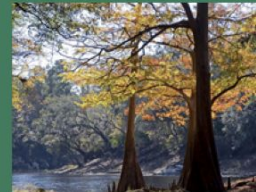




Florida Department of Environmental Protection

Spreading the Seeds of Estuary Health

BY KENNETH RAINER





PLAYERS

Elementary and Middle School Teachers/Students

The National Estuarine Research Reserves (SE)

South Carolina Sea Grant Consortium

Smooth Cordgrass (*Spartina alterniflora*)



The plants, animals, and people of the National Estuarine Research Reserves depend on and shape the past, present, and future of **OUR COASTAL COMMUNITY.**





RESILIENCY

Reside within the community members



COURAGE

Owning and confronting the issues







GTM and SJC 4-H receive grant



Photo via GTM RESEARCH RESERVE

St. Johns County 4-H Marine Ecology Club member Nick Wiswedel (pictured) will lead a mini-grant project at the GTM Research Reserve.

The GTM Research Reserve and the St. Johns County 4-H Marine Ecology Club received a \$300 Service Learning in Aquatic and Marine Education and Conservation mini-grant, funded by the Guy Harvey Ocean Foundation through the University of Florida/IFAS Extension 4-H Youth Development Program.

"The 4-H Marine Ecology Club continues to be one of the reserve's favorite success stories," said Michael Shirley, director of the GTM Research Reserve. "The hard work and dedication of the teams and volunteers who work with them is truly impressive."

The project will help determine which substrate can best support *Spartina alterniflora* plugs by using hydroponics to grow it at the GTM Research Reserve Education Center. By studying shoreline erosion, the club decided this short-term project would be the most beneficial. The club will test various substrates to uncover the best for growing *Spartina* in order for it to grow the most efficiently in an artificial environment.

"Through this project, we hope to grow *Spartina* so that we can help to restore shorelines that have been damaged by erosion," said Nick Wiswedel, 4-H club member who will lead the project. "This information can then be passed on to others for their erosion issues."

