

Florida Department of Environmental Protection



Office of Communications

Community Oyster Shell Recycling and Living Reef Restoration Project

February 1, 2013



Presentation Points

- Project background
- Value of the Eastern Oyster
- Goals/components of the project
- Questions?





Project Background

Restoration grant awarded

- Southeast Aquatic Resources Partnership (SARP)

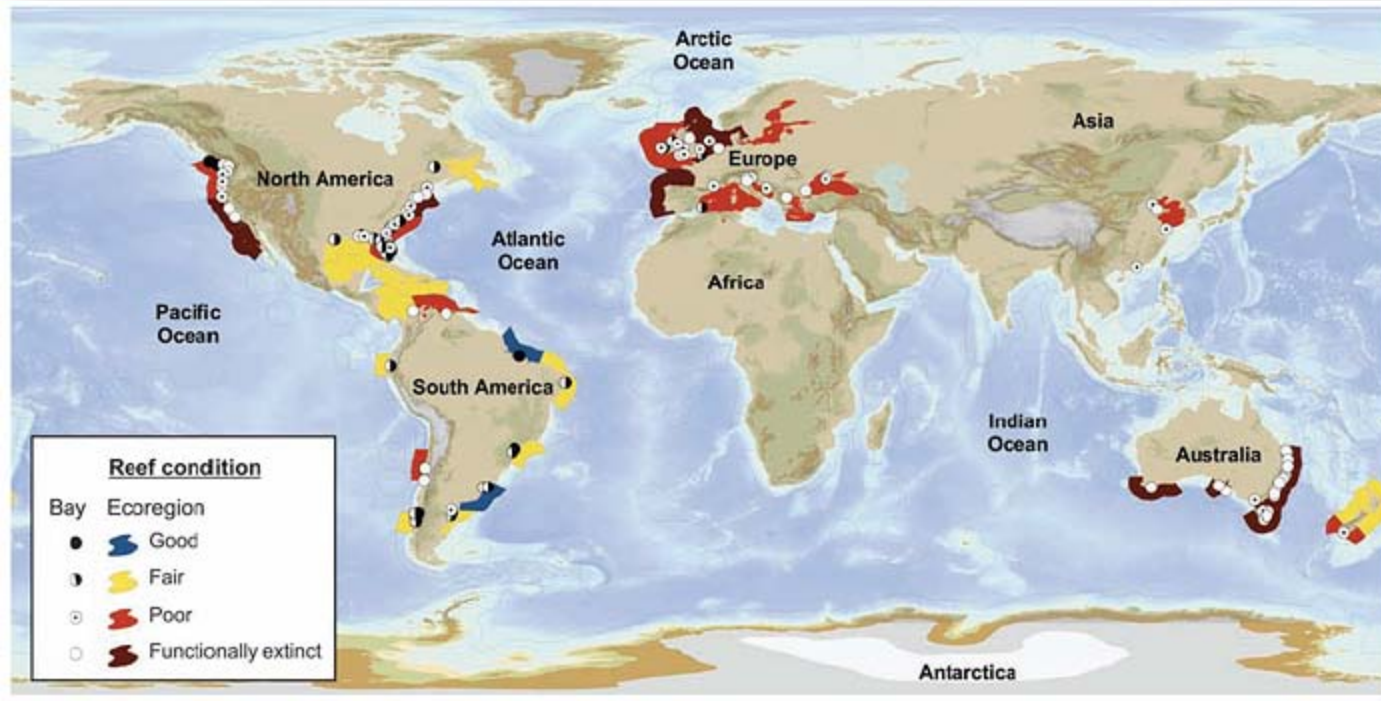
Local partnership

- St. Johns Technical High School
- Northrop Grumman
- JM Family Enterprises, Inc.

Why Oyster Reefs?

Crassostrea virginica, Eastern Oyster

- Population decline
 - Estimated 15% remaining worldwide (Pollack, et al.)



(Beck, et al.)

Why Oyster Reefs?

