

## Xcelerate Aqua making new salmon RAS foray in Millinocket, Maine

By Chris Chase

February 15, 2023



The town of Millinocket, Maine, U.S.A., is getting its wish to become a part of the growing land-based aquaculture boom in the state.

Xcelerate Aqua, the company founded by former Nordic Aquafarms President and Co-Founder Erik Heim and former Nordic Aquafarms Executive Vice President Marianne Naess, has announced plans for a new salmon recirculating aquaculture system (RAS) in Millinocket, on the site of the former Great Northern Paper Co. mill. Naess told SeafoodSource that the first phase of the project, dubbed Katahdin Salmon, will have a capacity of 5,000 metric tons (MT) of Atlantic salmon a year, with a future second phase adding an additional 5,000 MT of capacity.

The site will include feed storage, a hatchery, growout facilities, and the supporting infrastructure for those operations including processing, oxygen storage, back-up power, and a digester for bio waste.

Naess – who is the co-founder and CEO of Katahdin Salmon – said the initial project costs are estimated between USD 120 million and USD 140 million (EUR 112 million and EUR 131 million), but she also added that the company is “being careful” with final estimates, recognizing that construction costs over the past few years have fluctuated.

The official site of the new facility will be the former settling lagoons at the paper mill, once used for wastewater treatment. The site is a designated U.S. Environmental Protection Agency brownfield location with access to 100 percent renewable energy in the form of local hydropower, and at 1,400 acres, the mill site has enough room to recycle all the company’s waste products on site.

Shane Flynn, who works in tenant recruitment for One North – the team working to recruit businesses to the former paper mill site – said the site selection came about after One North took Heim and Naess on a tour of some of the available facilities. Flynn said he was familiar with their work on Nordic Aquafarms and some of the challenges the project faced, and encouraged them to take a look at Millinocket.

“I have known Marianne and Erik for several years, and I’ve watched carefully how they have progressed during that process, and seeing some of the challenges that have cropped up,” Flynn told SeafoodSource. “I said, quite a number of times, ‘You know, you need to come up and look at what we’ve got in Millinocket.’”

Heim and Naess finally took Flynn up on his offer of a tour in July, and realized the opportunity available in the settling lagoons.

“We went through the site – you know it’s a big site, there’s 1,400 acres so there’s a lot on it – but we looked at what we thought were likely locations if there were to be any business,” Flynn said. “Then as a kind of default, we went by our lagoon area, where the settling lagoons were for the wastewater treatment. And it was at that point that that which was seen as a challenging location within the site, Marianne and Erik saw as a great opportunity.”

The lagoon, according to Naess, offers a pre-excavated site that will allow Katahdin Salmon to save on construction costs as it will be easier to route the piping that the facility will need for its systems. The assessments of the environmental conditions at the site, as well, came back better than anticipated for a brownfield location.

“There’s been a lot of extensive work assessing this site, for PFAS, for other contaminants and toxins, and it came back much cleaner than anticipated – which was a go or no-go decision both for One North and for us,” Naess said.

The settling lagoons were used in the paper production process, and the materials in them have been closely monitored. According to Flynn, the materials in the pond is a combination of processed clay used in the paper-making business and cellulose – no heavy metals from the paper making process ever made it into the lagoon. The types of paper the mills made didn’t use PFAS frequently found at other paper mill sites, Flynn said.

Because the site is a brownfield, it also falls under the EPA’s brownfields program, and according to both Flynn and Naess, both the EPA and the Maine Department of Environmental Protection have been working closely with One North and Katahdin Salmon on the site.

“All of the testing protocols that have been utilized on the site and will be utilized on the site go through the EPA and the DEP, they work closely with us on this site because it is a brownfield,” Flynn said. “The experience that we have with them is that they are very attentive and very helpful.”

The size of the operation and the location is based on Naess's and Heim's extensive experience in the land-based salmon aquaculture industry, Naess said. The two were a core part of the team behind Nordic Aquafarms' proposal for Belfast, Maine announced in early 2018, and Naess said that they have been "carefully watching" the developments of land-based aquaculture in the U.S. over the past five years.

