



New Jersey Shellfish Aquaculture Situation & Outlook Report

2012 Shellfish Aquaculture Survey Results

October 2013

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

John Kraeuter
Haskin Shellfish Research Laboratory,
Rutgers, The State University of New Jersey

Gef Flimlin
Cooperative Extension,
Rutgers, The State University of New Jersey

Joseph Myers
New Jersey Department of Agriculture

Introduction

New Jersey has a small but expanding shellfish aquaculture industry. Two species are grown: the hard clam *Mercenaria mercenaria*, and the eastern oyster, *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. With the State's initiation of Aquaculture Development Zones and new permitting regulations, New Jersey's shellfish aquaculture industry is poised for expansion. 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 initiates an annual shellfish aquaculture survey program for the state of New Jersey that was conducted, and will continue to be administered by the Haskin Shellfish Research Laboratory, the Aquaculture Innovation Center, and Cooperative Extension, Rutgers University; the New Jersey Sea Grant Consortium; and the New Jersey Department of Agriculture. The survey is modeled after a successful shellfish aquaculture survey program conducted by the Virginia Institute of Marine Science and Virginia Sea Grant.¹

Methods

The 2012 New Jersey Shellfish Aquaculture Survey was conducted electronically. Shellfish growers were contacted via email and asked to respond to the survey through SurveyMonkey®. The introductory email message and survey questions are presented in Appendix 1. The reach of the survey to potential industry participants was limited to those

individuals for which we had an email address. The survey was sent by email to 66 shellfish growers, which included all known active oyster culturists, but less than 50% of the individuals that currently grow hard clams. The hard clam grower email list included growers known to be most important in terms of past production volume.

Results

New Jersey Oyster Aquaculture

Eleven of 12 oyster growers responded to the survey. They represented farms located in four counties including one in Cumberland County, six in Cape May County, three in Ocean County, and one in Atlantic County. Cape May and Cumberland County farms were all located in the Delaware Bay, while Ocean and Atlantic County farms were located along New Jersey's Atlantic Coast.

All together these growers sold 1,492,000 cultivated oysters in 2012. Market oyster harvests from individual farms ranged from 2000 to 780,000 oysters. Eighty-eight percent (1,447,000) of these oysters were sold to wholesale markets and 12% (45,000) were sold to retail outlets, both outlets principally supplying the half-shell trade. Retail market pricing was reported by a single respondent to be \$0.40 per oyster and wholesale price ranged from \$0.17 to \$0.52 per oyster, with less than 1% of total production sold at \$0.17. Overall the average price per oyster sold was \$0.51, yielding a

total sales value of \$760,920. New Jersey cultured oysters were sold in-state and out of state; however, the majority of growers reported 70 to 100% of their product was sold in-state.

The oyster aquaculture industry directly supported 14 full time employees and 18 part time employees. Part time employment hours totaled 54.5 man-months.

Collectively oyster growers in New Jersey had 17,645,000 field planted oysters. Crop acreage totaled 76.5 acres. The anticipated harvest for 2013 was reported to be 2,655,000 oysters. The oyster growers expressed interest in developing new market opportunities, with a willingness to redirect from 10 to 100% of their product to new markets. All respondents expressed interest in cooperative efforts to develop new markets.



New Jersey Hard Clam Aquaculture

Fifteen clam growers, probably less than 30% of clam growers operating in New Jersey, participated in the survey. Farm locations included: two in Cape May County, four in Atlantic County, and seven in Ocean County. Two respondents did not indicate the location of their farms.

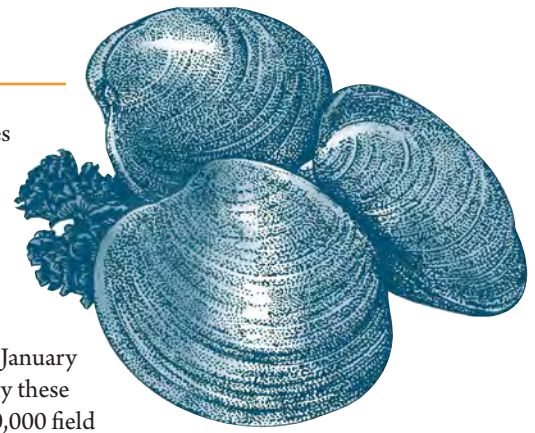
Seven of the respondents reported on market clam production. Together they marketed 4,000,000 clams. The number of market clams sold per farm ranged from 200,000 to 800,000, with an average of 428,571 clams per farm. Based on responses from four individuals, 98% of the marketed clams were sold wholesale. About 80% were sold in state. Retail sale prices ranged from \$0.16 to \$0.30 with an average price per clam of \$0.23, based on three responses. The wholesale market price ranged from \$0.14 to \$0.21, with an overall average of \$0.165 per clam, based on four participant responses. Based on the average price per clam reported, \$0.165, the estimated sales value was \$660,000.

