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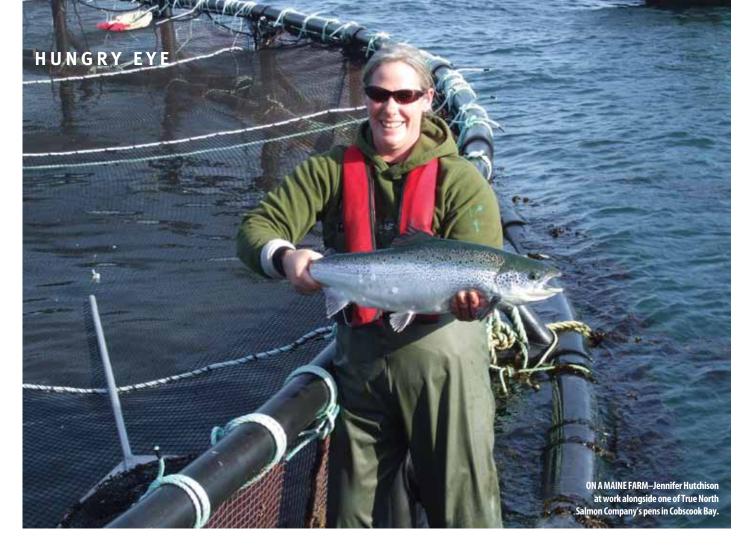
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Wild or farmed? Atlantic or Pacific? Maineraised or jetted in from Scotland? Omega 3 or Omega 6?

BY CLAIRE Z. CRAMER

Search for the Alpha Alpha Salmon



"People may believe they are eating 'wild Maine salmon' in restaurants but this is so not true. You cannot catch a wild salmon. Period. It's like shooting a bald eagle."

-Ben Alfiero, Harbor Fish

t seems like only yesterday that salmon was all the rage—the sure-fire local seafood choice on every restaurant menu in the state, and the darling of home cooks for its ease of preparation. Restaurants dressed it up in local condiments—maple glazes, blueberry salsas—and salmon was as Maine as lobster and crab.

Nowadays, all commercially available Atlantic salmon is farmed. Fish farming is controversial. Opponents slam farmed salmon as anti-wild, unhealthy, and uncool.

The *only* way you will dine on wild Atlantic salmon is if you catch one yourself in a lake, per the rules, season, and catch and size restrictions of Maine's Department of Inland Fisheries and Wildlife (IFW). Wild Atlantic salmon—the kind that migrate from our inland waterways such as the Kennebec and Penobscot rivers to the sea—is endangered thanks to over-fishing practices, hydroelectric dams, and pollution of spawning grounds, so it is against the law to harvest.

"People may believe they are eating 'wild Maine salmon' in restaurants but this is so not true," says Harbor Fish Market's Ben Al-

fiero. "You cannot catch a wild salmon. Period. It's like shooting a bald eagle."

BABY, I'M A REAL WILD CHILD

"Landlocked or 'lake' salmon are slightly smaller, exclusive to lakes and rivers, and legally fishable in inland Maine only per strict IFW rules for private anglers," says David Boucher at IFW. Even if they're less traveled, lake salmon "have a parallel life history to ocean salmon, so you can't tell them apart by looking at them."

Both types of the genus *salmo salar* start in Maine's lakes and streams, but the restless ocean salmon surge out to the Atlantic as six-to-eight-inch smolts while the lake salmon hang back. When the ocean salmon return to spawn, they're monsters–25 inches or longer–while the lake salmon never achieve this size. By restricting anglers to salmon below 25 inches, the migrating, spawning ocean salmon are effectively, even cleverly, protected.

As a further measure, to shield the youngest side of the life cycle in near-coastal bodies of water in northern Maine, the sportfishing season is limited to protect the migration of sea-run smolts into the ocean.

WHAT ABOUT THE UNDERDOGS?

"Maine has supported the lake salmon population through stocking for 125 years," says Boucher. "We operate hatcheries in nursery streams selected for ideal habitat, in spots like West Grand Lake, Casco, and Enfield, and then we distribute the stock (in trucks with special salmon tanks) to other suitable locations around the state."

