

## **Best Option for Oregon Offshore Aquaculture: Scallops or Mussels What's Needed Next: A Coastal Community with a Vision**

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NEWPORT, Ore. – If Oregon chooses to test the waters for offshore aquaculture development to help meet a growing demand for fresh seafood and to create alternative jobs for the state's coastal communities and seafood industries, the leading candidate for a pilot project might be shellfish.

And the most viable alternatives for aquaculture, experts say, could be tasty sea scallops or mussels.

Chris Langdon, an Oregon State University professor of fisheries and wildlife who coordinated a public forum in Newport in the fall on offshore aquaculture, says the development of a new shellfish industry has fewer social, political and environmental obstacles than other alternatives, and could be complementary to existing and future enterprises.

“Scallops and mussels can grow well in Northwest waters and since there is very little commercial harvest, they wouldn't create competition with an established industry,” said Langdon, who directs the Molluscan Broodstock Program at OSU's Hatfield Marine Science Center. “In fact, a scallop or mussel fishery could result in a synergistic opportunity for crabbers or other fishermen with limited seasons. They have the boats, the skill and the manpower to make such an enterprise conceivable.”

Several obstacles have to be overcome before a new industry could be established, Langdon said, including engaging industry and community leaders, developing a culturing system that can survive the rugged Pacific Ocean, adapting effective breeding and growing techniques, creating a viable business model, and evaluating potential environmental impacts.

Langdon, who is affiliated with OSU's Coastal Oregon Marine Experiment Station, says a three- to four-year demonstration project would be an ideal way to analyze the pros and cons of establishing a new venture.

“What we need next,” he said, “is a funding source and a coastal community with a vision.”

Potential funding sources could come from a combination of state and federal sources and private industry, Langdon said.

Oregon's only private marine aquaculture effort today focuses on oysters, which are grown commercially in a handful of coastal estuaries. OSU's Molluscan Broodstock Program was established in 1995 to work with the West Coast oyster industry to improve the commercial success of Pacific oysters through breeding selection.

Langdon says similar aquaculture practices could be applied to rearing sea scallops and mussels, though they would be grown offshore instead of in estuaries. Mussels and scallops usually are grown on long-lines or in lantern-nets in the United States and in many other countries. In New Zealand, for example, the annual farm-gate value of green-lipped mussels cultured in nearshore waters is more than \$100 million.

Oregon had a sizeable population of scallops in the 1980s, but a lack of regulation over their management led to an over-harvest from which they have yet to recover. Nevertheless,

their one-time success suggests that they can and will grow in the waters off Oregon, Langdon said.

“In choosing a site for a test project, we would have to be conscious of other uses,” Langdon said. “One of the first steps would be to meet with commercial and recreational fishing industries to make sure there wouldn’t be major conflicts with crabbers and other fishermen. The support of the community would be vital.”

Structures built for future wind or wave energy farms could be adapted for aquaculture use, Langdon pointed out. The biggest question, he added, would be whether such an enterprise could work economically.

“You should be able to adapt commercial oyster hatcheries to produce the larvae and seed, but offshore grow-out systems that can survive the rough ocean are not presently available in the Pacific Northwest,” Langdon said. “The question is whether you can do all this and compete economically with China, which has a huge shellfish aquaculture industry and cheap labor. We don’t know the answer, which is why we need a demonstration project.

“We would need to know such things as how often long-lines or lantern-nets have to be cleaned to prevent fouling,” he added. “We need to know if sea birds or other creatures would take a predatory interest in cultured shellfish. We can guess at the outcomes, but we won’t know until we try.”

Michael Morrissey, director of OSU’s Seafood Laboratory in Astoria and the Food Innovation Center in Portland, says consumers are willing to pay a premium for fresh, local seafood.

“Chile and Peru, which have similar water temperatures to Oregon, have active scallop industries,” Morrissey said. “Scallops are a high-end seafood item that could be an attractive aquaculture option.”

Langdon helped coordinate the offshore aquaculture forum in the fall because, he says, the timing is right to at least explore the potential of developing a new industry. The world’s population growth is creating unmet demands for seafood and the United States increasingly is importing products because its capture fisheries are at or above sustainable limits.

“The Northwest fishing industry historically has not been supportive of raising marine fish through aquaculture practices,” Langdon said, “but scallops, mussels and other shellfish may create opportunities for their participation without being a threat to their livelihood. The industry will have to decide whether offshore aquaculture represents an unwelcome competitor, or an alternative way to pursue a livelihood.”

About OSU’s Hatfield Marine Science Center: The center is a research and teaching facility located in Newport, Ore., on the Yaquina Bay estuary, about one mile from the open waters of the Pacific Ocean. It plays an integral role in programs of marine and estuarine research and instruction, as a laboratory serving resident scientists, as a base for far-ranging oceanographic studies and as a classroom for students.

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