Virginia Shellfish Culture Industry

VIMS | William & Mary

Virginia Institute of Marine Science
Marine Advisory Services

VIMS Marine Advisory Services

David Malmquist/VIMS

The role of VIMS Marine Advisory Services (MAS) is to respond to the needs of marine industries, resource managers and the general public, and to provide information that will increase the public's awareness of the marine environment.

Coastal Communities Fisheries Education Seafood Recreation Aquaculture

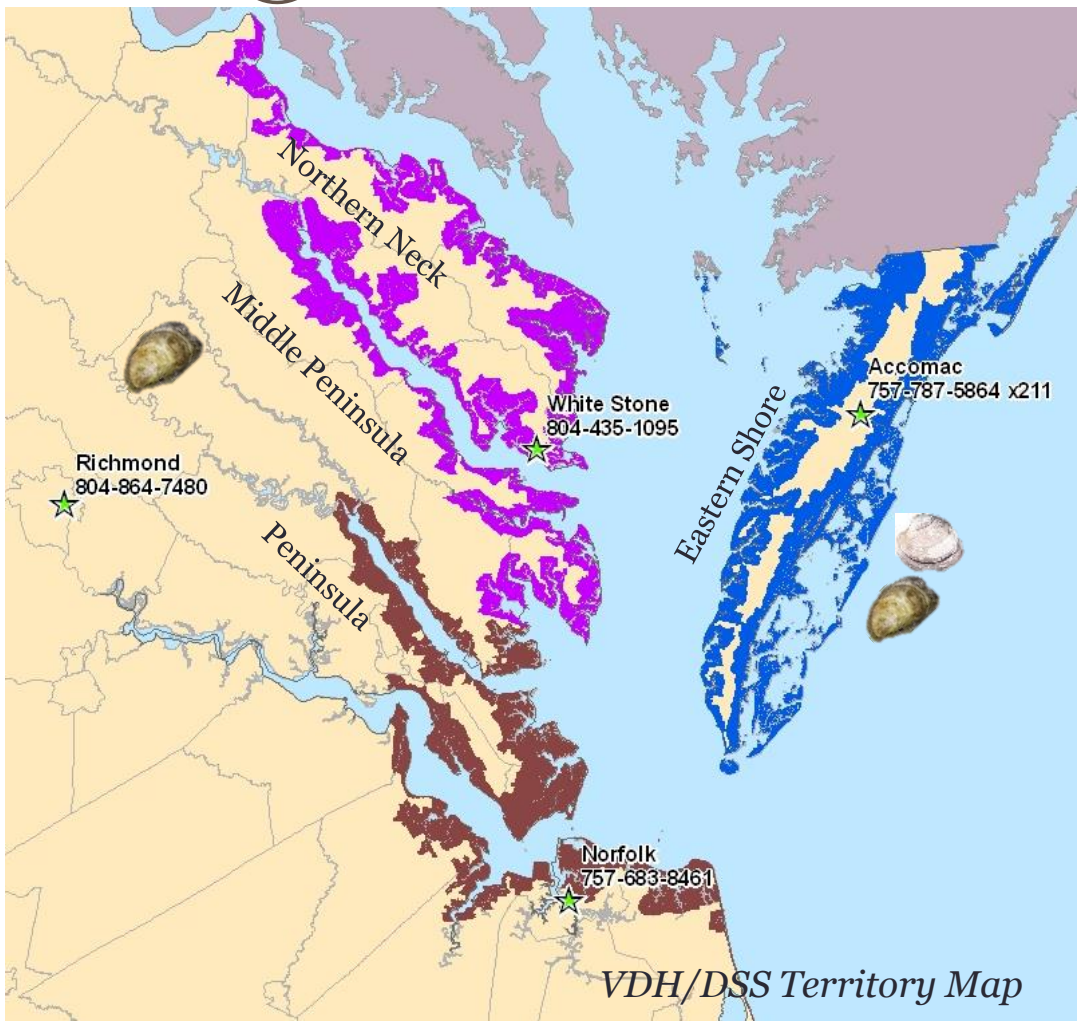
Shellfish Aquaculture Support

Linking research and industry for sustainable development

Budgeting Technical Support Outreach Tracking Economic Trends

Shellfish culture is everywhere

Rivers, tidal creeks, the Bay and seaside locations offer a wide range of salinities for different life stages of oysters or clams



