New York's Artisanal Oyster Farmers: Creating the Wild(ish) Oyster

Charity Robey

Abstract: In Jonathan Swift's telling, the first bold man to eat an oyster did so many thousands of years ago and was joined by so many other bold men and women that by the twentieth century, most of the oysters in the world were no longer wild, but farmed.

Today, cultivated oysters account for at least 95% of the oysters consumed in the US, and an intense culture of connoisseurship has grown up around them. In New York, historically the largest oyster-consuming city in the US, restaurants and bars take pride in offering oysters from a list of local producers, opening and serving them live as a separate course. Discerning patrons pay attention to the oysters' flavour profiles, places of origin, size, shape and colour.

The taste may evoke a stormy ocean beach, but these bivalves are decidedly not wild. This paper takes a look underneath the water, before the oysters are harvested and shucked, to uncover the art and technique that Long Island's artisanal farmers employ in the creation of cultivated oysters.

Long Island oysters are sold with a completely transparent chain of identity and responsibility. A person eating an oyster at 8 p.m. in Greenwich Village would have no trouble the next day tracing the origin of that oyster to the bay where it grew and the farmer who planted and tended it from the time it was spat. This paper uncovers how at every stage of cultivation, farmers intervene to shape the development of their bivalves toward an ideal of shape, size, flavor and fragrance that is unique to their location and brand-the oysters of their imaginations.

History of Oyster Farming in New York and the Rise of Connoisseurship

> Down by the sea lived a lonesome oyster
> Every day getting sadder and moister
> He found his home life awf'lly wet
> And longed to travel with the upper set...
>
> — Cole Porter, from *The Tale of the Oyster*

In the nineteenth century, New York was the centre of the oyster-eating world, with 12 million oysters sold in markets annually by 1860. Gnarly, muddy piles of wild and farmed oysters were sold and slurped in great quantities at oyster shacks, and shucked oysters were served in bars and saloons as well as fine restaurants. (See Figure 1 and 2.)

Everybody, high and low, ate oysters, which were cheap and abundant, especially in the winter months, when keeping oysters cool enough to transport from oyster bed to oyster bar was easier.

In the early twentieth century, oysters were wild and sexy-looking things, often long and banana-shaped with a substantial meat that could be more than a mouthful. Most were harvested using mechanical dredges that hauled up clumps of oysters that had grown together into reefs. Individual animals were broken off with hammers, and those that could not be separated were shucked in situ and then canned or bottled. (See Figure 3.)

As is true today, New York oyster eaters were often served at stand-up bars or from outdoor carts, the curved part of the oyster's shell serving as plate and bowl. In the 1870s–1880s, wealthy people enjoyed oysters served as a first course on exquisite plates that replaced the unsightly shells. (See Figure 4.)

Banquets sometimes featured centrepieces replicating entire oyster reefs, with the shells opened and resembling conjoined twins.

Large-scale oyster consumption and industrial pollution led New York oysters to become scarce by the mid-twentieth century. When Sandy Ingber, executive chef at the Grand Central Oyster Bar, started buying oysters for the restaurant in the 1980s, there were only a handful of oyster producers left in New York, and the most recognizable New York oyster, the Blue Point, was no longer raised in the waters of the Great South Bay. Ingber has presided over the last thirty years of oyster-eating history, including the astonishing rise of oyster connoisseurship and along with it, a new kind of artisanal oyster-farmer.

> In the 90s I would go to the Boston Seafood Show in March, and if I came back with one new oyster it would be a complete success. In summer, we had a very difficult time finding oysters that were not spawning. I had maybe two kinds. And then the dot coms crashed and everyone went into artisanal oyster farming. Come 2000, oyster farmers were popping up all over the place. By 2005 I had 25 different oysters on my menu, 2/3 East Coast, 1/3 West Coast.

