New Jersey Shellfish Aquaculture Situation and Outlook Report 2013 Production Year

February 2015

Rutgers
New Jersey Agricultural Experiment Station

Prepared by:

Lisa M. Calvo, Aquaculture Program Coordinator
New Jersey Sea Grant Consortium and Haskin Shellfish Research Laboratory, Rutgers, The State University of New Jersey

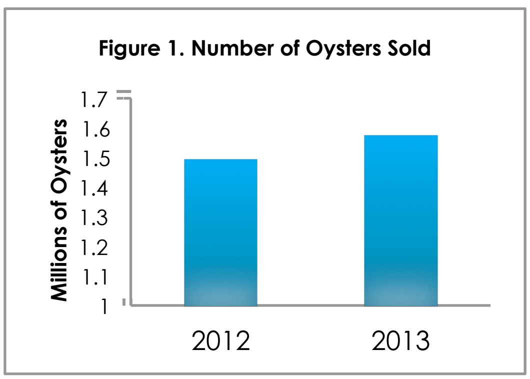
Gef Flimlin, Professor, Marine Extension Agent
Rutgers Cooperative Extension

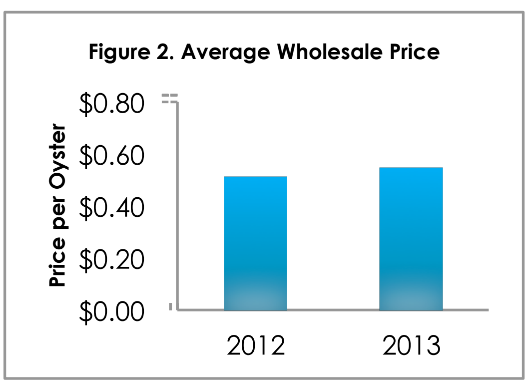
Introduction

New Jersey has a well-established hard clam (*Mercenaria mercenaria*) aquaculture industry and a small but growing eastern oyster (*Crassostrea virginica*) culture industry. Hard clams have been cultivated in New Jersey since 1976, while hatchery seed based oyster culture did not occur on a commercial scale until 1997. With the State's initiation of Aquaculture Development Zones and new permitting regulations, New Jersey's shellfish aquaculture industry is poised for success. Documentation of the extent and economic value of this industry has been limited as there has not been a consistent annual production survey program. This report represents the second annual shellfish aquaculture survey, which was initiated in 2012, by the Haskin Shellfish Research Laboratory, Rutgers University in collaboration with New Jersey Department of Agriculture, Rutgers University Cooperative Extension, New Jersey Agricultural Experiment Station, and New Jersey Sea Grant Consortium. The survey is modeled after a successful shellfish aquaculture survey program conducted by the Virginia Institute of Marine Science and Virginia Sea Grant[1].

[1] *Virginia Shellfish Aquaculture – Situation and Outlook Report*
http://www.vims.edu/research/units/centerspartners/map/aquaculture/index.php

1.6 aquacultured oysters were produced and sold by NJ growers in 2013





Methods

The 2013 New Jersey Shellfish Aquaculture Survey was conducted electronically. Shellfish growers were contacted in early 2014 via email and asked to respond to the survey through SurveyMonkey®. The introductory email message and survey questions are presented in Appendix 1. The survey reach was limited to individuals participating in Rutgers University aquaculture programs and holders of shellfish leases and or aquatic farmers licenses, whose email addresses were known. Shellfish leaseholders were contacted via the NJDEP Shellfish Lease Email List. All others received the survey from lists of known shellfish growers compiled by survey authors. Survey participants were asked to answer for and production occurring in 2013.

Results

Survey Participants

Thirty individuals participated in the survey; however, not all surveys were complete. Shellfish aquaculture operations spanned four counties and included both Atlantic coastal and Delaware Bay locations. There were 15 operations in Atlantic County, 5 in Ocean County, 10 in Cape May County, and 1 in Cumberland County. Sixteen survey participants identified themselves as hard clam growers, eight as oyster growers, and five grew both oysters and clams. Eight participants had hatchery and grow-out businesses and 20 were only involved in shellfish grow-out.

Oyster Aquaculture

Twelve respondents identified themselves as oyster growers; however, only eight answered production questions. In total survey participants sold 1,573,00 cultivated oysters in 2013 (Figure 1).

