthier people and a more sustainable planet. He noted that WorldFish works predominantly in developing regions and stressed the interconnectedness of global food systems, particularly the trade of aquatic foods. He said that while Europe imports significant quantities of aquatic foods, these trade patterns also impact local industries in regions such as Africa, where European imports affect domestic production systems. Schmidt emphasised that this interconnectedness was essential when discussing resilience in the context of aquatic food systems.

The core of Schmidt's presentation focused on the concept of resilience. He referred to the work of Chris Béné (2023), who defined resilience as the ability of individuals and institutional actors within a food system to maintain, protect, or recover key functions despite disturbances. Schmidt explained that resilience is not just an individual or household characteristic but applies to institutional actors as well. He further emphasised the importance of viewing resilience from a systemic perspective, which he believed was essential for understanding how resilience works in practice. He argued that resilience is best assessed at the level of the system rather than focusing solely on individual communities or households. Schmidt highlighted that a systems perspective allows for the identification of "emerging properties"—the dynamic changes that occur within systems over time, affecting their overall resilience. He explained that systems are not static and that their resilience can evolve depending on the interactions between various elements. For example, in aquatic food systems, the interconnected elements such as production, processing, marketing, storage, and governance must work in harmony to ensure the system's resilience. He said that focusing on these system-wide interactions is key to understanding resilience and ensuring that aquatic foods remain affordable, accessible, and nutritious. To elaborate on the factors that influence resilience, Schmidt listed several key elements of resilient food systems: connectivity, redundancy, diversity, the rule of law, competitiveness, innovation, and inclusiveness. He mentioned a paper co-authored by Mark Dickey-Collas, which looked at climate resilience, and how it identified five properties of resilient systems that were applicable to ecological, governance, and socio-economic contexts. Schmidt reiterated that connectivity and diversity were fundamental to building resilience in food systems, stressing the importance of networks and sharing knowledge and resources.

Schmidt then moved on to a case study in the Solomon Islands, where WorldFish has worked to improve resilience in local communities. He explained that five principles of network success—clear and shared objectives, regular communication, sharing expertise and resources, fostering strong leadership, and long-term thinking—were critical in strengthening resilience at the community level. These principles, Schmidt noted, could be applied in practice to build community-based resource management systems that are part of a broader, interconnected food system. In the Pacific Islands, for example, he explained that resilience was supported not only by the diversification of species produced but also by the diversification of practices used in food production, processing, and distribution. To illustrate the complexity of these systems, Schmidt referenced a schematic from Chris Béné's research. He explained that to understand resilience in aquatic food systems, it is crucial to assess both the context of the food system, and the actors involved, such as producers, processors, and retailers. Each of these actors has its own capacity for resilience, and when they work together, their collective resilience creates emerging properties that enhance the system's overall ability to

withstand shocks. Schmidt emphasised that resilience is not a fixed property but something that can evolve and be strengthened through intervention.



Finally, Schmidt discussed the role of climate change as a major disturbance challenging aquatic food systems. He explained that climate change exacerbates the need for resilience, as it introduces stressors that can disrupt the delivery of aquatic food. He pointed out that building resilience in the system can mitigate these shocks, allowing systems to recover more quickly and continue to provide food.

In conclusion, Schmidt stressed that resilience is a dynamic quality, not a fixed characteristic of a system. He reiterated that the principles of connectivity, diversity, learning, leadership, and long-term thinking are essential for increasing resilience in aquatic food systems. By understanding these principles and applying them on the ground, he said, we can ensure that aquatic food systems continue to provide healthy and sustainable food for generations to come.

## Social-ecological Systems and Ecosystem-based Marine Management – Debbi Pedreschi, Irish Marine Institute

Debbi Pedreschi explained that ecosystem-based management is a globally recognised approach, mandated by international agreements, national policies, and European legislative instruments. However, she pointed out the lack of a universally agreed definition of EBM. Referring to ChatGPT's explanation, she highlighted that EBM focuses on conserving and sustainably using entire ecosystems by considering complex interactions between species, habitats, and human activities. She stressed that this approach aims to achieve ecosystem health and functionality while meeting societal needs. Pedreschi emphasised that social systems are an integral part of ecosystems. She said, "We do not manage ecosystems or species; we manage our actions and their impacts on ecosystems." This, she explained, requires a whole-systems approach, acknowledging not only the effects of human actions

on ecosystems but also how ecosystems impact human activities. She elaborated on the need to consider all activities, sectors, and industries affecting the marine environment, including the pressures they create, the ecosystem services impacted, and the socioeconomic and governance contexts. She acknowledged the inherent challenges, asking whether EBM is feasible and why it should be pursued when traditional fisheries management has been effective.