Characteristics of Great Oysters

All of the characteristics of a great oyster (meaning an oyster that pleases a human being) occur naturally in wild oysters. Farmers marry their understanding of how oysters develop and thrive with artifice and expedients to bring out the best in the oysters they raise. Humans have mindfully influenced shellfish development for as long as we have been eating them. Some of the modern farmer's techniques, such as encouraging larval oysters to set on sand or shell, are ancient, while new ones are developed – particularly in the genetic manipulation of oyster seed.

Oyster farmers start with seed, and those who farm on Long Island mostly buy seed by the hundreds of thousands at a time from one or two of a handful of seed-producers in

coastal Connecticut, on Fisher's Island, NY, and in Southold, NY. These seed producers all grow the same species, Crassostrea virginica, and breed for disease resistance. (See Figure 5.)

Physical Characteristics of a Supremely Edible Bivalve

With oyster connoisseurship in the United States came a preference for small oysters whose shell was thick at the shucking end to avoid the heartbreak of disintegration during the opening. Today most American chefs and home-shuckers prefer a bivalve of about 8 centimetres (3 inches). Easy to open, they can be eaten in one slurp. 'My philosophy is get 3-inch oysters. You put half a dozen on a plate and it's beautiful,' said Ingber. 'I go with the wow effect.'

Also desirable is a deep cup of an inch or more and meat that is slightly firm and tender but not watery. As the cup grows deeper, the oyster's body grows down into it. (When the shell grows shallow or long, the body of the animal spreads out, creating a less appealing shape.) (See Figure 6.)

Harold McGee, in his recent book *Nose Dive*, described a good oyster as one of 'the sea's tenderest morsels, the marine equivalent of penned veal or the fattened chicken, which just sit and eat.... a full, complex flavor and suggestively slippery moistness; and its delicacy is a striking contrast the encrusted, rocky shell'.

The ideal Sandy Ingber looks for is 'a beautiful round thick body with great mouth feel; that's how you get the full flavor of the oyster'. Related to cup depth is the ratio of meat to shell, which Ingber calls coverage: 'If you open the oyster and there is a big shell and a long skinny, thin oyster that's not much coverage.'

For the six weeks or so when oysters are spawning, they are unpalatable. An entire farm will generally spawn at the same time, triggered by water temperature. During this period the oysters' bodies swell and remain flabby until they release the eggs and sperm, after which they are thin and watery for several weeks until they regain their form. Oysters can switch genders at will, as MFK Fisher explained delightfully in her 1941 story, *Consider the Oyster*:

> Almost any normal oyster never knows from one year to the next whether he is he or she, and may start at any moment, after the first year, to lay eggs where once he spent his sexual energies in being exceptionally masculine. If he is a she, her energies are equally feminine, so that in a single summer, if all goes well, and the temperature of the water is somewhere around or above seventy degrees, she may spawn several hundred million eggs, fifteen to one hundred million at a time with commendable pride.

Light grey meat is considered the ideal. Dark meat can be a sign of post-spawn exhaustion. And oyster meat with a green cast is the specialty of a handful of farms with specific growing conditions: a pond-like environment and the right kind of algae. Green

oysters (meat, shells or both) are unfamiliar to Americans, and the East Coast farmers who produce them rarely market them. (See Figure 7 and 8.)

But as Ingber notes, 'I would never in the past sell oysters with a green tint. Its only in the last year or two people are starting to think that they are sexy. Sometimes the Martha's Vineyard oyster has a green tint and we return them.'

Meroir: The Environmental Effects of Water Temperature, Salinity, and Plankton on the Life Cycle of the Oyster and on its Flavour and Aroma

> Connoisseurs, consumers, and experimental taste panels often differ on which oysters tend to be saltier, stronger flavored, finer flavored, and even whether they are distinguishable. This is just another manifestation of the predictable unpredictability, which itself is something to be savored.
>
> — Harold McGee, *Nose Dive*, p 394.