Ninety-nine percent of the oysters sold were sold in wholesale markets and the remainder was sold in retail markets. Wholesale pricing ranged from $0.28 to $0.85 with an average price, weighted by number sold at each price, of $0.547 per oyster (Figure 2). Retail market pricing ranged from $0.17 to $1.25 per oyster.

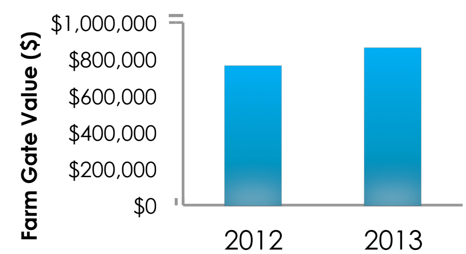
Oyster sales were equally divided between in state and out of state, but most smaller farms sold to in-state wholesale markets. The total farm gate value was $860,431.

In comparison to 2012 survey results, the number of oysters sold increased about 5.5% in 2013 (Figure 1). There were also observed increases in price,

9.2 million aquacultured hard clams were sold in 2013

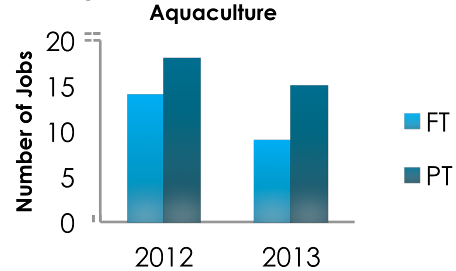
Based on 10 growers reporting production

up nearly 7% from 2012, and in the farm gate value, which increased 13% (Figures 2 and 3).



At the start of 2014 oyster growers who participated in the survey had collectively 16,320,000 field-planted oysters inclusive of all year classes. Crop acreage totaled 60.1 acres. The anticipated harvest for 2014 was reported to be 3,100,000 oysters. Seventy percent of respondents indicated that they plan to increase production in the future.

Seven participants answered questions regarding employment. In total, their farms employed 17 full time employees and 13 part time employees who contributed 52 man months (Figure 4).



Hard Clam Aquaculture

Sixteen clam growers participated in the survey. Nine of the respondents reported on market clam production. Together they marketed 9,238,600 clams (Figure 5). The number of market clams sold per farm ranged from 10,000 to 4,000,000, with an average of 767,145 clams per farm.

Based on responses from four individuals, 98% of the marketed clams were sold wholesale, while the remaining 2% were sold in retail markets. Ninety-two percent of clams sold were sold in state. Retail sale prices averaged $0.24. The wholesale market price ranged from $0.15 to $0.20, with an overall average weighted by number sold at each price of $0.163 per clam (Figure 6). The total farm gate of the ten survey participants providing price and sale information was $1,522,796 (Figure 7).

