Oyster Aquaculture on Florida's West Coast

Background, Status, Opportunities and Challenges

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UF|IFAS UNIVERSITY of FLORIDA

Sea Grant Florida

Cedar Key High School SALT Summer 2018 Program

Extensive Oyster Culture

Planting of cultch (shell) on bottom

- **Inputs –**
  - Low oyster densities per area
  - Reduced husbandry (management) demands
  - Larger land requirements
  - Low labor, overhead, and production costs

- **Outputs –**
  - Poor control of stock management
  - Low and non-reliable production
  - Seed comes from wild populations
  - Commodity or shucked meat markets
  - On-bottom culture is traditional method of farming oysters in U.S.

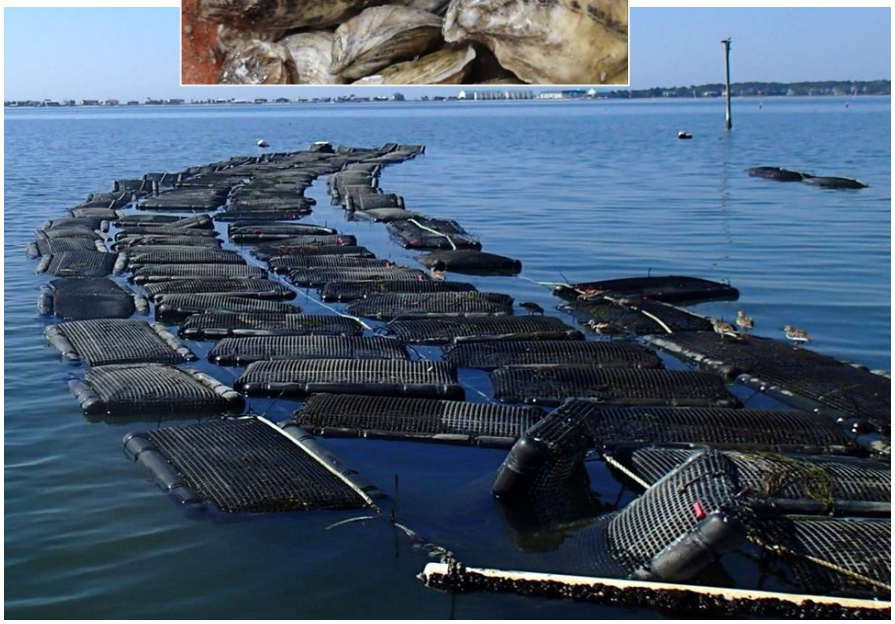
Extensive Oyster Culture in Florida

Planting of cultch (shell) on bottom

- Extensive methods promoted and tolerated under changing laws for over 100 years
- Cultivation practices follow methods used by state agencies to enhance public oyster resources (shell cultching)
- In Franklin County, 8 shellfish cultch leases (Chapter 370, F.S.) utilize 600 acres of submerged lands
- 5 leaseholders reported $78,900 in sales in 2012 (FASS survey)

