

New Jersey Shellfish Aquaculture Situation and Outlook Report 2014 Production Year

February 2016



Introduction

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New Jersey's shellfish aquaculture industry produces two species, hard clams (*Mercenaria mercenaria*) and oysters (*Crassostrea virginica*). 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. Documentation of the extent and economic value of this industry has been limited as there has not been a consistent annual production survey program. In 2012, Rutgers University initiated a survey program in an attempt to document the scope and extent of the industry and its present and future impacts to the State's economy. The survey is modeled after a successful shellfish aquaculture survey program conducted by the Virginia Institute of Marine Science and Virginia Sea Grant¹.

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



1.6 million aquacultured oysters were produced and sold by NJ growers in 2014

Figure 1. Number of Oysters Sold

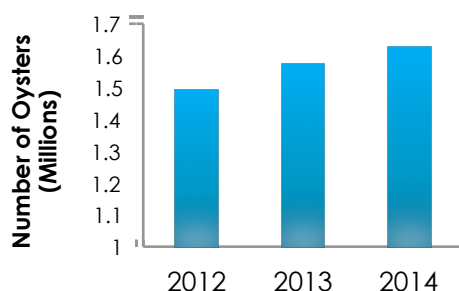
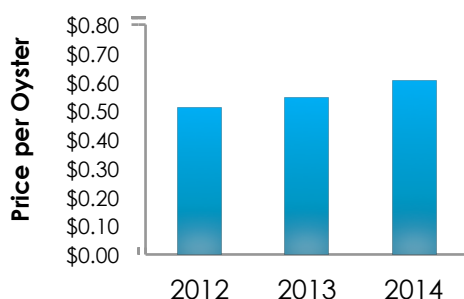


Figure 2. Average Wholesale Price



Methods

The 2014 New Jersey Shellfish Aquaculture Survey was conducted electronically. Shellfish growers were contacted in early 2015 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 operations and production occurring in 2014.

Results

Survey Participants

Twenty individuals participated in the survey; however, not all surveys were complete. Shellfish aquaculture operations spanned five counties and included both Atlantic coastal and Delaware Bay locations. Of those reporting 6 operations were in Atlantic County, 6 were in Ocean County, 7 were in Cape May County, 2

were in Cumberland County, and 1 was in Monmouth County. Survey participants included 11 oyster growers, 7 hard clam growers, and two hatchery operators.

Oyster Aquaculture

Ten survey participants indicated their engagement in intensive oyster aquaculture. Seven farms provided production statistics for the production year 2014. These seven farms sold a total of 1,627,669 cultivated oysters in 2014, increasing 3.4% from 2013 (Figure 1).

Ninety-eight percent of the oysters sold were sold in wholesale markets with sales equally divided between in- and out-of-state. Wholesale pricing ranged from \$0.30 to \$0.75 with an average price, weighted by number sold at each price, of \$0.60 per oyster (Figure 2). Direct sale market pricing ranged from \$0.85 to \$1.00 per oyster.

Total farm gate value was \$981,151, increasing 14% from 2013 reflecting both a higher sale price and a slight increase in production.

At the start of 2015 oyster growers who participated in the survey had collectively 10,355,000 field-planted oysters.

The anticipated harvest for 2015 was reported to be 2,380,000 oysters.



2.95 million
aquacultured
hard clams
were sold in
2014

*Based on 7 growers reporting
production*

Seven participants answered questions regarding employment. In total, their farms employed 20 full time employees and 24 part time employees (Figure 4).

A single farm using extensive (on-bottom) planting methods reported selling 400,000 oysters. Farm gate from extensive aquaculture oyster production was \$200,000, raising the total farm gate value for extensive and intensive culture to \$1,181,151.

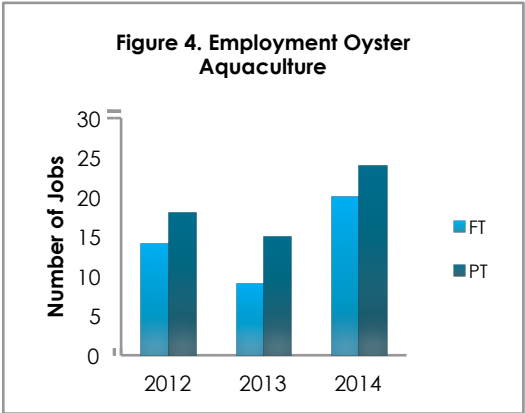
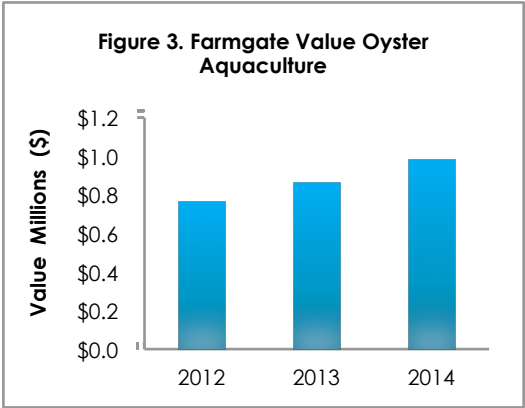
Hard Clam Aquaculture

