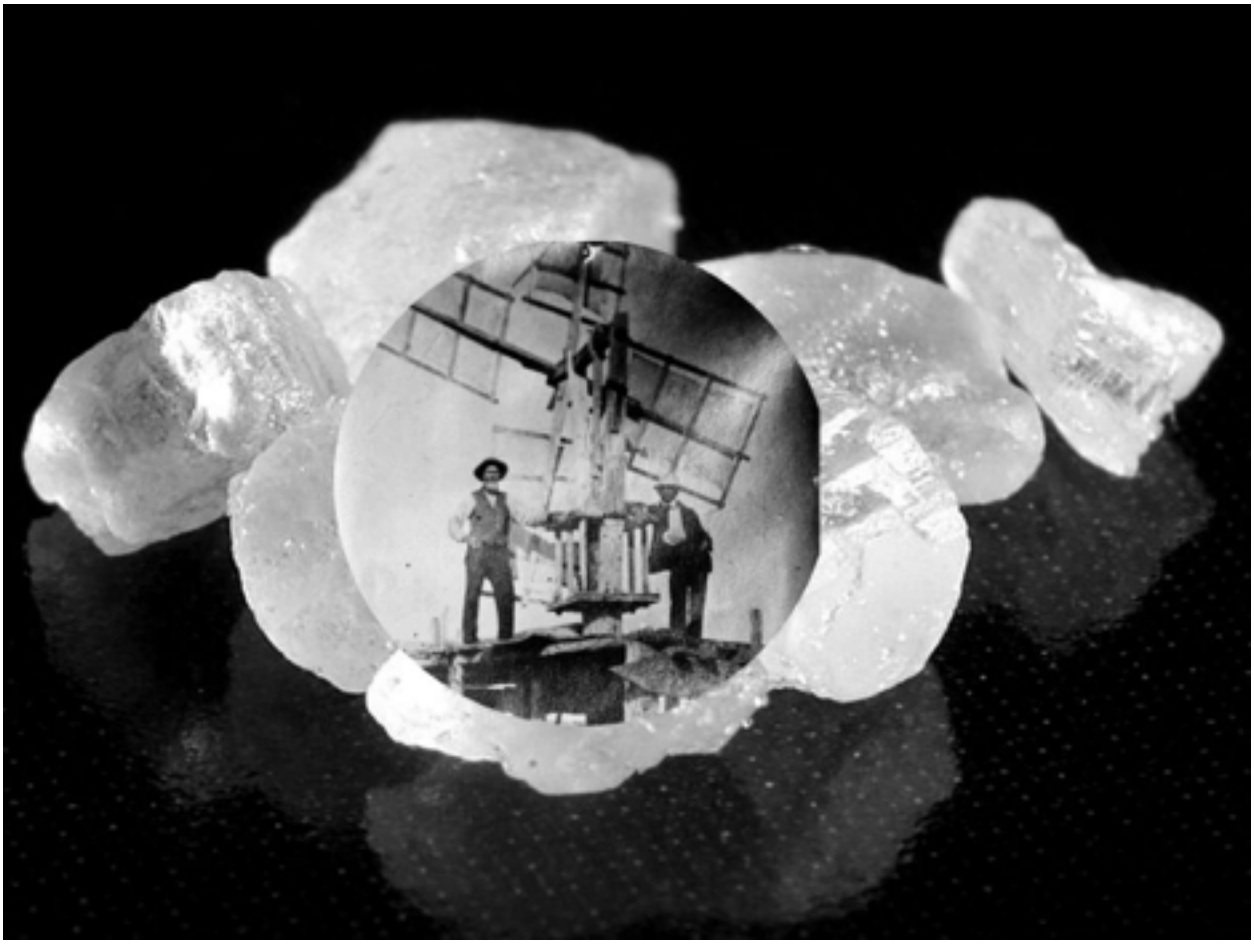
SALT WORKS OF CAPE COD



Around 1830, mothers on Cape Cod faced a vexing problem. Their young sons kept wearing out the seat of their pants. They did it by sliding down the slanted wooden covers of the Cape Cod salt works that covered the shoreline from Buzzards Bay to Provincetown.

