MARKET NEWS

SEMAC Industry Survey

By way of Diane Murphy

SEMAC staff continues to receive keen interest in alternative shellfish species from the aquaculture industry, so a portion of recent SEMAC funding was utilized on a survey of wholesale seafood dealers. Previous and ongoing SEMAC Research Farm projects have included field trials with alternative species such as razor clams and blood arks. One of the critical components of this research is marketing the aforementioned species. Although anecdotal information usually provides confirmation that markets do exist and make it worthwhile to invest time into other species, a formal survey of markets and consumer acceptance would address this more specifically.

SEMAC contracted with Dr. Nora Barnes, Director of the Center for Marketing Research, Charlton College of Business, at the University of Massachusetts, Dartmouth to help develop an Alternative Shellfish Species Survey which was conducted by her students: Cain Bochter, Andrew Boucher, Eric Karstunen, Alyssa Olson, and Bailey Rice. The objective was to research the demand for alternative species of shellfish among seafood wholesalers throughout Massachusetts and provide insights into the following – (1) are wholesalers aware of the 6 proposed species; (2) would wholesalers be interested in selling or have they sold these species with success; (3) what is the perceived demand for alternative species, and; (4) is demand driven by customer request or consistent availability?

Systematic random samples were taken from the 217 shellfish wholesale dealers listed in Massachusetts, but after adjusting for wholesalers who do not sell shellfish, are closed for the season or out of business,
the potential wholesalers available for this study was 108 and survey results are based on 106. Students conducted telephone interviews in October, 2014 and the 12-question survey focused on six ‘alternative’ species: (1) razor clams, (2) juvenile surf clams known as butter clams, (3) brown color variant of blue mussels, (4) sweetmeats or slipper shells, (5) blood arks/clams, and (6) seaweeds such as Gracilaria and Nori.

Results indicate that the demand for many of these alternative species would come from the consumer. 50% of shellfish wholesalers said that if these alternative species were in a readily available supply they would actively market them to build demand, but 47% said they would not. 47% of shellfish wholesalers said they would need more customer demand to have interest in selling alternative species, yet 43% said they have no interest in selling these species. 40% said they need a more reliable supply, 32% said they need more market demand, and 26% said they need better price margin. Interestingly, students surmised from the survey respondents that demand for increased razor clam production currently exists, without the need for market building.

Results from several questions include:

TECH TALK

Shellfish Habitat Assessment Project – A Brief Summary of 2013 Results
By way of Abigail Archer

We all know that shellfish growth and survival varies from year to year. But how much of that variability is due to growing methods, and how much is due to the general environment? From year to year do all growing areas across Cape Cod perform the same? Although exact answers will never be known, the Cape Cod Cooperative Extension (CCCE) Marine Program has been working to shed some light on the topic. Since 2003 CCCE Marine Program staff, with funding from SEMAC, have conducted a shellfish habitat assessment study in four embayments on Cape Cod: Pleasant Bay, Cape Cod Bay, Barnstable Harbor, and Wellfleet Harbor. The goal of this long term study is to provide growers and researchers with standardized data on site-specific shellfish survival and growth.

Our methods are fairly simple. The study period runs from July 1-September 1. All seed is purchased from the same source, is all from the same batch, and is treated exactly the same. For oysters, we place three vinyl-coated trays (0.5” x 0.25” mesh) at each site, and propped up on 2” PVC pipe with the intent to keep them above the sediment (Fig. 1). Each tray is stocked with 25 seed oysters. Due to their small size, these oysters are initially enclosed in 3 mm mesh bags within the cages. After one month, the oysters are removed from the original bags and placed in ones with a larger mesh size to allow greater flow of seawater.