There is no generally agreed-upon ideal of flavour and aroma for an oyster, yet no subject brings out the oyster knives faster. Because the taste of an oyster is a direct reflection of its environment, debates about what flavors are most palatable quickly get personal, as in 'my hometown waters taste better than yours'.

There are myriad factors pertaining to taste that farmers must either accept or exploit, depending on their imagined ideal of oyster flavour. Foremost among these factors is the level of salinity, which is about 35 parts per thousand in ocean water and less in the bays and brackish creeks in which oysters are often grown. To tolerate a saline environment, the tissues of most marine animals make chemical adjustments. McGee writes, '...their body tissues adjust mainly with sugars and dissolved amino acids, notably taurine, sweet glycine and alanine, bittersweet proline, and bitter arginine. In addition, the "shell liquor" that they retain when harvested begins as a sample of the water they grow in. So, the taste of oysters is more intense in oysters from high-salinity waters.'

Water temperature is also a factor in oyster-growing. As the temperature of seawater increases, salinity decreases, affecting the flavour profile of oysters who grow there. Also oysters growing in deeper, colder waters grow much more slowly than the same animals in warmer water.

Another factor is the depth at which oysters are grown. The plankton that oysters filter and consume occur in greater numbers in light-filled shallow waters, and more species of plankton are available to oysters that live where sea water circulation is greatest.

The oyster's diet is reflected in the flavour and aroma of its body. Phytoplankton (consisting of microscopic plants) contribute fruity, sweet or grassy flavours to the tissues of an oyster who consumes them. Harold McGee describes oyster giving off 'molecules that produce the 'green' smells of crushed leaves, that scent melons and cucumber, that create mushroominess. Strange, that they should also be prominent in sea animals, so that oysters can smell like cucumber...'

A Great Oyster Has a Great Name

The perception of oyster flavour and aroma is so complex and so subjective that oyster-eaters who can choose will look for a recognizable name. 'A great oyster has a great name,' according to Ingber. 'And for New York oysters, Blue Point is the most common name, the best known. We sell five times as many Blue Points as any other oyster. They are also the least expensive oyster on our menu. Personally, I like oysters with more brine than a Blue Point.'

Before the rise of oyster bars and oyster connoisseurship in New York around 2000, the only names that most customers could recognize were Wellfleet, Cape Cod, Kumamoto, (a West Coast oyster) and Blue Point. Now there are many more, and a memorable and evocative name – especially one that refers to the place where the oyster was grown – is essential to the ideal oyster.

Four Artisanal Oyster Farmers and How They Use Art and Science to Influence the Attributes of their Animals

The cultivation techniques that are used by artisanal oyster raisers in New York waters to create distinct oyster brands from genetically similar animals take a number of environmental and geographic factors into account. Some farms are located in deep, cold water, and others in shallow, relatively warm water. Some farms use mechanical devices to trim and shape their oysters, and others use wave action. Some farms are flooded at times and dry at others, and some experience more water flow than others. In the following case studies, I describe how four oyster farmers use different techniques and ways of managing their animals to achieve the ideal oysters of their imaginations.

Ben Gonzalez, Southold Bay Oysters: The Perfect Oyster Is Raised Deep and Briny, with the Full Flavours of Southold Bay

Ben Gonzalez had a successful career in marketing before he and his partner, Dave Daly, took up oyster farming in 2013. Their farm is located in the Southold Bay, part of the Peconic Bay system, in about 20 feet of water. The bottom is sandy, the water cooler and the algae less abundant than in shallow water, so the oysters grow slowly – 18 months to 2 years – relative to shallow-water farms. The oysters grow in steel cages that Gonzalez and Daly haul out of the water with a crane attached to their boat *Pulpo* and transport to the land-based part of their farm for tending and harvesting. A shallow tidal creek flows around their boat dock and its quiet, relatively warm waters serve as an interim grow-out area for oysters that are too small to go into cages. 'The smaller ones I keep in the creek, a little more controlled environment.'

