NJ Shellfish Culturists Roundup 1997

1997 Shellfish Culturists Roundup
March 11, 1998
Atlantic County Library
Galloway Township, NJ

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The meeting was not as well attended as those in the past, with only two hatcheries and one land based nursery operation represented. There were eleven interested individuals in attendance; all engaged in the conversation. As usual, the discussion was broken into various topics, and additional information was supplied by others after the meeting.

Weather

Winter went straight into summer and there wasn't much of a spring. There was only minimal freezing in the bays during January. Spring was cold. Summer was erratic with very hot weather only in July. Rainfall was average, except for 13.4 inches on August 20 in the Atlantic County area. This was a record rainfall for south Jersey. As a result, Great Bay and Absecon Bay went fresh on top, and the fresh water extended all the way out to Main Marsh. The fall was fairly mild and the water stayed warm until mid-November. A temperature recorder placed in Dry Bay showed that water temperatures there did not stay below 10°C until mid- November. Two recorders were placed in hatcheries in Brigantine and Atlantic City during the summer. Fluctuations occurred with the lunar cycles, and the oceanic tidal influence in the Venice Park area of Atlantic City was strong as evidenced by the differences in temperature on the high and low tides.

Tropical Storm Danny came through the area in the last week of July, but seemed not to have much of an effect on the industry.

The fall of 1997 was the start of an El Nino year, which would later prove to give our area a warm wet winter.

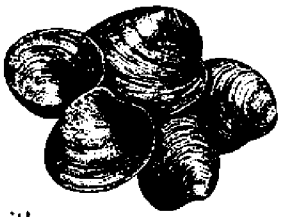
Hatchery Operations

Information gathered throughout the year indicated that 1997 could only be categorized as a strange and random year. Where some hatcheries who had previous problems did well, other facilities that typically have had consistent operations had problems. This was the case not only in NJ. Reports from New England and a bit south confirmed the same thing.

New dock construction in Atlantic City along the Thorofare was blamed for some mortalities at two hatcheries and one nursery system on the same body of water. Operators of the facilities feel that the NJ Department of Environmental Protection should take these types of problems into consideration when reviewing and granting permits for this type of work. What affected the hatcheries in the area was the amount of time which passed from the filing of the permit to when it was finally granted. A period of six months elapsed and forced the construction to be done during hatchery season. If the new

casino tunnel is built, it is feared that new bulkheading will be done in the Venice Park area, and this could cause significant problems for the hatcheries in Atlantic City.

One hatchery which had had some mortality problems in the past several years installed a sand filter and an Ultra Violet Light filter to improve water quality for larval tanks and algal production. Another consistent producer had mortalities with month old post-set and then had problems with vibriosis, deformed larvae, and a small (30,000/ml) crustacean type organism which makes it through 1µ filters. It was not identified.



Spawning began in late March and the beginning of April.

Nursery

High density blooms of the micro-algae commonly known as "Brown Tide" were back again in Little Egg Harbor Bay in June and July, and affected production at Biosphere. This phenomenon was associated primarily with a reduction or cessation of growth of seed, but they also reported a little mortality early on with fairly small seed.

There were, as mentioned, some siltation problems in Atlantic City from the dock construction which affected the raceways of the nearby facilities. Oily film as well as silty suspended particulates were noticed in those facilities as of the first week of April, and there was some concern since that area had heavy commercial marine businesses at one time. There were significant losses there in the first week of July, supposedly due to the construction activity.

Water temperatures became a problem since seed which had been kept on upwellers in converted larval tanks inside hatcheries were ready to be moved outside onto raw water; however as of May 1st, water temperatures were not yet up to 15°C. Seed put outside at 14°C was living but not thriving; extra work was done to grow supplemental algae to feed the clams.

By the end of April, the water temperature in Brigantine was finally up to 17°C and seed were growing.

It was reported that 1mm seed brought into Atlantic City from New England died within two days. This type of transfer was repeated again with a smaller amount of seed, and, even more strangely, excessive mortality occurred.