It's Sustainable

Ecologically

- Put-and-take fishery
- Not dependent on wild
- No feed
- Ecosystem services

Economically

- Revenue and Jobs

Photo - www.littleneck.com

Key to Success

- Delineation between Public and Private Oyster Resource

1892 Virginia General Assembly passed
"Act to Protect the Oyster Industry of the Commonwealth"

Map courtesy of VMRC

Dual Management System

Public Ground

- Naturally- producing oyster reefs (243,000 acres)
- Limitations: Oyster Disease, recruitment, lack of substrate

Private Ground

- Areas with no natural oyster production
- Available for lease (~124,000 acres leased)
- Requires investment to be productive
- "Aquaculture"

Today's Aquaculture

Advantage: using improved genetic strains from local hatcheries

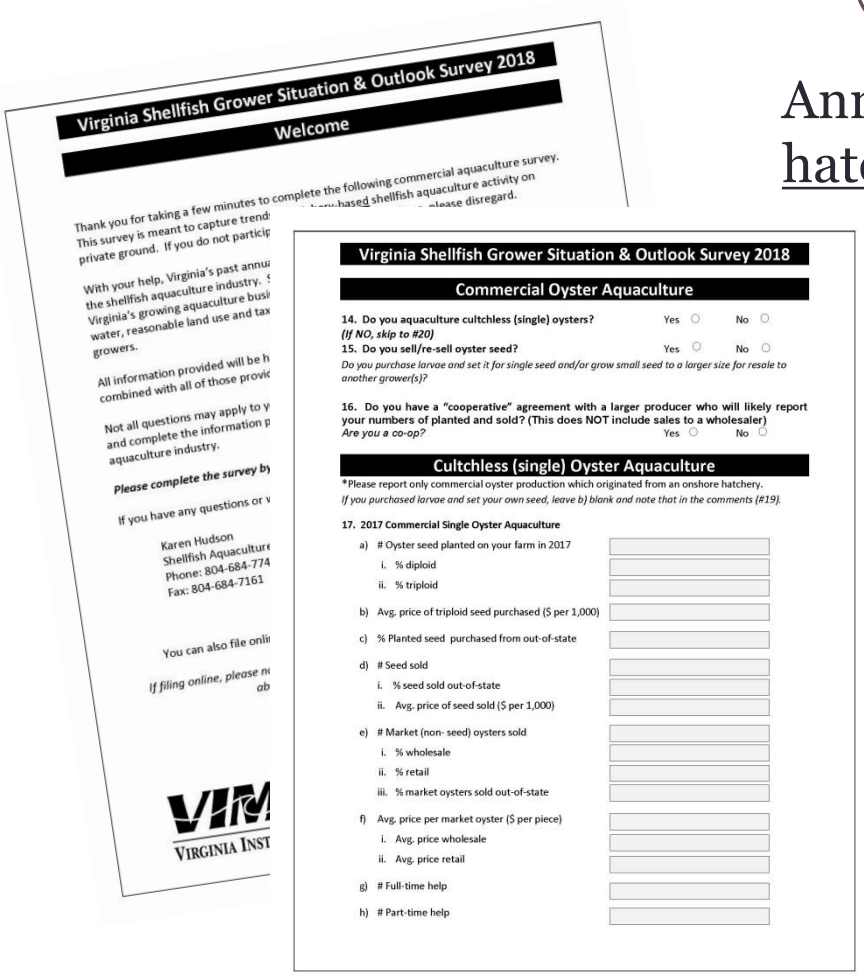
Photos courtesy of Bevans Oyster Co., Ice House Cove, VASG

Virginia products in the market

Species	Aquaculture Private	Wild harvest Public
Hard Clams *Mercenaria mercenaria*	**>90%** *All hatchery-based*	**10%**
Oysters *Crassostrea virginica*	**59%** *Mix of hatchery & wild*	**41%**

Reference: Virginia Marine Resources Commission reported landings, 2015-2016

Crop Reporting Tool



Virginia Shellfish Grower Situation & Outlook Survey 2018

Welcome

Thank you for taking a few minutes to complete the following commercial aquaculture survey. This survey is meant to capture trends private ground. If you do not particip

With your help, Virginia's past annu the shellfish aquaculture industry. Virginia's growing aquaculture busi water, reasonable land use and tax growers.

