

C R M C

COASTAL **RESOURCES** MANAGEMENT COUNCIL



Aquaculture in Rhode Island

2009 Annual Status Report

Photo Credit:

Oysters shown close up in a mesh bag on Trims Pond on Block Island.

Photo courtesy of Mr. Chris Warfel

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Rhode Island Aquaculture Industry - 2009

At a Glance

- The number of farms in Rhode Island increased from 30 to 33
- The total acreage under cultivation increased from 123 to 134.5 acres
- Oysters remain the number one aquaculture product with 2,821,166 oysters sold for consumption
- The farm gate value of aquaculture products for consumption rose to \$1,785,135
- The value of aquaculture products for restoration was \$936,243
- The combined farm gate value of aquaculture products for consumption and restoration was \$2,721,378
- The aquaculture working group deliberations report was released and posted on the CRMC website at:
http://www.crmc.ri.gov/aquaculture/riaquaworkinggroup/CRMC_WG_AquaPlan.pdf
- The aquaculture working group recommendations for regulation changes were implemented by the R.I. Coastal Resources Management Council in November
- The permit review process has been modified by CRMC staff in coordination with R.I. Department of Environmental Management to reduce the time required for review

Introduction

The year 2009 was marked by changes in the Rhode Island aquaculture industry. David Alves, the Coastal Resources Management Council (CRMC) Aquaculture Coordinator, took the new position of fishery management specialist with the National Oceanic and Atmospheric Administration Aquaculture Program, working on aquaculture policy and permitting for Northeast Regional Office. Mr. Alves was the aquaculture coordinator through a decade of serious growth and left an industry that developed under his coordination and his efforts are appreciated.

David Beutel, former University of Rhode Island Fisheries Extension Specialist and Fisheries Operations Supervisor, became the CRMC's new Aquaculture Coordinator in April of 2009. Mr. Beutel received two degrees from URI: an Associate of Science degree in fisheries and marine technology in 1979 and a Bachelor of Science degree in fisheries in 1992. He has worked in the fishing industry since 1977, including seven years as a commercial fisherman and eight years as a fishing gear manufacturer. He has worked in fisheries and aquaculture outreach and research for Rhode Island Sea Grant since 1992.

In his research and outreach, Beutel has focused on harvesting methods, fishing gear efficiency and by-catch reduction, and also helped develop educational programs on aquaculture, fishing techniques and fishery issues for the commercial and recreational fishing industries and the general public.

In addition to personnel changes, three new farms were leased at the end of 2009, bringing the total number of farms to 33, and the total farm acreage of Rhode Island waters to 134.5 acres. Oyster, clam, and blue mussel production levels all increased in 2009 from the levels of 2008. *Please see Figure 3.*

The University of Rhode Island and Roger Williams University continue their strong academic and extension aquaculture programs.

How the figures were derived

Harvest figures came from the yearly CRMC aquaculture questionnaire distributed to all leaseholders. All reports are taken as an accurate value. Monetary figures for this report were calculated by averaging an estimated yearly average price from multiple sources. This figure was then multiplied by the numbers reported by growers in the yearly CRMC report to arrive at the figures used in this report. Figures from the aquaculture-associated industries came from the principals involved in these privately held companies. The figures cited are for gross sales of aquaculture-related products.

Farm Production

The farm gate value of Rhode Island-grown shellfish, in 2008, increased a modest 5 percent from the previous year's growth rate of 18 percent, and it increased another 5.27 percent in 2009. The 2008 farm gate value reported as \$1,692,195, up from \$1,587,857 in 2007 and the 2009 value increased to \$1,785,135. Thirteen RI aquaculturists participated in the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Environmental Quality Incentives Program (EQIP) Oyster Restoration in 2009. In aggregate those 13 aquaculturists received \$936,243 for their work with the EQIP. Including the restoration work, the aquaculture industry total farm gate value for 2009 was \$2,721,378. Restoration work is considered to be a public enhancement project, but the products used in that project were from the aquaculture industry. The figures used in the following graphs do not include the value of the restoration work because the comparison with the value from previous years' reports would be skewed. The EQIP restoration program will continue through 2011.

