

I'd like to thank Andrew Jay for inviting me to speak today and the Boston Athenaeum for hosting this wonderful event. This is definitely the most elegant venue I've been invited to speak at. As such, I decided against wearing work clothes.

I own and operate Nonesuch Oysters, a small boutique oyster farm in Scarborough, Maine.

Out of respect for today's theme "Women in Aquaculture," I will share some of my gender-related observations with you, but I have to acknowledge that being a female oyster farmer does not distinguish me as much as you'd think.

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In fact, I follow in a distinct tradition of women oyster farmers, many of whom, like this 19<sup>th</sup>-century French oyster lady, share my appreciation for fashionable active wear! While our tastes are a bit different, I'd still kill for her shoes.

I guess what differentiates me from other women oyster farmers is that I never actually wanted to be one. In 2009, I had just returned to my home state of Maine after over a decade in Paris. I was feeling both saddened and relieved by a breakup with my French boyfriend at the time. I also felt a bit purposeless. So I agreed to **write a business plan** for an oyster farm for an aspiring oyster farmer. I believe my exact words were, “I’ll write you a business plan, but I’m not getting on the water!” Months later, I wound up **owning the farm**. That was not the plan!

I had **no desire or qualifications** to be an oyster farmer at that point. Worse yet, I had **never actually eaten an oyster**. They seemed just kind of slimy and gross.

What I **could not have imagined** as I was drying my tears and **begrudgingly buying** my first pair of hip waders was that I was about to embark on the most incredible journey of my life and become an actor – albeit a very small one – in a field with resounding relevance in matters of food

production and the environment—issues that are defining future generations.

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Let me first tell you a bit about how we grow oysters. We typically start with purchasing 1.5-mm sized “seed” or “spat,” as baby oysters are called, from a hatchery, a lab where oysters are bred. No oyster farmer today that I am aware of relies on natural spawn. Maine has two hatcheries in the Damariscotta River and we buy seed from those suppliers.

We then put the spat in a nursery, a contained environment with water pumping through it, for most of the first growth season, which in Maine spans from April through October. You hope the oyster is a solid inch, or better, by fall. Then you move the oyster out into a floating bag, where it will grow the better part of another inch over the next year. At that point you put the oyster on the bottom of the river—we call that ground seeding or bottom planting —until it’s 2.5-3 inches. Then it’s ready for harvest.

This process is relatively straightforward until things don't proceed as you had hoped, at which point . . . it becomes **immensely** complicated.

It takes about three years to grow an oyster in Maine. This is tough on cash flow, and my patience. Three years is also tough when you put my little farm in the bigger perspective of global food production. We need more producers. And we need them now.

The global food system is undergoing some big changes.

By 2050, when the global population is expected to swell to 9.7 billion people – we will literally have to **double food production**.

China's **seafood** consumption alone is projected to double between 2008 and 2020. **That's a span of only 12 years.** We expect to see that trend grow and expand into other countries with rising middle classes. China has how now

switched from being a net exporter to a net importer of seafood. I have actually been approached three times now about selling my product to China.

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I'm sure I could get top dollar if I did. A friend sent me this photo from a Shanghai market showing French oysters going for \$8 a piece. But then that it would undermine my strategy at home: build a Maine brand around a great product. Plus, we need to start making and eating our own seafood here in the US.

If any of you have read Paul Greenberg's 2014 book *American Catch*, you know that 91 percent of seafood eaten within our borders is imported. Greenberg tells one story that is particularly aggravating to me concerning the New England scallop. The Chinese took a boatload of scallops over to China and only a few survived. But they were clever and decided to try and farm them. Now we are a NET IMPORTER of New England scallops **from China!**

Our seafood trade imbalance is so acute and fraught that it's actually considered a national security issue.

All the while, the US owns the largest seafood growing area worldwide: 2.8 billion acres of seafood producing territory, including 94,000 miles of coastline & 3.5 million miles of rivers. And guess who is buying up the water rights on the West Coast to do aquaculture? The Chinese.

I have a graduate degree in International Affairs from Columbia, and I do love the big picture stuff, but I actually don't spend a lot of time thinking about all of this when I am out on my farm.

What I **do** think about is how on Earth am I going to pull up a 100-pound oyster nursery bin out of the water? How am I going to install a screw anchor under 10 feet of water? How will I build a 20 x 8-foot oyster nursery on land and get it in the water?

And this brings me back to today's theme: "Women in Aquaculture." I hunted on my bookshelf for some gender studies material from college to help me sort out my thoughts. I found Betty Friedan, Simone De Beauvoir, Carol Gilligan. The usual suspects. As I skimmed over my underlines from college, I found myself thinking about what was missing in these books. All of this theorizing about gender happens in the safe context of a clinic, college, white-collar workplace or therapist's office. **None** of it happens on an oyster farm. And let me tell you, **it should.**

Mind you, I went to Barnard College as an undergrad, and while I did not focus on gender studies, I still feel like I'm betraying my education a bit by sharing just how much I see gender playing out on my farm. And, I'm afraid, in some pretty stereotypical ways.