Pedreschi used a simple example to illustrate trade-offs in decision-making: whether society prioritises more fish on plates or more fish in the sea. Both choices, she explained, have societal implications, such as impacts on fisheries, tourism, and recreational activities. She noted that these trade-offs, which align with different policy goals, demonstrate the interconnectedness of human activities and ecosystem management. Discussing the challenges of implementing EBM, Pedreschi referred to a recent publication showcasing global progress. She explained that despite remaining challenges, solutions are emerging, and common principles such as stakeholder engagement, interdisciplinarity, and knowledge integration guide the approach. Pedreschi also highlighted frameworks like the ICES framework for ecosystem reform science advice, which provides practical methods for interdisciplinary collaboration and integrating socioeconomic aspects. She said these frameworks bridge the gap between theoretical principles and operational practice, enabling the implementation of EBM.

Further, she described tools and processes developed to assess human impacts and environmental drivers within ecosystems. Pedreschi noted the growing capacity for interdisciplinary research, increased monitoring, and expanding data capabilities, all of which support EBM. However, she stressed the need for clear operational objectives, which she identified as a recurring issue. Many policy objectives, she explained, remain unclear, implied, or unspecified, making it difficult to provide precise advice. She argued that explicit objectives are essential to identify trade-offs and ensure effective management.

Concluding her presentation, Pedreschi called for greater recognition of social-ecological systems, interdisciplinary teams, and dedicated funding to produce actionable EBM advice. She underlined the importance of meaningful stakeholder engagement and translating research into routine advisory processes. Finally, she expressed optimism, stating her belief that the societal and ecological benefits of EBM would outweigh the financial costs.

### **Mission Ocean and Food 2030 - Nikos Zampoukas, Policy Officer at DG Research & Innovation**

Nikos Zampoukas highlighted the European Commission's mission to restore oceans and waters by 2030. This mission, he said, involves a comprehensive approach that integrates research, education, art, cooking, and various policies to restore aquatic ecosystems. Zampoukas emphasised the urgency, stating the need for action no later than 2030. He then discussed the mission's objectives: protecting and restoring ecosystems, eliminating pollution, and making the blue economy carbon-neutral and circular. He elaborated that this includes transitioning fisheries and aquaculture towards low-carbon and toxin-free practices while achieving net-zero emissions from maritime activities, including fishing vessels. He shared achievements of the mission, such as the establishment of lighthouses—pilot sites for testing innovative ideas—and the development of the non-binding mission charter, which outlines actions to restore aquatic ecosystems. Zampoukas explained that over 600 action pledges, amounting to more than €5 billion, have been secured, with strong support from Member States, regions, and cities. Zampoukas detailed the importance of regional cooperation, noting the network of associated

regions benefiting from tailored solutions and funding despite not directly participating in projects. He explained that this approach ensures broad implementation of mission outcomes.

Shifting to decarbonisation of the blue economy, Zampoukas discussed projects focusing on aquaculture, such as algae farming near wind farms to enhance carbon neutrality. He mentioned ongoing initiatives exploring markets for European algae and recent projects targeting small-scale fisheries, aiming to improve their energy efficiency and sustainability. He said the coordination and support action "BlueMissionBANOS" plays a key role in coordinating promoting these initiatives in the Baltic and North seas. Zampoukas highlighted the upcoming 2025 Annual Mission Ocean and Waters Forum, scheduled for 4 March 2025 in Brussels, encouraging stakeholders to participate.

