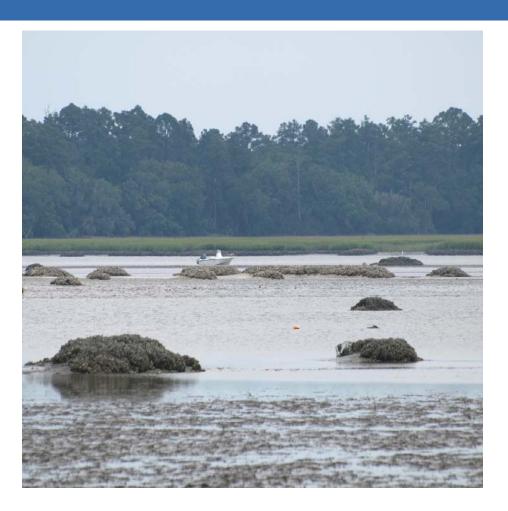


Shellfish Program Partners

- CRD is responsible for classification, sampling and laboratory analysis of shellfish growing area waters. Other responsibilities include lease management/permitting, harvester education and permitting, and recreational area management. Shellfish harvest must be compliant with FDA and the National Shellfish Sanitation Program (NSSP) Model Ordinance.
- LED enforces Georgia shellfish laws O.C.G.A .27-4-190 thru 201. A patrol policy is updated every two years.
- The Department of Agriculture, Consumer Protection Division, regulates handling and storage requirements, shucking, packing, shipping and/or sale of shellfish products within O.C.G.A. 40-7-12.

Water Quality Monitoring

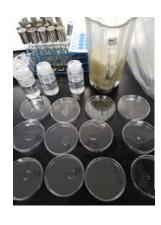
- Georgia uses 2 classifications of shellfish waters - Approved and Prohibited.
- Shellfish sanitation guidelines are documented in the NSSP model ordinance. CRD audited annually by the FDA to review sanitary survey reports, vibrio management plans and patrol policies with LED for each growing area. DOA audited annually to review industry compliance with dealer HACCP plans, inspection frequencies and dealer certification.

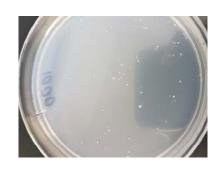


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CRD Shellfish Water Quality Lab

• Water samples from 82 trend stations are analyzed monthly for fecal coliform bacteria ensuring the safety of recreational and commercial harvested shellfish.









Shellfish Program Statistics

• Approved Acreage for Shellfish Harvest

County	Growing Areas (ac.)	Commercial	Recreational
Chatham	15,351	4,868	1,267
Bryan/Liberty	55,748	1,706	936
McIntosh	50,170	17,756	1,974
Glynr	13,351	-	1,888
Camder	22,701	4,856	2,467
Tota	l 157,321	29,186	8,532

- 17 active commercial lease areas
- 8 private and 9 state leases
 - (170 4,500 acres)
- 17 master collector permits
 - 107 individual harvester permits in 2017
- 7 recreational harvest areas



Recreational Harvest Area Enhancements

In the Glynn (2012) and Chatham (2013) Shellfish Recreational Harvest Areas, recycled and bagged oyster shell, oak limbs wrapped with wire and oyster gabions were planted using CRD staff, volunteers and DNR Aviation Unit staff. Helicopters were used as a cost efficient alternative to boats for moving materials to remote areas.







Why is this one of the most regulated fisheries?

- In many cases, oysters and clams in the U.S. are still traditionally consumed raw or undercooked.
- As a result, the consumption of raw or undercooked shellfish has been and is still linked to severe illnesses and deaths that occur annually in the U.S.
- Georgia is a member of the Interstate Shellfish Sanitation Conference (ISSC). The conference participants include state regulatory authorities, industry, FDA, EPA and NOAA. This conference convenes every other year were proposals are submitted and formally amended and voted on by state delegates to change language in the NSSP model ordinance.









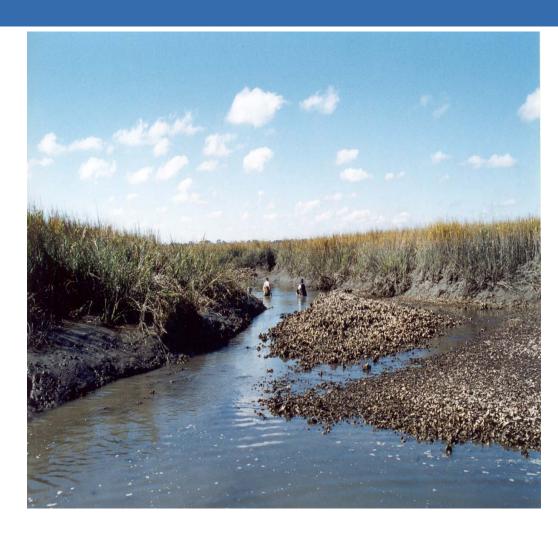






Traditional (Wild) Shellfish Harvest

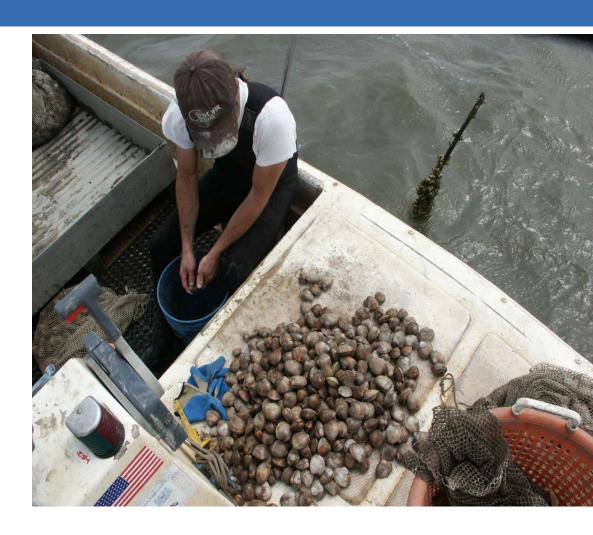
- **Oysters** naturally grow in clusters in intertidal zones. Must be "chipped" apart to separate legal-sized individuals
- Harvest at low tide when oyster and clam beds are exposed
- **Clams** are generally found in small remote creeks that are difficult to access and harvest.
- Heavy predation makes resource management difficult.
- Obtaining skilled and trained labor for commercial operations is a major limiting factor.



Clam Mariculture

- DNR inspects hatcheries prior to certification to permit shipment of seed into the state.
- DNR monitors the purchase of clam seed (usually 4-5 mm) by growers. All clam seed is purchased from out-of-state hatcheries and tested by a certified pathologist.
- Clam seed is transported to the field nursery and placed in fine mesh bags and under mesh cover netting to protect product from predation.
- Georgia farmed clams reach market size in 16

 20 months and are marketed throughout the U.S. and Canada.



Oyster Mariculture

- Oyster farming has been growing throughout many regions of the U.S. including the Pacific, Northeast and Mid-Atlantic coasts. The Southeast and Gulf coasts are also beginning to experience growth in this industry.
- Due to many factors, the growth of this fishery has presented many challenges to both the entrepreneur as well as those who are responsible for regulating this industry.



Future Program Goals

Industry growth and diversification will require additional support for:

- Increased production on existing and new leases
- Higher density/smaller acreage leases with shared boundaries may help with surveillance and theft
- Diversification of other native shellfish species (e.g. Sunray Venus clams, blood ark clams and native ribbed mussels)

Increased enhancement of recreational shellfish harvest areas