All information provided will be h combined with all of those provid

Not all questions may apply to y and complete the information p aquaculture industry.

Please complete the survey by

If you have any questions or

Karen Hudson
Shellfish Aquacultur
Phone: 804-684-774
Fax: 804-684-7161

You can also file onli

If filing online, please n ab

VIRGINIA INST

Virginia Shellfish Grower Situation & Outlook Survey 2018

Commercial Oyster Aquaculture

14. Do you aquaculture cultchless (single) oysters? Yes ○ No ○
(If NO, skip to #20)
15. Do you sell/re-sell oyster seed? Yes ○ No ○
Do you purchase larvae and set it for single seed and/or grow small seed to a larger size for resale to another grower(s)?

16. Do you have a "cooperative" agreement with a larger producer who will likely report your numbers of planted and sold? (This does NOT include sales to a wholesaler)
Are you a co-op? Yes ○ No ○

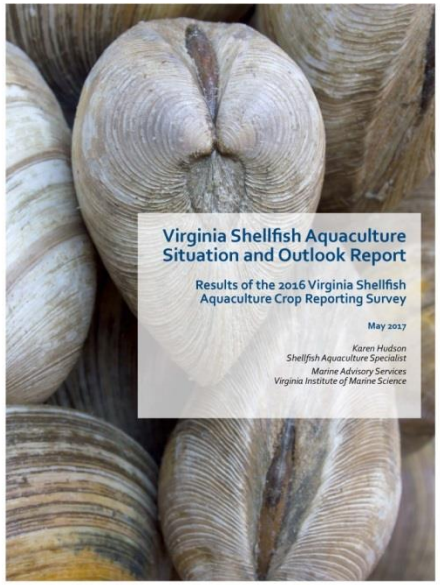
Cultchless (single) Oyster Aquaculture

*Please report only commercial oyster production which originated from an onshore hatchery.
If you purchased larvae and set your own seed, leave b) blank and note that in the comments (#19).

17. 2017 Commercial Single Oyster Aquaculture

a) # Oyster seed planted on your farm in 2017
   i. % diploid
   ii. % triploid
b) Avg. price of triploid seed purchased ($ per 1,000)
c) % Planted seed purchased from out-of-state
d) # Seed sold
   i. % seed sold out-of-state
   ii. Avg. price of seed sold ($ per 1,000)
e) # Market (non- seed) oysters sold
   i. % wholesale
   ii. % retail
   iii. % market oysters sold out-of-state
f) Avg. price per market oyster ($ per piece)
   i. Avg. price wholesale
   ii. Avg. price retail
g) # Full-time help
h) # Part-time help

Annual grower survey tracking trends in hatchery-based sector for >10 years



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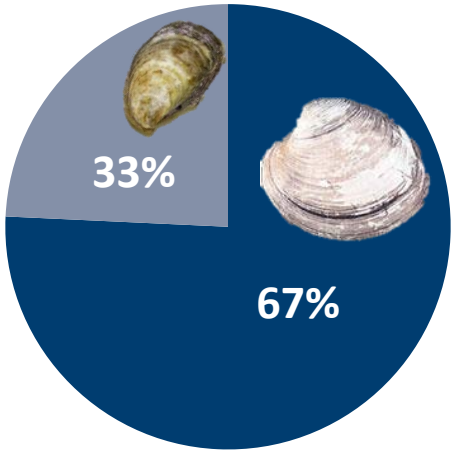
Sea Grant Virginia