Ten participants answered questions regarding employment. In total, their farms employed 13 full time employees and 27

part time employees who contributed 67 man months.

Nine respondents reported on the number of field planted clams as of January 1, 2013. Collectively these growers had 19,630,000 field planted clams. Crop acreage totaled 50 acres and lease holdings totaled 341 acres. The total anticipated harvest for 2013 was reported to be 4,250,000.

Survey participants had variable interest in directing product to new markets. Responses in regards to the percentage of product that they would like to redirect toward new markets ranged from 0% to 100% of production with an average of 37%. Seven participants expressed interest in cooperative efforts to develop new markets. Four respondents were not interested.



Hatcheries

Four hatchery operators participated in the survey. Three of the four produced both oysters and clams and one produced only clams in 2012. Two of the four hatchery operators responded to questions regarding production and price. Of those responding hatchery production totals were 7,400,000 clam seed and 6,400,000 oyster seed. The seed was sold at a variety of sizes. Average prices for clam seed were reported to

be \$6/1000 for < 6mm seed, \$18/1000 for 6-12 mm seed. Average prices for oyster seed were reported to be \$8.5/1000 for < 6mm seed, \$15/1000 for 6-12 mm seed. Larger oyster seed (>15 mm) prices ranged from \$35 to \$50/1000. None of the participating hatchery operators sold eyed larvae in 2012. All of the four hatchery operations participating in the survey also had nursery capacity.

Discussion

The survey presents a baseline for future surveys of New Jersey's shellfish aquaculture industry; however, while we believe the 2012 survey presents an accurate baseline for off-bottom oyster aquaculture, the hard clam aquaculture industry is poorly characterized due to limited participation in the survey. The USDA Census of Aquaculture 2005² reported that 49 New Jersey hard clam farms sold 11,378,000 hard clams. The Census did not separate off-bottom from on-bottom oyster culture, so those results are not comparable to the results presented here. Moving forward, the survey

methods and promotion of the survey will be enhanced to increase participation. Industry members were sensitive about sharing production information. It is hoped that the industry will become more comfortable with sharing the information once they understand that (1) the information will only be

shared collectively, to maintain their privacy and (2) that the survey will be valuable to their business and to the industry as a whole.

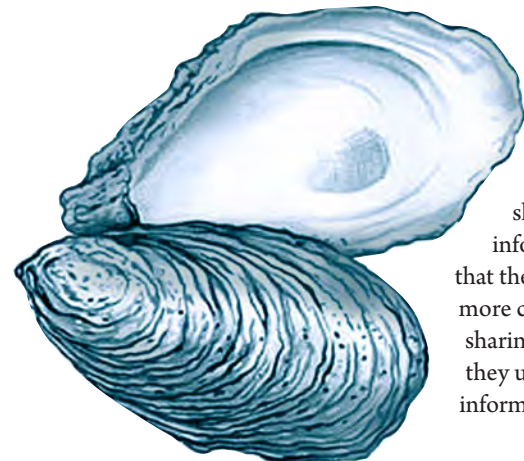
This survey has focused on intensive off-bottom aquaculture and has not included extensive on-bottom planting, which is practiced by New Jersey's oyster fishery. In the future the survey will incorporate such activities.

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. Graphic Design by Rory Joyce, New Jersey Sea Grant Consortium*

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

²USDA. 2006. Census of Aquaculture 2005, Volume 3 Special Studies Part 2: 2002 Census of Agriculture. USDA Washington, DC.

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. NJSG-13-846



Dear Shellfish Grower

At the present time there is no consistent annual reporting program for shellfish aquaculture in New Jersey and the economic importance of the industry remains undocumented and poorly understood. In the wake of our recent natural disasters, the need for documentation regarding the scope and economic value of the industry is more important than ever.

We are writing to ask you to complete the New Jersey Shellfish Aquaculture Situation and Outlook Survey for 2012. This survey represents the first of a newly initiated annual survey program. The survey is modeled after a successful survey program conducted by the Virginia Institute of Marine Science and Virginia Sea Grant. Now in its 7th year, the Virginia Shellfish Grower Situation and Outlook Survey has proven vital in understanding the importance of Virginia's growing aquaculture industry to the economy and has been important in promoting clean water, reasonable tax and land use policies, and access to financial capital to shellfish growers. We believe New Jersey shellfish growers will similarly benefit from a situation and outlook survey program.

