United States Input for the 2024 United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea: "The ocean as a source of sustainable food"

Ensuring that the ocean and its resources are used sustainably is imperative for the long-term health of the planet and its inhabitants. Ocean-based sources of sustainable foods, or blue or aquatic foods – including finfish, shellfish, aquatic plants, and algae derived from capture fisheries or aquaculture – are essential components of sustainable food systems and are a vital resource providing nutrition, food security, and livelihoods to billions of people. To fully recognize the potential of the ocean as a source of sustainable food, we should elevate the role of blue foods throughout the critical, cross-cutting areas highlighted below.

(i) Progress toward UN Sustainable Development Goals

The United States recognizes the 2030 Agenda and its Sustainable Development Goals (SDGs) as the primary global framework for sustainable development that supports countries' work toward global peace and prosperity. The Informal Consultative Process on Oceans and the Law of the Sea (ICP) should explore the linkages between blue/aquatic foods and the SDGs, most notably:

- Blue foods are critically important to achieving the universal food security and nutrition goals of SDG 2.
- Blue foods can also play a role in meeting the gender equality goals of SDG 5 by offering economic opportunities for women and girls in the fisheries and aquaculture sectors.
- Blue foods are and will continue to be deeply impacted by the effects of climate change, yet they can also provide a climate-friendly nutrition source and provide ecosystem services that can contribute to climate resilience in support of SDG 13.
- Sustainable harvesting, production, and use of blue/aquatic foods directly support SDG 14.

(ii) Global food and nutrition security

Fisheries and aquaculture play an important role in food security and nutrition security, providing half of the world with a significant amount of animal protein and supplying macronutrients critical to human health. Too often, fisheries and aquaculture are treated as environmental or industry issues, and food security is framed only in terms of terrestrial agriculture. Yet blue foods are a vital source of nutrition, protein, and food security for billions of people. They are crucial components of sustainable development, poverty eradication, and climate-resilient food systems. The ICP should highlight the important contribution of blue/aquatic foods to global food and nutrition security.

- Fish alone provide over 3.3 billion people globally with at least 20 percent of their average per-capita animal protein intake and are a good source of essential fatty acids and micronutrients, and fish products are one of the most widely traded food commodities in the world.

- Blue foods make up about 17% of global average daily protein intake - as much as from poultry, and more than from bovine or pig sources.
- Micronutrients from blue foods -- including calcium, iron, zinc, and selenium -- can prevent malnutrition, improve maternal health, and support cognitive and physical health at critical stages during early childhood.
- The UN Food and Agriculture Organization (FAO) reported that in 2020, about 89% (over 157 million tonnes) of total fisheries and aquaculture production was utilized for direct human consumption.

(iii) Climate change and climate-resilient communities

Climate change is already affecting food systems and food security around the world, including unequivocally altering the ocean, with consequences for both large and small-scale fisheries and aquaculture. At the same time, blue foods can also be a source of climate adaptation solutions. When they are sustainably managed, some blue foods can be a climate-smart source of protein, generating fewer greenhouse gases than traditional land-based agriculture, and providing nutrition, livelihoods, and ecosystem services that can contribute to climate resilience. The ICP should consider ways to mitigate the impacts of climate change on the ocean and its resources, as well as ways blue foods can help build climate-resilient communities.

- It is critical to consider the role of fisheries and aquaculture in climate resilient food systems, with a focus on how international fisheries organizations will need to support research into the effects of climate on fish stock abundance and distribution and to develop more flexible, responsive, and adaptive management strategies.
- Climate change and associated issues, like ocean acidification, will have implications for fisheries and aquaculture management. Fisheries and aquaculture may be vulnerable to ocean warming and ocean acidification. For example, ocean warming that leads to coral bleaching can reduce reef availability to finfish stocks, and ocean acidification can have negative impacts on bivalve shellfish aquaculture. Understanding how ocean warming and ocean acidification affect these and other marine resources enables adaptation and builds the resilience of these ecosystems and the communities that depend on them.
- Improving our understanding of the rate and scope of ocean warming, deoxygenation, and ocean acidification, and their impacts on fisheries and aquaculture, is essential to supporting climate adaptation and resilience. Doing so will contribute to better understanding and characterization of these changes and their impacts on marine ecosystems, sea level rise, sea ice, and coastal resiliency.
- Developing climate-resilient food systems is especially important for coastal nations and small island developing states (SIDS) that rely heavily on fisheries and aquaculture to achieve UN Sustainable Development Goals related to food security, poverty alleviation, and economic growth.