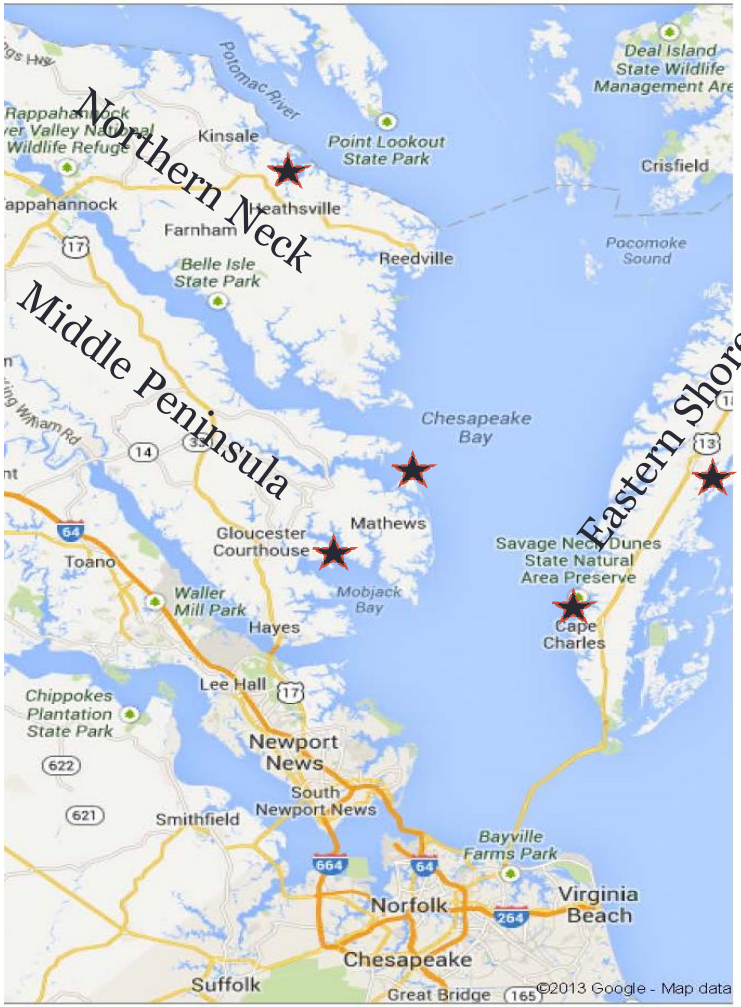
Virginia is a leader in shellfish culture

VIRGINIA SHELLFISH AQUACULTURE FARM GATE VALUE OF $56.6 M (2016)

- Hard Clams are the biggest contributor
- Oysters are the fastest growing sector
- 100's of Virginian's directly employed



Industry growth starts with hatcheries



- Private hatcheries supply product for the industry
- Model is vertical integration (not stand-alone facilities)
- Water quality is critical!

Hatchery Production

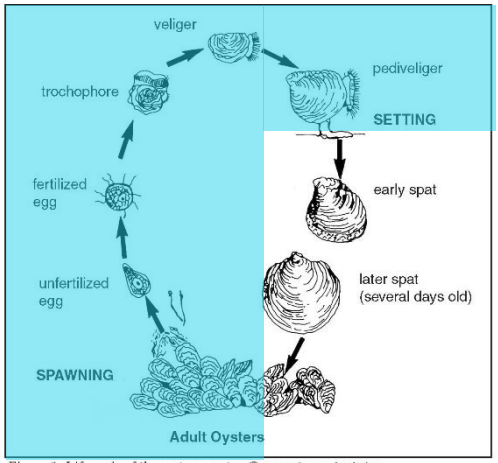
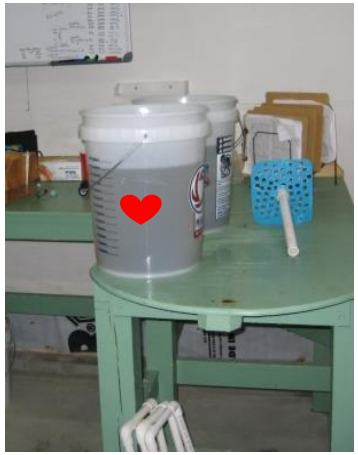


Figure 1. Life cycle of the eastern oyster, Crassostrea virginica.