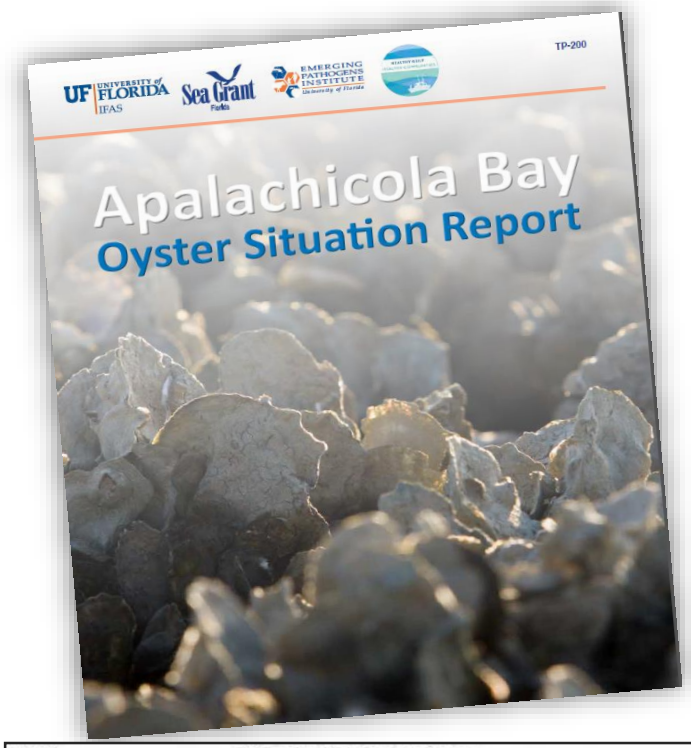
Intensive Oyster Aquaculture

Off-bottom oyster culture

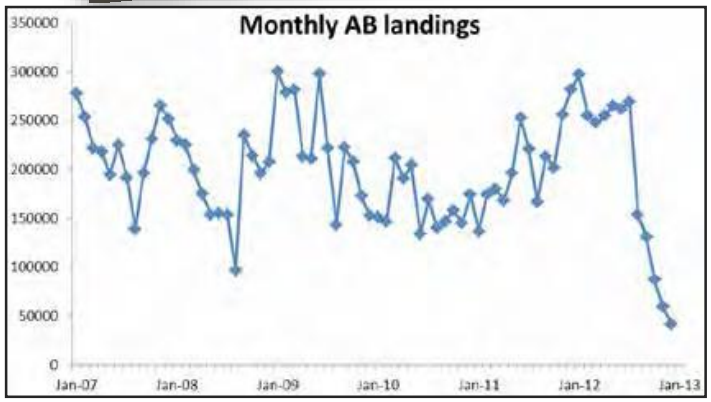


- **Inputs –**
  - Higher stocking densities per area
  - Husbandry demands are increased
  - Gear provides predator control
  - Less land requirements
  - High labor costs
  - High overhead & production costs
- **Outputs –**
  - Better control of stocks
  - Predator and fouling control
  - Higher production
  - Improved shell shape
  - Premium (half shell) markets

Intensive Oyster Culture in Florida



- Oyster landings plummeted in 2012
- Excessive drought and lowest river flows on record
- Recruitment failure and severe decline in juvenile oysters
- Fishery failure declared for Apalachicola Bay in 2013, still has not recovered



