

2011-13

Final Project Report Fishery Resource Grant Program

Project Title: Stake In The Bay by Micheal J. Gadwell

Period covered by this report: 2011-2012

Summary of Progress and Accomplishments of the Stake in the Bay project:

The Stake in the bay project was instituted to make it possible for people of all ages and agility to become involved in the oyster replenishment and restoration. This was accomplished by my wife and I utilizing over a dozen different recipes and types of stakes and slurries to encourage spat attachment using triploid larvae set in our onshore setting tank which is also utilized for setting spat on shell.

We began by setting up a production area in our basement garage In March of 2011. We purchased gigas oyster stick collectors and also recycled plastic 2"X2" stakes manufactured in rural Virginia and purchased locally. We produced approximately 600 stakes of various lengths and slurries of lime, Portland cement and sand and oyster shell to encourage spat adhesion. We also roughened the surfaces and attached aluminum screening to a variety of the stakes some which we also dipped in a slurry or leached. The leeching and slurry of numerous stakes was done to see if acclimating or slurry on the new product would improve the setting. The varieties of stakes were loaded into our setting tank along with some bags of shell to test and compare the results of setting.

On our initial 2011 set we purchased 7 million Triploid oyster larvae and seeded the tank which contained the variety of stakes and shell. We were plagued with less than desirable weather, salinity and water quality throughout the setting period however after our initial setting observation we were pleased with the result of our setting and ease of loading and labor needed to set the stakes on our oyster grounds for grow out.

The stakes were monitored throughout the growing season for survival and predator assessment, In April of 2012 with the assistance of a boom and electric winch onboard we raised the various groups of tethered stakes out of the water and with a pump we washed the stakes and assessed the variety of stakes and the set and survival of spat. We were very pleased with the results considering the unfavorable larvae setting conditions and the extreme winter weather and tides the test stakes had endured. We determined the preferable stakes based on the observation were the plain stake and the screen/slurry type for a follow up setting.

To our dismay after preparing and loading our tank with a second early setting in 2012 we were not able to procure Triploid Larvae for a successful set. We did purchased another 7 million larvae later and set the larvae however the Virginia hatcheries statewide were unable to reliably produce larvae due to the water quality and the larvae did not survive the set and we will continue setting in 2013. The initial setting and survival combined with the growth and ease of harvesting is very encouraging.

The initial purchase of stakes and supplies along with our equipment and production experience will enable us to continue with the Stake in the Bay project in the upcoming years. We intend to utilize a 6 foot long 2x2 recycled plastic which might be better suited for commercial harvesting and a 3 foot long stake for recreational use in the future. The fact that the stakes are recyclable and likely even better spat setting as the stake ages makes the marketing outlook promising. We gave several stakes out to interested persons, and received favorable comments and requests from others however, until the hatcheries can produce a consistent, reliable, survivable larvae, it will be difficult to market the Stake in the Bay as a retail recyclable product that we could re-set with spat and resell it to the customer. We will however concentrate on improving the Stake in the Bay in the upcoming years, thanks to the VIMS Fishery Resource Grant Program.

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