

A CASE STUDY of the REMOTE SETTING TRAINING AND SUPPORT PROGRAM

Introduction:

It is of great importance that the Remote Setting Training and Support Program (RST) continue after its first three years of success. Each year there has been a noticeable increase in interest by leaseholders who insist the program has helped shape their oyster business. Leaseholders have been able to purchase oyster shell and at no cost be supplied with tanks, larvae and education. This allows the production of spat on shell at a reasonable cost. The University of Maryland Center for Environmental Science (UMCES) Horn Point Lab provides hatchery seed and training. The program offers other beneficial services such as bottom lease mapping and Dermo testing that are not available anywhere else.

Oysters can grow over an inch each year. It is expected that spat on shell produced in 2011, the first summer of the program, to be market size by the end of the third year or fall 2013. At that time leaseholders will uncover if using the Remote Setting System is beneficial to their aquaculture business. Three anonymous watermen (A, B and C) agreed to share the size of their oysters planted from each year, along with other pertinent information proving the success of RST.

Objective:

The aim of this case study was to determine if third year participants in the Remote Setting Program are selling or preparing to sell their first year oysters at market size. Three participants agreed to have their spat on shell measured.

Study Methodology:

The oysters collected were either power dredged or tonged onto the boat. Waterman A and B separated each year of plantings on their lease. Waterman C had year 2011 and 2012 planted on the same spot, 2013 had been planted in other areas. Only waterman B had documentation of where the oysters were on the lease.

Dredging or tonging areas were randomly selected. All oysters collected were measured until over 60 samples were reached. Live oysters were measured and documented. These measurements were totaled and divided by the number of oysters measured to find the average size. Two samples were taken with Waterman A while four samples were taken with Waterman B and C. The number of samples that were taken were based off of amount time watermen had available to collect data.

The setters were able to locate several areas on their leases to show growth from different years. The samples were tonged or power dredged from the lease, randomly selected and then spat on shell measurements were taken. Faculty Research Assistants from UMCES took the measurements while also teaching the waterman how to collect their own data. Waterman A and B separated each year of plantings on their lease. Waterman C had year 2011 and 2012 planted on the same spot, 2013 had been planted in other areas. Only waterman B had documentation of where the oysters were on the lease.

The 2011 spat on shell for Waterman A were in the form of large clumps, while Waterman B had broken up their clumps and measurements were made of the individual oyster. Two samples were taken on Waterman A's lease, 68 spat were measured in the first spot and 114 in the second sample. The average size of the oysters planted each year was found. Four samples were taken on Waterman B's lease, 77, 104, 99 and another 77 oysters were measured on different sites owned by the leaseholder and averaged.

Many of the 2011 oysters by Watermen C were lost by poaching and bad weather. We were able to identify the year class difference since what was left of the 2011 oysters were broken up and worked. Oysters from 2012

were still clumped together and hadn't been touched. In sample 1, 84 oysters were measured and in sample 2, 98. Although there were market size oysters the participant did not feel that he had enough to start selling them right now. Personal health issues also set this participant back in the past year. Luckily they will be jumping right into the program this summer with new goals. This waterman anticipates his first sale to take place in spring 2015.

Results:

Table 1: Leaseholders that have participated in the program for three years

	Grower A	Grower B	Grower C
Lease Location	West River (Upper Western Shore)	Nanticoke River (Lower Eastern Shore)	Wicomico River, Potomac (Lower Western Shore)
Salinity Range	3-10 PPT	10-20 PPT	10-20 PPT
How many bushels did you harvest in 2013?	0	1,200	N/A Harvesting 2015
How many bushels did you harvest in spring/summer 2014?	750	≈2,000	N/A Harvesting 2015
How much do you sell your oysters for? (bushels)	\$55	\$50-55	N/A
Revenue Generated	\$41,250	\$105,000	N/A
Oysters planted in 2011 (average size)	Few large clumps	75mm (3 inch)	Lost to weather/poachers
Oysters planted in 2012 (average size)	53mm (2 inch)	72mm (2.8 inch)	Sample 1: 89mm Sample 2: 84mm (3 inch+)
Oysters planted in 2013 (average size)	35mm (1 inch+)	61mm (2.4 inch)	Sample 3: 25mm Sample 4: 34mm (1 inch+)

Conclusion:

All three watermen have completed 3 years of the RST program and are now and/or soon seeing benefits.

- Waterman A had 1-2 inch clumps from their 2011 plantings which they will be harvesting in spring 2014. The average size oysters planted in 2012 were 2 inches with a less than 5% mortality rate. Spat on shell planted in summer 2013 averaged out to be a little over 1 inch, also with a less than 5% mortality rate.
- Waterman B has already sold 3,400 bushels that were produced in 2011 for \$50-55 a bushel. Their 2012 oysters were also market size, at an average of 3 inches. The plantings done in summer 2013 were an average of 2.5 inches which can be seen below.
- Waterman C has few acres and has faced weather and poaching problems. They managed to still obtain a few 3 inch oysters from 2011 and 2012. Oysters measured from 2013 were almost 1 ½ inches and ready to be separated for better growth. Although there were market size oysters from 2011 and 2012 the participant did not feel that he had enough to start selling them. Personal health issues also set this participant back in the 2013 season. Luckily this waterman will be jumping right into the program this past summer with new goals. This participant anticipates his first sale to take place in spring 2015.

Supplemental Survey Questions:

We also asked the leaseholder a series of questions about the program.

- 1) Why did you want to participate in the RST Program?
 - a. Waterman A: wanted to hold on to their inherited leases and saw the program as an opportunity to effectively use them to generate income while cleaning the bay.
 - b. Waterman B: no comments yet
 - c. Waterman C: said they wanted to get into the program because they knew it would help them in the long run to make money.

- 2) Did you learn anything?
 - a. Waterman A: "I couldn't begin to list all the things we have learned...entire RST program and tons more. Probably the biggest thing we learned is that we could do it!"
 - b. Waterman B: has learned how important it is to collect data and have disease testing done
 - c. Waterman C: "History of the Chesapeake Bay, how oysters grow, the whole Remote Setting process and everything I need to know to grow oysters."

- 3) Will you continue participating in the program?
 - a. Waterman A: "As long as the program is around, we would be thrilled to be a part of it"
 - b. Waterman B: Yes
 - c. Waterman C: Yes

- 4) Did you find the program helpful?
 - a. Waterman A: stated that the program was a "blessing" and "without it we wouldn't be where we are today!"
 - b. Waterman B: Yes
 - c. Waterman C: said that they wouldn't have been able to get into this business without the program.

- 5) What did you find most helpful? What would you add and/or change?
 - a. Waterman A: says the most helpful part of the RST program is, "the technical support. Truly the way the program has been structured it has enabled people to give it a try." "The program has been fantastic to our way of thinking. Adding the Dermo testing and the mapping is a great idea, lots of info!"
 - b. Waterman B: No comment yet
 - c. Waterman C: would like to have more help with marketing and selling of their oysters. This is a department that they are not familiar with and would like to take a workshop in.

Waterman B's Summer 2013 plantings:



6 month old Triploids

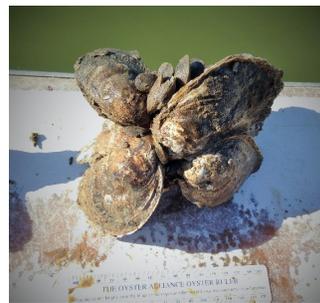


Waterman C's summer plantings:



Samples 3 & 4
are from two
different
locations on
the lease.

Sample 3: 2013 Diploids



Sample 1: 2012 Diploids

Sample 4: 2013 Diploids