There is one marine ornamental fish farm in Rhode Island, and although the business continues to thrive, those figures were not included in this report. The shellfish figures presented in this report are aggregate representations. The dominant species in the RI aquaculture industry continues to be the American oyster, with 2,680,036 pieces sold in 2008 and 2,821,166 pieces sold in 2009. Hard clam production was a distant second with 25,150 pieces sold in 2008 and 52,000 pieces sold in 2009. The number of farms active in Rhode Island aquaculture at the end of 2009 was 33, with cultivation of 134.5 acres, the result of three new farms added in 2009.

In 2008 the production per acre of aquaculture in Rhode Island was \$13,757 and the per acre value decreased slightly in 2009 to \$13,272. The drop in production was attributed to the additional farm acreage not being leased until the end of 2009. Farm-related employment has been consistent for the last three years.

Year	Year Round FT	Year Round PT	Seasonal FT	Seasonal PT
2006	17	17	8	15
2007	14	28	2	17
2008	12	25	1	24
2009	14	25	3	20

Figure 1.
Aquaculture farm related employment statistics.

CRMC Working Group on Aquaculture Regulations

The CRMC Working Group on Aquaculture Regulations has continued to meet to address the development of a long term plan for aquaculture development. The group first formed in 2000 and met until 2001, when the participants deemed that the issues had been explored adequately. Those meetings did result in changes adopted by the Council

to the CRMC regulations, and increased the communication between the industries and regulators. All of the stakeholders have benefited from the clear lines of communication.

In early 2007 concerns were raised in regard to the increased aquaculture leasing in the salt ponds. The Rhode Island Marine Fisheries Council (MFC) and the Rhode Island Department of Environmental Management (DEM) Division of Fish & Wildlife voiced their concern over increased use of the ponds without a long-term management plan in place. CRMC regulations require the agency to solicit opinions on all aquaculture leases from the MFC and the DEM director. Therefore, the CRMC reconvened the working group to restore open communication and shifted its original focus from Narragansett Bay to the salt ponds in order to address these issues. The working group began meeting in the spring of 2007 and will continue to meet until all issues are resolved. The group, with a total of 28 members, is comprised of representatives from:

- Aquaculture industry
- Commercial and recreational fishing industry
- Save The Bay; Salt Pond Coalition; Sierra Club
- Rhode Island Farm Bureau
- University of Rhode Island , Roger Williams University, Brown University
- United States Department of Agriculture
- State legislators
- Rhode Island Department of Environmental Management; Department of Health; Coastal Resources Management Council

The working group met frequently through 2007 and 2008 and as needed through 2009. A number of significant goals have been achieved by the group, including completion of the report for the Biology Subgroup. The group, chaired by Dr. David Bengtson, issued a draft report in the fall of 2007. The working group had three months to review and make suggestions before the report was unanimously accepted by the full working group in January 2008. The full report can be accessed on the CRMC web site at: <http://www.crmc.ri.gov/projects/aquaculture.html>. The report also includes an extensive list of peer reviewed scientific articles on the impacts of aquaculture and the environment, presentations and reports.

The biology report stated shellfish aquaculture as conducted in RI, can be beneficial to water quality by removing excess nutrients. The report suggested a number of scientifically defensible changes, including:

- Limit shellfish aquaculture to 5 percent of any water body;
- Seek funding for research into interactions;
- Establish interagency board to make disease recommendations;
- Fund disease monitoring in wild and cultured populations;
- Continued participation in Aquatic Nuisance Species Working Group;
- Continue to protect natural resources in leasing process; and
- Encourage Best Management Practices for aquaculture industry

Based upon the recommendations from the Aquaculture Working Group Report, the Council adopted three significant changes to Section 300.11 Aquaculture of the Rhode Island Coastal Management Program. These three changes are:

E. Prohibitions

- 5. The harvest of wild shellfish naturally occurring in a CRMC permitted lease shall be prohibited. All wild shellfish within a lease area will remain the property of the State of Rhode Island and remain in place for the benefit of the public resource. This resource is not to be harvested by any person for commercial or recreational purposes. Any incidental catch by the lease holder within an aquaculture lease shall be returned immediately to the same waters.*
- 6. In the coastal salt ponds the area occupied by aquaculture shall not exceed five percent (5%) of the total open water surface area of the coastal pond below MLW.*