Expanding the discussion, Zampoukas introduced the Food 2030 policy framework, which aims to future-proof food systems by addressing nutrition, climate resilience, circularity, and innovation. He explained the importance of breaking silos in food production, processing, consumption and disposal and adopting a systems approach to address what he called "broken food systems." He mentioned the publication of the Pathways for Action 2.0 report, which, under the pathway Food from the Ocean and Freshwater Resources, identifies barriers to integrating aquatic food into broader food systems. He highlighted issues such as supply chain dominance by large companies, knowledge gaps, lack of international collaboration, and consumer reluctance to embrace aquatic low-trophic organisms in diets. Zampoukas detailed Horizon Europe's role in advancing research and innovation, noting its almost €9 billion budget through Cluster 6 for natural resources, agriculture, and environment and its relevance to fisheries and aquaculture. He also introduced the Sustainable Blue Economy Partnership and the recently launched Sustainable Food Systems Partnership (FutureFoods), which includes in its scope seafood integrated into the wider food systems research and policy.

He concluded by announcing the launch of a co-funded call under the FutureFoodS partnership, which includes topics relevant also to the aquatic sector, such as sustainable and resilient food systems and dietary shifts. He invited stakeholders to participate in an upcoming webinar on 21 November.

### Q&A session

**Question (Mark Dickey-Collas – Moderator):** Dickey-Collas raised a question about how social and environmental responsibility can progress within the European context, particularly with respect to ongoing initiatives like the FAO's Blue Transformation Agenda, the evaluation of the Common Fisheries Policy (CFP), and upcoming EU ocean policies. He asked how Crona's concept of social and environmental responsibility could be integrated into these regional efforts, and whether her approach could align with these European policies.

**Answer (Beatrice Crona):** Crona acknowledged that her personal expertise does not primarily lie in social equity, but she had co-chaired a large and diverse team that contributed to the Blue Food Assessment, which explored these interconnected issues. She explained that the challenges of social equity, environmental sustainability, and health are deeply linked and should be addressed together, rather than separately. Crona highlighted the importance of considering these factors in tandem, as focusing on one without the others can lead to unintended consequences. For example, producing blue foods that are socially equitable and nutritious, but neglecting environmental considerations, could result in a large ecological footprint. She suggested that European and regional policy initiatives should adopt a holistic approach, where all three dimensions—social equity, environmental sustainability, and health—are considered simultaneously. While Crona was unsure whether the



policies she was referring to currently achieve this, she stressed that this is the direction we need to move towards. She acknowledged that perfect solutions do not exist, and trade-offs are often inevitable. However, the goal should be to minimise the negative impact of these trade-offs as much as possible. Crona concluded by stating that although this integrated approach may not have always been the focus in policy-making, it represents the necessary path forward. It is crucial to keep these multiple objectives in mind while recognising the inevitable challenges in balancing them.

**Question (Mark Dickey-Collas – moderator):** Dickey Collas asked about fostering strong leadership in research and innovation, expressing concern that this was missing in the DG RTD presentation. He invited responses on whether leadership development should have been emphasised.

**Answer 1 (Nikos Zampoukas):** Zampoukas acknowledged the importance of leadership and admitted that natural scientists often overlook this dimension. He noted that DG RTD integrates gender and social sciences into their programmes and includes training components to prepare individuals for roles in the blue economy. However, he agreed that more focus on developing future leaders is necessary and that this can be considered in future programmes.

**Answer 2 (Debbi Pedreschi):** Pedreschi agreed, highlighting that while researchers are trained to become leaders, they often lack opportunities to apply their skills effectively due to limited career pathways. She stressed the need for pipelines to support these leaders in contributing to the EU's blue economy and research goals.

**Answer 3 (Jorn Schmidt):** Schmidt added that strong leadership is essential for implementing change and fostering innovation, particularly through champions who believe in and drive progress.

**Comment (Mark Dickey-Collas – moderator):** Mark Dickey-Collas highlighted the critical need for leadership and champions in fostering sustainable and resilient blue foods. However, he pointed out a significant issue raised earlier: the failure of leadership in Europe, particularly in the North Atlantic, regarding coastal states' negotiations and addressing fisheries challenges. While he brought this issue to the table, he clarified that he did not expect immediate discussion on it.

### 3rd panel on 'Challenges & high-level trade-offs':

**Climate change mitigation and adaptation: Carbon footprint and decarbonisation – Antonio Basanta, General Director of Fisheries, Aquaculture and Technological Innovation**

Antonio Basanta highlighted that the primary goal of the sector is to achieve sustainability while maintaining the competitiveness of the industry. He explained that the sector is crucial to the European Union, particularly in terms of fisheries, aquaculture, and processing industries. He further stressed that the industry must focus on two key objectives: maintaining protein production from marine sources and ensuring that this production remains both sustainable and competitive.