Growout

Overwintered seed from South Carolina died throughout the year. One grower in Tuckerton reported 30% mortality in February of ½ to 1¼"seed, mostly second year growth. Steve Mastro noted mortalities all year long. Rit Crema said that he had mortalities of southern clams even in the fall when they should have been healthy. Local seed came through the winter with minimal mortalities.

Tape mud in Dry Bay was reported by Bill Shoemaker in the middle of March.

There was some other type of mortality in a Tuckerton creek site which may have been the first evidence of QPX mortality. A test to try to induce QPX through overcrowding and stress was done by Dr. John Kraeuter from the Haskin Lab.

Summer growth was above average for recent years, starting slowly then picking up

later in the season. Growers reported noticing that the clams growing in Dry Bay appeared to have spawned in the first week of July, which was 2 to 4 weeks later than usual. Everything was slow because of the cold spring. Absecon Bay grew better than Dry Bay. Bob Fenton reported that clams grew "okay" in the fall, and continued later in the season.

Markets

Overall for the year, "It held its own," said Rit Crema. For the first time, growers felt that there were more clams than market all summer. Clams were coming in from Florida for $.14 each. Prices stayed pretty much the same as last year (a low of $.15 to a high holiday market of $.18 with the average right in between). The wild clam market remained good especially for Chowders which were up to $.08.

Regulations

Sunday clamming regulations didn't pass again. Digger tags were instituted ("Another unnecessary expense to fix a problem which doesn't exist.") A new enforcement officer was placed in the Atlantic County area for the NJDEP Marine Enforcement Unit.

Finally, on Labor Day weekend, Governor Christine Todd Whitman signed the Aquaculture Development Act. The first action which was taken by the NJ Department of Environmental Protection, Division of Fish, Game and Wildlife, Bureau of Shellfisheries was to stop the entire aquaculture leasing program because of the lack of personnel and funds to survey the leases which had pending applications. Those who had submitted applications had them returned and no new ones were accepted.

Research

With funding from NJ Department of Commerce and Economic Development, Gef Flimlin coordinated four small research programs aimed at clam aquaculture.

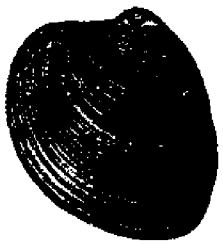
Tom Herrington, an engineer from Stevens Institute in Hoboken, worked with information provided by Ray Crema and Mr. Flimlin to develop a screen cleaner to remove macro-algae from the predator control screens used to protect the growing clams. It will be field tested in the late spring of 1998.

Walt Canzonier, President of the NJ Aquaculture Association and Executive Director of the Maurice River Oyster Culture Foundation, designed and developed a seed counter which will give a more accurate accounting of small seed for stocking in nursery bags and give better accuracy when making volumetric determinations for size per volume.

A researcher from Ramapo College redesigned CRABSCARE, the high frequency acoustic blaster designed to repel crabs from planting areas. It will also be tested in the first plantings of 1998.

In order to assist one hatchery in Brigantine in determining the unexplained cause of their mortalities, monitoring equipment and funds for a graduate student were utilized to evaluate what was going on there. Through dumb luck or good management, the mortalities on the scale previously noted did not repeat in 1997.

John Kraueter of the Haskin Shellfish Research lab conducted an experiment to evaluate the interactions of density, flow rate and supplemental feeding on spring mortalities of <1mm seed at two hatcheries in Brigantine and Atlantic City. Small upweller systems (2" diameter) were used to evaluate two densities at each hatchery. Flow rates were designed to span low, intermediate, and high flow regimes typically found in hatcheries. No unusual mortalities took place. Supplemental feeding with unicellular algae did not produce substantially greater survival or growth except under specific conditions. Economics would suggest feeding not be used under the conditions of this experiment. Generally, the high density condition did not perform as well as the low density in low flow. At high flow, higher density yielded better growth. Survival was poorer in the low flow under both densities than in intermediate and high flow. These results are what most would expect. However, if the number surviving, percentage mortality, and growth are divided by flow, the lowest flow gave the most efficient use of the water. This suggests that flow levels should be maintained at the intermediate or high level. Under these conditions, for small seed, the study suggests the water could be reused at least once, if not more in a cascade arrangement. If the system was designed to reuse water without pumping, substantial savings may be achieved.



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