

Aquaculture project hits new depths

Mussel raft design keeps unit below water

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SORRENTO - A new type of equipment being designed for use in Frenchman Bay is taking aquaculture into uncharted waters and, if it works, could represent a significant development in how seafood is grown in captivity, according to people involved in the project.

Hancock resident Babe Stanley has applied to lease from the state 10 acres off Bean Island, where he intends to use as many as 20 rafts for cultivating mussels.

Unlike all other aquaculture rafts now being used, however, these rafts would float 10 feet below the surface of the water, out of the way of boats and of the line of vision of people who want an unspoiled view of the bay.

Roger Fleming, a Rockland-based attorney for Conservation Law Foundation, said Wednesday that his organization has researched the use of submerged rafts in aquaculture. The environmental advocacy group has endorsed the use of submerged rafts off Bean Island.

"We've not been able to find any other place in the world where these rafts are used," Fleming said.

According to Stanley, the 40-foot-square rafts would be moored to the bay bottom, their location would be marked by surface buoys, and their buoyancy would be controlled so they always are 10 feet from the surface, regardless of the tide.

Stanley is proposing to grow mussels on ropes that would hang from the rafts toward the bottom of the bay.

Stanley said Thursday he first considered using submerged rafts after talking to Fleming and to Sorrento residents about concerns they had with his plan, which originally called for the use of surface rafts. People had expressed concern that surface rafts might interfere with local sailing races and with the water views of shorefront property owners. Stanley said that though having the rafts underwater eliminates those concerns, he decided to pursue using submerged rafts after concluding that the proposed site would be too exposed to the elements to use surface rafts.

At a public hearing Tuesday night in Sorrento, Stanley said a scale prototype of the raft tested favorably in a wave simulation tank in a University of Maine laboratory. A videotape played at the public hearing showed that the model raft pitched violently in the tank when it was exposed on the surface to simulated 8-foot waves.

The model barely seemed to move, however, when it reached a simulated depth of 10 feet beneath the rolling surface.

Stanley said the test indicates submerging the rafts will help prevent weather-related damage to the structures and loss of mussels in excessive turbulence.

"We don't have to worry about storms," the fisherman said.

The technology, if it works, will make aquaculture possible in places previously thought to be unsuitable because they were too exposed to wind, according to people involved in the project.

Stanley said he has consulted with an attorney about getting a patent on his design, but that further testing remains to be done. He is trying to raise money to build a quarter-scale, 20-foot-square raft to test out at the site, which has ideal nutrition conditions for raising mussels.

"Nobody's ever done this before," Stanley said of using submerged rafts.

Dana Morse of Maine Sea Grant, a group that promotes sustainable marine science, said Thursday that aquaculture technique is very site-specific and that submerged rafts will not be the best option for every aquaculture operation. Nonetheless, the rafts could prove to be popular on the Maine coast, which is used heavily in the summer by tourists and seasonal residents, he said.

"This is completely novel," Morse said. "It's definitely uncharted."

The promise shown by the concept led Maine Sea Grant and local Conservation Law Foundation members to help fund some of the research that has gone into developing Stanley's design. Stanley, in exchange for CLF support, has promised not to raise the rafts to the surface after 11 a.m. during summer months, when recreational sailors are most likely to be on the water.

Fleming said CLF would not have endorsed Stanley's proposal if not for his efforts to avoid conflicts with existing uses in the area.

"From our perspective, finding a solution to that conflict is critical," he said. "There's a lot of potential for [submerged-raft technology] to catch on."