Basanta outlined the new challenges facing the sector, with the first and foremost being the need to maintain marine protein production in both quality and quantity. He explained that this must be done within the framework of sustainability, considering environmental, economic, and social factors, while also addressing the critical issue of competitiveness. He added that without competitiveness, sustainability cannot be achieved.

The decarbonisation of the sector, according to Basanta, represents one of the most significant global challenges. He said that while there is total agreement on the necessity to decarbonise fisheries, processing industries, and aquaculture, the implementation of such changes must be realistic, affordable, and progressive. He explained that the goal of achieving carbon neutrality by 2050 is ambitious, and therefore, it is crucial to approach this challenge with a clear understanding of the practical steps that need to be taken. He further elaborated on the key aspects of the decarbonisation process, noting the importance of adopting the correct technologies, training personnel to manage these technologies, and applying them effectively within the sector. He highlighted the economic challenges in securing the necessary resources for such technological advancements. Basanta also emphasised the need for a comprehensive approach, starting with a detailed analysis of the current situation. He said that the Galician sector, in collaboration with various stakeholders has already initiated this process. Through studies and reports, the sector has analysed the carbon and water footprint of aquaculture and fisheries industries, revealing one of the lowest carbon footprints for marine protein production. He explained that one of the primary challenges in the decarbonisation effort is the capacity of the existing fleet. He said that many vessels, some over 30 years old, are not equipped to adopt new technologies. Therefore, Basanta underlined the importance of fleet modernisation in facilitating this transition.

In terms of funding, Basanta highlighted the need for adequate financial resources to support the transition to a sustainable and competitive sector. He mentioned that the cost of decarbonising the Galician fleet alone is approximately 1.2 billion euros. He stressed the importance of working closely with European authorities and other stakeholders to secure the necessary funding. Basanta acknowledged the ongoing efforts within the European Commission's Energy Transition Partnership and expressed his support for these initiatives, commending EBCD for its role in driving progress. He noted that a specific report has been developed addressing the needs of three segments of the fleet: the coastal and artisanal fleet, the long-distance fleet, and the aquaculture fleet. He highlighted that each of these sectors requires tailored solutions to meet the decarbonisation goals.

In conclusion, Basanta reiterated Galicia's commitment to the decarbonisation challenge and stressed the importance of a gradual and realistic approach. He called for the development of measurable milestones to guide the sector towards its sustainability goals and emphasised that collaboration and shared knowledge would be essential for success.

#### **Climate neutral and nature positive food systems - Laure Guillevic, Ocean Policy Officer, WWF EPO**

Laure Guillevic explained that the focus of her presentation would be on climate-neutral and nature-positive food systems, particularly in the context of seafood. She highlighted the importance of sustainable food systems, referencing a definition from the European Academies' Science Advice for Policy. She explained that a sustainable food system should provide safe, nutritious, and healthy food for both current and future generations, not just within a given territory but globally. She noted that the definition emphasised the rights of future generations and the need for people outside Europe to have access to healthy food, which she found particularly significant.

Turning to the specifics of seafood systems, Laure Guillevic outlined that seafood is a common, renewable resource shared globally, which can be sustainably managed if properly cared for. She said that achieving climate neutrality by 2050, as outlined in the European Green Deal, requires addressing

all steps of the seafood supply chain, including fisheries, suppliers, retailers, and consumers. She explained that tackling both climate change and biodiversity crises is essential for the future of the seafood industry. She then referenced several global frameworks that help set ambitious goals for sustainability, such as the Sustainable Development Goals, the Global Biodiversity Framework, and the upcoming UN Ocean Conference in June. She said that these frameworks provide a necessary foundation for action and ambition on a global scale. Guillevic discussed the projected changes to seafood nutrients by 2050, highlighting regional disparities. She explained that tropical regions are expected to see a decline in seafood nutrients by up to 61%, with marine fisheries projected to lose 30% of their yield. She said this would disproportionately affect regions already struggling with nutrient deficiencies, underlining the importance of addressing the impacts of climate change on global seafood availability.

