

The Sustainable Open Ocean Farming Imperative for the Future

Open Ocean Aquaculture is itself a Nature Based Solution to drive us towards implementation of the United Nations Sustainable Development Goals. Ocean farming is the future, and Manna Fish Farms, Inc. is currently awaiting permits to operate transparent and sustainable finfish farms in Federal waters off the coasts of New York and Florida. Today in the United States 91% of our seafood is imported, and our U.S. trade deficit is over \$ 14 Billion dollars. In the United States and around the world, ocean farming has potential to feed our rapidly expanding population with healthy, sustainably produced, delicious seafood. Fish Farming is currently the fastest growing protein production sector in the world, as detailed in a recent Report of the United Nations/FAO.

Manna's contribution, and the contribution of the open ocean aquaculture industry, has potential to directly and substantially impact successfully reaching the goals of the United Nations SDGs, particularly in the areas of ending poverty (SDG 1), sustainable communities (SDG 11), responsible production (SDG 12), and life below the water (SDG 14). In more general terms, efficient seafood production ensures food security, good health, and revitalization of working waterfronts, all of which fall squarely within the SDGs.

Utilizing nature's energy and the dynamic ocean environment, it is now possible to produce seafood in the open ocean, without chemicals, and with negligible impact upon the environment. By moving farms offshore, where there is deep, swift moving water,

seafood production can occur without harm and with minimal utilization of our precious natural resources.

The ocean is a source of life – at the same time, our precious wild fish stocks have been challenged beyond capacity, and production from wild capture fisheries has plateaued. Aquaculture must step up to meet the demand. In the United States it is estimated that utilization of 1/10th of 1% of our Exclusive Economic Zone for farming will produce an amount equal to the total annual wild catch. New technologies and innovations in the open ocean aquaculture industry have prepared the foundation for sustainable seafood production. Today aquaculture innovation and technology development is flourishing, and strong leadership has emerged to transport us into the future of sustainable protein production.

The potential transformational impact of aquaculture is immense. When we think about protein production to feed our world, seafood is the obvious best selection for production, not only for its healthy benefits, but also for its efficiency in converting feed to biomass. As compared to all other proteins, seafood is the most efficient in conversion of feed. At the same time, farming in the ocean can be accomplished without water, utilizing the natural energy of the ocean. Minimal land use is required to support the industry, and unlike other proteins, there are no documented gas emissions from fish.

Manna Fish Farms has committed to 100% transparency in operations to help drive the discussion and support sustainable industry

development. This translates to robust baseline studies to ensure minimal impact, and aggressive water quality monitoring. Social license in the ocean is a honor, and it is with great care and respect that we undertake to set the highest standards for U.S. EEZ seafood production.

To ensure success, we must collaborate and form private/public partnerships to implement farming at sea. It takes a talented team of business operators, aquaculture specialists, marine biologists, educators, marine engineers, aquatic veterinarians, communications experts, energy experts, commercial fishing vessel navigators, financiers and visionaries to implement an ocean farming plan. We must minimize impacts and conflicts, and we must maximize job production and outputs. We must learn from the successes and failures around the world to lead the way for the future!

Please consider open ocean aquaculture as an essential contribution to Nature Based Solutions for successful implementation of the Sustainable Development Goals of the United Nations.

Sustainably yours,

Donna Lanzetta

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