Several thousand miles of wooden evaporating vats, pipes and windmill arrays checkered the shoreline

during the heyday of the Cape's salt industry. They made a half million bushels of salt from seawater every year, with the help of the sun and the wind. If you put the Cape's salt works end to end in 1831, they'd stretch from Boston to Amarillo, Texas.

Enoch Harding's saltworks along Bucks Creek in West Chatham, Mass. Also a playground for boys.

It was big business, but it wasn't one big business. The hundreds of Cape Cod salt establishments were almost all family-run operations. When it rained, women and children ran out and covered the vats. School would even pause so the children could roll the covers over

the brine-filled vats. People said the vat closings sounded like thunder.

By the Civil War, the Cape Cod salt works had almost all vanished. Henry David Thoreau during his walks on the Cape from 1849 to 1857 noticed them. “Novel and interesting objects,” he wrote, noting they were seen in only a few other places along the Atlantic seaboard.

Cape Cod Salt

Thoreau watched Cape Codders “breaking up their salt-works and selling them for lumber.” And he wondered why salt was made on Cape Cod when it could be made anywhere along the Eastern Seaboard.

What happened? How did Cape Cod become the major producer of salt in the Eastern United States? And why did it disappear so quickly?

The story of the Cape Cod salt business usually begins with a retired Dennis sea captain, John Sears. Sears, according to the tale, found a way to make salt from seawater. The sun, the wind and the free market did the rest.

But there never was a free market in salt, not in the United States. The heavy hand of the government created and then destroyed the Cape Cod salt industry — through laws, tariffs, treaties, bounties, taxes and war.

Sleepy John Sears

Sears had a nickname, "Sleepy John," because, his family said, he often had fits of abstraction that looked like sleep.

Sleepy John thought a lot about salt. He may have read an essay on making salt by a London physician named William Brownrigg. Brownrigg described the lucrative French business of solar-evaporated salt along 150 miles of the Bay of Biscay.

Congress Voting Independence by Robert Edge Pine. Congress also voted on a salt bounty.

Brownrigg wrote his essay in 1743, but the Continental Congress had ordered it reprinted and distributed in the 13 colonies in 1776. During that revolutionary year, Congress also granted a bounty of one-third of a dollar for every bushel of salt imported or manufactured.

Until the American Revolution, cheap imported salt came from Liverpool and the British Caribbean. Then in 1774 the British blockaded the Port of Boston. New Englanders desperately needed salt for household

survival and for the commercial salt cod fishery to function. The British blockade spread to other ports, and the price of salt went up and up.

John Sears no doubt spent time thinking about salt prices, bounties and the fact that boiling a gallon of the stuff took about 400 gallons of seawater and a great deal of firewood.

The First Salt Works

In the summer of 1776, Captain Sears went to work. He built the first salt works in Sesuit Harbor. It wasn't much more than a leaky vat, 100 feet long and 10 feet wide. He hauled seawater one bucket at a time to his salt works. It took 350 gallons of water to produce one bushel of salt. His neighbors laughed at him.

At the end of the summer he produced eight bushels. His neighbors called his salt works "Sears Folly."

During the summer of 1777 he tried again, but only after caulking the vat to make it watertight, the way a ship is caulked. That year his saltworks produced 30 bushels of salt. He sold them for $2 a bushel, a nice price in 1777.

HMS Agamemnon, similar to the HMS Somerset

Sears continued to improve his operation. In November 1778, the British man-of-war HMS *Somerset* wrecked on the shoals of Truro. A tiny militia marched its crew to Boston as prisoners of war and scavengers took everything they could find. John Sears got a bilge pump from the shipwreck.

He rigged it up the next summer so he could pump water by hand from the sea. At least that saved him from the hard work of carrying buckets of water by hand.