It's about the big stuff.

In 2012, I had an idea about how to design a “chick-friendly” land-based oyster nursery with manageable sized oyster bins that would be easy for me to work. I decided I could make this on the cheap using 5-gallon buckets as the oyster bins, and a repurposed lobster tank as the holding tank.

Lobster tanks are expensive though so I wanted to find some used ones. Soon enough, through Craigslist, I found two available in Massachusetts. If I could move them, they were mine for \$100. The problem was they were enormous. I had no idea how I’d get them to Maine. I mentioned my ill fortune to my brother and he looked at me as though he were thinking: *how on **Earth** did she get this day job?* Then he offered to help.

“Dawn and I can move them,” he said.

“But they’re like 300 pounds each,” I reminded him.

“So what?” He replied impatiently, giving me that look again.

“But they won’t fit in the truck; they’re too long,” I said, trying to at least sound knowledgeable

“We’ll strap them in and add some support extensions.”

Support extensions? Really? Who talks like that?

Well, men from Maine do. And they are awesome!

Within 24 hours, we’d made the trip—with me driving at a safe distance behind the heavy load, just in case the *support extensions didn’t work*. A few weeks later my dream was realized. We had our first nursery and many other farms have used it as a template to build their very own.

Two years ago we had to build a different type of nursery, a floating dock that would contain heavy fiberglass infrastructure for growing baby oysters.

I hired my friend Chris to manage this project and when I went to check on the progress, I saw they were building the dock upside down. The floats on the top.

“Ummm Chris?” I interrupted. “I think you might have a problem.” I knew I shouldn’t interfere, but couldn’t help myself—if the boys are walking stereotypes, I might as well be too!

I explained my concern and Chris sort of stared me down. “Just wait and see.”

Of course **he knew** that **I knew** that **he knew** that he had **absolutely no clue** how he was going to actually flip this beast over. But I also had learned enough to know to back off.

And then, with two trucks, a few ropes and three enormous guys, I witnessed the giant frame of the dock being flipped over, so perfectly, so gently, it was like they were laying down a basket of fresh eggs.

“See” he declared, beaming. I love to be proven wrong.

Now all of these men have on occasion made me feel badly about my own physical limitations and experiential deficiencies. But over time, I've learned to manage these differences. To use them to the farm's advantage. Men love building big stuff and we need big stuff built. This allows me to focus on the things I do best. Like harvesting oysters for market. It's backbreaking work but nobody harvests as efficiently as I do. *Then again, with farm bills still being paid out of my own pocket, nobody needs to get oysters to market quite like I do, either.*

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In the end, it takes a village to grow an oyster. We need all types. Farms are really about community. And this is the part I love about being a farmer. People come to us to learn and share. They want to understand how their food is grown, to get closer to nature. We have student interns every semester from the nearby University of New England, one of few schools in the States with an aquaculture program. We teach them how to drive a boat and they teach us about marine science! Now we're

actually about to embark on some fairly sophisticated research projects with UNE.

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My small farm occupies 6.5 acres of water space in a nature conservancy just south of Portland. We have a very distinctive oyster for Maine as we come from much further down the coast, than Damariscotta, which is where most of Maine's oysters come from. Our climate is really different; we are in a salt marsh, close to the ocean.

It is relatively new to differentiate between Maine oysters, or to differentiate between oysters at all, except in a few high-end eateries like The Oyster Bar in New York's Grand Central Station. And I do believe my friend Rowan Jacobsen, whose 2008 bestselling book *A Geography of Oysters*, is partially responsible for this growing trend.

Rowan became the *Robert Parker* of oysters when he sat down and wrote a guide; identifying the growers, and

describing what their sites are like and what their oysters taste like. In so doing, he catapulted the oyster from a lowly commodity to a differentiated product that is largely brand driven.

In this same spirit, American oyster farmers have **taken the liberty** of inventing a new **French** word: “meroir.” I use this word with abandon. With its root word “mer,” which in French means “sea,” “meroir” speaks to how the marine environment affects the oyster.

It plays of course on the French term “terroir” from the wine-grower’s lexicon. “Terroir,” with the root word “terre” or “earth,” refers the impact the grape growing environment has on the taste of a grape, and therefore the wine it produces. This explains why a chardonnay grape grown in the relatively cold, overcast, and mineral environment of Burgundy produces a very different wine than a chardonnay grape grown in sunny, rich-soiled California.

With oysters, the impact is even more direct. There is no equivalent of a “winemaker” in the oyster industry. Oysters just filter water and then are harvested for market. Nobody adds anything to the mix. No sugar, no food, no fertilizer. **Oysters become whatever their environment makes them.**

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With scant exceptions, every oyster farmer along the Eastern seaboard grows the same type of oyster, the *Crassostrea Virginica*, also referred to as the “Virginica,” “Eastern,” and “American” oyster. What makes each “brand” up and down our coast unique—and they are unique—is the impact of the local environment. The meroir.