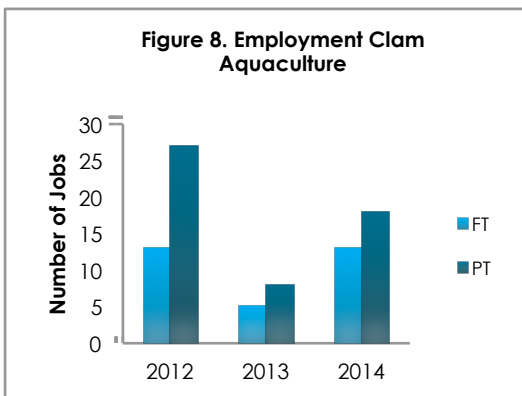
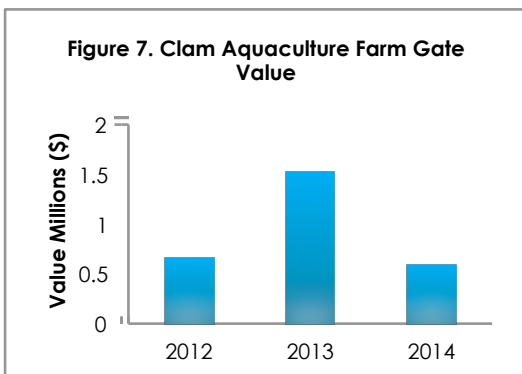
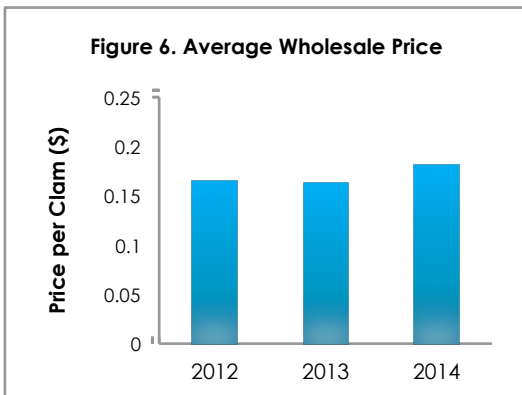
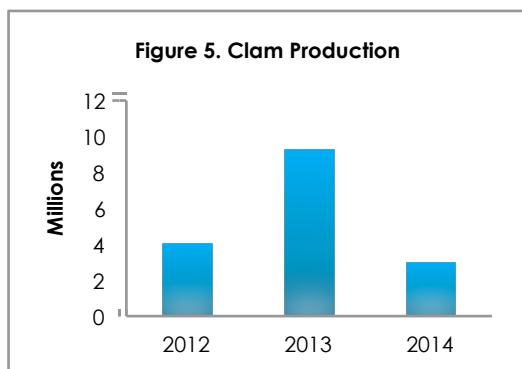
Seven clam growers participated in the survey, less than half the number participating in the survey for 2013. All of the respondents reported on market clam production. Together they marketed 2,950,000 clams (Figure 5). The number of market clams sold per farm ranged from 50,000 to 800,000, with an average of 421,429 clams per farm.

Ninety-eight percent of the marketed clams were sold wholesale, while the remaining 2% were sold in retail markets. Eighty-six percent of clams sold were sold in-state. Retail sale prices averaged \$0.17. The wholesale market price ranged from \$0.16 to \$0.20, with an overall average weighted by number sold at each price of \$0.18 per clam (Figure 6). The total farm gate was \$586,500 (Figure 7).

Collectively these growers had 5,300,000 clams field planted as of January 2014. The total anticipated harvest for 2014 was reported to be 2,150,000.

All seven participants answered questions regarding employment. In total,





their farms employed 13 full time employees and 18 part time employees (Figure 8).

In comparison to 2013 values, the 2014 survey presents a significant decrease in the number of market clams sold and in farm gate value (Figures 4 and 5); however, this is likely associated with a decrease in the number of producers participating in the survey and may not reflect an actual decrease in production.

Hatcheries

Two hatchery operators participated in the survey. Production totals were 2,000,000 clam seed and 11,000,000 oyster seed. Additional sales included 5,000,000 eyed-larvae.

Industry Perspectives

The final survey question allowed survey participants to provide comments and concerns. Several growers noted that they experienced significant production losses associated with extremely cold winter weather. Strong markets were noted for both hard clams and oysters; however, one producer noted that an increase in sale price was not realized despite the strong market. Increases in clam mortality and poor growth were also noted.

Discussion

This report presents our third survey of New Jersey's shellfish aquaculture industry. We believe the 2014 survey presents an accurate baseline for intensive, off-bottom oyster aquaculture. Unfortunately, the survey underestimates hard clam aquaculture production as only a fraction of the industry has participated in the survey. Likewise, the survey does not accurately capture on-bottom extensive oyster aquaculture. Moving forward, the survey methods and promotion of the survey will be enhanced to increase reach and participation.