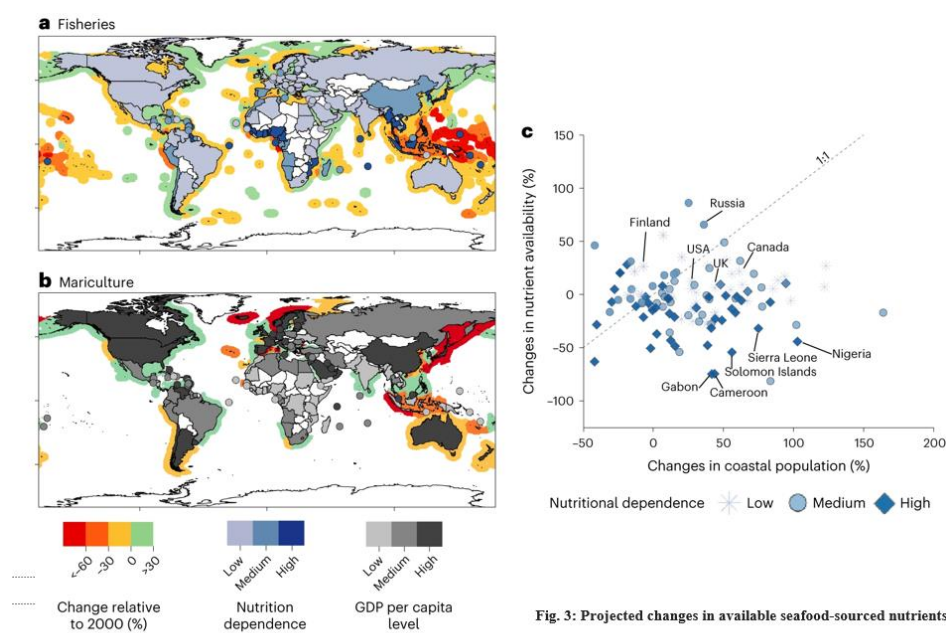


Fig. 3: Projected changes in available seafood-sourced nutrients by countries across calcium, iron, omega-3 fatty acids and protein by 2050 relative to 2010 under the SSP5-8.5 scenario. Retrieved from <https://www.nature.com/articles/s41558-023-01822-1/figures/3>

the positive food systems. Laure Guillevic - WWF FPO. 14 Nov 2024

She continued by discussing the European Union's role in global seafood sustainability. She explained that the EU is a significant player in the global seafood market, being the second-largest importer and the third-largest consumer. She said the EU has the power to influence practices through its participation in Regional Fisheries Management Organisations (RFMOs) and sustainable fisheries partnership agreements. She noted that the EU's influence can help uplift global ambition for sustainability.

Guillevic described WWF's ongoing work in this area, referencing reports on climate change impacts, supply chain transparency, and the future of sustainable seafood legislation. She pointed to WWF's work on the sustainable food system law, which includes recommendations for addressing seafood sustainability within the broader policy framework. She introduced the WWF Seafood Guide, a tool available in 16 European countries, which helps consumers and retailers choose more sustainable seafood. She explained that the guide uses a traffic light system to assess species based on stock status, fishing gear impacts, and fisheries management effectiveness. She mentioned that the European Commission is also working on similar indicators to improve transparency and sustainability in the seafood sector.

In terms of future policy actions, Guillevic outlined several key areas for improvement. She stressed the importance of strengthening the sustainable food system framework, preparing climate adaptation plans, and improving the implementation of the Common Fisheries Policy, particularly regarding quota allocation, the landing obligation, and sector participation. She highlighted the importance of holding businesses accountable, referencing the EU's Due Diligence Directive and its potential to improve practices across the seafood supply chain. Guillevic also called for changes in European consumption habits, advocating for the consumption of less but more sustainable seafood, including seasonal, low-trophic, and domestically produced options. She concluded by challenging the current European food security narrative, suggesting that food sovereignty may be a more relevant term, as Europe faces challenges related to food waste rather than scarcity. She noted the global impact of European seafood consumption, particularly in relation to deforestation and carbon emissions from imported seafood.

In conclusion, Laure Guillevic expressed the need for Europe to ensure equitable access to common resources like seafood and to take responsibility for the environmental impacts of its consumption.

