Maryland Shellfish Aquaculture Industry Roundtable Meeting Synopsis

November 29, 2017 • Annapolis, Maryland

A decade ago, Maryland oyster aquaculture was not much of an industry. Only a handful of oyster farms existed, and many counties had laws so restrictive that new ones could not open. But, since the state legislature changed the law and allowed shellfish aquaculture in every county (2009), the number of leases has increased. As of Fall 2017, more than 170 oyster farmers had leased more than 6,500 acres of Maryland's part of the Chesapeake Bay and its tributaries. The value of that fishery, according to the state Department of Natural Resources, is $5 million.

Research helped fuel the growth in aquaculture in Maryland and Virginia. Geneticists have developed lines that will resist diseases, and improved upon the original triploid oysters. New technology has yielded better equipment, and better coordination among agencies has meant shorter wait times for permits to grow oysters. Where do we go from here? How can scientific research, social science, and collaboration with extension agents and the industry propel oyster aquaculture forward in Maryland?

Maryland Sea Grant convened a meeting of about 30 oyster growers (from across the state), extension specialists, and facilitators on November 29, 2017 in Annapolis to discuss those questions and frame possible research projects that could answer them. The Shellfish Aquaculture Industry Roundtable is one step in a process that also includes a research meeting on January 10, 2018 to share the industry's ideas with scientists and develop research projects.

About 30 oyster growers from across Maryland, extension specialists, and facilitators met to discuss potential research topics to improve shellfish aquaculture in Maryland and beyond.

Scott Budden, of Orchard Point Oysters in Rock Hall, makes a point. Behind him are Steve and Christie Gordon, oyster and clam farmers in Public Landing. *PHOTO BY RONA KOBELL/MARYLAND SEA GRANT*

At the Industry Roundtable, attendees broke out into groups, each with a facilitator to lead discussion on previously identified industry priorities. The groups met and then presented some potential research questions to some of their issues. While some concerns pertain to individual growers, or certain regions, below is a list of seven identified priorities in which research could make a difference.

Theft: Theft from oyster leases has long been a problem. Among the ideas was the idea of developing some technologies that would let oyster farmers and the Maryland Natural Resources Police (NRP) know that an unauthorized person was on their lease after hours using new or existing systems such as the NRP's Marine Law Enforcement and Information Network (M-LEIN) system. Growers also discussed the possibility of stronger punishments for thieves and disincentives to theft, suggesting creating an "oyster docket," where one judge hears all the natural resources violations cases. Other needs included better coordination with law enforcement and an improved legal structure to combat theft.

Permitting: The discussion noted that the wait time for getting a lease in Maryland is still less than ideal. Growers would like more flexibility if they wish to change the gear they use on a lease, and rules that make is easier to move seed from one lease to another. Growers are seeking solutions to simplify the process, and particularly so with interactions from other species that may not live in the oyster-lease area, such as sea turtles (National Marine Fisheries Service gets involved) or SAV (multiple agencies).

Shell, larvae, and seed availability/production: Oyster growers who use spat-on-shell struggle to procure shell for their operations and are interested in hearing about alternative substrates. Other oyster farmers suggested using shells from their own operations to re-seed their leases, and the idea of making their own substrates with research assistance. Another idea was for a Burpee's seed catalog of sorts for oysters, so that farmers are planting the right crops in the right places. Certain lines may do better in low or high salinity, open water or protected coves. It would be good to know the probability of what would work where. Growers also expressed a desire to know what kinds of gear would be most appropriate for which settings and how best to mechanize operations. Currently, the demand for seed and shell exceeds availability. They are also concerned about diseases.

Increased production: Oyster farmers would like to know how to increase their survival rates for their crops and increase their profitability. More research is needed to improve both diploids (more common in spat-on-shell aquaculture), and triploids—sterile oysters (preferred for cage aquaculture). While there may be no single "super-oyster," farmers are interested in developing oysters that produce more offspring that survive. They would like to develop techniques to farm more effectively. Oyster farmers have to contend with fouling on their cages, which restricts water flow to the animals and slows growth.

Business, marketing, and sales: Oyster farmers are concerned that Chesapeake oysters are fetching less at market than their counterparts from New England and Prince Edward Island. They are interested in ways to get the word out about the quality of the Bay oyster. They are also contending with difficulty in getting crop insurance, and wish to engage the U.S. Department of Agriculture to assist with that.

Pat Hudson Sr., an oyster farmer and Chesapeake Bay pilot, talks to University of Maryland Ph.D. student and Maryland Sea Grant Coastal Resilience and Sustainability Research Fellow Adriane Michaelis about the oyster business. *PHOTO BY RONA KOBELL/ MARYLAND SEA GRANT*

Farm optimization: Oyster farmers would like to keep their labor costs down. Labor is a major input in water column leases. They support the development of more shucking houses to produce oyster meats for sale so that shells shucked here stay here for reuse.

Post-harvest processing: Once the oysters are ready, farmers wish to get them out the door with little labor costs. They are interested in research on how best to control temperature to reduce vibrio and other practices to improve storage and transport.

Other points: Continue research to determine the value of nitrogen-removal credits from oyster leases. Maryland has a nutrient trading program that recognizes the value of that removal for TMDL requirements for the Bay, but no trades yielding money have yet been made. The growers noted this industry is poised to keep growing. Many sell every oyster they grow.

—Rona Kobell

Sea Grant Maryland

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