

Ventura County seawater farming projects moving forward

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The Ventura Shellfish Enterprise aims to farm mussels along the Central Coast using ropes anchored to the ocean floor. (Courtesy photo)

Fishing without the nets and farming without fresh water — Ventura County groups are eyeing the coastline for new opportunities that reconfigure traditional business models.

Having received two grants totaling \$1 million from the U.S. Department of Energy, a group of 30 researchers hopes to bring its seawater farming solution on land in Oxnard.

Under the design, farmers would install temporary ponds on their land to plant macroalgae like kelp and other forms of seaweed and raise finfish and shellfish for sale.

The effort has twin goals, said Mark Capron, president of the research group OceanForesters, which received the grant. It aims to offer an alternative for farmers in close proximity to the coast who are facing tightening water allocations and reverse degraded water quality in the Channel Islands Harbor.

Since the Dec. 31 closure of the Mandalay Generating Station by owner NRG Energy, pumps that had circulated more than 250 million gallons of water through the harbor per day have been shut down, resulting in a severe drop in oxygen levels and discoloration of the water. The city of Oxnard said it had spent more than \$200,000 and 150 hours of staff time monitoring the water quality impacts.

“This was a perfect opportunity,” Capron said. “You already have the seawater intake, so we can switch from farming strawberries to farming macroalgae.”

The idea is a small offshoot of a much larger carbon trapping effort to farm the macroalgae offshore, he said, building “a permanent artificial reef” and harvesting the plants for use in biofuels.

OceanForesters and Ventura-based water and wastewater engineering firm Hasan Consultants have partnered with a network of researchers from New Hampshire, Fiji, Hawaii and elsewhere, said company founder Mohammed Hasan. The group now hopes to partner with an on-land aquaculture company and has approached the city and the Farm Bureau to hash out what kinds of permits farmers would need to turn ag land into onshore fisheries.

Artificial reefs and on-land aquaculture projects would mimic complete ocean ecosystems and result in a net carbon benefit, Capron said.

“Nature figured all this out; we just have to duplicate it,” he said. “I actually see this as a solution for a lot of locations where they’re running out of groundwater and they’re fairly close to the ocean.”

Meanwhile, the Ventura Shellfish Enterprise is nearing completion of its proposal and plans to recommend siting to the Ventura Port District Board of Supervisors at its meeting Sept. 26.

The board could then take the next step of submitting applications for permits to regulatory agencies. If approved, the project would lease out 20 sites on 100 acres each to local fishermen, who could produce an estimated 20 million pounds of mussels at full production, generating \$50 million in revenue.

A study and presentation by the National Oceanic and Atmospheric Administration on Sept. 12 provided an independent analysis of the mussel project, said Brian Pendleton. The enterprise had previously hosted interactive siting workshops in the fall with regional stakeholders using a marine spatial planning tool called Seasketch developed by the UC Santa Barbara Bren School of Environmental Management.

“This report from NOAA has allowed us to refine the siting,” Pendleton said. “They largely overlap ... and that gives us a lot of confidence in terms of the site selection.”

The NOAA study analyzed an offshore area in parcels of 10 acres, layering over more than 60 datasets that factored in things like vessel traffic, sensitive habitats, oil and gas platforms, pipelines, cables and active leases. The VSE has landed on a submerged long line method currently in use in New Zealand that suspends lines of shellfish between buoys anchored to the seabed.

Commercial fishermen, trawlers and other industry representatives expressed concerns that the site didn’t take into account crab and sea bass fisheries or that the project could come to be dominated by a single large commercial entity.

The Port District is committed to ensuring that the project site accommodates both large and small companies and local sea farmers, Pendleton said, and aims to bring down costs and provide technical support to producers who would otherwise not have the scale to participate in aquaculture.

“The current costs of permitting, environmental review, and monitoring have prevented all but the largest shellfish companies from obtaining new aquaculture permits in California,” Pendleton told the Business Times. “One of the critical objectives of the project is for the VPD to obtain the permits and provide economies of scale so that small and local growers can take advantage of a turn-key sub-permit without the need of going through the costly and time-consuming regulatory process.”

The two selection analyses by the Bren School and NOAA concluded that the proposed site was the best available to minimize user conflicts, including fishing interests, he said, adding that the public will have additional opportunities for comment as the project moves through the permitting process.

The VSE would need approvals from the U.S. Army Corps of Engineers and the California Coastal Commission. A pending application for a 2018 California Sea Grant through the NOAA would include funding for grower education and training.

“This is a really exciting time,” Pendleton said. “We’ve got a lot of great analysis now.”

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