(iv) Challenges and opportunities in aquaculture

We cannot meet the increasing demand for seafood through capture fisheries alone. Aquaculture complements seafood production from capture fisheries and will play a key role in building food security, economic security, and the sustainable future of the ocean, particularly in the Global South. Aquaculture can produce animal protein with fewer feed-associated greenhouse gas emissions than land-based livestock, making farmed seafood a climate-smart protein. In addition, marine aquaculture creates jobs, supports resilient coastal communities, and provides new international trade opportunities. Further to aquaculture's role in food security, the ICP should also explore how can we utilize marine aquaculture as an important tool in restoration and conservation efforts in both a productive and safe way for wild species and ecosystems.

- In 2020, 56% of fish available for human consumption was produced by aquaculture. Aquaculture will continue to play an increasingly important role in food security and human nutrition: By 2030, aquatic food production is forecast to increase by another 15%, driven largely by increases in sustainable aquaculture.
- Certain types of aquaculture, such as bivalve shellfish and seaweed production, can provide ecosystem services, such as mitigating the impacts of excess nutrients, ocean acidification, and habitat loss.
- Aquaculture can produce more food than terrestrial methods relative to its physical surface area. Aquaculture sites can also be located in areas with ideal environmental characteristics, and the three-dimensional nature of the ocean allows for optimal vertical positioning where farmers can raise species throughout the water column.
- Aquaculture systems and methods can often provide control of environmental conditions, including through selectively bred and cultured organisms adapted to changing conditions such as temperature and pH.
- The vision, objectives, scope, and guiding principles of the Guidelines for Sustainable Aquaculture, approved in 2023 at Twelfth Session of the FAO Committee on Fisheries (COFI) Sub-Committee on Aquaculture, are a strong statement to how aquaculture should develop and innovate to promote global food and nutrition security, including an important focus on spatial planning, siting, and area management and a recognition of the need to improve gender equality and women's empowerment in aquaculture.

(v) Employment and gender equality

Fisheries and aquaculture can be an important entry point for economic and social empowerment for women and girls globally. When women and girls are empowered, entire communities are uplifted, and significant progress can be made towards economic empowerment and alleviating poverty, malnutrition, and food insecurity. The ICP should

consider capacity-building opportunities for women in the blue foods sector, with emphasis on building climate resilience.

- The FAO estimates that in 2020, 58.5 million people were employed in fisheries and aquaculture in the primary sector alone. In the same year, world exports of aquatic products, excluding algae, had a total economic value of USD $151 billion in trade products alone, comparable to the total value of trade in all terrestrial meats.
- Women and girls make up just 21% of fisheries and aquaculture harvesting jobs, where they can face stigmas preventing employment. However, when including pre- and post-harvest fisheries activities, women account for 50% of the fisheries workforce – and up to 90% in developing countries - and as much as 80% of the workforce in aquaculture.
- In the 2023 United States Strategy to Respond to the Effects of Climate Change on Women, we emphasize the importance of ensuring women and girls have the education, training, mentorship, assets, and financing to access opportunities in the blue economy, including fisheries and aquaculture.

(vi) <u>Sustainable fisheries management</u>

Because of the global nature of capture fisheries, in particular straddling and highly migratory fish stocks, it is imperative that governments work together to sustainably manage these resources, particularly as stocks shift in response to climate change. Through agreements such as the UN Fish Stocks Agreement as well as the patchwork of regional fisheries management organizations and arrangements, and other fisheries bodies, governments work together to manage fish stocks in a sustainable manner. The ICP should highlight the critical role of cooperative agreements in managing sustainable foods from the ocean and explore how such agreements can further advance ecosystem conservation and sustainable fisheries management in ways that improves human and ecosystem resilience to climate impacts.

- Notably, many fisheries face significant, and often converging, threats from overexploitation (e.g., legal but unsustainable fishing, and illegal, unreported, and unregulated (IUU) fishing), climate change, and habitat destruction, as well as chemical, metal, nutrient, and plastic pollution, and invasive species.
- In the marine context, the percentage of stocks fished at biologically unsustainable levels increased from 10% in 1974 to 35.4% in 2019, with IUU fishing being a key area to address for restoring and maintaining the sustainability of many fishery resources and strengthening food security.
- Locally led organizations are key stakeholders in sustainable fisheries management and may include fishing cooperatives, indigenous groups, or other community-based natural resource management groups.

(vii) U.S. Actions

Together we can reach out to new audiences and raise the profile of blue foods in all conversations about food security. The U.S. continues to take action through multiple initiatives.