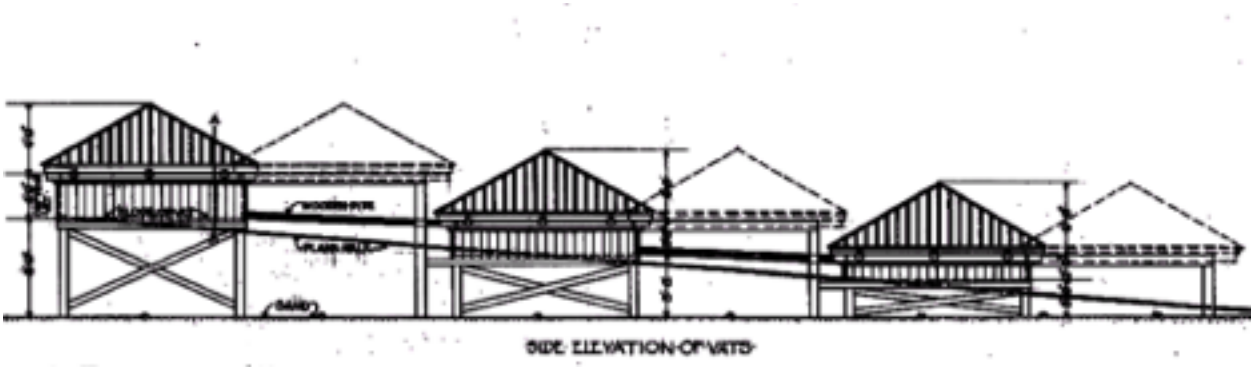
Maj. Nathaniel Freeman then suggested using wind power to pump water into the vats. Sears set up little

windmills with six feet of canvas on each blade – called salt mills. They pumped water through hollow pine logs lined with lead.

In 1793, a Harwich carpenter named Reuben Sears built a sliding square roof that opened and closed on oak rollers. His idea caught on.

Cape Cod Salt Boom

Here's how the salt works operated: The salt mills powered pumps that drew in saltwater at high tide through the hollow logs. Then the water flowed into an upper tier of vats, called the water vats. The sun and wind evaporated the water, but left plants and sea animals in it. So the operator would let out the brine from the water vats and it would flow down into the pickle vats.



In the pickle vats, most of the biggest impurities — lime — came out.

Then the vat operator would let out the brine from the pickle vats, and the so-called “bitter water” would flow into the third, or water, vats for final evaporation. The operator would then shovel the crystallized salt out of the water vats and take it to a drying room.

All in all, it took about three weeks for the seawater to evaporate into salt.