Nursery

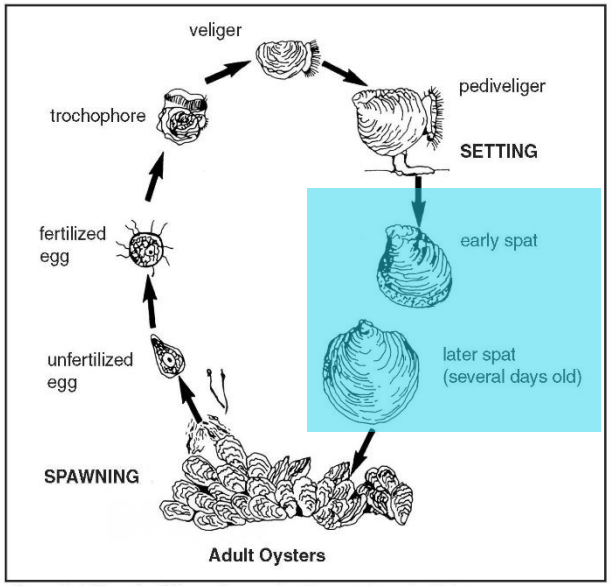
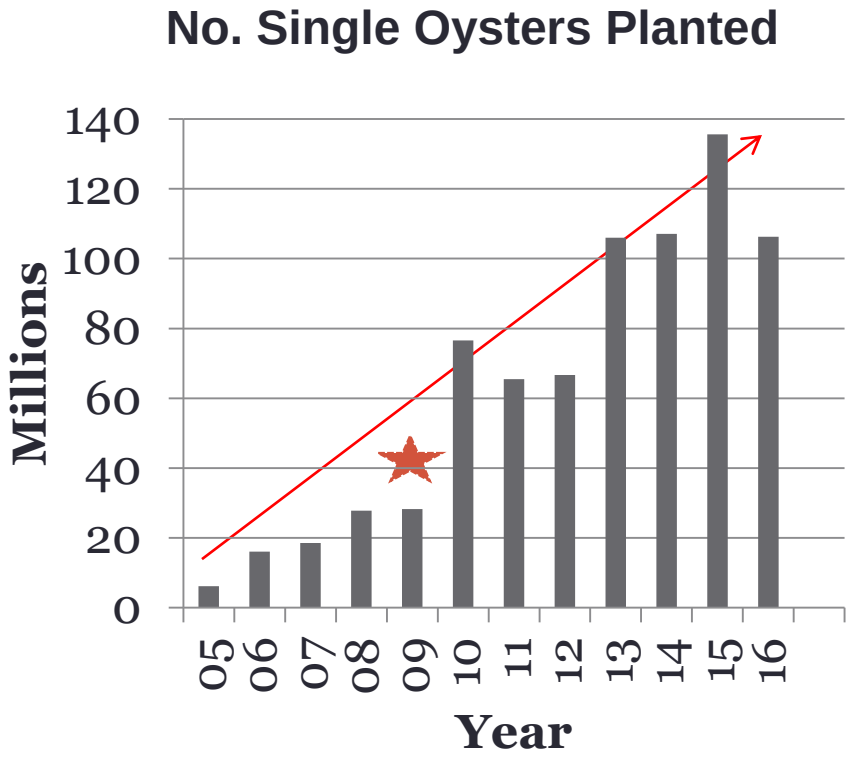


Figure 1. Life cycle of the eastern oyster, Crassostrea virginica.