F. Standards

1. Marine Aquaculture within Tidal Waters

- m. Recreational Permits. The Executive Director may grant permits for recreational culture of shellfish by littoral land owners as follows:*
 - (1) Recreational permits shall be limited to one culture enclosure limited to a volume of 48 cubic feet; and*
 - (2) This cage shall be hung from an existing CRMC approved dock in a manner that it will not interfere with traditional navigation; and*
 - (3) Recreational permit holders will follow all existing seed importation regulations; and*
 - (4) Recreational permit holders will be required to complete a CRMC approved educational program.*
 - (5) Recreational permits will be exempt from prohibition #6.*
 - (6) All gear used under an education permit will be legibly marked with the letters "CRMC" and the CRMC permit number.*
 - (7) Recreational permits will be only in areas of approved waters as defined by the National Shellfish Sanitation Program.*
- n. The maximum area occupied by aquaculture leases in the coastal salt ponds is five percent (5%) of the total open water surface area of the salt pond below MLW. This limit is established upon the current knowledge of ecological carrying capacity models. See: Salt Pond SAMP Section 100.B.1 and Figure 1-1 for salt pond areas.*

The RI DEM Division of Fish and Wildlife, and the RI Marine Fisheries Council Shellfish Advisory Panel have worked with the CRMC aquaculture coordinator to modify the lease application review process. This new protocol continues to be developed but initial experience indicates a more streamlined process for reviewing applications.

How much aquaculture was there in RI through 2009?

- Total in all RI waters - 134.5 acres
- Narragansett Bay - 87,723 acres/60.5 acres of aquaculture = 0.069%
- South Coastal Ponds (listed below) - 3963.70 acres/66.95 acres of aquaculture = 1.67%

The current percentage of acreage of aquaculture leases in the coastal ponds is:

- Ninigret Pond - 0.67%
- Winnapaug Pond - 1.69%
- Potters Pond - 1.91%
- Pt. Judith Pond - 2.68%

Universities

Two educational institutions conduct aquaculture research activities, extension programs, and academic programs in Rhode Island. Both Roger Williams University (RWU) and the University of Rhode Island (URI) are centers of excellence in the field of aquaculture. Both universities have professional pathology testing capabilities and are an asset to the industry. Ms. Carrie Byron, URI PhD. candidate, has been completing her work on the ecological carrying capacity of Narragansett Bay and the coastal salt ponds for the Aquaculture Working Group. Extension projects at RWU include the oyster gardening program (OGRE), the aquaculture training course, and the quahog public enhancement project partnering with the RI Shellfishermen's Association.

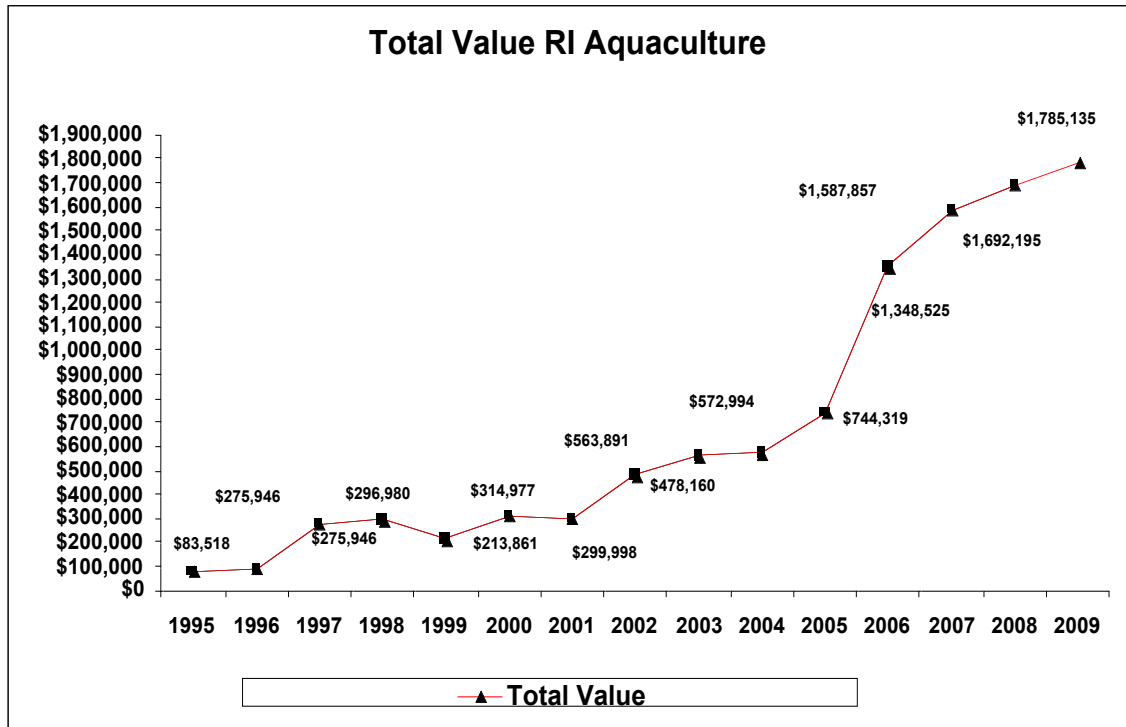


Figure 2.
Total values are for shellfish grown for consumption.