Every four weeks, Gonzalez puts the entire farm through the tumbler, a device that looks like a doorless, front-loading washing machine that sorts the oysters by size while washing and tumbling them against each other. This process breaks a thin layer of new shell off the lip of the oysters, stimulating the animals to grow a deeper cup and denser meat.

'In a way, we are sculpting a live animal.'

Gonzalez takes advantage of the growing conditions on his farm to produce oysters that are full-flavored and briny. 'Three inches is a mouthful for most people, and they don't want to cut the oyster with a fork and knife.' (See Figure 10.)

Sue Wicks of Violet Cove Oysters: The Perfect Oyster Is Raised with Individual Attention and Care

Sue Wicks was born and raised on the Great South Bay of Long Island, the daughter and granddaughter of baymen. After a long professional basketball career that landed her in the Women's Basketball Hall of Fame, she returned in 2016 to the water and began farming oysters.

Violet Cove Oysters is one of three farms located in the shallow waters of the Great South Bay, wedged between a fast-moving current in the navigation lane and the shoreline of undeveloped public land. The depth of the water in the farm fluctuates from 71 centimetres to 2 meters (28 inches to six feet.) 'My dad used to scratch (rake) razor clams on this spot.' On the May day I visited, the water temperature was about 13 degrees Celsius (55F). Wicks expected a spurt of growth as soon as the water got above 16 C (60s F), an ideal temperature for growing oysters.

Wicks does not use mechanical tumblers or other tools to keep the oyster's growth trimmed and pruned. Her oysters grow in floating mesh bags, attached with clips to allow movement and anchored to the sandy bottom so as to rise and fall with the tide. 'I create a gentle tumble for the oysters. Everything matters, the size of the bags, the weight of the clips, the floats that keep the bags at the surface and increase the wave action.' (See Figure 12.)

Wicks grows about 750,000 oysters in a year on a few acres of bay bottom, which is pretty good productivity for a boutique oyster farm. In the spring she tends her oysters at low tide, walking around to check each bag without taking it off the line. 'I'm looking to see if they have grown. I get out of the boat and walk, checking every single one. It's a nice way to farm. We'll have warm weather this week, and then they will explode. It's like magic.'

Wicks plants three times a year and harvests according to size and stage of development.

Some say the best time to eat them is January because they are filled with glycogen, but if you like that grassy finish, next month, June will be the time for some of these. Then in July, all their energy goes toward making babies, and then they are tired and then they regenerate. When you open up that little 7-centimeter (2.75 inch) Violet Cove, in the fall, it's going to have a lot of meat. Not long and wonky. Deep cup, thick shell, a lot of meat with a creamy nutty middle flavor, from the muscle. That oyster will have complexity and meat.

Some years Wick's oysters develop a purple stripe in their shell, for which she named the farm. 'You sometimes get that purple color in the summer with a healthy well-fed oyster, and it seems to persist here. The nutrients here make the purple more pronounced – we are over springs here, that may be why. I like the name Violet.'

'This is a boutique farm. I have that luxury of paying attention to every single one. I touch them five times before I sell them. Sorting them, harvesting them, maybe I take 50 and the rest go back. That's part of getting a perfect oyster. I don't want to do it mechanically.'

Phil Mastrangelo of Oysterponds Oyster Company: The Perfect Oyster Is the One that Chefs Covet

Phil Mastrangelo worked on Wall Street for 25 years before leaving in 2013 to farm oysters full time. 'Oyster farming is where capitalism meets environmentalism. There are very few things that I could go into that would satisfy me on both counts.'

The farm produces just under a million oysters a year, with about three million at different stages of development. They start their filtering career in a shallow tidal creek, where the baby oysters grow in bags in a few feet of water until they are moved to nearby Pipe's Cove to finish in about 25 feet of water. Mastrangelo says the oyster farmers' mantra is, 'You have to have flow.'

