

ENVIRONMENT

'Re-wilding' Massachusetts cranberry bogs

Towns lean in to restoring natural wetlands



by JENNIFER SMITH
November 19, 2023



A wet cranberry harvest. (Photo courtesy Brian Wick, Cape Cod Cranberry Growers' Association)

THE SMOOTH SHEETS of cranberries across Massachusetts bogs are taking a turn for the wild.

The bright red berries continue to be one of the state's leading agricultural products, with the Massachusetts cranberry harvest in 2022 worth \$82 million. And this week they'll make their annual cameo on Thanksgiving dinner tables across the country, pitting family member against family member based on a love or loathing of the tart fruit.

But back on the farm, the nature and the scale of growing, harvesting, and marketing cranberries is changing.

The number of cranberry farms in the state has fallen by more than a quarter over the last decade. That has mostly come from consolidation, with fewer of the small, family-owned and operated bogs that once guaranteed a secure future for generations of cranberry farmers.

But another change has also played out over that time across the communities in Southeastern Massachusetts and Cape Cod where cranberry farming centered. About 750 acres of bogs have moved out of active cranberry production. That represents only about 5 percent of the roughly 13,000 acres of

cranberry bogs in Massachusetts, but it could be a sign of what's to come.

"I feel it close to home," said Brian Wick, executive director of the Cape Cod Cranberry Growers' Association, which represents about 330 growers in the state. Wick grew up in Pembroke, which once had a number of active bogs that slowly went out of use until just one remained. The patchwork of cranberry farms near his home was "such a fabric of our lives and communities," he said, and "to see that go, it sort of feels sad, like a chapter of life is gone."

As the industry consolidates, a movement is underway to return a portion of cranberry bogs to wetlands. The process, known as "re-wilding," involves tearing up inactive bogs to restore their original waterways, which serves the dual purpose of retooling out-of-use bog land and offering environmental benefits like nutrient and nitrogen filtering and climate resilience.

When the project gets underway, "it looks like a massive, muddy, wet mess, but that's what it's supposed to look like," said Jess Cohn, of the state Division of Ecological Restoration's cranberry bog program. "I've heard others say it's a disturbance for rejuvenation. We go in and undo the damage and set it on a new trajectory of healing."

Faster than you might expect, as the conditions settle and the natural groundwater paths return, native rushes and grasses spring up. Herons and native fish and frogs splash their way back into the wetland channels – their food sources and waterways restored.

"We can reactivate a lot of the buried seeds in the seedbank," Cohn said, "and it's really cool to see the native wetland plants resprouting from very deep in the ground, the reemergence of the plants that had been dormant for many years."



Cranberries on the vine. (Photo courtesy Cape Cod Cranberry Growers' Association)

A BOG BOOM

Harvesting cranberries as a food source long predated their agricultural cultivation. The tart fruit grows naturally in areas with the right conditions, with wild American cranberries once found from Georgia to the Canadian Maritimes, stretching west to Minnesota. Used **for food, dyes, and medicine** by

Native American tribes, the berry was called *sassamenesh* by the Algonquin and *ibimi* by the Wampanoag and Lenni-Lenape – meaning “bitter” or “sour berries.”

Cranberries were almost always found naturally in river valleys and wetlands, “because cranberries need to be kind of wet and kind of dry at various times in the life cycle to grow properly,” said Neal Price, a hydrogeologist and principal scientist at environmental consulting firm Horsley Witten who has worked on several bog restorations. On Cape Cod, where cranberry cultivation began in Dennis in 1816, early farmers used the existing geography to their advantage in cultivation.

“They would take a natural river and wetland system and back it up and manipulate the water, so that they could flood them sometimes and dry them out sometimes,” Price said. “So they had the ability to control what the hydrology was like, and because it was the easiest way to do it, they almost always were built in wetlands.”

Farmers built in ditches, canals, and berms to divide the farms into patches, where cranberry vines grow on sand layers that build up over the years as more sand is added to aerate and help drain the roots. Some bogs were built in low-lying areas with natural water flow-through from higher sources, while up-land bogs developed over time as sprinklers and more technical irrigation systems improved.