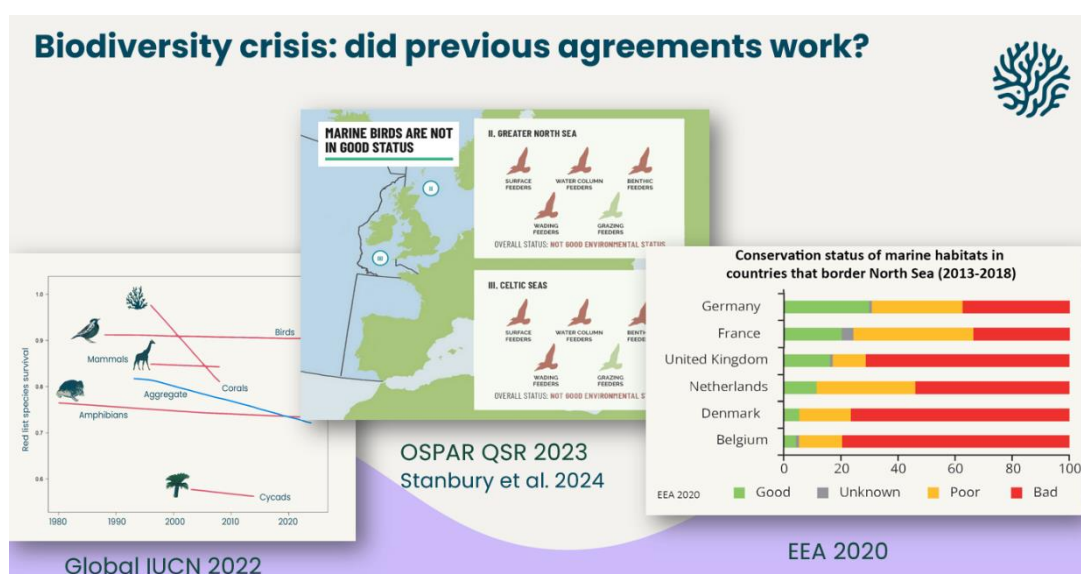
### Conservation/restoration & sustainable management: Nature Restoration Law, 30 by 30 target and sustainable fisheries - Dr. Mark Dickey-Collas, DickeyCollas Marine, Member of the IUCN Fisheries Expert Group

Mark Dickey-Collas began by referencing the European Environment Agency's 2016 report, *From Fish to Fork*, which explored the opportunities and challenges around food security and the provision of sustainable food within Europe. He explained that, although the report did not achieve much impact at the time, the global crises, including climate change, the COVID-19 pandemic, and geopolitical conflicts, have now brought the importance of this issue to the forefront. He stated that the challenges surrounding food security have become even more pressing, particularly in the context of "blue food" security, conservation, restoration, and sustainable use. Throughout the day, he noted the recognition of blue foods' contribution to the economies, markets, and populations of Europe. He referred to the *State of Food Security and Nutrition in the World* report by the FAO, WHO, and UNICEF, highlighting its clarity on the vital role of blue foods in Europe's food system. As emphasised by Debbi Pedreschi and



others, he pointed out the need for sustainability and resilience, which must be considered from ecological, economic, social, and cultural perspectives, all contributing to the overall food provision.

Taking a different angle, Dickey-Collas introduced the current biodiversity crisis, touching on new global agreements and why previous efforts had failed. He presented four examples to illustrate the continuing biodiversity decline: the IUCN's estimates of species extinction, the OSPAR report on seabirds in the Northeast Atlantic, and assessments of marine habitat conservation status under the Marine Strategy Framework Directive. He highlighted the fact that, according to these reports, most marine habitats are in poor or bad condition, with the UK still included in these assessments. He proceeded to discuss a Horizon Project funded by the European Union, which examined vulnerable coastal communities at risk from climate change. This project presented a figure showing that various communities across Europe are predicted to suffer from the effects of climate change, particularly on marine environments. He pointed out that alongside the biodiversity crisis, climate change is another urgent challenge for the sector.



Dickey-Collas also spoke about tools that are being made available to tackle these issues, particularly within the fisheries world. He mentioned the global biodiversity framework, often referred to as "30x30," which promotes the creation of marine protected areas (MPAs). He emphasised, however, that the global biodiversity framework should not be reduced to just a series of protected areas. Instead, it is a comprehensive package that includes 23 targets across three main sections: reducing threats, meeting people's needs, and implementing tools and solutions. He highlighted the importance of understanding that reducing threats must be accompanied by a focus on meeting people's needs, especially in the fisheries world, where there is a need to balance conservation with sustainable food production. The current narrative, Dickey-Collas argued, often portrays fisheries and aquaculture as threats to nature. However, he pointed out that recent shocks to the system have shown that some sectors are more concerned with immediate needs, rather than long-term environmental goals. He stressed the importance of working with the fisheries and aquaculture industries to bring about positive and effective change, noting that the global biodiversity framework

includes tools such as mainstreaming, engaging with industry, removing harmful subsidies, and investing in capacity building, data sharing, and participation.