The Maine Department of Marine Resources (DMR) runs hatcheries in Maine, too, but these are for wild Atlantic salmon. Despite the partial endangered species sta-

Why aren't the wild salmon rejuvenating? Look in the mirror. "Everything humans do has an environmental cost."

tus legislated in 2001 and the complete bans on harvesting since 2009, DMR fisheries biologist Joan Trial says our wild Atlantic population is *not* rejuvenating, even with help from the hatcheries, even with all the laws protecting them. Her solution? Look in the mirror. "Everything humans do has an environmental cost."

If you're sure you've been buying wild salmon, consider: Wild salmon available to purchase and eat in Maine comes from the Pacific–Alaskan king, sockeye, coho, and steelhead, which are in the *salmonidae* family, but of the genus *oncorhynchus*. All of these have regulated seasons, too, and so are not always available on demand.

SALMON FISHING IN NORTH EVERYWHERE

That's where farmed salmon comes in. Fish and shellfish have been farmed in Maine since the 1970s; the industry is inspected twice per year by the DEP, FDA, and the U.S. Dept. of Agriculture (USDA).

In the past, frightening and, to some, scientifically unsubstantiated studies of the world's aquaculture farms have reported that farmed fish are fattier than wild, they have up to 16 times more PCBs due to their diet of fish meal and plant-based meal that is inferior to a wild diet, they're routinely juiced up with antibiotics, and they're injected with dye to compensate for the deep cor-

(Continued on page 64)

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HUNGRY EYE

Alpha Salmon (continued from page 43)

al color that a wild diet provides naturally.

To which Sebastian Belle, director of the Maine Aquaculture Association, says, "Maine salmon farming has evolved considerably from its early days, but it's still dogged by misinformation and now-outdated studies." He takes a breath and individuates his words: "Maine [farmed] salmon is an excellent low-fat protein containing about the same extremely minimal PCB amounts as wild salmon–10 or 12 parts per billion."

In fact, he and his group are stunned by the way urban myth has washed over everything and given Maine salmon such incredibly bad press. "Maine farms have not routinely used antibiotics in eight years," he says, frustration evident in his voice. "Their feed contains synthetic carotenoid nutrients and ground shrimp shells when available to replace what wild salmon get from eating krill (larval shellfish) in the wild." Salmon require the carotenoids for vitamin A to live, and while they do contribute to salmon's rich coral color, the nutrient is neither toxic, a dye, nor is it injected. "A lot of information circulating about contamination in farmed salmon simply doesn't apply to Maine, where pen rotation and cleaning is now routine and growth enhancers are illegal.

Maine-farmed salmon contains about the same extremely minimal PCB amounts as wild salmon–10 or 12 parts per billion.

"We are permitted by three different agencies, with up to 14 state and federal departments allowed input. Most of the world's salmon farming is done in other countries with less stringent standards.

"We're tested twice a year, and non-compliance would result in up to three ways for a farm to have its license revoked—they could deny a lease and order the immediate removal of the pens from the water, deny the permit to stock the pens, or revoke the federal permit from the Army Corps of Engineers," says Belle.

Has a Maine salmon farm ever had its

license revoked? "Historically, yes, but not since the early eighties." The non-profit Maine Aquaculture Association's membership includes "82 to 90 percent" of all the shellfish, finfish, and fish-feed farmers in the state. "Remember, we've learned a lot. When we started out 30 years ago, we

Only **one** other **state** besides Maine (**Washington**) even **farms** salmon.

were trying to do it right but we didn't know as much as we do now. Hey, we are stewards of the animals we grow. We would not advocate for or accept as a member any proposed farm that didn't comply with our standards."

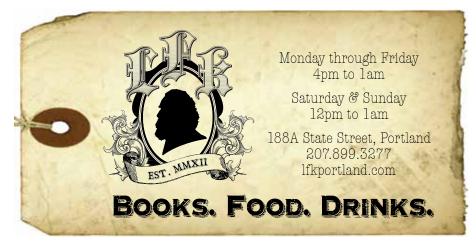
So where is the small, local, Maine salmon farmer who sells to small fish markets in the manner of our state's celebrated farmers markets, cheese makers, and poultry and cattle farmers? The "consolidation trend," as Belle calls it, has taken them all down.