Oyster culture takes off…

Commissioner Putnam, Cabinet Approve New Aquaculture Leases

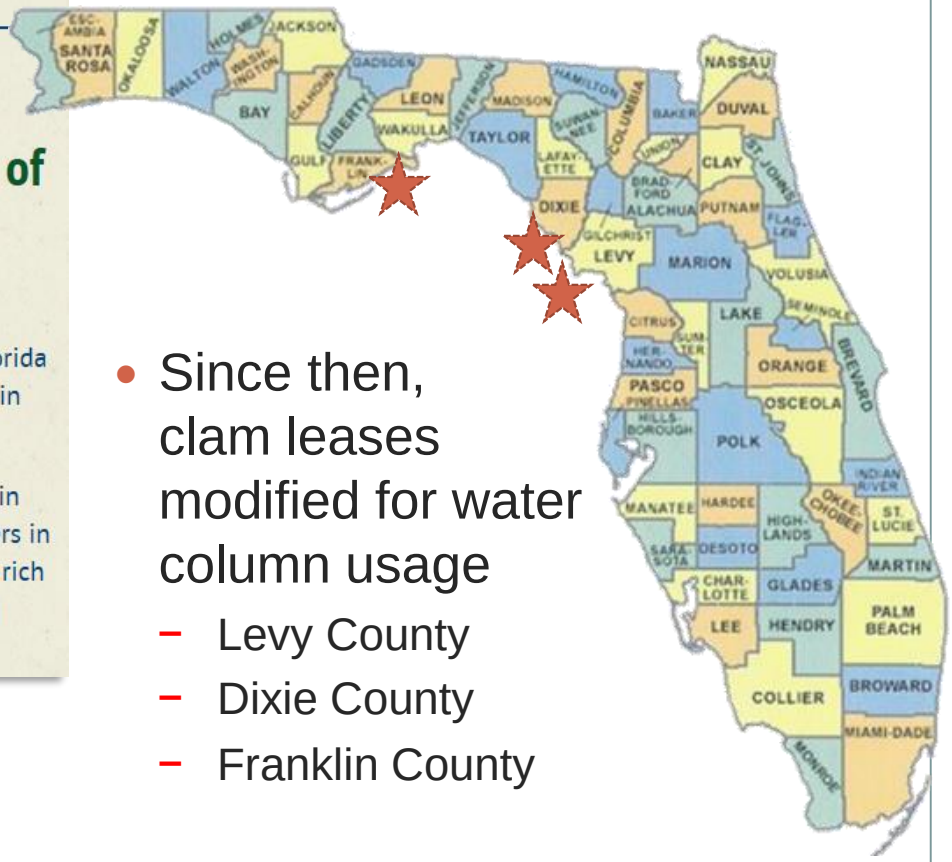
Expansion of Water Column Leases Brings Opportunity to Apalachicola Bay, Other Areas of the State

Oct 10, 2013

Tallahassee, FL – Commissioner of Agriculture Adam H. Putnam and the Florida Cabinet today voted unanimously to approve additional aquaculture leases in several parts of the state, primarily in Apalachicola Bay.