The survey can be taken on line at the link shown below. The information that you provide will be handled confidentially and will only be presented when combined with information from other survey participants. A report of the results will be made available on the Rutgers University Haskin Shellfish Research Laboratory website.

Here is a link to the survey:

https://www.surveymonkey.com/s.aspx?sm=2wxbIcbLW_2bF1VzWFOQ7CfA_3d_3d

This link is uniquely tied to this survey and your email address. Please do not forward this message.

Thank you for your participation.

Sincerely,

Lisa M. Calvo,
Aquaculture Program Coordinator,
Haskin Shellfish Research Laboratory, Rutgers University
NJ Sea Grant Consortium
Phone: 856 785-0074

John Kraeuter,
Associate Director
Haskin Shellfish Research Laboratory, Rutgers University
Phone 856 785-0074

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

Joseph J. Myers,
Aquaculture Development Specialist
New Jersey Department of Agriculture
Phone: 609 984-2502

https://www.surveymonkey.com/optout.aspx?sm=2wxbIcbLW_2bF1VzWFOQ7CfA_3d_3d

Click here to remove your name from this survey list.



New Jersey Shellfish Aquaculture Situation and Outlook Survey 2012

Welcome

Thank you for participating in the New Jersey Shellfish Aquaculture Situation and Outlook Survey for 2012. This is the first survey of an ongoing annual survey program. Please answer the questions reporting on aquaculture activities and production occurring in 2012. Only one survey should be completed for each business entity.

You may find that some questions do not apply to your business. Please answer all questions that apply to your operation and be as accurate as possible when answering the survey questions. There are 28 questions split among the following subsections: general information, hatchery and nursery 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.

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

Lisa M. Calvo
Program Coordinator
Haskin Shellfish Research Laboratory, Rutgers University
Aquaculture Program Coordinator
New Jersey Sea Grant Consortium
6959 Miller Avenue
Port Norris, NJ 08349
Phone: 856 785-0074 ext. 4302

General Information

1. Optional—contact information. The provision of your contact information is optional, you can complete the survey anonymously if preferred.

Name	<input type="text"/>
Business	<input type="text"/>
Address, Street	<input type="text"/>
Address, City and Zip Code	<input type="text"/>
Phone:	<input type="text"/>
Email:	<input type="text"/>

2. What is the nature of your aquaculture practice (please check all that apply)?

- Hatchery hard clams
- Hatchery oysters
- Nursery hard clams
- Nursery oysters
- Grow-out hard clams
- Grow-out oysters

New Jersey Shellfish Aquaculture Situation and Outlook Survey 2012

3. In what county is your farm located?

Hatchery and Nursery Production

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

Clams

Oysters

5. What percentage of clam seed produced was sold at the following sizes?

Clams < 6 mm

Clams 6-15 mm

Oysters < 6 mm

Oysters 6-15 mm

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

Clams < 6 mm

Clams 6-15 mm

Oysters < 6 mm

Oysters 6-15 mm

7. How many "large" seed clams or oysters (>15 mm) did you sell?

Oysters

Clams

8. What was the average selling price for seed clams or oysters (>15 mm) per 1000?

Clams

Oysters

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

Number eyed larvae sold

Average price per million

Oyster Grow Out

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

New Jersey Shellfish Aquaculture Situation and Outlook Survey 2012

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

12. Where did you sell your oysters (retail or wholesale)?

Percent sold retail/direct
market

Percent sold wholesale

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

Percent sold in state

Percent sold out of state

14. What was the average price per market oyster?

Retail/direct market

Wholesale

Clam Grow Out

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

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

17. Where did you sell your clams (retail or wholesale)?

Percent sold retail/direct
market

Percent sold wholesale

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

Percent sold in state

Percent sold out of state

19. What was the average price per market clam?

Retail/direct market

Wholesale

General Employment and Outlook

20. How many individuals did you employ part time (include self and partner(s))?

New Jersey Shellfish Aquaculture Situation and Outlook Survey 2012

21. How many individuals did you employ full time (include self and partner(s))?

22. What was the total number of man months for all part time employees who worked on your farm (include self and partners if also part time)?

23. How many acres do you lease?

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

25. How many field-planted oysters or clams did you have in production on January 1, 2013 (include seed, submarket and market size animals)?

Clams

Oysters

26. What is your anticipated harvest for 2013?

Clams

Oysters

27. What percentage of your clam or oyster production would you like to direct to new market opportunities?

Percent of clam production

Percent of oyster production

28. Are you interested in cooperative efforts to develop new markets for your clams or oysters?

Yes

No