During the growing season, every oyster goes through a mechanical tumbler where it is sorted and its new growth is trimmed, resulting in the firm shell, deep cup and compact meat that chefs want. (See Figure 14.)

'The tumbler shocks the oyster, and improves the shell coverage of the meat,' Mastrangelo notes. 'If you looked at one that we missed you'd see the meat is translucent and loose, not dense. If you try to shuck an oyster and the shell crumbles, that's a sign that the oyster was not tended to properly.'

Oysters are living things, but the chefs Mastrangelo works with are seeking a steady and reliable supply of oysters, consistent in size and quality. 'Our high season is the summer, and all the oysters on a farm spawn at the same time according to the temperature,' To avoid a six-week hiatus in harvesting oysters during the spawn, Mastrangelo purchases seed for a variety of Crassostrea virginica that does not reproduce, called a triploid.

When the oysters are big enough, Mastrangelo moves them from the tidal creek to the bay to continue growing, in part to increase their brininess. 'The salinity of the creek is 28 parts per thousand and the bay is just under 30 parts per thousand. Baby oysters prefer brackish water, but I prefer the brininess. You get that in the bay in 20 feet of water.

In the spring sometimes, the oysters growing in the creek will turn green, with a grassy taste from feeding on shallow-water algae that are photosensitive. 'One spring, when we had a lot of green oysters, and I got a call from a restaurant saying, I'll take as many as you have up to 40,000 for St. Patrick's Day. I didn't have anywhere near that many. I've also had them sent back to me. One chef asked me to come to the restaurant to take back an entire shipment. He had it placed in an area for hazardous materials.'

Mike and Isabel Osinskis' Widow's Hole Oysters: The Perfect Oyster Is Jewel-Like

Mike and Isabel Osinski got into oyster farming when they discovered by accident that they owned a few acres of bay bottom adjacent to their summer home in Greenport, NY. It was 2001, their kids were young, and they were ready to move on after making a bundle writing the mortgage securitization software that helped create the 2008 financial crisis.

The Osinskis set out to produce the most beautiful oyster possible, show it to chefs at the most refined New York restaurants, and establish a consistent and enduring brand they called Widow's Hole after a tiny creek adjacent to their home and farm.

Sue Wicks, whose Violet's Cove Oysters could be considered competitors to Widow's Hole, respected Mike Osinski's pitch: 'He'd walk in to a chef and say, look at this, it's perfect, it's not a wild thing. It's going to look great on a tray.' Two decades later, some of the best-known restaurants in New York are customers, including the Grand Central Oyster Bar and Le Bernardin. 'We don't clean those,' Mike Osinski said, and pointed to a tray of pristine oysters just before shucking them for me to taste. 'That's how they come out of the water.'

Mike and Isabel Osinski work in shallow-water and use a system of floating bags like the farms in the Great South Bay, but their oysters are grown with a difference. The bivalves tumble in purses with floats that accelerate the wave action. The purses snap onto lines, and the lines snap onto a cable that is suspended over the water on wooden beams. (Figure 16) The oysters feed at the surface where algae is abundant. When the weather is mild enough, the suspension system allows the purses full of oysters to dry as the tide goes out. Allowing the oysters to dry out eliminates most predators and enhances the spotless appearance of the shells by burning off the algae.

Eliminating predators also allows the Osinskis to grow a few of their oysters for much longer than the typical 18 months or so. These so-called 'knife and fork' oysters are five years old, and prized by New York chefs.

Inspired by a Japanese technique called Kusshi (it means 'precious' and creates a small bonsai-type oyster) the Osinskis' son, who is currently an engineering student at Yale, designed the farm set-up in part because he thought running a boat around a more conventional bag system was too much work for his parents.

Mike Osinski estimates that their revenue from oyster farming over the years has amounted to enough income to pay for their son's tuition at Yale as well as their daughter's at Cornell.