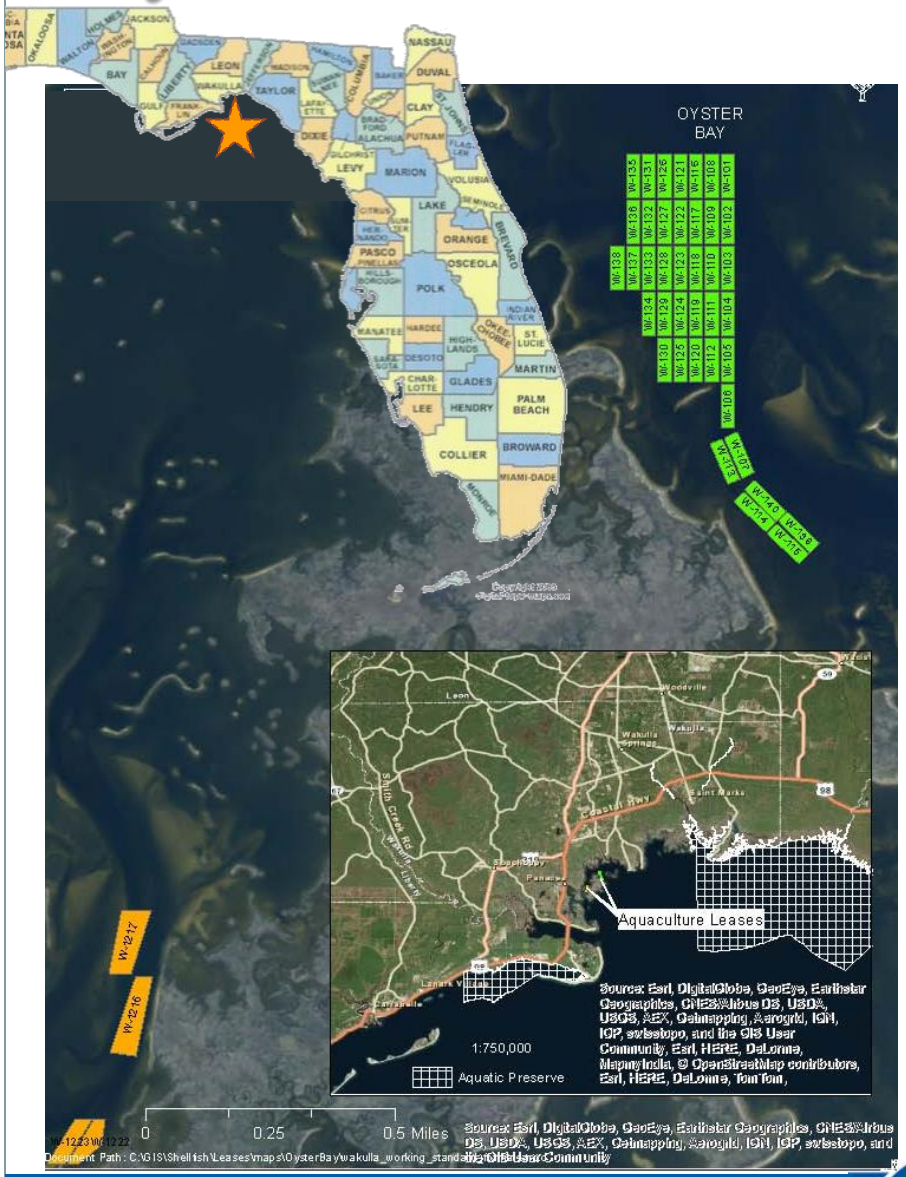
The wild oyster industry in the Apalachicola Bay has declined substantially in recent years. Spring Creek Oyster Company recently began cultivating oysters in cages in the full water column. This places the oysters in the most nutrient-rich part of the water, which reduces predators, shortens the grow-out time and improves survival rates.