Production of aquacultured oysters increased by 3% in 2014. Though poised for a greater increase, the industry has suffered significant production losses due to the severe winter weather in 2013-14 and 2014-15. Losses on intertidal oyster farms were documented to be from 40-70%. Anecdotal reports have also suggested significant hard clam losses occurring in winter 2014-15.



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: Photograph on page 1 courtesy of Barney Hollinger. Photographs on pages 2 and 5 courtesy of Lisa Calvo. Photograph on page 3 courtesy of Monica Bricelj.

This publication is the result of work sponsored by New Jersey Sea Grant with funds 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. NJSJG-16-897

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New Jersey Agricultural
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Appendix I

Shellish Survey — Reopening 201

Welcome

Thank you so much for participating in the New Jersey Shellish Aquaculture Satisfaction and Outlook Survey of the opening year 201. This annual survey program was initiated in 2012 as a means of documenting the growth and increasing economic value of shellish aquaculture businesses in the State. The survey will strengthen the industry's ability to promote reasonable policies and practices that ensure clean growing waters and a sustainable and viable future for shellish growers.

Please answer all questions honestly to your business's ongoing aquaculture activities and production occurring in 201. The survey should not take more than 10 minutes to complete. Only one survey should be completed for each business entity.

The survey has a new format this year. There are seven sections: (1) general information, (2) oyster grower (containing systems), (3) hard clam grower, (4) hatchery/nursery production, (5) on-bottom oyster production, (6) oyster landings, and (7) comments. You need only answer the section on general information and those of the sections that apply to your business.

This information will be held in confidence and will only be shared when combined with other surveys.

Please complete the survey by April 17, 2015.

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

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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 all practices that apply)?

- ☐ Hatchery only
- ☐ Hatchery with extensive
- ☐ Nursery only
- ☐ Nursery with extensive
- ☐ Grow-out intensive (using containers/scales)
- ☐ Grow-out extensive (planted grounds, oyster-bottom)

3 What type of shellfish do you produce (please check all that apply)?

- ☐ Hard clams
- ☐ Oysters
- ☐ Other species

Other (please specify)

4 What county is your farm/hatchery located?

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

5 How many individuals, including self, did your business employ on full time and part time basis?
Please estimate total months for all part time employees

Full time

Part time

Total months for part
time workers

3

Oyster Grow Out (controlled systems)

This question is intended to capture production activities relating to oysters grown on hatchery produced seed or wild caught seed grown in controlled systems (cages, leases, etc.).

6 Please answer for market oysters produced and sold in 2014?

Total number of market oysters sold

Number of above sourced from other produce

Percentage sold in-state

Percentage sold out-of-state

Percentage sold retail

Percentage sold wholesale

Percentage sold to co-op or other produce

Average price per oyster retail

Average price per oyster wholesale

Average price per oyster sold to co-op or other produce

Culture number of field planted oysters (all year classes)

Anticipated harvest for 2015

Hard Clam Grow Out

7 Please provide information for clams produced and sold in 2014?

Total number of clams sold

Number of above sourced from other produce

Percentage sold in-state

Percentage sold out-of-state

Percentage sold retail

Percentage sold wholesale

Percentage sold to co-op or other produce

Average price retail

Average price wholesale

Average price for sale to co-op or other produce

Number of field planted clams (all year classes) to present

Anticipated harvest for 2015

Harvested Nursery Production

8 Please describe your harvest/ nursery business

- ☐ Harvested nursery with extensile
- ☐ Harvested nursery without extensile
- ☐ Nursery only with extensile
- ☐ Nursery only without extensile
- ☐ Harvested nursery with extensile
- ☐ Harvested nursery without extensile

9 Please answer for the year you use products produced in 2014?

Number clam seed sold

Number oyster seed sold

Number eyed larvae sold

Number seed of other species sold (indicate species)

Average price (per 1000) clam seed

Average price (per 1000) oyster seed

Price eyed larvae (per million)

Percentage of sales interstate

Percentage of sales out of state

Number clam seed retained for grow out

Number oyster seed retained for grow out

Number eyed larvae retained for grow out

Number seed of other species retained for grow out

Production from Planted Growds

This question is intended to capture activities involving the production of wild oyster oyster seedlings (ie. on-bottom shell seedlings and transplants, and on-bottom seedling oyster seedlings). Do not include production methods involving special systems (loos, cages, etc.).

10 Please provide oyster production of seeded/planted growds for 2014?

Bushels of shell planted in 2014

Bushels of oyster planted in 2014

Bushels of oyster set oyster planted in 2014

Number of oysters planted

Total number of oyster harvested sold from planted growds (le seed bottom) in 2014

Number of oyster harvested from other harvest

Percentage sold retail

Percentage sold wholesale

Average price per oyster retail

Average price per oyster wholesale

Anticipated harvest from planted growds in 2015

Comments

11 Please share any comments you have in relation to this survey and/or aquaculture activities

Thank you