

Aquaculture in Shared Waters

— Aquaculture in Maine —



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Photo: Stephanie MacLagan

So you are interested in aquaculture. Well you are in luck! There is tremendous potential for starting new aquaculture farms throughout the United States, especially in the northeast.

This series of “Aquaculture in Shared Waters” fact sheets is intended to help fishermen — or others in Maine’s coastal communities interested in starting a small-scale aquaculture business as we move towards achieving this potential in a way that is best for our people and the environment.

Why Aquaculture?

Defined as the breeding, rearing and harvesting of animals and/or plants in all types of aquatic environments, aquaculture has several key advantages over wild-harvest fisheries and land-based agriculture that make it attractive to economists, environmentalists, and fishermen alike:

- 1. Potential:** World population continues to grow, and with it comes a rise in demand for affordable, healthy food. Aquaculture has become one of the fastest growing food sectors in the world, and its potential is high, as only a small percentage of the oceans are used to grow food.
- 2. Sustainability:** Climate change is an increasing concern to food producers, and the amount of energy and fresh water used in modern agriculture may be unsustainable. Aquaculture in comparison uses little to no fresh water, does not require fertilizer, and aquatic animals are on average 10-20% more efficient at converting feed to protein than land animals.
- 3. Environment:** The efficiency of aquaculture results in fewer emissions of fossil fuels than traditional agriculture, making it an important way to slow the progress of climate change. Additionally, some aquaculture farms can even improve environmental conditions. Shellfish and seaweed farms, for example, filter the water around them, making for a more pristine environment that can, in some ways, aid wild-fisheries.

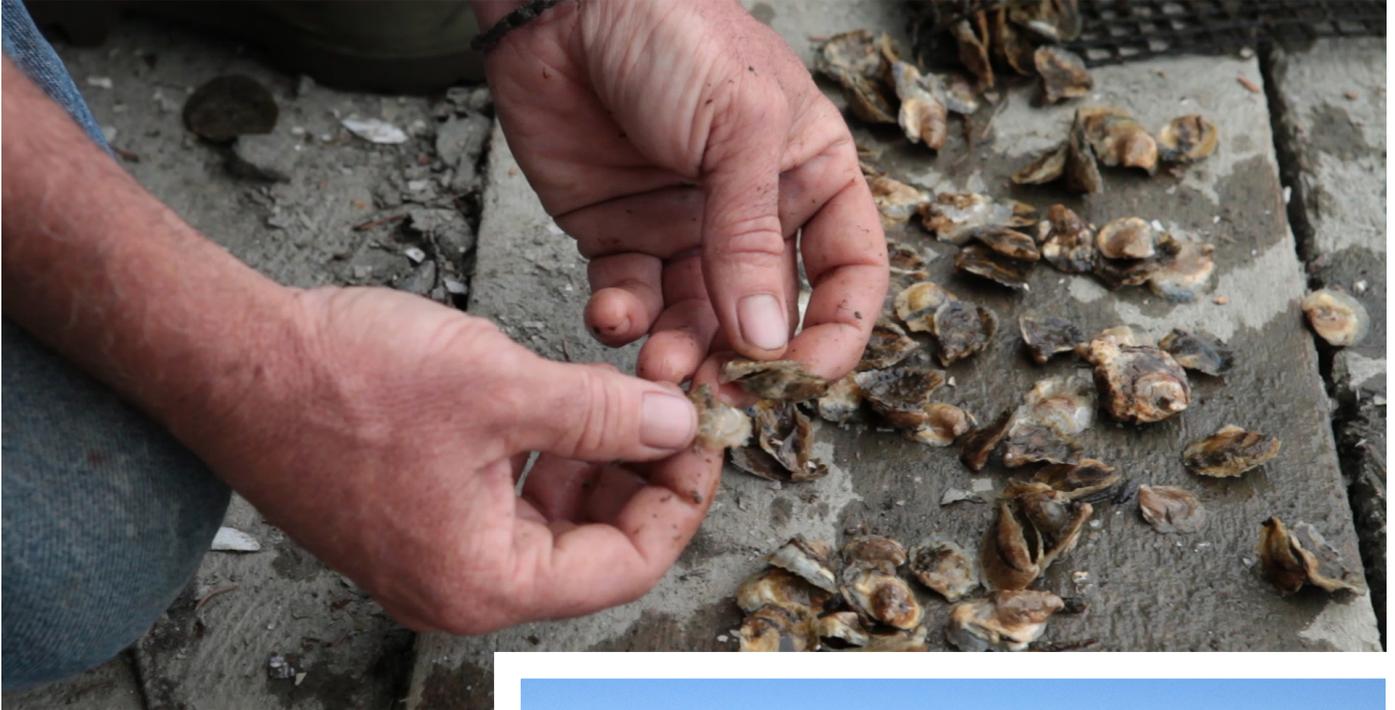
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Global Context:

While traditionally the world's supply of seafood has come from wild-caught fish, in the last fifty years, aquaculture has rapidly expanded as a food-producing industry, and now makes up almost half of the seafood consumed in the world. Much of this growth has taken place outside of the United States; however, as a country, we import 85% of our seafood, more than half of which is farmed. While it is hard to know the environmental and social impact of seafood caught and farmed overseas, by growing more of it locally, we can ensure that our morals, taste buds, and pocketbooks are happy.



Baby oysters on North Haven, ME Photo: Scott Sell

Aquaculture in Maine:

As a state with one of the longest coastlines in the United States, Maine has tremendous potential for aquaculture within its borders. Factors such as pristine water quality, a history of fishing and farming, a thriving working waterfront, and proximity to a large New England population make it a great fit for a large aquaculture industry.

Surprisingly, aquaculture in Maine is relatively undeveloped compared to both surrounding states and nations. Currently there are fewer than 300 full-time workers employed in the shellfish and seaweed industries in Maine, less than 5% of the number of commercial fishermen in the state.



Mussel rafts at Bangs Island Mussels, Casco Bay, ME Photo: Stephanie MacLagan

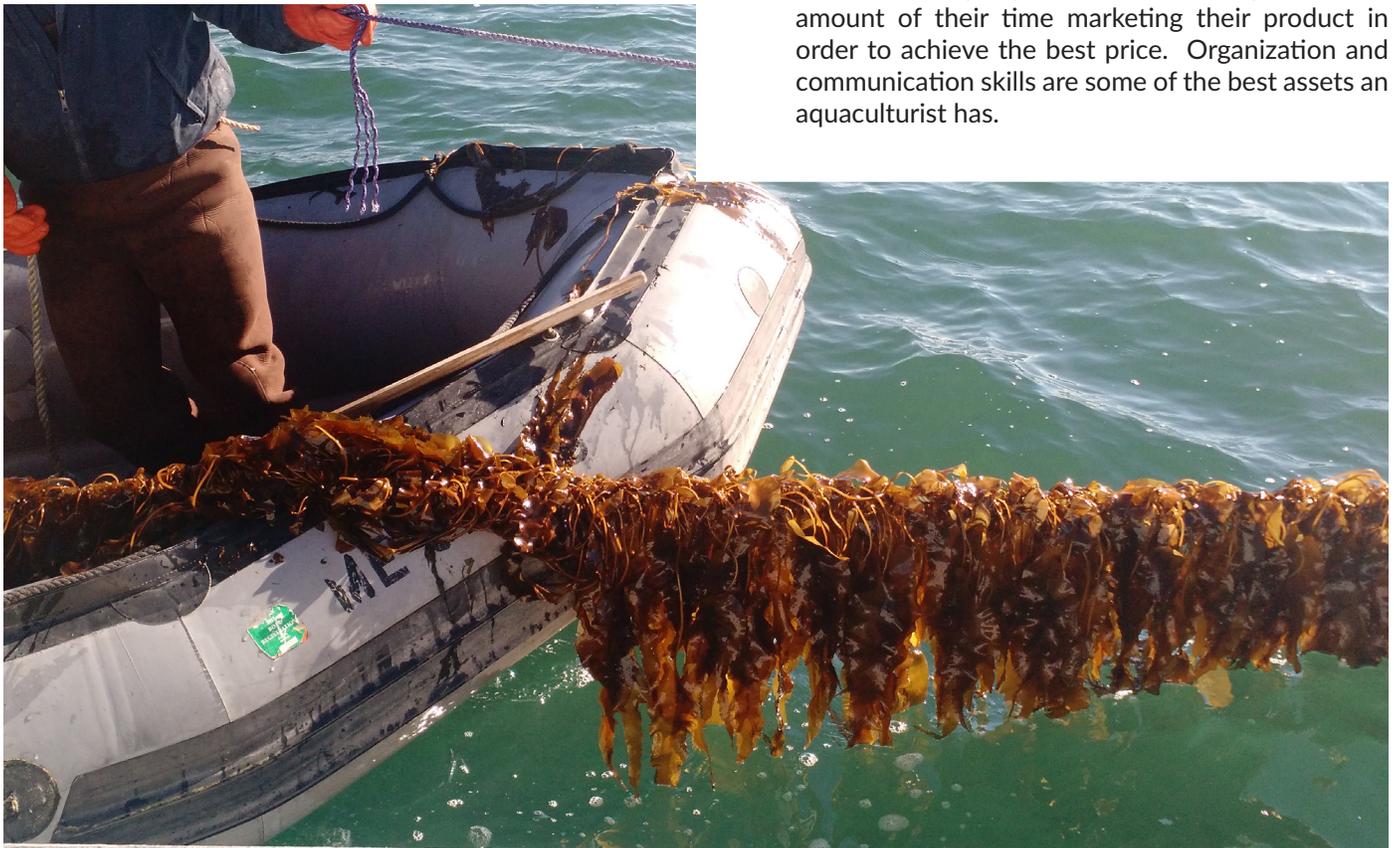


Life of an Aquaculturist

There are many reasons to be excited about becoming an aquaculturist! Existing industry members list a steady income, the flexibility of running their own business, and the ability to make their living on the water as reasons for their high job-satisfaction. Additionally, different species require varying levels of maintenance and have different growing seasons, allowing for aquaculture to be combined with other businesses to fit your desired income and lifestyle.

Below are a few species that are commonly grown in Maine:

1. **Oysters:** seed is hatched in the spring and actively grown on the water surface until winter, when many oyster growers sink their floats to avoid sea/river ice. This leaves a 2-4 month gap in the winter where little maintenance is required.
2. **Seaweed:** each crop is grown between October and April/May, leaving the summer off for most growers.
3. **Mussels:** Grown steadily throughout the year, but only requiring 2-4 days of maintenance per week.



Sugar kelp harvest Casco Bay, ME Photo: Stephanie MacLagan