- FDACS approves modification of on-bottom clam leases for water column use in 2013



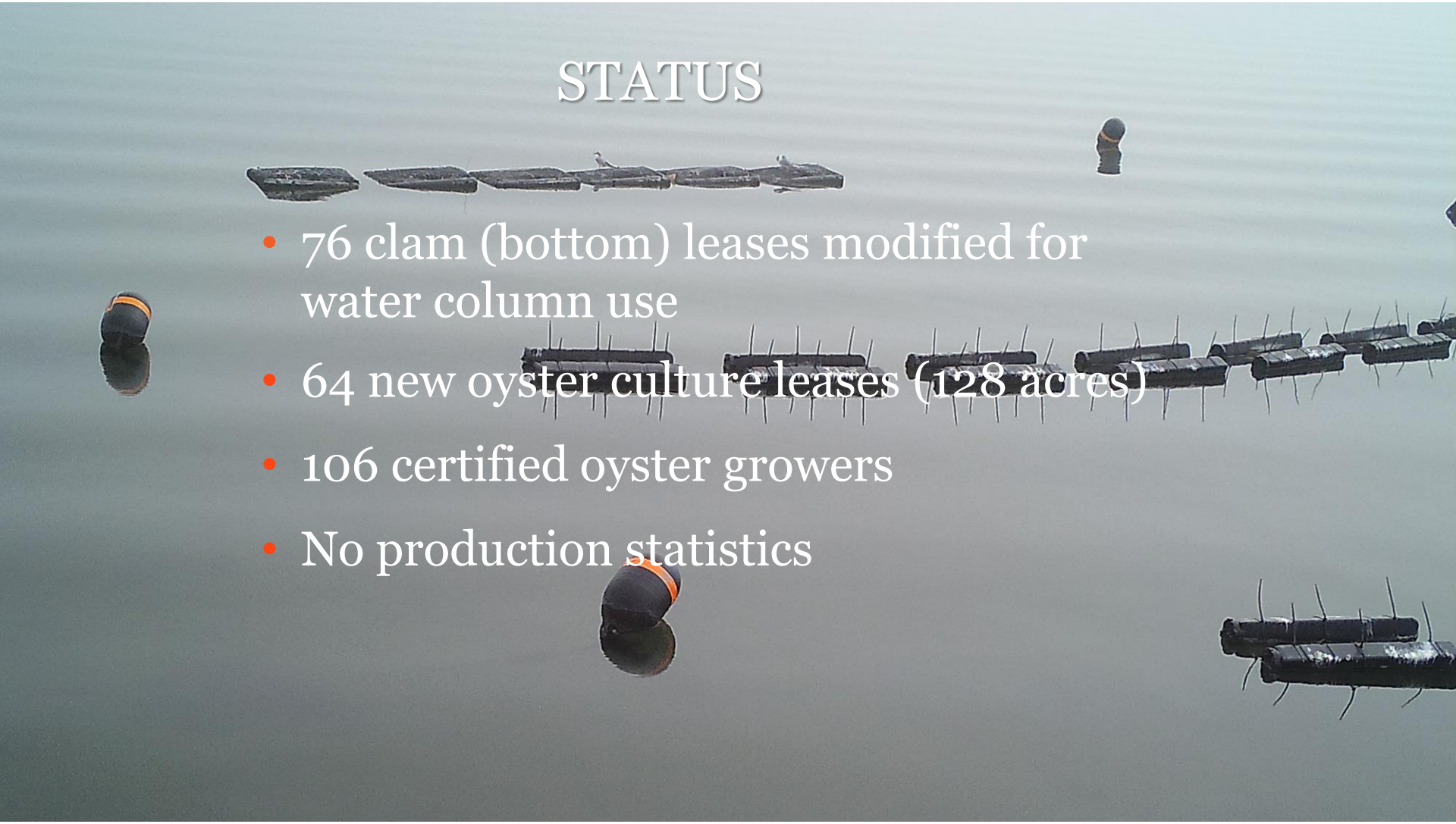
- Since then, clam leases modified for water column usage
  - Levy County
  - Dixie County
  - Franklin County

