

Right: Christopher Mills, technician for UConn's Marine Sciences Department, shows the parts of an outboard motor to students in the "Foundations of Shellfish Farming" class.

Inset photo: Teacher Michael Gilman discusses the importance of vessel size and condition to students in the "Foundations of Shellfish Farming" class. Photos: Judy Benson



# More than just the ABC's of aquaculture

STUDENTS LEARN SCIENCE, PRACTICAL AND FIRST-HAND KNOWLEDGE ABOUT SHELLFISH FARMING

By Judy Benson

Some of the students already earn their living growing oysters. Others aspire to, or want to farm shellfish as a sideline to supply their restaurant.

Still others are avid recreational clammers and conservation-minded citizens who wanted to learn how shellfish benefit the environment, then use that information to enhance local aquaculture. Ranging from young adults to retirees and those in-between, all 18 students shared a common curiosity about the ins and outs of bivalve aquaculture, and the desire to meet others with the same interest.

"I wanted to establish more of a connection with people getting into it, and learn more about the biology of shellfish," said Jake Simonds, 19, employee of the Stonington Oyster Farm, owned by his father, stepmother and their friend. Simonds and the other students comprised the first class of "Foundations of Shellfish Farming," a new course created by Connecticut Sea Grant to enhance the state's aquaculture industry by tapping into growing interest from would-be farmers and the public.

"There is tremendous interest in shellfish farming, but the occupation isn't for everyone," said CTSG Senior Extension Educator Tessa Getchis. "Marine aquaculture is a serious undertaking with major capital investment. Many also underestimate the challenging conditions associated with working on the water year-round. While our purpose is to train future farmers, we consider it just as much a success if a student decides not to pursue farming."

The course was developed by Getchis and Michael Gilman, aquaculture extension assistant and part owner of Indian River Shellfish in Madison, in consultation with the state Department of Agriculture Bureau of Aquaculture. A former high school science teacher and now adjunct professor at a local college,

Michael Gilman, aquaculture extension assistant for Connecticut Sea Grant, shows one type of oyster dredge to the class. Photos: Judy Benson



Eighteen students enrolled in the "Foundations of Shellfish Farming" course, taught at UConn's Avery Point campus over 11 weeks this winter and spring.

Gilman is equally at home in front of the classroom or on the water, so the course gave him an ideal opportunity to marry both skills.



"There's a lot of things I myself learned the hard way," Gilman told the class on the first of the 11 evening sessions that began in January. "One of my goals is to make it easier for you, to minimize some of your headaches."

Meeting at the UConn Avery Point campus in Groton where Connecticut Sea Grant is based, the course began with a short lesson on the history and various types of marine aquaculture, including farm-raised fish, shellfish, crustaceans and seaweed grown for food, and species that are grown for ornamental use, bait and biomedical purposes. They learned about the global trend of increasing amounts of seafood being raised through aquaculture, and less coming from wild-caught fisheries.

"The number of prospective shellfish farmers is growing, and we're working to fill the training gap," Gilman said.

There are many growing pains, he cautioned, that the course sought to help the students understand and navigate. While there is a robust regulatory process to protect existing public interests, instructors stress the importance of shellfish farmers being good neighbors. They also gave plenty of practical advice on topics such as shellfish suitable to grow in Connecticut waters, the various types of containers that are used to grow them, the best gloves for handling

shellfish and the human, animal and environmental hazards that farmers need to be aware of. Students heard about the importance of site selection and appreciating each area's unique characteristics for growing shellfish. An entire two-hour class was devoted to the basics of boat mechanics and operations, taught by Christopher Mills, technician for UConn's Marine Sciences Department.

"You really need to pay attention to your engine," he told the students, standing between two trailered UConn vessels in the parking lot near the Avery Point campus docks. "It's the lifeblood of your business. And you've got to get the right boat for the job, and know your boat's limitations. Don't overload it."

In another class, students heard from two leading scientists at the state Bureau of Aquaculture. Lydia Bienlien, shellfish pathologist, and Emily Marquis, environmental analyst, explained how shellfish and water quality are monitored in growing areas, and the farmer's responsibilities to ensure safe seafood harvest.

Sabrina Lyall, one of the students, said the detailed explanations about shellfish hazards, boat operations and the complexities of running a shellfish business were just what she was hoping for when she signed up. Lyall, 26, has worked on a shellfish farm, a shellfish hatchery at Roger Williams University and was due to start a new position at a federal oyster hatchery, but wanted to fill in some gaps in her knowledge.

"I knew the big picture, but I really wanted to get into the nitty gritty," said Lyall, who hopes to own her own oyster farm one day. "It's been very informative, and it's been great to get to work on my networking."

Throughout the course, Gilman reiterated a key message: growing shellfish is the easy part, relatively speaking. Being a successful farmer requires much more than knowing how to raise them.

"You're going to have to deal with the public," he said. "You probably never thought you'd have to get into politics, but you're going to have to go to the shellfish commission meetings, the harbor commission meetings. You may get asked to talk to the elementary school science class. And you should be at farmers markets, festivals. Having public support is a really good thing."

Shellfish farmers also need to be adept at marketing their

product by establishing brand identity, and have a web and social media presence that effectively tells their personal story and how their product benefits the environment, he emphasized. And they need to be able to tell that story when presenting a business plan to a bank loan officer, to a boater who pulls up beside the oyster cages to ask questions, and at the public meeting about a shellfish grounds lease.

"You have to understand what these animals are doing, so you have that lesson plan in your head to take to public forums," Gilman told the class. "They're a safe and healthy food source, they create cleaner and clearer water, they provide habitat for marine life, they help stabilize sediment and prevent erosion, they support recreational activities and are part of our maritime heritage and culture. Being able to describe the ecosystem services of aquaculture is a really big deal. Use it to help you when engaging with the public."

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MICHAEL GILMAN

Peter McGinnis, 68, is a retired engineer and longtime recreational clammer. He enrolled in the class so he could offer his services as a knowledgeable volunteer for projects with the shellfish commission in Groton where he lives. Although he has no plans to be a commercial shellfish farmer, he found Gilman's frank descriptions of the ups and downs of being one both refreshing and engaging.

"He portrayed the business honestly," McGinnis said. "We were being taught by somebody who really knew what he was talking about, which was great. Overall, it was a great value for the \$300 fee."

Gilman and Getchis are making plans to offer the course again, perhaps providing an all-virtual option along with the in-person one. Gilman said the mix of students and experience levels in the inaugural class yielded a lot of good discussions and information sharing. That

was just the sort of collegial atmosphere he and Getchis are hoping to foster in the state's aquaculture industry that will help it continue to grow and prosper.

"One of the things we really wanted them to get out of this was a network of resource sharing and to push the philosophy of working together," he said. "And we wanted to build their confidence and let them know that you can make mistakes and still be comfortable with the decisions you make."

#### **MORE INFORMATION:**

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