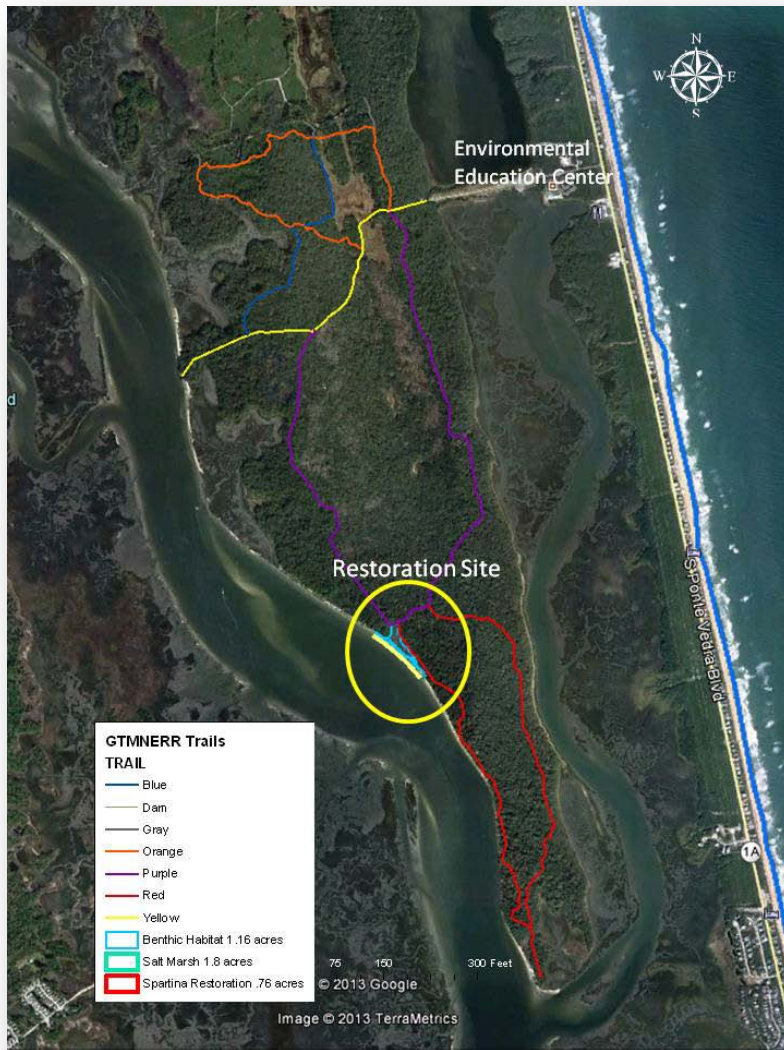
Ecosystem services: “the benefits of nature to households, communities, and economies”
(Boyd, Banzhaf)

- **Fishery**- More than \$250,000 in 2011 (NMFS)
- **Water quality**- Filter 4 gallons per hour (SCDNR)
- **Shoreline stabilizer**- Act as breakwater
- **Habitat**- Over 40 species may inhabit a single reef (Aswani, et al.)



www.natureworkseverywhere.org

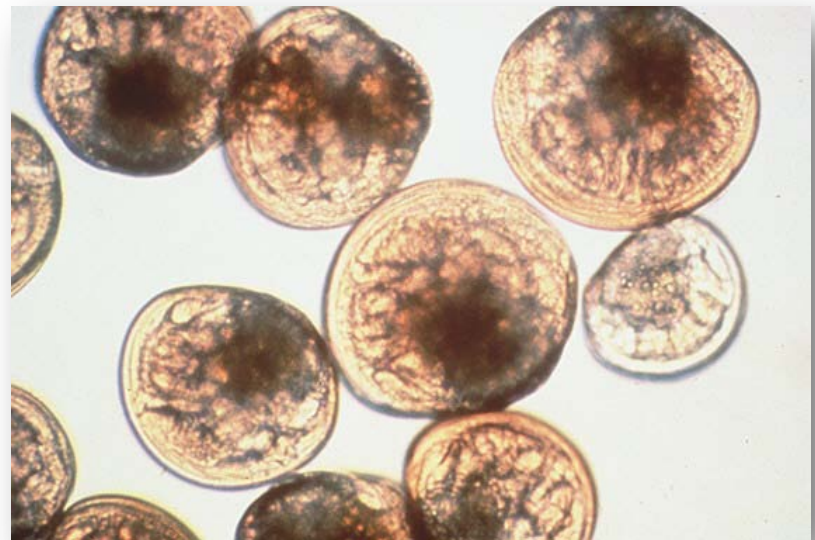
Project Particulars



Project Particulars

Site selection

- Remnant live oysters on site
- Oyster spat present in waterway
- Eroding shoreline
- Identified historical location



aquaculture.ugent.be



Project Particulars

Community Oyster Shell Recycling Program



Project Particulars

Bagging oyster shell



Project Particulars



Building reef



Project Particulars

Biological Monitoring

- Shoreline stabilization
- Biodiversity
- Oyster recruitment/survivorability



Marsh Planting

Spartina alterniflora, Smooth Cordgrass

- SJTHS and community volunteer planting
- Adjacent to 1.8-acre declining saltmarsh





Project Particulars

Accomplishments

Collected 11 months of data

~1, 700 project volunteer hours

~65,000 pounds of oyster shell bagged

Built half of the reef needed to complete the project



References

- Aswani K, Volety S, Tolley G, Ning Loh A, Abeels H. Oyster Monitoring Network for the Caloosahatchee Estuary 2007-2010. Report Submitted to the South Florida Water Management District 2010 September.
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- Beseres P, Cleveland A, Palmer TA, Reisinger AS, Montagna PA (2012) A Restoration Suitability Index Model for the Eastern Oyster (*Crassostrea virginica*) in the Mission-Aransas Estuary, TX, USA. *PLoS ONE* 7(7): e40839.
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- Oysters and Clams [Internet]. Columbia SC: South Carolina Department of Natural Resources; c2010 [cited 2013 Jan 25]. Available from: <http://www.dnr.sc.gov/marine/pub/seascience/oyster.html>
- What are Ecosystem Services? The Need for Standardized Environmental Accounting Units [Internet]. Washington DC: Resources for the Future; C2013 [cited 2013 Jan 25]. Available from: <http://www.rff.org/News/Features/Pages/What-are-Ecosystem-Services.aspx>