Oyster culture takes off…



- Environmental Institute develops oyster aquaculture certificate program in 2014
- Participants receive seed, gear, assistance in obtaining leases
- New oyster culture leases in Wakulla County

Oyster Culture on Florida's West Coast: An Emergent Industry

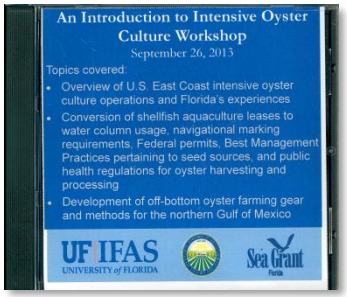


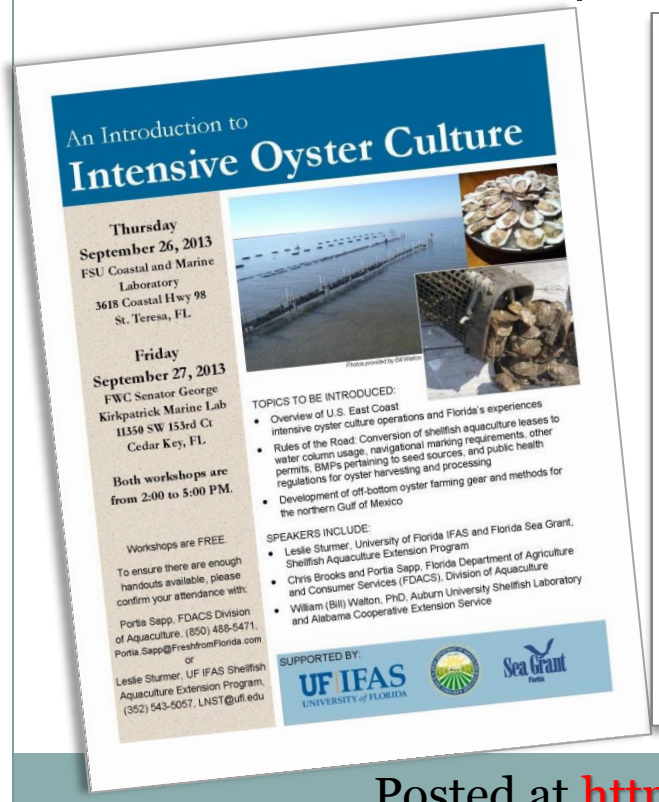
STATUS

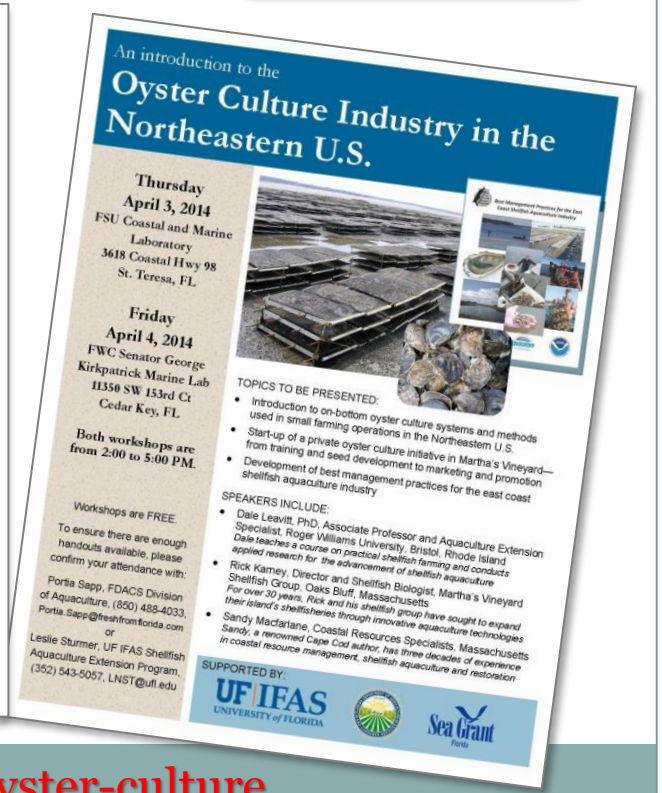
- 76 clam (bottom) leases modified for water column use
- 64 new oyster culture leases (128 acres)
- 106 certified oyster growers
- No production statistics

Oyster Culture Workshops and Videos

- A series of workshops held by UF and DACS to inform interested clam growers and others about advancements in culture gear and methods
- Videos of workshops are available

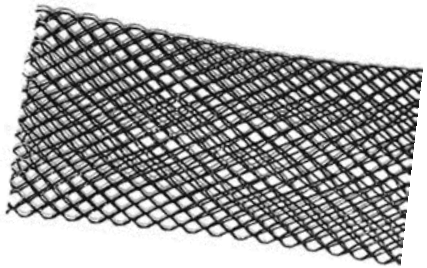






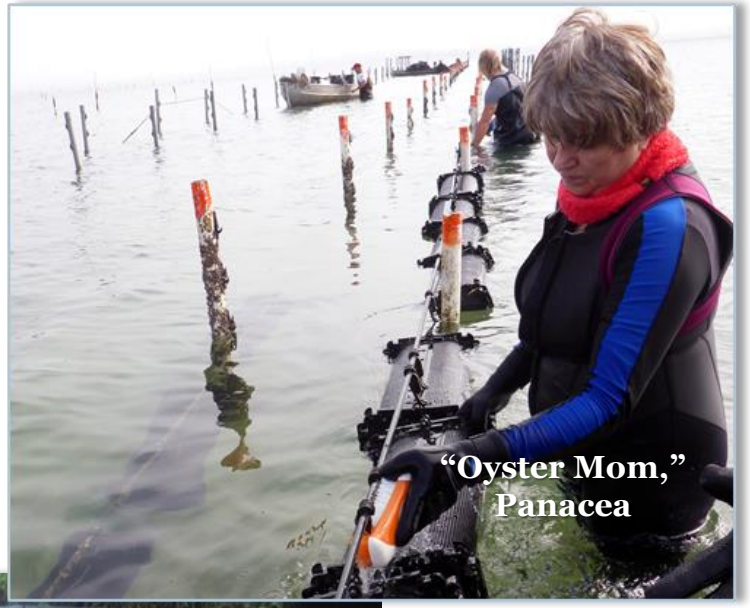
Posted at http://shellfish.ifas.ufl.edu/oyster-culture