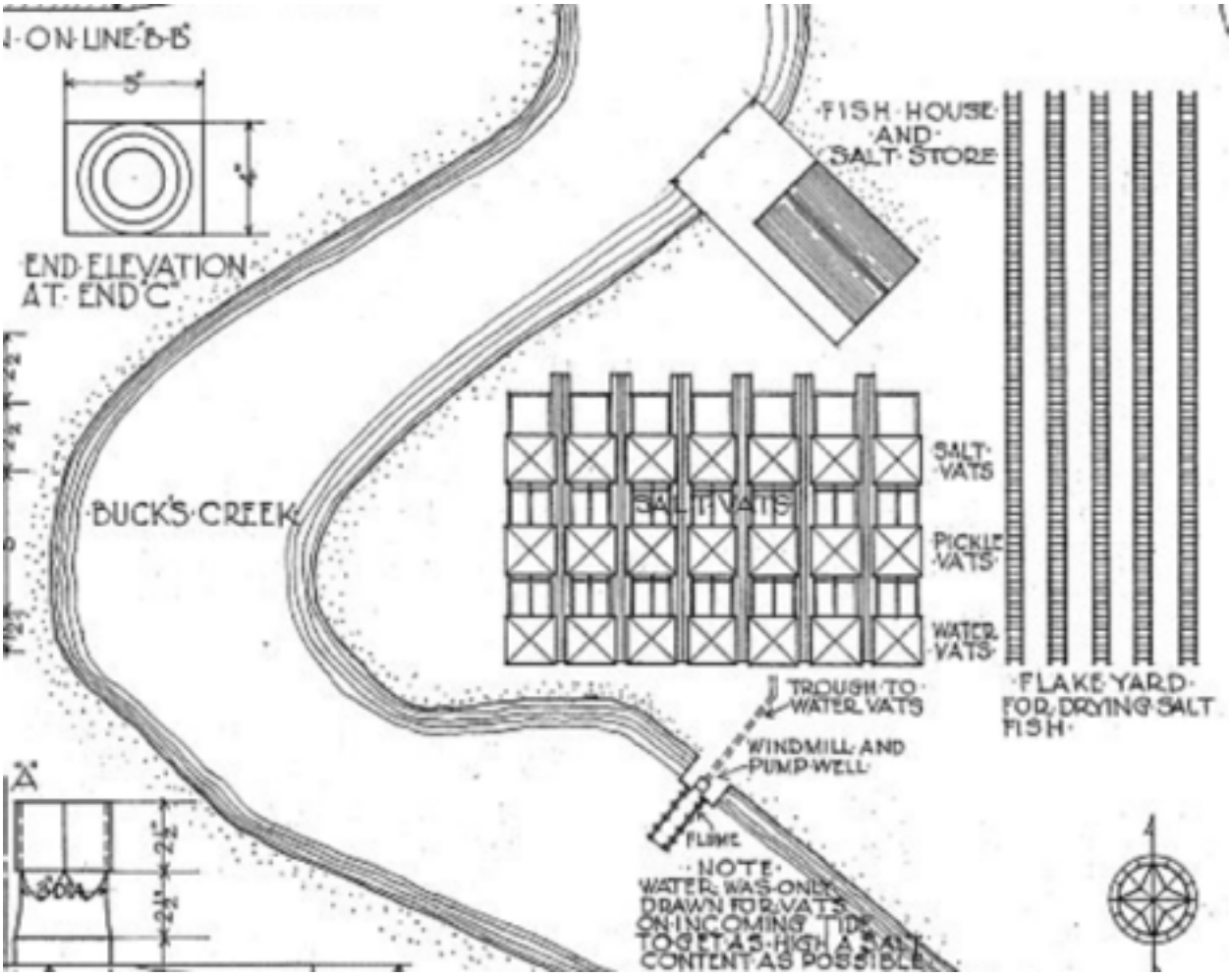


Diagram of Enoch Harding’s saltworks on Bucks Creek in West Chatham.

The Cape Cod salt business got another boost in 1789. The American Revolution had left the government deeply in debt, so Congress levied a tariff on imported salt to raise money. The price of salt shot up 25 percent. Then in the next few years, Congress raised the tariff three times, doubling the price for Cape Cod salt makers. It also defined a bushel as 50 pounds — smaller than the standard Cape Cod bushel of 75 pounds.

Congress also helped along the salt business by offering a bounty of three shillings for every bushel of salt. By 1802, Cape Cod had 136 salt works. People called them the "Lazy man's gold mines."

The Revolution had helped the Cape Cod salt industry in another way. The British Royal Navy destroyed many ships and impressed mariners, leaving Cape Cod's fishing and coastal shipping industry in shambles. The peninsula fell into an economic depression. Salt making promised a way to earn a decent living.

Retired Sea Captains

Daniel Webster once described the very great number of sea captains and other mariners he'd met on Cape Cod. In a letter to his former constituents in Dennis, he

recalled a jury trial in Barnstable Court. The case involved the entrance to a harbor in the Sandwich Islands. When Webster asked how many jurors knew the entrance to Owyhyhee Harbor, seven of the 12 said they knew it well.

The Cape had the highest ratio of mariners in the United States, and the highest total number as well, except for a few urban seaports. Sea captains had enough capital from their voyages to pay for the construction of the saltworks. It was a good job for men who often had trouble finding work on land.

John Sears, now known as Salty John, worked with other retired sea captains from Dennis to develop the saltworks. William P. Meyer, in his essay *The Making and Unmaking of a Natural Resource: The Salt Industry of Coastal Southeastern Massachusetts*, concludes the sea captains of Cape Cod created the salt industry.

The Cape also had plenty of skilled carpenters who made a full-time job out of building saltworks. One observer noted the salt business "gives employ to an amazing number of carpenters and other workmen."

A saltmill

Another peculiarity of the Cape fed the salt industry, noted William P. Quinn in his book, *The Saltworks of Historic Cape Cod*. Descendants of the first European settlers were granted rights to common lands in perpetuity. That meant plenty of free land along upland beaches for the wooden vats, pipes, salt mills and drying sheds needed for salt making.

Finally, the Cape had a ready market. Fishermen, who salted the cod they caught, bought the product at the salt stores next to the salt works. Whatever they didn't sell to fishermen they sent in packet ships to sell in Boston and New York.