For quahaugs, at each site we place six plastic plant pots (10” diameter and 10” deep, or 0.55 ft2) in the substrate (flush with the bottom) and fill each with the removed sediment, including any infaunal organisms residing in the sediment (Figure 1). Each pot is stocked with 50 seed quahaugs. To test the effects of predators, half of these pots are protected from predation by securing predator-exclusion netting over the top of the pot with a rubber band.
Collection takes place approximately 62 days after deployment. Surviving oysters are counted in each bag and any signs of predation are noted. Similarly, surviving quahaugs are retrieved by sieving the contents of each pot over 3 mm mesh screen. Survivors from each pot and any natural set of shellfish are counted and any signs of predation are noted. All shellfish are then taken back to the lab where length is measured and average growth rate in millimeters per day is calculated.

In 2013 the Shellfish Habitat Assessment (SHA) program measured quahog and oyster growth for an 11th year. For quahaugs, results for this year were similar to prior years in terms of two general trends:

- Average quahog survival was statistically higher in meshed plots than un-meshed plots. This trend has been seen in every year since the program started in 2003, and indicates the importance of protection from predators. In individual plots with mesh, survival ranged from 58 to 100%. In unmeshed plots survival ranged from 0 to 22%.

- In the meshed plots – average growth of quahogs in 2013 was higher in Wellfleet Harbor and Barnstable Harbor than in Cape Cod Bay and Pleasant Bay (Figure 2). This trend has been seen in every year of the project except 2004, when average quahog growth in Cape Cod Bay was faster than Barnstable Harbor, and overall growth was relatively slow in all embayments. In 2013 Wellfleet, Barnstable, and Cape Cod Bay the observed quahogs grew at a rate over twice that of Pleasant Bay.

Overall, 2013 average oyster survival was high at three sites; Barnstable (100%, SD 0) followed by Brewster (97.5% SD 2.2) and then Wellfleet (88.1%, SD 4.2). In Pleasant Bay oyster survival in 2013 was only 52.4% (SD 9.8). The cause of mortality at all four sites is unknown.

Average growth rate (mm/day) was highest in Barnstable (0.55, SD 0) followed by Wellfleet (0.48, SD 0.05), and then Orleans (0.43, SD 0.05) (Figure 3). The lowest average growth rate in 2013 occurred at the site in Brewster (0.37, SD 0.02). In comparison to previous years all growth rates were statistically the same as those observed in 2012, and statistically higher than those observed in 2011.

Work on this long term shellfish growth and survival project will continue. Samples were deployed and collected during the 2014 growing season and the data will be analyzed this winter. A full report on the project will be posted soon on the Marine Program website. For more information about the project please contact Diane Murphy at dmurphy@barnstablecounty.org
“Spit and Chatter”—Growers’ Column
MAA in 2015 from Chris Sherman
President, Island Creek Oysters, Duxbury, MA

We are in a risky business. We are routinely held at the mercy of almost every negative externality you can think of and that’s simply to get a crop to market. After that our perishable product moves through a vulnerable supply chain. It eventually lands on a diner’s plate where now, apparently, it can cause that person to become ill. We’re definitely not making widgets here.

All of these externalities have the potential to put us out of business, but none of them have. I am always impressed by the resiliency of our industry as a whole and by that of the people in it. As appealing as it is to grit your teeth, stick your head in the sand, and wait for it to be over, though, it is through proactive management of the issues we face that this industry has persisted (and grown robustly) through everything from permitting nightmares to shellfish diseases.

MAA is the risk management tool we should all be using. It was created by the founding members of a fledgling industry to deal with the issues involved in getting an entire sector of our local economy off the ground. It was very effective at doing so. As the Mass shellfish aquaculture industry matured everyone turned inward for a period of strong growth and there was no dire need for a jaunty industry group. Our relationships with our regulators were dysfunctional; some of our relationships with one another became dysfunctional; we just wanted to be left alone.

Now the industry has grown to a point where there is a new host of issues threatening our livelihoods—challenging issues—and its time once again for a strong and focused MAA. With a solid and well-respected industry association we can speak with one voice and tackle any problem—from diarrhea to nervous upland neighbors. In the face of crisis, I have been that person furiously scribbling emails and letters and CCing anyone I could think of (the president, the governor, and my auntie Sue) and I can tell you there is a more effective way and it is through this group.