Oyster Culture Gear

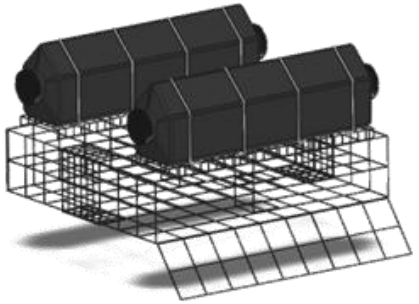


- Many growers using floating Vexar bags long-lined together
- Local distributor of bags and gear
- Initial gear investment low
- Fouling control being evaluated by float design and placement, flipping and aerial drying

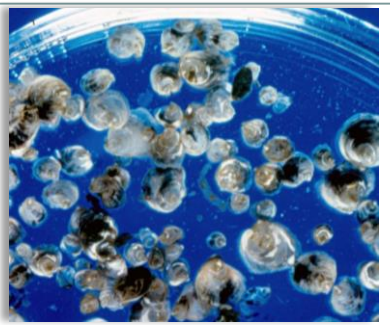
Oyster Culture Gear



- Other culture gear being evaluated
  - Adjustable longline
  - Bottom cages
  - Floating cages



Oyster Seed Availability



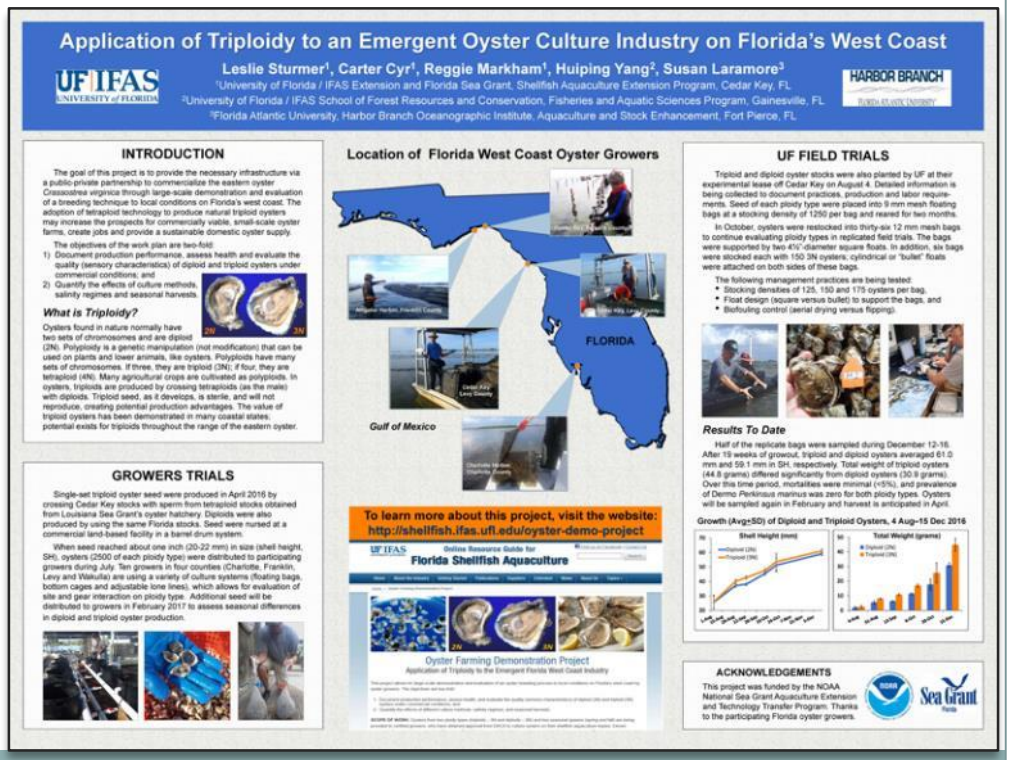
- Several Florida clam hatcheries providing single set seed
- Triploid oyster seed produced by using tetraploid sperm from LSU
- Currently working on developing Florida specific brood stocks to produce native triploids