What was left from the first vat was used as fertilizer. The bitter water produced Glauber's salt, used in glassmaking, and Epsom salts. Salt makers sold both profitably.

Cape Cod Salt Mania

Cape Cod's salt industry spread beyond Sesuit Neck in Dennis to Quivet Neck, all along the Bass River and next to the Mill Pond in Yarmouthport. Salt was made along East Bay in Osterville, on the Common field in Barnstable Village and along Lewis Bay and Hyannis Harbor in Hyannis. Practically everyone in West

Falmouth was a Quaker and nearly all got involved in salt making.

Onondaga saltworks showing salt being raked from solar evaporation vats of a design copied from the Cape Cod saltworks.

Salt kept the harbors busy as coastal schooners brought loads of soft lumber from Maine, fishing vessels bought salt and packet ships carried it to markets in Boston and New York.

In 1807, President Thomas Jefferson closed U.S. ports to all exports and restricted British imports. Congress repealed the duty on salt, but the price of salt shot up to $7 a barrel. The Cape's salt works tripled over the next few years.

War of 1812

During the War of 1812, Congress restored the duty on imported salt. But British warships surrounded Cape Cod, seizing fishing vessels and blockading the packets that brought salt to markets in New York and Boston. That didn't stop smugglers from trying to get through British lines. One smuggler used red sails because they were hard to see at night.

On Sept. 30, 1814, the captain of the British frigate HMS *Spencer*, Richard Raggott, sent a letter to the "selectmen and proprietors of the salt works of Orleans." In it, he demanded payment of $1,000 or he'd destroy the salt works. In December, the *Spencer* sailed into Rock Harbor, but the Orleans militia was ready to skirmish. They repulsed the vessel, killing at least one British marine.

Brewster, on the other hand, agreed to pay Raggott $4,000 to prevent him from bombarding its salt works along the Bay shore.

Falmouth also refused to pay ransom to the British.

Loring Crocker owned a salt works in the Common field behind the Unitarian Church in Barnstable. Raggott wrote to him, too, demanding $6,000 to protect his property.

Crocker and Barnstable's committee of safety asked their counterparts in Boston for help. Boston sent four cannons that — according to lore — came from Ticonderoga. The Barnstable militia mounted two guns in front of the salt works and two at Salteen Point in Barnstable Harbor. When HMS *Nymphe* sailed into the harbor, 1,500 militiamen awaited her. She lobbed a cannon ball on shore, then left, emptyhanded. Two of

those cannon now stand in front of Barnstable Courthouse.

A Frenzied Peace

After the declaration of peace, Congress kept the 20-cent duty on salt to pay for the war. From 1816 to 1820, Cape Cod went into a frenzy building salt works. At the peak of the salt business in 1831, 881 salt works lined the north and south shores producing half a million bushels of salt. Loring Crocker alone owned 17,000 feet — 3.2 miles — of vats.

Mashpee, then a de facto Indian reservation, was the only town that didn't make salt.

"The turtle-like sheds of the salt-works were crowded into every nook in the hills," wrote Thoreau.

The salt works were vulnerable to Cape Cod storms, though. In 1815, for example, a nor'easter accomplished what the British couldn't: It swept away salt works along Buzzards Bay. Over time, other storms damaged the vats and the saltmills, which were soon rebuilt.

West Yarmouth Salt Works. Thanks to the Yarmouth Historical Society.

But then the Great October Gale of 1841 hit Cape Cod, and hit it hard. Hundreds of Cape fishermen and mariners died in the storm. It laid waste to the fishing fleet and the salt works. It was the one storm from which Cape Cod never recovered.

Congress had already lifted the duties on imported salt by then, creating cheap competition to Cape Cod salt. But the damage to the fishing fleet shrank demand for salt. As a result, many people didn't see the point in rebuilding their salt works. Construction of new salt works had already come to a halt six years earlier.

In 1842, Congress added insult to injury by reducing the import duty on salt to eight cents a bushel, and then reduced it further in 1846.

By 1850, Massachusetts lost about two-thirds of its capacity to produce salt.