And over the centuries, cranberry bogs transformed southeastern Massachusetts and Cape Cod, the latter of which is covered with small bogs. Once the only cranberry producer in the country, Massachusetts now produces about a quarter of the nation’s berry yield, second only to Wisconsin, which accounts for about 60 percent.

Leo Cakounes, a bog owner and farmer [in Harwich](#) who grew up on a Saugus pig farm, has been in the cranberry business for 25 years.

Cakounes describes his bogs as including both sides of the spectrum – a low elevation bog with a higher water source where water flows through the cranberry areas, plus a “high and dry” field that is kept irrigated with mechanical pumps.



Leo Cakounes' Harwich bog, irrigated with sprinklers. (Photo courtesy Leo Cakounes)

But about a decade ago, Cakounes saw the end coming. He describes big business pushing small farms out, rapidly dropping cranberry prices, spiking land values across the Cape, and sudden jostling from municipalities to buy up bogs and either lease them to farmers or start down the road of restoring them to their pre-cranberry cultivating state.

Those first restorations were crude, trying a leave-it-be approach and trusting that nature would do its thing. Cakounes, who is working to restore a portion of a bog that he leases from the town, said that didn't go well.

"To buy a cranberry bog or to just take a cranberry bog and to say, 'I'm going to let it revert back to nature and do nothing' is equivalent to parking your car in your driveway and telling your neighbors you're letting it go back to nature," Cakounes said.

Neighbors and conservationists alike bemoan the number of bogs that were left that way.

"If you go walk around in the woods, you can see them all over the place where this has happened," Price said. "It can be 75 years later and the ditches are still there."

Several old bogs inside the 287-acre Santuit Pond Preserve between Barnstable and Mashpee "reverted to some form of wetlands on their own," said Andrew McManus, Mashpee's conservation director. They sat for so long that drier-environment trees like pitch pines, black pines, and willow settled in among the sandy soil, along with emerging and invasive species.

"The habitat and the ecology that grows back on its own if you just walk away from a cranberry bog without doing anything to it – it's not the same," Price said. "It doesn't provide the same functions and values as the natural wetland system that had been there previously."

Restoration, then, becomes a process of deliberately reversing bog engineering decisions that "took place in prior generations, caused environmental harm, and are no longer serving any valuable purpose," Price said, "to restore the aquatic natural system that was there previously."

RETURN TO NATURE

In restoring bogs to wetlands, engineers and landowners become historians.

"When you're talking reconstruction, you have to investigate, to find out what was this field back in 1840," Cakounes said. "Was it just a high and dry field, where farmers didn't even create this bog until the industrial revolution? Or was it a run-through field, where maybe even the Indians actually harvested cranberries in this lowland field because it was a natural wetland with a water run-through from the higher elevation adjoining pond?"

In his restoration project, Cakounes said he found evidence that native people did stay on the higher land points and use the low-lying areas as a natural cranberry patch.

After hydrogeologists and engineers deduce how water used to move through the site and map out the plan for restoration, the heavy lifting begins. That can mean removing a century of sand build-up, which is the greatest cost-driver of the restoration projects, and recreating paths for the natural water flow-throughs.

The state has been in the cranberry bog restoration business since at least 2009, Cohn said. Within the Department of Fish & Game's division of ecological restoration, Cohn and others work to oversee hundreds of acres of bog restoration.

Restoring the 200-acre Tidmarsh Farms wetlands in Plymouth, the [largest freshwater ecological restoration in the Northeast](#), wrapped up in 2016. The massive effort cost more than \$3 million between federal, state, and local funding.

In 2017, the state [created](#) a small, dedicated cranberry bog restoration program, which is currently involved in more than 15 ongoing bog projects and anticipates adding more early next year.



The state-led restorations, which involve a competitive application process, are voluntary programs, Cohn said. They often start with farmers who have made the decision to stop farming a particular bog that they own or private landowners with an abandoned bog on the property, where the cost of land on the Cape weighs more toward selling the parcel [to the government](#) or a wildlife sanctuary organization like Mass Audubon for restoration than trying to keep a struggling bog afloat.