- FDACS BMPs (rules) on oyster seed
  - Disease prevention – Culture of oyster stocks from Atlantic coast waters prohibited in FL Gulf waters
  - Genetic protection – Limits source of broodstock to be specific to either FL Atlantic or FL Gulf coasts
  - Allowance for GoM tetraploid and triploid stocks

Application of Triploidy

- Assessing ploidy type on production performance, health and product quality over seasonal harvests, sites, gear types and salinity regimes

- Advantages of triploids versus diploid oysters being evaluated by growers and UF research and extension faculty



See more at Oyster Culture Demonstration, http://shellfish.ifas.ufl.edu

Marketing Cultured Oysters

- Distributed via existing clam market channels – local, state and regional
- Cooperative developed in Wakulla County
- Targeted half-shell markets
- Wholesale prices vary
  - $0.30-.60 apiece
- Some branding occurring

Oysterater
kiss and tell

Rowan Jacobsen
March 12, 2015 at 2:17 pm Rating 4

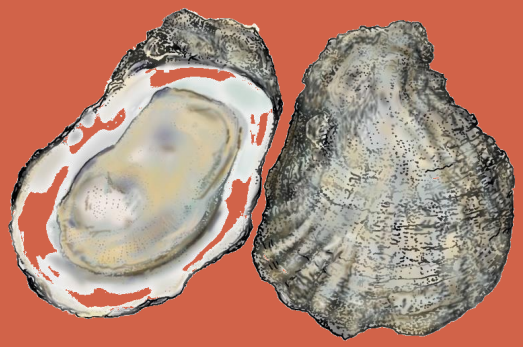
These will blow the minds of anyone who doesn't think the Gulf Coast makes great oysters. Beautifully shaped and striped shells, plump meats, and all the sweet-corn goodness of a Cape Cod oyster in late fall (yet this was March). The salinity was strong without being harsh, and the flavor was super clean. This, to me, is further evidence that in March and April, when northern oysters can be so skinny, one should look to the south first.

Fresh from Florida®

Florida Summary:

Opportunities

Attributes

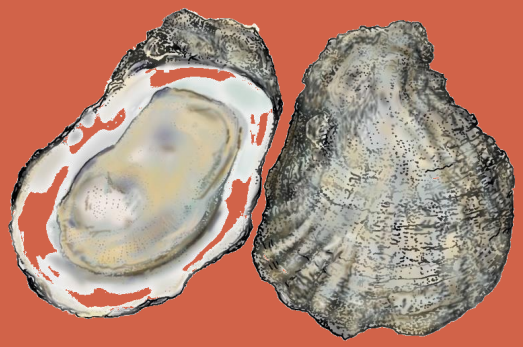


- Existing shellfish aquaculture industry infrastructure supports development and diversification
- Favorable state regulatory framework and leasing program
- Oysters reach market size in less than a year from spawn in warm, productive waters
- Decline in “wild” oyster landings has resulted in increased prices
- Existing market channels for cultured mollusks in Florida

Florida Summary:

Challenges

Threats



- Limited seed availability – need in-state hatchery expansion
- Demand premium prices for cultured warm water oysters
- Overcome perception that Gulf oysters unsafe for raw consumption
- Need for biofouling and oyster overset control year-round
- Risks (hurricanes, diseases, etc.) and economic feasibility still being assessed by emergent industry