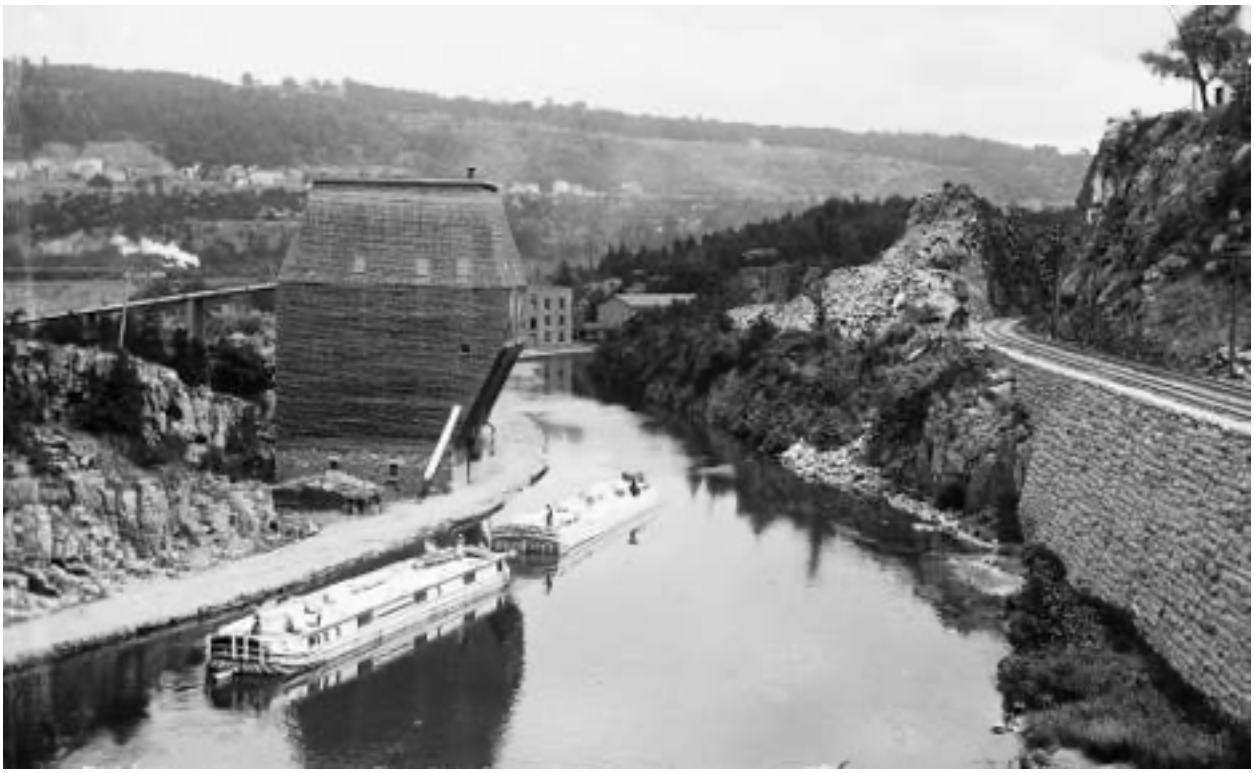
Competition

During the Cape's salt-making frenzy, a competitor emerged in the west. The Onondaga people and later Jesuit missionaries had long known about the salt brine springs at the southern end of Onondaga Lake near Syracuse, N.Y. In 1784, the new U.S. government and the Six Nations of the Iroquois League signed the Treaty of Fort Stanwix. It gave the lands around Lake Onondaga to local salt producers, stipulating anyone could use the salt produced.

Starting in 1797, New York state promoted the upstate salt business by giving out leases to the springs. By 1810, Onondaga and Cayuga counties produced 3 million bushels of salt annually.

But upstate New York had no fleet of packet ships to transport the salt to market. During the War of 1812, Onondaga salt could not reach coastal markets. The

war persuaded lawmakers to approve a new waterway connecting the Great Lakes with the Atlantic Ocean so salt and other products could reach markets to the east and west.



The Erie Canal at Little Falls, between 1880 and 1897

In 1825, the completed Erie Canal opened. In Syracuse people called it “the ditch that salt built” because a small tax on salt paid for the debt service on the canal. On Cape Cod, they might have called it “the ditch that killed the salt works.”