Municipalities have been in the bog land business for some time, with towns like Yarmouth and Harwich building portfolios of land that they lease to cranberry farmers to generate local revenue and support the industry. They can also dedicate millions of open space and preservation dollars toward buying fallow bog land specifically to restore it.

Along with parcels that he owns outright that include 6 acres of bogs plus livestock farmland, Cakounes leases a 30-plus-acre bog parcel in Harwich, which he has been farming cranberries on.

That larger parcel is slated for wetland restoration, a process that Cakounes supports. After more than a year of discussion between the local tech school, the town, and Cakounes, the bog [is expected](#) to transfer over to the town, transformed into both restored wetland and an educational facility to study groundwater flow and the impact of fertilizers, pesticides, and nitrogen through the soil. If restoration is in the cards, he said, it should be a deliberate process, not a car left in a driveway.



A cranberry bog in the Mattapoisett River Reserve. (Photo by Massachusetts Office of Travel and Tourism)

A TART TURN

“Most of our growers are teetering at the break-even point,” Wick, the cranberry growers’ association director, [told the Globe in 2020](#), as Trump-era trade tariffs hammered the cranberry industry. Since then, he said, prices and demand have stabilized somewhat.

Though the number of individual farms has dropped substantially, Massachusetts is still producing roughly the same number of barrels of cranberries, between 1.7 and 2 million barrels annually.



The industry itself is going through a transformation, Wick said. About half of the state’s cranberries are “old traditional varieties,” he said. “Some of the vines are over 100 years old but losing vigor,” while many bogs are retooling to use newer varieties, which can produce twice the number of berries, and bigger ones at that.

Growers say retired bogs don’t easily translate to other obvious agricultural uses because of their wetland characteristics and the centuries of transformation through cranberry cultivation. Some have tried their hands at cedar tree growth, and Cakounes at one point tried to segue a three-acre parcel into native grasses to sell plants and seeds.

Most of the time, “they’re best suited to be cranberry bogs,” Wick said.

But there are climate-related benefits to returning bogs to natural wetlands, as coastal towns brace for sea level rise. “There’s definitely a direct link between ecological restoration and resiliency, between healthy wetlands and healthy landscapes and the things that help increase our resiliency,” said Cohn, the state cranberry bog restoration specialist. “For example, when you have restored wetlands and streams, oftentimes they can absorb floodwaters and connect with adjacent floodplains.”

This reduces risks of inland flooding during storm surges. Wetlands also act as a natural sieve for certain pollutants.

Along with the Tidmarsh Farms project in Plymouth, local conservationists point to projects like the Coonamessett River restoration in Falmouth, or the [Quashnet River Restoration](#) in Mashpee, where cranberry bogs had blocked the natural migration pattern of fish and native birds.



John Parker Road stream crossing before and after restoration activities, part of the Coonamessett River. (Photo from the Municipal Vulnerability Preparedness [packet](#).)

With \$525,000 in funding from the state, another project in Mashpee, restoration of the 6.5-acre Chop Chaque bog, is [expected to get underway](#) in 2024. There are now no active bogs in the town.

It’s a bittersweet time for growers like Cakounes, who is happy to see a more strategic and science-based restoration approach to the bog projects, but bleakly describes the industry as he knew it as “gone.”

Wick notes that the Cape bogs are all family farms, but the generational handoff is less and less financially feasible. Cranberry bog tourism, a hallmark of the industry for some time, is now an essential offering to boost revenue and draw attention to the state’s staple crop.

Though most bogland will likely stay in the cranberry business for the foreseeable future, the Cape’s slowly disappearing cranberry farms are a physical sign of the changing economic landscape.

“These trends are going to continue for a while until the industry settles,” Wick said. It isn’t just the aging farmers and lack of generational handover that’s reshaping the sector; it’s also a labor crunch, where farmers struggle to compete with landscaping companies or other agricultural products for scarce workers.

Though he looks at the industry somewhat askance, doubting that his daughter would like to take it over one day, Cakounes plans to hold onto a six-acre patch of bog that he owns. “I probably will continue to grow cranberries down there,” he said. “I probably will maintain that as a cranberry bog until I die.”

© 2023 Commonwealth Beacon.

Proudly powered by Newspack by Automattic