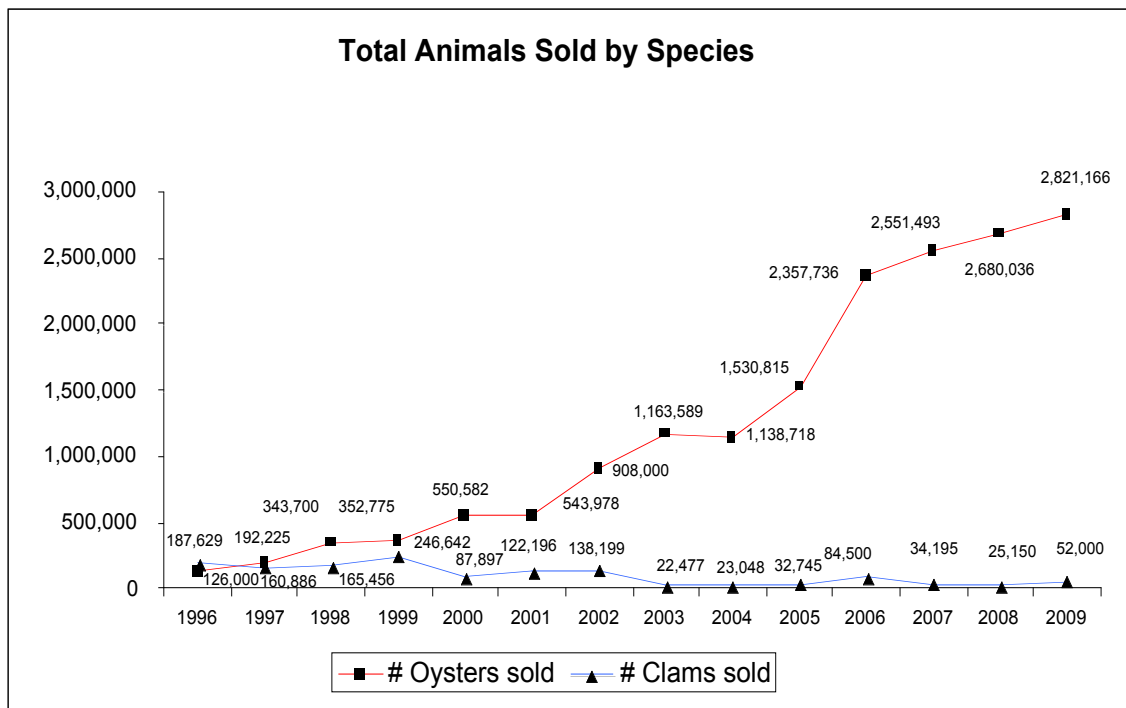


Figure 3.
The American oyster remains Rhode Island's dominant aquaculture product.