BIG FISH IN A SMALL POND

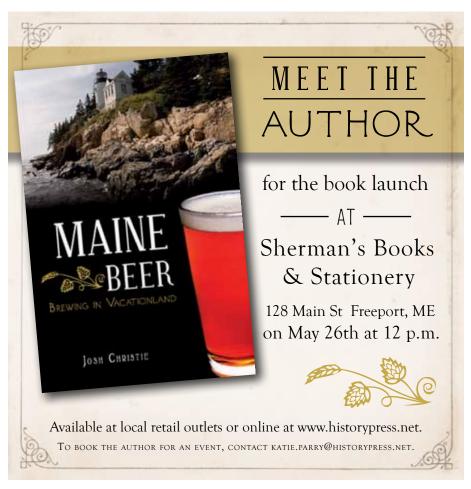
Meaning Canada's Cooke Aquaculture Company, operating as True North Salmon Company, of Black Harbour, New Brunswick, which owns all of Maine's salmon farms in Cobscook Bay, and off Machias and Jonesport. Cooke also has salmon farms in the Bay of Fundy, and processing facilities (for gutting and filleting) in Machiasport as well as New Brunswick.

"Glen Cooke bought his first Maine salmon farm in the late eighties," says True North's marketing director Andrew Lively. "Because pens are harvested in a rotating schedule that coincides with the life cycle of the fish—two years to raise the fish, and then one year to leave the pen fallow to rejuvenate the site—some small Maine salmon farmers found it easier to sell than to deal with the economics of sites kept empty for a year."

At any given time depending on the harvesting schedule, True North's fresh salmon sold in Maine may come from Maine or Canada, or both countries. This explains why there are times when the seafood department at Hannaford might have no Maine farmed salmon for sale. USDA Coun-







HUNGRY EYE

try of Origin Labeling (COOL) requirements dictate that the country where "significant processing" took place determines the country of origin on the label.

THE OMEGA MEN, OMEGA WOMEN

Then there is the Omega 3 issue. Salmon contains a significant amount of this necessary, fatty acid and polyunsaturated anti-inflammatory that lowers the risk of cardiovascular disease among other benefits. Wild and farmed salmon both contain beneficial amounts of Omega 3, which varies at any given time depending on food consumed, water temperature, and maturity of the fish.

Omega 3 counteracts the non-beneficial, inflammatory Omega 6 found in the corn, soybean, and safflower prevalent in the average processed Western diet. Wild salmon consumes an all-seafood diet in the wild, while the farmed salmon is fed fish meal and fish oil mixed with plant-based proteins.

To the anti-salmon-farm lobby, plantbased additives are an Omega 3-diminishing disaster; to salmon farmers it is simply diet management to raise what is still very

Once a **USDA**organic **standard**is adopted, **any**imported **farmed**salmon **calling** itself **organic** will **have** to **comply** with it.

healthy, Omega 3-rich food. "Wild salmon must hunt, kill, and consume seven or more pounds of seafood to gain a pound of weight, but the less active farmed salmon only needs to consume a pound or two. Fish meal and oil are limited resources, and the plant protein that's added is tailored to the sedentary life," Belle says.

FACTS CLEAR THE WATERS

"The soy and vegetable protein added to fish farm feed is *oil* that is extracted from the

plant; it's not filler," says Dr. Ian Bricknell, director of the University of Maine's Aquaculture Research Institute. "It does not deplete Omega 3."

As proof, Bricknell offers a study in the January 2007 journal *Environmental Science and Technology* that concludes farmed Atlantic salmon is a richer source of Omega 3 (2.34 grams per 100 gram fillet) than other farmed or wild salmon (.39–1.17 grams per 100 gram fillet). And the February 2013 *Journal of Environmental Science & Technology* includes a study revealing that men and women who consumed two portions of farmed Atlantic salmon per week improved their Omega 3 levels–and lowered their Omega 6 levels–to levels associated with decreased risk to cardiovascular disease.

"Everything we do is designed to reduce stress on the fish," says True North's Andrew Lively. "The best quality food and water circulation keeps them healthy. We have four veterinarians on the staff. You can't cut corners, overcrowd the pens, or use growth hormones because Mother Nature wins in the end. It doesn't work."