We can see this idea of “meroir” playing out even within the limits of our own farm. In the picture presented here, you see two oysters, one green and one white. Both of these oysters were grown from 1.5 mm to this size on our farm. But they spent the past two years in different parts of the

water column. And that small difference of just a few feet has a tremendous impact on the oyster itself.

The white oyster grew in a bag floating on the water's surface, where the water gets very warm, growth comes quickly, and the sun bleaches the shells. The green oyster grew on the riverbed, where decomposing algae impregnated the shell with that lovely green patina, and the oysters are exposed to cooler waters and lime that slows the growth and hardens their shells. As saltwater is heavier than freshwater, the oysters on the bottom are also brinier.

Rowan Jacobsen has since said to me, “everyone knows that bottom planted oysters are the tastiest.”

It's hard to look at that picture of the green and white oysters, however, and not think about the environment. It is an incredible reminder of how sensitive sea life is to small changes in their ecosystem, and how careful we must be with our fertilizers, pesticides, septic, trash, plastics, and

other waste. How will our oysters reflect the mercurial when we use the ocean as our trashcan?

Mark Kurlansky's book *The Big Oyster*, is a great read that describes the history of New York City through the oyster. Seventeenth-century New York was the oyster nirvana and early settlers shipped pie-sized oysters back to Europe. Kurlansky says that as recently as the 1920s, each American ate on average 600 oysters a year. Much like lobsters in Maine, oysters were once considered a poor man's food. There were rules limiting how many oysters you could feed your servants.

Kurlansky also details how careless human waste disposal decimated the natural oyster beds in New York harbor at the turn of the century and eventually turned our oyster-loving nation into a nation of Thai shrimp eaters.

The problem was that the rate of pollution outpaced the cleaning up the oysters can do.

Because as filter feeders filtering up to 60 gallons of water a day, oysters can actually clean polluted waters. They absorb toxins and excess algae, keeping the water clean and oxygen levels balanced for other marine life. Oyster beds also prevent erosion and provide a barrier to storm surge, and they reduce acidity. As we know from the MassOyster project, oysters can truly help save the planet, if we let them.

Oysters can provide protection against affects of pollution and climate change and I'm proud to be producing them. But I am also **secretly wishing** for *a good year or two of LOCAL warming* because warmer waters would make my oysters grow faster. And I need more oysters.

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Our farm has had some significant setbacks—the most important one caused by the previously unimaginable freeze that accompanied the Polar Vortex last year. Just when our bottom line was climbing to the black, the effects from the weather sent us spiraling back into the red.

I am actually in **good company** running a small farm **in the red**. It's pretty standard for oyster farms to take several years to sort out their sites before they actually start to work. But I admit it's tough to hold on.

Last August, when I was trying to figure out whether to keep going for another year or just put myself out of my financial misery, I came across a *New York Times* op-ed piece entitled "Don't let your children grow up to be farmers."

**Well, that article came about 4 years too late!**

Bren Smith, an **immensely** articulate shellfish grower from Long Island wrote an incredible piece.

"The dirty secret of the food movement," he writes, "is that the much-celebrated small-scale farmer **isn't making a living**." [Ninety-one percent](#) of all farm households rely on

multiple sources of income. He says the median farm income was negative \$1,453 in 2012.

He goes on to speak about **hedge fund farmers** farming for tax deductions and **non-profit farms** getting insane grant monies. But for the **honest-to-god small commercial farmer** who needs to get a bank loan for a new tractor, it's **really tough**. Even the farmers' markets aren't working as they should.

The truth is, big agriculture isn't working, but small ag isn't either. We need a **new model** in food production. And we need it soon.

I do believe Nonesuch Oysters will turn that proverbial corner of profitability. We have a rock-solid strategy and a great team, a perfect mix of marine scientists and salts. But the farm will always be unpredictable. Weather happens. Disease strikes. And while they may look like pet rocks, oysters are actually delicate living creatures.

I have learned my lesson. We need to hedge our bets.

So we are diversifying our activities.

Last year, we initiated oyster farm tours, which were not only incredibly successful but also got us on CBS Nightly News. It turns out, there was all of this pent up demand for oyster tours. People were actually Googleing “oyster farm tours,” and finding us. Who would google that? A lot of people, it turns out. We did 48 tours, with over 200 visitors in our first season. And wonderful, interesting people paid us \$50 each for the privilege of listening to me download everything I know about oysters and eating a half dozen on our dirty workboat. We all had a ball. People are already signing up for this season.

We are also launching a natural marine skincare line that uses Maine marine ingredients, like sea salt and algae. We hope skincare will help create new revenue for other mom-and-pop sea farmers while providing us with additional income as well. We have three products already and a few

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more coming out soon. Furthermore, skincare will also allow us to engage in some conscientious capitalism, as 1% of sales are invested back in clean water and sustainable fisheries projects.

No doubt my being a woman in aquaculture has led me in the direction of marine skincare. Because while I'm happy to work as hard as a fisherman, I am going to try my best not end up looking like one! I'm quite sure my 19<sup>th</sup> Century French equivalent (*homologue*) would agree.