- The United States is proud to be among over twenty States that cooperate through the multi-stakeholder Aquatic Blue Food Coalition launched at the UN Ocean Conference in June 2022. We regularly engage in Coalition activities and support the Coalition's goal of raising the profile of blue foods in conversations about food security.
- We highlighted the elevated importance of blue foods in the new U.S. Government Global Food Security Strategy for 2022-2026, which features "Blue Foods, Fisheries, Aquaculture, and Fisheries Management."
- We focus on blue foods in cross-cutting initiatives under the U.S. Agency for International Development's (USAID) Feed the Future program, the United States' flagship program to implement the Global Food Security Strategy.
    - In Senegal, for example, USAID is supporting fisheries management as part of a broader effort to improve food security and strengthen livelihoods.
    - USAID also supports the Fish Innovation Lab at Mississippi State University as it works with research partners around the globe to identify, develop, and scale up technologies for local fish farming systems and to diversify production systems where the poor and undernourished are concentrated.
- In addition, USAID has also published two new guides for the design of blue food activities under the Global Food Security Strategy – the "Sustainable Fisheries Management" guide and "Sustainable Aquaculture Production Systems" guide.
- The U.S. government is investing millions of research dollars to study the impacts of rising ocean temperatures on fisheries, protected species, primary productivity, aquaculture, and other living marine resources. Critical outputs from this research include products developed for fisheries managers who must adapt to changing life history patterns and distributions of their stocks.
- The U.S. National Oceanographic and Atmospheric Association's (NOAA) Climate, Ecosystems, and Fisheries Initiative (CEFI) seeks to build a national ocean modeling and decision support system that will provide fisheries managers and fishing communities with the information they need to increase resilience and adapt to changing ocean conditions.
- NOAA launched the SUstainability, Predictability, and REsilience of Marine Ecosystems (SUPREME) programme under the UN Decade of Ocean Science. SUPREME is building global knowledge networks to share information and accelerate co-design and delivery of robust ocean forecasts, risk assessments, and advice to help guide climate-informed resource management and community adaptation in a changing climate.
- The U.S. National Aquaculture Act of 1980 established aquaculture as a national priority and created the interagency working group now referred to as the Subcommittee on

Aquaculture (SCA). Federal agencies coordinate on aquaculture priorities and activities through this group. The SCA is committed to supporting cutting-edge science and research and federal policymaking to foster sustainable aquaculture in the U.S. and expand its social, economic, and environmental benefits.

- U.S. aquaculture operates within one of the most comprehensive regulatory frameworks in the world, with at least eight different statutes making NOAA responsible for preventing and/or mitigating potential adverse environmental impacts of aquaculture facilities through development of fishery management plans, sanctuary management plans, proper siting, and consultations.
- Through the President's Emergency Plan for Adaptation and Resilience (PREPARE), the U.S. is working across the federal government to improve food system productivity, output, diversity, and nutrition, and supporting national and local governments and communities to assess food-related climate risks and advance responsive adaptation policies in aquaculture and fisheries management.

(viii) Additional considerations

We look forward to the 24th meeting of the ICP as a timely and imperative exchange of innovative ideas and experiences highlighting the ocean as a source of sustainable food to bring us closer to achieving global food and nutrition security. It is timely and imperative that we work to understand the relationship between blue foods, climate change, environmental trends, and human activities in fisheries and aquaculture as well as other sectors. To realize the full potential of blue foods to contribute to global livelihoods, food security, and nutrition security, we must ensure sustainable and climate-adapted approaches to fisheries management and aquaculture production. We need to build effective, science-based management of the ocean's resources, and ensure that harvesting and farming activities are environmentally and socially responsible, effectively governed, and climate-resilient. When we incorporate these methods, we will transform the blue foods sector in a way that that secures livelihoods, improves community resilience, addresses gender equality, supports healthy ecosystems, and ensures that the ocean remains a source of sustainable food in the future we share.

As we move forward together, some key questions to consider are:

- How can we work together to promote the role of fisheries and aquaculture in sustainable food systems and national food security and nutrition strategies?
- What steps can we take to increase regional information-sharing best practices to support climate-resilient ocean resource management?
- How can we better highlight the value of blue foods in conversations about food and nutritional security, from which they are too often omitted?
- How can we work to minimize food loss and waste and discards in the seafood supply chain?

- What actions can we take to increase access to opportunities in fisheries and aquaculture, with an emphasis on women, youth, indigenous peoples, ethnic minorities, disabled persons, and other marginalized and underrepresented groups?
- How can we better prioritize addressing the specific challenges facing small-scale artisanal fishers, fish farmers, and fish workers, which account for two-thirds of all catches destined for direct human consumption, in efforts to support fishing communities and in the fishing sector more broadly?