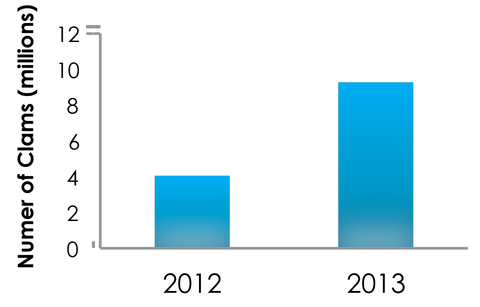


Figure 5. Clams Sold *

*2012 to 2013 increase likely related to increase in survey participation

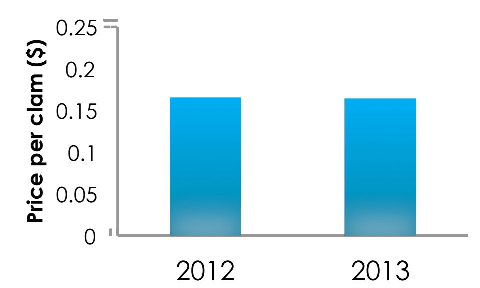


Figure 6. Average Wholesale Price

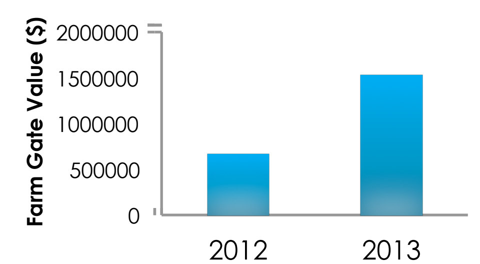


Figure 7. Clam Aquaculture Farm Gate Value

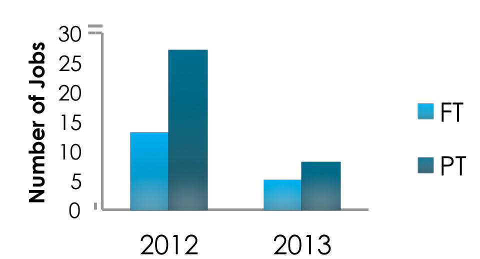


Figure 8. Employment Clam Aquaculture

Collectively these growers had 16,235,000 clams field planted as of January 1, 2014. The total anticipated harvest for 2014 was reported to be 5,335,700. Three individuals indicated they planned to expand production, two did not plan to expand and one individual indicated they may expand their farm production.

Eight participants answered questions regarding employment. In total, their farms employed 5 full time employees and 8 part time employees who contributed 32 man months based on 9 respondents (Figure 8).

In comparison to 2012 values, the 2013 survey presents significant increases in number of market clams sold and in farm gate value (Figures 4 and 5); however, such increases may be associated with an increase in the number of "large" producers participating in the survey rather than in an actual increase in production.

Hatcheries

Five hatchery operators, four private and one public, participated in the survey. Two produced both oysters and clams and three produced only clams in 2013. Production totals were 26,300,000 clam seed and 17,100,000 oyster seed. The seed was sold at a variety of sizes. Average prices for seed ranged from $12 to $30 per 1000. One hatchery sold eyed larvae at a volume of 6,000,000. Three hatchery operators retained 20-50% of seed produced for grow out on their own farms. Ninety percent of seed produced was sold in state. Total seed sale value was $732,500.

Industry Perspectives

The final survey question allowed survey participants to provide comments and concerns. Two hard clam growers expressed a concern that increases in production were driving down prices. One was worried that growers may be opting to sell more units at lower prices per unit. A second theme related to the impacts of recent storms on production. Hurricanes Lee, Irene, and Sandy were noted to have negatively impacted businesses. Recovery was reportedly slow, and in one instance perhaps impossible. Additionally, there was concern that the extremely harsh winter conditions of 2014 may have resulted in significant losses of oysters and hence production decreases in 2014 sales.

NJ hatcheries produced 26.3 million clam seed and 17.1 million oyster seed in 2013 based on four hatcheries reporting production numbers

Discussion

This report presents the second year of survey data for New Jersey's shellfish aquaculture industry; however, while we believe the 2013 survey presents an accurate baseline for off-bottom oyster aquaculture, we feel that it underestimates hard clam aquaculture production.

In respect to oyster production, this survey has focused on intensive off-bottom aquaculture and has not included extensive on-bottom planting, which is practiced by New Jersey's oyster fishery. Moving forward, the survey methods and promotion of the survey will be enhanced to increase reach and participation.

New Jersey Agricultural Experiment Station

NJ Sea Grant Consortium

Acknowledgements: The survey is modeled after the Virginia Shellfish Aquaculture Crop Reporting Survey conducted by Thomas Murray and Karen Hudson, Virginia Sea Grant Extension Program, Virginia Institute of Marine Science. Photo credits: Photographs on pages 1, 2, and 5 courtesy of L.isa Calvo. Photograph on page 3 courtesy of Monica Bricelj.

This publication is the result of work sponsored by New Jersey Sea Grant with funding from the National Oceanic and Atmospheric Administration (NOAA) Office of Sea Grant, U.S. Department of Commerce, under NOAA grant #NA10OAR4170075 and the New Jersey Sea Grant Consortium. The statements, findings, conclusions, and recommendations are those of the author(s) and do not necessarily reflect the views of New Jersey Sea Grant or the U. S. Department of Commerce. NJSG-15-884.

Appendix I

New Jersey Shellfish Aquaculture Situation and Outlook Survey 2013

Welcome

Thank you for participating in the New Jersey Shellfish Aquaculture Situation and Outlook Survey for reporting year 2013. This annual survey program was initiated in 2012 as a means to document the growth and increasing economic value of shellfish aquaculture businesses in the State. This information will strengthen the industry's ability to promote reasonable policies and practices that ensure clean growing waters and a sustainable and profitable future for shellfish growers.