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HEATED DEBATE

Once the benefits of farmed vs. wild start getting weighed, watch out. Isn't there a benefit to be had from fresh seafood that only traveled from Machiasport instead of thousands of miles on a jet from the Faroe Islands? (The Faroes are north of Scotland, halfway between Norway and Iceland in the North Sea, under the sovereignty of Denmark, with a salmon farming fishery.) Is the perceived health benefit of wild Pacific salmon worth the energy cost to bring it from Alaska?

"As a fishmonger, I don't take sides on it," says Nick Branchina at Browne Trading on Commercial St. "As an employee of Browne Trading, I just want to make sure the quality of the product matches our legacy." Browne Trading carries farm-raised salmon from Scotland, which Branchina finds better suited for the cold-smoking done in the store, and farmed king salmon from New Zealand. He feels the smaller, organic, boutique suppliers he deals with use "better farming practices," such as fewer fish in the pens and rigorous cleaning and pen-

"When Hannaford calls to place an order, that fish is still swimming. It takes at least a week for a farmed Scottish salmon to get here."

rotating standards.

But Sebastian Belle of MAA points out that Cooke Aquaculture has also adopted the (terrestrial) organic practice of pen rotation, the fish feed is routinely tested for contaminants, and their pen populations are not overcrowded. The Maine DEP tests the waters around the pens twice a year for waste contamination, which would be cause for license revocation.

The USDA does not yet have a national organic certification standard for aquatic

farming the way it does for terrestrial farms—Belle says he has been active for years in the process to change this. Once a USDA organic standard is adopted, any imported farmed salmon calling itself organic will have to comply with the USDA standard, not the organic standard of its native country, which might not be as high.

"Our farming standards in Maine and the Bay of Fundy are as good as or better than any standards in other countries," says Lively. "And as far as quality, I'd rather have salmon that was harvested yesterday to eat today. When Hannaford calls to place an order, that fish is still swimming. It takes at least a week for a farmed Scottish salmon, even if it's every bit as good, to get here. We have great clean water here, and this is where these salmon are from. It's their natural environment—we didn't bring them here."

Conscientious farming practices, strict health regulations, fresh, local fish—so why is the reputation and quality of farmed Maine salmon so utterly undistinguished?

"Believe me, we know this," laughs Live-

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ly. "We are trying to raise our profile. We sponsor Harvest on the Harbor's salmon cook-off every year. We're the largest employer in Washington County, but we know we need to do more to get the word out. We're working on it."

Salmon farming is big business worldwide. Cooke Aquaculture may seem like an empire because it dominates Maine's salmon farming industry. But Chile, Norway, and other European countries produce about 83 percent of the world's farmed salmon, with other countries, including the US's mere two percent, making up the remaining 17 percent. Only one other state besides Maine (Washington) even farms salmon. Ducktrap River of Maine, the Belfast-based smoked seafood company that began as a Maine fish farming operation in 1978, is now owned by the Norwegian company Marine Harvest. The Atlantic salmon that Ducktrap is smoking these days comes from the Norwegian company's salmon farms in Europe and Chile. Still, as with Cooke Aquaculture, imported salmon and non-US companies are adding up to Maine jobs.

The internet is full of earnest opponents to big aqua-biz, such as the Global Alliance Against Industrial Aquaculture, Fishyleaks. org, and Salmonfarmmonitor.org. There is no question that it takes tons of small fish to feed all those farmed fish, and that this depletes the oceans of species at the low end of the food chain. It is likely that not all the plant-based proteins being used worldwide in fish feed are rigorously tested for contaminants, and that there is likely some abuse of antibiotics for production benefit somewhere in the world. There are probably overcrowded, unsanitary pens someplace with less commitment to standards than Cooke Aquaculture and the Maine Aquaculture Association. But without farmed seafood, isn't it likely we would wipe out the wild, species by species? Aren't we lucky that Maine's salmon farming industry is so strictly regulated?

On its website, the World Wildlife Fund states, "Our goal is for both wild-caught and farmed seafood to be harvested with zero environmental impact while still meeting the increase in future demands." Isn't this the wishful, wistful goal for all of us?

>>> For more, visit portlandmonthly.com/portmag/2013/04/salmon-extras



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