It will never be perfect, but it is the best bet. And it will certainly never work without membership and buy-in. So sign up and pay your dues. Alongside fellow officers Kris Clark and Dave Ryan, we’ve got the energy to throw at this—we will be timely and responsive, we will do the housekeeping, and ensure the MAA voice is stronger than ever—but we need your help and input.

An MAA meeting was held in Chatham on November 14. We recapped the fundraiser we threw at the Fairmont Hotel at Battery Wharf in Boston (we raised $15,000), discussed finalizing the 2015 strategic plan and charting a course for a dialogue with regulators in the Vp off-season.

TECH TALK

Was the water cooler this year?
By way of Joshua Reitsma

The summer of 2014 certainly felt a lot cooler than previous summers and it is reasonable to assume the weather had some influence on water conditions in your growing area. In fact, weather data recorded at Barnstable Municipal Airport suggests that the daily average air temperature was lower in 2013 compared to 2014 from June through August, with an especially warm July in 2013.

That said September of 2014 was actually warmer than 2013 so that when we average in the 4 month period of June through September the average is only 1.3°F warmer in 2013. So how does this correspond to water temperatures?

<table>
<thead>
<tr>
<th>Wellfleet Harbor</th>
<th>Air Temp</th>
<th>Water Temp</th>
</tr>
</thead>
<tbody>
<tr>
<td>June avg</td>
<td>66.7</td>
<td>70.1</td>
</tr>
<tr>
<td>July avg</td>
<td>75.3</td>
<td>78.4</td>
</tr>
<tr>
<td>Aug avg</td>
<td>69.1</td>
<td>74.4</td>
</tr>
<tr>
<td>Sept avg</td>
<td>62.3</td>
<td>67.9</td>
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<tr>
<td>4 month avg</td>
<td>68.4</td>
<td>72.8</td>
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Well the trend is actually quite similar in water temperatures to that of air. Included here are data from Wellfleet Harbor, where we see similarly water temps were higher June through August in 2013, with July again 3.5°F warmer in 2013 compared to 2014. The 4 month average (June-Sept) was only 1°F lower in 2014 but we see a large influence of weather on water temperatures especially in the warm July of 2013. This is true of other near shore areas we are monitoring, but offshore conditions may be less influenced by daily weather.

SEMAC continues to monitor water quality conditions at 5 sites: Wellfleet Harbor, Pleasant Bay, Barnstable Harbor, Cotuit Bay, and Duxbury Bay. Measurements are taken every 15 minutes temperature, salinity, depth, pH, dissolved oxygen, turbidity (water clarity), and chlorophyll (algae content). The data is available online as historical archives, http://www.capecodextension.org/marine-programs/water-quality-monitoring-2/archived-data/, or by request. Two of the sites, Cotuit and Wellfleet, are also are setup to relay data in real time available here, http://wqdatalive.com/public/103.
Cape Cod Cooperative Extension/Woods Hole Sea Grant marine program staff once again teamed with Henry Lind to offer this 8-week course. Students were introduced to the concepts of shellfish aquaculture, progressing from biology basics to hatchery & nursery techniques to grow out methods for oysters and clams. Additional topics included BMP’s, safety, management of diseases, pests, and predators as well as basic business management and permitting. Many lectures were supplemented by guest speakers from industry as well as state agencies, Division of Marine Fisheries and Department of AG Resources. Several week-end field trips included visits to municipal shellfish facilities in Chatham and Harwich, as well as visits to private shellfish farms.

24 individuals were enrolled in this course and all passed the challenging final exam, earning their certificates as testimony to their success. Students were from many differing backgrounds and included current & prospective aquaculturists, entrepreneurs, municipal employees, as well as retirees.

THE CLASS OF 2014
Fundamentals of Shellfish Farming: Practical Tools, Tips & Techniques

FoSF 2014 students visit with oyster farmer located on Cape Cod’s intertidal flats.