Naess said they recognize the industry is still struggling in places, for a variety of reasons.

"It's been challenging in Maine, but it's also been challenging in other places," Naess said. "There is no one reason for that. There's plenty of reasons why projects have stalled, or ran into problems, or even not been able to move forward at all."

Naess is intimately familiar with the problems that Nordic Aquafarms faced as it worked to obtain the permitting needed for the project. The company fought multiple legal battles, which impacted the project's timeline.

After Heim and Naess left Nordic Aquafarms, she said, they still recognized the "tremendous market opportunity" for salmon aquaculture in the U.S. due to the growing market for the products, and the question they asked each other was, "Should we stay in Maine, or should we not?"

Naess said Maine is still an attractive location for a RAS because of its cold-water resources. The deal was fully sealed when she and Heim saw the site in Millinocket, she said.

"It's the best site we've ever found," she said. "And we have some experience permitting and looking at sites!"

Feedback from residents and other groups helped Xcelerate Aqua determine what the project's plans would look like, with a few main determinations. The first was to keep the facility smaller than other proposals recently seen in Maine, resulting in phase one having a 5,000-MT capacity. The second was to make Xcelerate Aqua an American company – specifically a Maine-based company with Maine-based partners. The third was to move away from the coast because of the difficulty of securing permits at a coastal site.

Naess said permitting on the site will hopefully be much more straightforward than the Nordic Aquafarms project in Belfast. The site already has an existing Site Location and Development Act (SLOTA) permit, and an existing wastewater discharge permit. It also has existing water-intake structures, outflow structures, power structures, and more, making the threshold for permitting lower.

The company has also improved its technology, Naess said, so that the "recirculating" part of the system is even more efficient – with 99.56 percent of the water being recirculated – to lower the impact on the environment even further.

"The reason for that is it allows us to build a concept that works in Millinocket, but that could also be replicated to other similar sites," Naess said.

Naess and Heim have spoken with local community groups, councils, environmental groups, tribal groups, and more, and feedback so far has "been encouraging," she said. They have also spoken with groups working to restore wild Atlantic salmon to the nearby Penobscot River.

"We will not release any high nutrient loads, or contaminants, or pathogens, or pheromones, or whatever into the rivers," Naess said. "There are salmon restoration efforts in the Penobscot, this will not interfere with that. We have spoken to the Atlantic Salmon Federation and Nature Conservancy too."

Overall, Naess said, the site combined with the system will collectively allow Katahdin Salmon to avoid some of the opposition that other projects in Maine have had to deal with.

“We are taking every precaution that we can. I think the most important argument here is, we have listened, we have watched the development, and we have listened to the concerns,” Naess said.

The company is going with completely renewable energy, in a more closed system, on an ideal site that is a brownfield previously used for industrial purposes, Naess said.

“What we’re doing is taking care of a legacy issue, and we’re improving the site. So we see that as a fairly straightforward low-risk permitting process,” she said.

The creation of a new salmon farm, Flynn added, will be a boon to Millinocket – a place that has faced adversity from the loss of the paper mills that once made up a sizable chunk of the employment in the region.

“It’s a community that has faced a lot of adversity, and has done very well in the face of that adversity,” Flynn said. “And we believe that this development of a really good spectrum of employment in the area will be very well-received. I think that people will look at this as a very substantial step in the redevelopment of the entire community.”

Naess said the company plans to start the permitting process and the amendment application for the SLOTA permit in spring 2023. Then, pre-construction planning, design, and estimates are penciled in for a year and a half, or roughly summer 2024.

“We think construction within, hopefully, a year and a half to two years is likely, so it’s a faster time to market,” Naess said. “We are confident that we won’t run into any showstoppers in permitting, so we’re planning to do things simultaneously.”

The full timeline puts the first harvest and revenue generation in four-and-a-half years, Naess said.

“We think Maine is the right place to be to develop salmon aquaculture,” Naess said.

*Photo courtesy of Katahdin Salmon*

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