Conclusion

Creating the perfect oyster certainly involves science, but the small-yield oyster farmers working in New York waters are artists too, coaxing nature to achieve a distinctive vision of oyster perfection that is different at every farm. These oysters are sophisticated products of each farmer's craft and labour as well as imagination.

The way that oysters have inspired the likes of Jonathan Swift, M.F.K. Fisher and Cole Porter is testament to the hold they have on the human imagination. Eleanor Clark, winner of the National Book Award in 1964, wrote in *The Oysters of Locmariaquer*, 'You are eating the sea, that's it, only the sensation of a gulp of sea water has been wafted out of it by some sorcery, and are on the verge of remembering you don't know what, mermaids or the sudden smell of kelp on the ebb tide or a poem you read once, something connected with the flavor of life itself.'

Notes

Cole Porter, The Tale of the Oyster, 1929.
Mark Kurlansky, The Big Oyster, p. 184.
Harold McGee, Nose Dive, Penguin, 2020, p 227.
Harold McGee, Nose Dive, Penguin, 2020, pp. 394, 382.
M.F.K. Fisher, The Art of Eating, Wiley, 2004, p125.
Interview with Sandy Ingber Grand Central Oyster Bar, April 2021.
Interview with Ben Gonzalez, owner of Southold Bay Oyster, April, 2021.
Interview with Phil Mastrangelo, owner of Oysterponds Oysters, May, 2021.
Interview with Isabel and Mike Osinski, owners of Widow's Hole Oysters, May 2021.
Interview with Sue Wicks, owner of Violet's Cove Oyster, on 26 May, 2021.
Eleanor Clark, The Oysters of Locmariaquer, 1964, p. 6.

FIGURE 1. A New York oyster cart, circa 1890.
Courtesy of the New York Historical Society

FIGURE 2. An oyster saloon next to the Academy Hotel in New York, 1876-1914.
Courtesy of the New York Historical Society

FIGURE 3. Processing reefs of wild oysters.
Courtesy of the Southold Historical Society

FIGURE 4. Oyster platter. Courtesy of Museum of the History of New York

FIGURE 5. Oyster spat attached to grains of sand.

FIGURE 6. Deep cup, strong shell.

FIGURE 7. Fin de Claire Verte – Oysterator web site

FIGURE 8. In early spring Oysterponds oysters can be a little green around the gills.

FIGURE 10. Ben Gonzalez holding an oyster with new growth (left) and one that has had the growth broken off by the tumbler (right).

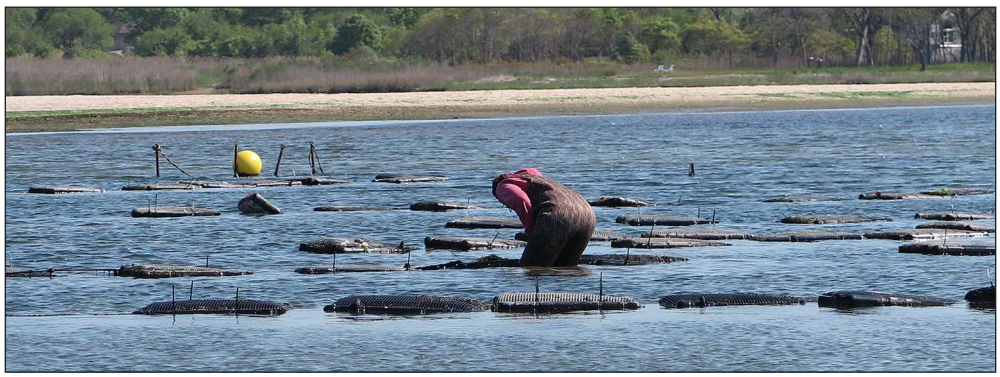

FIGURE 12. Sue Wicks tending her farm at low tide.

FIGURE 14. Frequent tumbling encourages a deep cup, strong shell and compact meat.