He then moved on to discuss the EU's contribution to the global biodiversity framework. He critiqued the EU's national biodiversity action plan, which, he argued, focuses too heavily on reducing threats and does not sufficiently address the need for resilience-building in blue food systems. He acknowledged the EU's positive steps, such as establishing a larger network of protected areas and launching the EU Nature Restoration Law. However, he expressed concerns that these efforts still fail to fully integrate the need for sustainable blue food production alongside conservation.

Dickey-Collas pointed out that blue foods have been largely absent from national climate strategies, referencing a study from Stanford University and World Fish. He observed that, while the EU's National Climate Strategies have not included blue foods, other frameworks such as the FAO's Blue Transformation Roadmap consider the broader integration of biodiversity, climate, and blue food systems. He explained that the current approach still treats biodiversity, climate, and blue food issues as separate boxes, which prevents the integrated progress needed to address these challenges effectively.

In conclusion, Dickey-Collas called for a shift in approach. He emphasised that biodiversity, climate, and blue food strategies are intrinsically linked and must be considered together. He advocated for a transformation in biodiversity conservation into a positive force that requires innovative, focused approaches, collective engagement, and substantial financing to overcome historical challenges and advance nature conservation. Finally, he posed the question of whether the voices advocating for blue food strategies are being heard loud enough in the biodiversity and climate arenas, suggesting that they are not yet sufficiently amplified.

#### **Energy security & food security: spatial squeeze and maritime spatial planning - Felix Leinemann, Head of Unit of Blue Economy Sectors, Aquaculture and Maritime Spatial Planning at DG MARE**

Felix Leinemann discussed the critical intersection of energy security, food security, and maritime spatial planning, emphasising the importance of balancing these often conflicting interests. He explained that sustainable food systems are not isolated but are deeply interconnected with other sectors, urging the need to look beyond the immediate scope of food production. He highlighted that bridging different policy areas and resolving conflicts between them is essential for achieving synergies and reconciling seemingly divergent objectives.

Leinemann began by discussing energy security, noting the European Commission's ambitious offshore renewable energy strategy, which aimed to increase offshore wind capacity from 12 GW in 2020 to 60 GW by 2030. He highlighted that this target had been significantly raised following the Russian aggression against Ukraine, which underscored the need for energy independence from fossil fuel-exporting countries. He noted the Commission's initiatives to support this growth, including the establishment of a stable supply chain, the development of renewable acceleration areas, and fostering cross-border cooperation within the sector. He stressed that the energy sector is undergoing rapid and essential transformation, as the five years leading up to 2030 are critical for achieving the set goals.

Leinemann then turned to the topic of food security, acknowledging the significant role that fisheries and aquaculture play in ensuring both food security and economic stability, especially in rural and coastal regions. He explained that the fisheries and aquaculture sector supports over 500,000 jobs in the EU, contributing to social cohesion in these areas. However, he stressed that as offshore renewable energy projects expand, Member States must ensure that these developments do not come at the expense of food production or environmental protection.

He then discussed maritime spatial planning (MSP) as a critical tool for integrating offshore energy, fisheries, and other maritime sectors. He highlighted the European Union's 2014 directive on maritime spatial planning, which has led to 20 out of 22 coastal member states creating maritime spatial plans for their waters. Leinemann explained that the Commission has supported cross-border cooperation, with funding provided for over 30 projects in European sea basins. Through these initiatives, the goal is to promote synergies between sectors and explore the multi-use of marine space. He acknowledged that collaboration between sectors like fisheries and offshore wind development can be challenging, but it is essential to reconcile competing demands for space in the maritime environment. Leinemann explained that multi-use concepts—such as combining wind farms with fishing or aquaculture activities—are gaining traction, although they are still in their early stages. He provided examples of successful pilot projects, such as the co-location of wind farms and fish nurseries in the North Sea, as well as collaborations between wind farm developers and the fishing community in France. These efforts, he said, exemplify how constructive dialogue within the maritime spatial planning framework can lead to mutually beneficial outcomes for both sectors. He also mentioned the launch of the first EU multi-use compendium in March 2024, which compiles best practices and information on projects involving multiple sectors. However, he acknowledged the complexities of multi-use projects, noting that technological solutions and regulatory adaptations are needed to make them successful.