As workers dug the ditch, several large salt making companies imported carpenters from Cape Cod to build up the salt works near Syracuse.

The Fall of Cape Cod Salt

Thoreau and others blamed "competition from the west" for the decline of the Cape Cod salt works. William Meyer, on the other hand, pointed to the repeal of the tariff as the main cause. And he argued that Congress hadn't imposed the tariff in the first place to help the salt industry.

"For only one reason did members of Congress so long maintain a tax their constituents hated so much," wrote Meyer. "The tariff was the chief source of support for the federal government, and imported salt made a particularly remunerative object of taxation."

During his visits before the Civil War, Thoreau noted the saltmills had gone still. "Her salt works are fast going to decay," he wrote. By 1888, the last salt work on Cape Cod was taken down.

Remnants

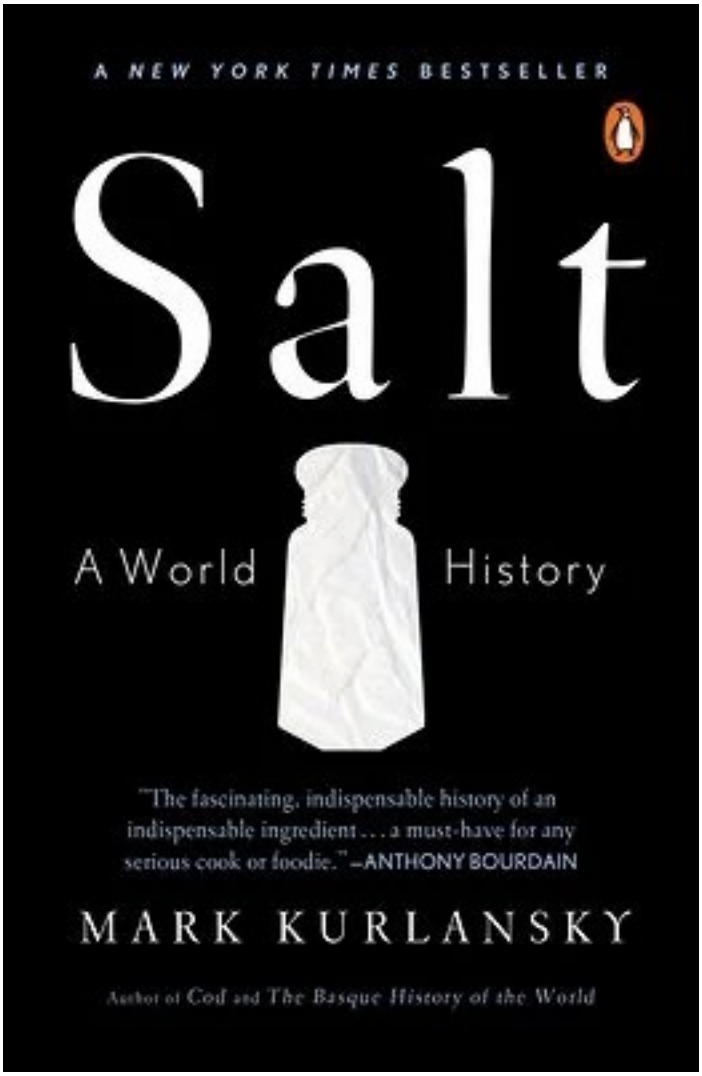
Only a few reminders of Cape Cod's once-vast salt works still exist. The Aptucxet Trading Post Museum in Bourne has a replica salt works. A miniature reproduction of the Falmouth salt works is on display at the Falmouth Museums on the Green.

Replica saltmill at Aptucxet

Occasionally a storm will expose a lead-lined pine log once used to pipe water into evaporation vats. And keen observers may notice an old building made of wood that doesn't seem to hold paint too well. It would have once been a salt work. The Kelley Chapel at the Yarmouth Historical Society is one.

In some places, the wood still weeps salt.

A small cemetery in West Brewster at the intersection of Airline Road and Old King's Highway has just 124 headstones. One of them contains the epitaph: "John Sears, Inventor of the Salt Works, Aged 72 yrs."



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