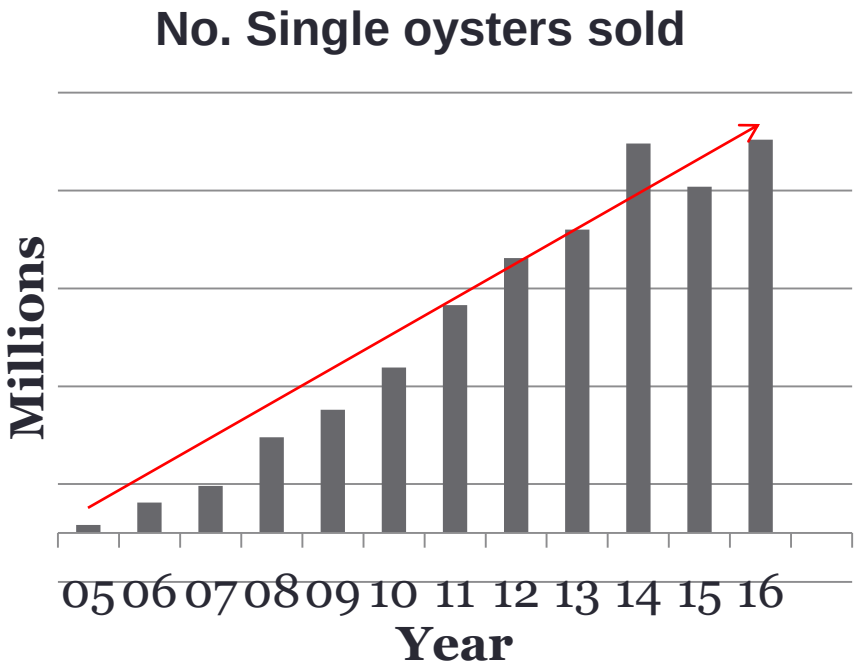
Grow-out

Industry Trends



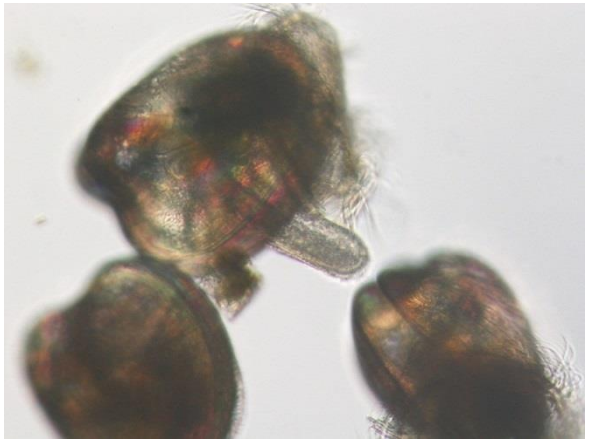
★ *addition of 2 new oyster hatcheries*

Industry Trends



Extensive culture – spat-on-shell

Bottom restoration using aquaculture



al/nrcs/detailfull/va/programs/farmbill/rcpp/?cid=stelprdb1270657

Stay Connected

FY18 RCPP-EQIP Aquaculture Program with VMRC

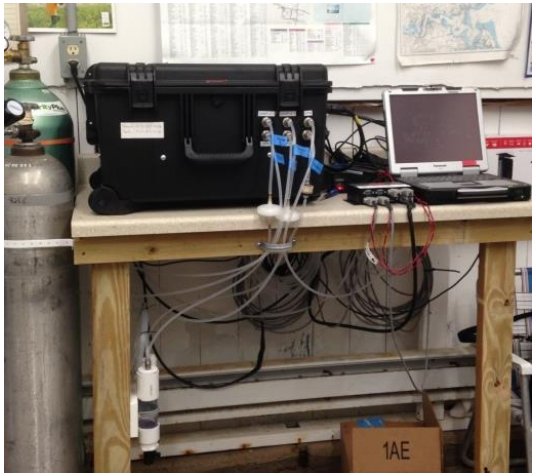
The successful growth and harvesting of shellfish contributes to and depends on good water quality. The Virginia Aquaculture Program is designed to enhance not only the sustainability of aquaculture but also to reduce adverse impacts on water quality for shellfish producers.

Through a Regional Conservation Partnership Program (RCPP) award, the Virginia Marine Resources Commission (VMRC) is partnering with the Virginia Institute of Marine Science (VIMS) and the Natural Resources Conservation Service (NRCS) to offer funding to help oyster growers to improve water quality and increase oyster habitat in the Chesapeake Bay and its tidal tributaries.

Oyster Bed Restoration will be implemented using the Virginia Conservation Practice Standard for Restoration and Management of Rare or Declining Habitats (Code 643). The practice lifespan is 15 years, operator investment and Virginia requirements to work the lease are expected to result in long-term maintenance of the oyster beds.

RCPP applicants for this oyster bed restoration program will need to complete the Virginia Marine Resources Commission Technical Pre-approval Form (pdf, 558KB).

Research for sustainable growth



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Genetics Shellfish Health Water Chemistry Harmful Algae Training Education

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