Farming vs. Fishing

Because of its seasonal nature, aquaculture has become more attractive to fishermen who hope to combine it with their traditional employment of lobster/groundfish harvest to obtain a more diversified and complete income. While this model has much potential, it is important to note that aquaculture is not the same as fishing, and many believe it to be more similar to land-based farming.

1. **Risk:** While fishermen rely on the wild to raise their product, only gaining value from their catch at legal size, aquaculturists own their product from start to finish. They must therefore be constantly vigilant as their product matures to keep it growing steadily. Naturally occurring factors such as disease or abnormal weather can result in a large loss of income. Additionally, farmers must wait until their product reaches marketable size before they make any profit, taking up to three years in the case of oysters. With proper planning, however, aquaculturists can generally look forward to a steady business.
2. **Marketing:** Whereas most fishermen can sell their product to a dealer relative easily, the same is not always true for aquaculturists. While wholesalers do exist, many aquaculturists must spend a fair amount of their time marketing their product in order to achieve the best price. Organization and communication skills are some of the best assets an aquaculturist has.

Resources:

For more information about the new Aquaculture in Shared Waters project, please visit the Maine Sea Grant page (link below) where you will find the complete Aquaculture in Shared Waters fact sheet series as well as other information.

Fact sheets on topics including husbandry, water quality, running a small aquaculture business and kelp aquaculture:

<http://www.seagrant.umaine.edu/Resources-and-news>

Conducting Aquaculture in Maine Fact Sheet:

www.maine.gov/dmr/aquaculture/documents/CONDUCTINGAQUACULTUREINMAINErev6-20-16.pdf



Oyster farm (left) and mussel raft (right) on the Damariscotta River, ME Photos: Rebecca Clark Uchenna

The goal of these fact sheets is to inform readers about the possibilities of integrating aquaculture with current fishing and seafood businesses, and to diversify incomes along Maine's working waterfront.

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<http://www.seagrant.umaine.edu/aquaculture-in-shared-waters>.



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