Please answer the questions reporting on aquaculture activities and production occurring in 2013. Only one survey should be completed for each business entity.

The survey should not take more than 10 minutes to complete. Please answer all questions that apply to your business as accurately as possible. There are 30 questions split among the following subsections: general information, hatchery operations, oyster grow out, clam grow out, and general employment and outlook.

This information will be held in confidence and will only be shared when combined with that of other survey participants.

Please complete the survey by March 18, 2014.

If you would like to discuss the survey, please feel free to contact us.

Lisa Calvo
Program Coordinator
Haskin Shellfish Research Laboratory, Rutgers University
Aquaculture Program Coordinator
New Jersey Sea Grant Consortium
Phone 856 785-0074 Fax 856-785-1544

Gef Flimlin
Professor/Marine Extension Agent
Commercial Fisheries and Aquaculture
Rutgers Cooperative Extension
Phone 732-349-1152 Fax 732-505-8941

New Jersey Shellfish Aquaculture Situation and Outlook Survey 2013

General Information

1. Contact Information (optional)

Name

Business

Address: Street

Address: City and Zip Code

Phone:

Email:

2. What is the nature of your aquaculture practice (please check only one answer)?

- ☐ Hatchery
- ☐ Grow-out
- ☐ Hatchery and Grow-out

3. What type of shellfish do you produce (please check only one answer)?

- ○ Hard clams
- ○ Oysters
- ○ Hard clams and oysters
- ○ Other

Other (please specify)

4. In what county is your farm/hatchery located?

☐ Salem	☐ Cape May	☐ Ocean
☐ Cumberland	☐ Atlantic	☐ Monmouth

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Hatchery Production

5. How many clams or oysters did you produce from post-set?

Clams

Oysters

6. What was the average selling price for seed sold (per 1000)?

Clam seed

Oyster seed

7. Where was the clam seed sold?

Percent sold in state

Percent sold out of state

Percent retained for grow-out

8. Where was the oyster seed sold?

Percent sold in state

Percent sold out of state

Percent retained for grow-out

9. How many eyed larvae did you sell and what was the average price?

Number

Price per million

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Oyster Grow Out

10. How many market oysters did you harvest and sell (include only those oysters grown on your farm)?

11. How many market oysters did you purchase from another grower and resell?

12. Where did you sell your oysters (retail, wholesale, or co-op/other))?

Percent sold retail/direct market

Percent sold wholesale

Percent sold through a co-op or other intermediate entity

13. Where did you sell your oysters (in state or out of state)?

Percent in state

Percent out of state

14. What was the average price per market oyster?

Retail/direct market

Wholesale

At point of co-op/intermediate entity sale

15. How many post-nursery seed oysters did you sell and what was the price per 1000?

Number sold

Price per 1000

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Clam Grow Out

16. How many market clams did you harvest and sell (include only those grown on your farm)?

17. How many market clams did you purchase from another grower and resell?

18. Where did you sell your clams (retail, wholesale, co-op/other)?

Percent sold retail/direct market

Percent sold wholesale

Percent sold through a co-op or other intermediate entity

19. Where did you sell your clams (in state or out of state)?

Percent in state

Percent out of state

20. What was the average price per market clam?

Retail/direct market

Wholesale

At point of co-op/intermediate entity sale

21. How many post-nursery seed clams did you sell and what was the price per 1000?

Number sold

Price per 1000

New Jersey Shellfish Aquaculture Situation and Outlook Survey 2013

General Employment and Outlook

22. How many individuals did your business employ on a full time and part time basis?

Full time

Part time

23. What was the total number of months worked for all part time employees?

24. How many acres do you lease?

25. How many acres do you currently have in production?

26. Is your farm production presently limited by a lack of acreage?

- Yes
- No

27. How many field-planted oysters or clams did you have in production on January 1, 2014 (include seed, submarket and market size animals)?

Clams

Oysters

28. What is your anticipated harvest for 2014?

Clams

Oysters

29. Do you plan on increasing production over the next three years?

- Yes
- No
- Maybe

30. Please note additional comments here.

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Thank you

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