Turning to aquaculture, Leinemann discussed the challenges of providing space for marine aquaculture, which has long been identified as a barrier to the growth of the sector. He highlighted that the Commission's strategic guidelines for sustainable aquaculture identify access to space as a major challenge, and referred to a guidance document on space planning for marine aquaculture published in April 2024. He also noted the potential of seaweed farming as an emerging sector, emphasizing its multiple uses, including food, feed, pharmaceuticals, fertilizers, and bioplastics. Leinemann pointed out that while the EU produces only a small fraction of the world's algae, there is significant potential for growth in this area, especially in the context of sustainable food production.

Leinemann concluded his presentation by addressing the challenge of reconciling multiple spatial demands in the maritime domain. He emphasised that consultations under the Maritime Spatial Planning Directive, as well as environmental impact assessments, are essential for ensuring that local communities and stakeholders are involved early in the planning process. He cited examples of where offshore wind developers have adapted their plans to accommodate local concerns and minimize impacts on fisheries. However, he acknowledged that achieving multiple objectives in the same space is complex and requires ongoing adaptation and collaboration across sectors. Looking ahead, Leinemann stressed the importance of collaboration between business, industry stakeholders, and administrations. He cited the Greater North Sea Basin initiative, which aims to integrate all users of the sea, including the energy, fisheries, and aquaculture sectors, into a regional cooperation platform based on spatial planning. He concluded by inviting stakeholders to contribute to the ongoing discussions around a European Ocean Pact, which will provide a holistic approach to managing the ocean's resources. In closing, Leinemann called for continued dialogue and cooperation, noting that

the upcoming Fisheries and Oceans Dialogue, scheduled for March 2024, would be a critical opportunity for stakeholders to engage and contribute their perspectives on how to achieve a balanced approach to maritime spatial planning and the integration of energy, food, and environmental goals.

### Q&A session

**Comment 1 (Jarek Zielinski – Chair of the Baltic Sea Advisory Council):** Zielinski highlighted the lack of consideration for food security in managing Baltic Sea quotas, particularly for pelagic species like sprat, which are vital for strategic and economic reasons. He criticised inconsistent quota decisions and expressed concerns about pollution in the Baltic Sea remaining unresolved for decades. Zielinski called for greater recognition of these factors in decision-making.

**Comment 2 (Arni Mathiesen – Aquatic Blue Food Coalition):** Mathiesen praised the conference's organisation and noted the optimism from Manuel Barange's presentation alongside complaints from stakeholders. He highlighted the sector's potential to address climate, biodiversity, and environmental challenges.

**Questions (Javier Garat – Member of the EESC and President of Europêche):** Garat echoed appreciation for the event and shared hope for positive change in the fishing and aquaculture sectors. While acknowledging ongoing frustrations, such as insufficient recognition of sacrifices by the industry, he stressed the importance of adopting the blue transformation initiative and addressing regulatory challenges. Garat raised the following question to the panellists:

- How will the European Commission address the sector's frustrations and integrate blue transformation into EU legislation?
- What steps will WWF take to support the fishing and aquaculture sectors?
- How can the fishing industry better engage with biodiversity and climate discussions, particularly given the lack of dialogue at international forums like COP16?

### Answers:

- **Felix Leinemann (European Commission):** Leinemann explained that the upcoming EU Ocean Pact aims to integrate energy, nature, and food policies. He added that a "Fishers of the Future" project will feed into the European Commission's "vision for fisheries and aquaculture by 2040", while the Common Fisheries Policy evaluation may lead to reforms, if considered necessary.
- **Laure Guillevic (WWF):** Guillevic emphasised WWF's local network, co-management systems, and projects like Fish X, which support fishers through participatory approaches and stakeholder engagement.
- **Mark Dickey-Collas:** Dickey-Collas observed a lack of inclusivity in marine biodiversity discussions in the Global North compared to the Global South. He suggested the fishing sector needs to assert its interest in biodiversity and climate policies more visibly and proactively engage with policymakers.