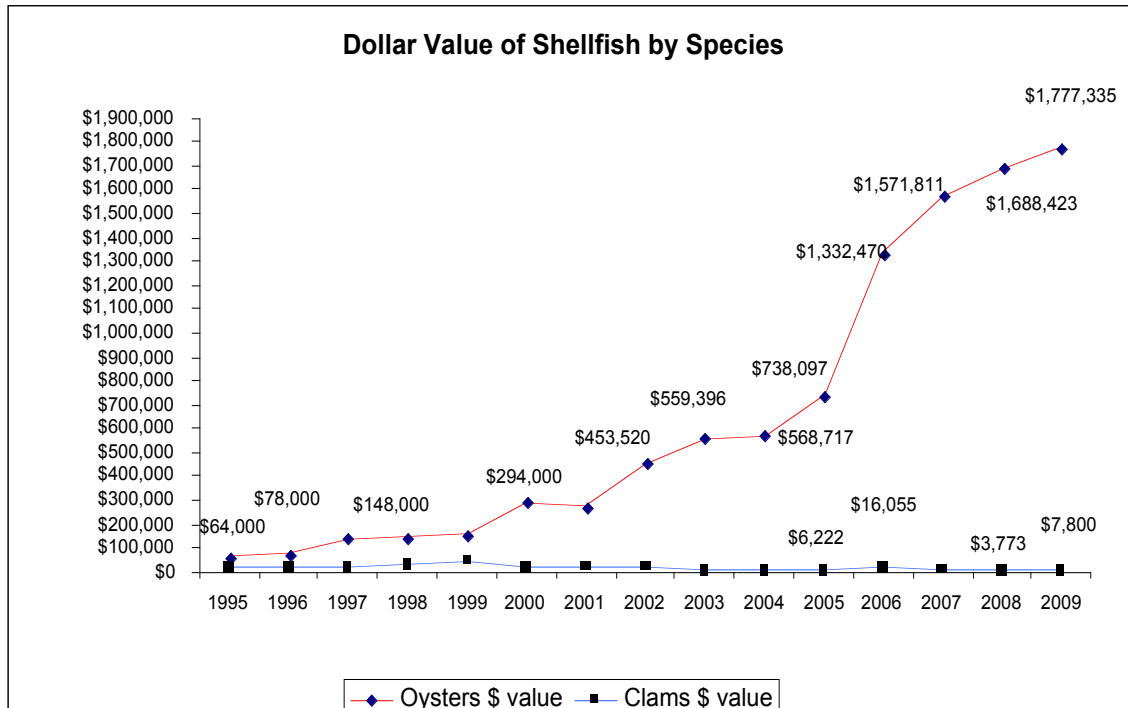


Figure 4.
The American oyster value continues to increase.

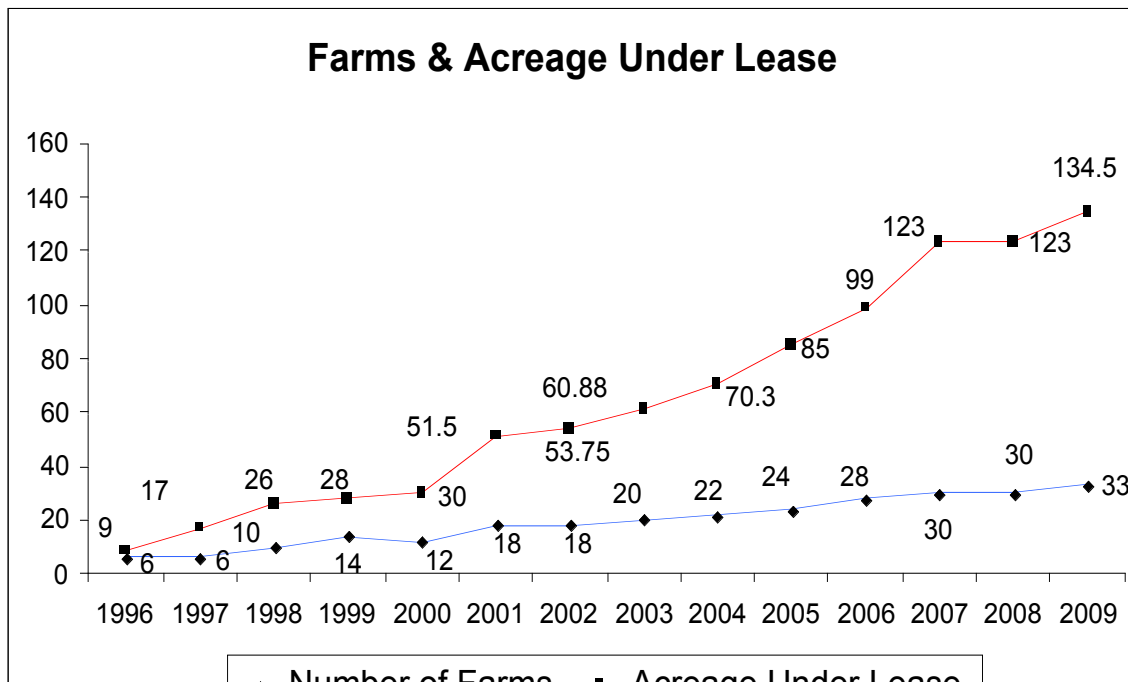


Figure 5.
Three new leases increased the farmed acreage to 134.5 in 2009.