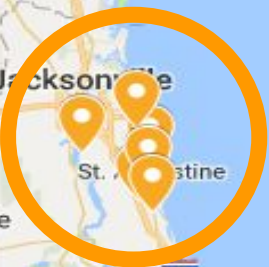
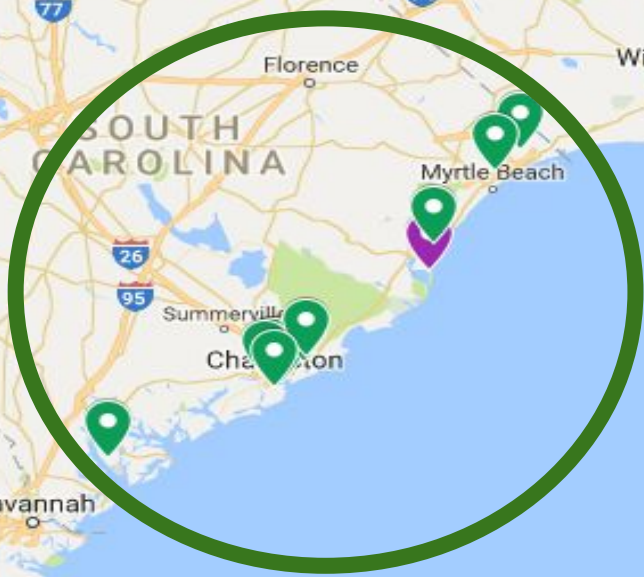
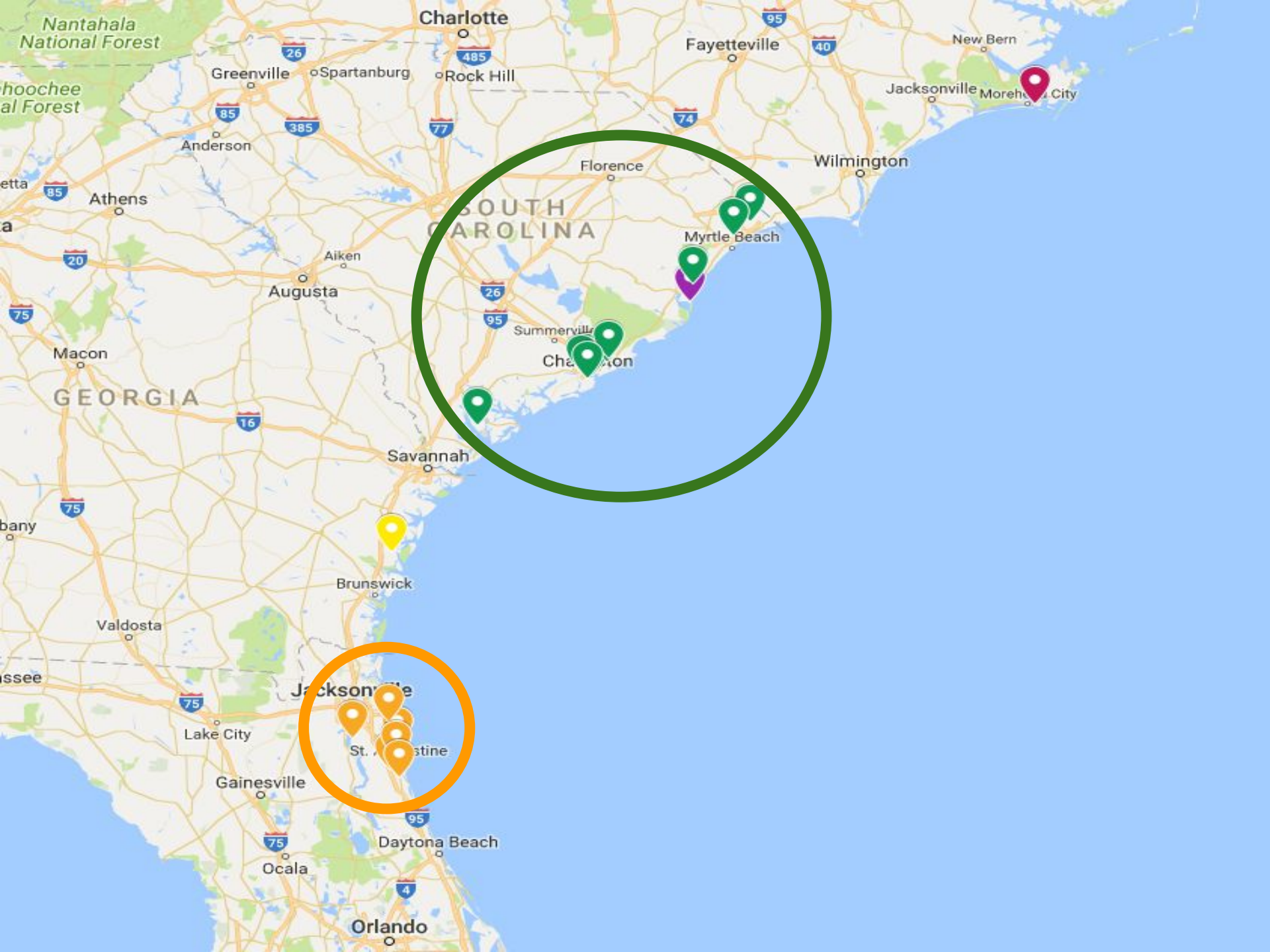
For more information, visit www.gtmnerr.org.

Seeds to Shoreline®





Spreading Seeds of Estuary Health



Hydroponic Pond

Spreading Seeds of

Setting Up the Tank

Student Data

Tools Needed (not supplied in the Grant)



Phillips Screwdriver



Flathead Screwdriver



Handheld Hacksaw



Heavy-duty Scissors



Milk Crate or Cinder Blocks



PVC Primer and Cement (optional)



3.5 inch hole saw



Handheld Drill (cordless or cord)



Tape Measure



Sharpie or Marker

Caulking Gun



Marine Adhesive Sealant

Supplies Needed (supplied by the Grant)

- Pool (1)
- Rain Barrel (1)
- Water Pump (1)
- PVC Pipe (3 in. x 10 ft.) (1)
- PVC 3 in. to 4 in. reductor (1)
- PVC 3 in. 90 degree elbow (4)
- Baskets (6)
- 100 ft. Water Hose (1)
- 4-way Hose Split (1)
- Female Hose Connector (2)
- Male Hose Connector (2)
- Outdoor Mechanical Timer (1)



Project

The [Guana](#) regionwide habitats. The [South Carolina](#) Service and Reserve. We among the experience will create trained to use of stand

[Click here](#) for the fast fa

Less

A River

Lesson: [CLI](#)

Grade: 3rd

Topic: Water

Objective: s connection common po

Florida C

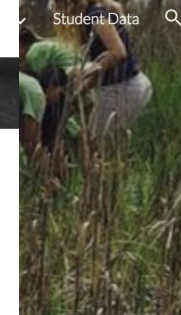
3rd Grad

4th Grad

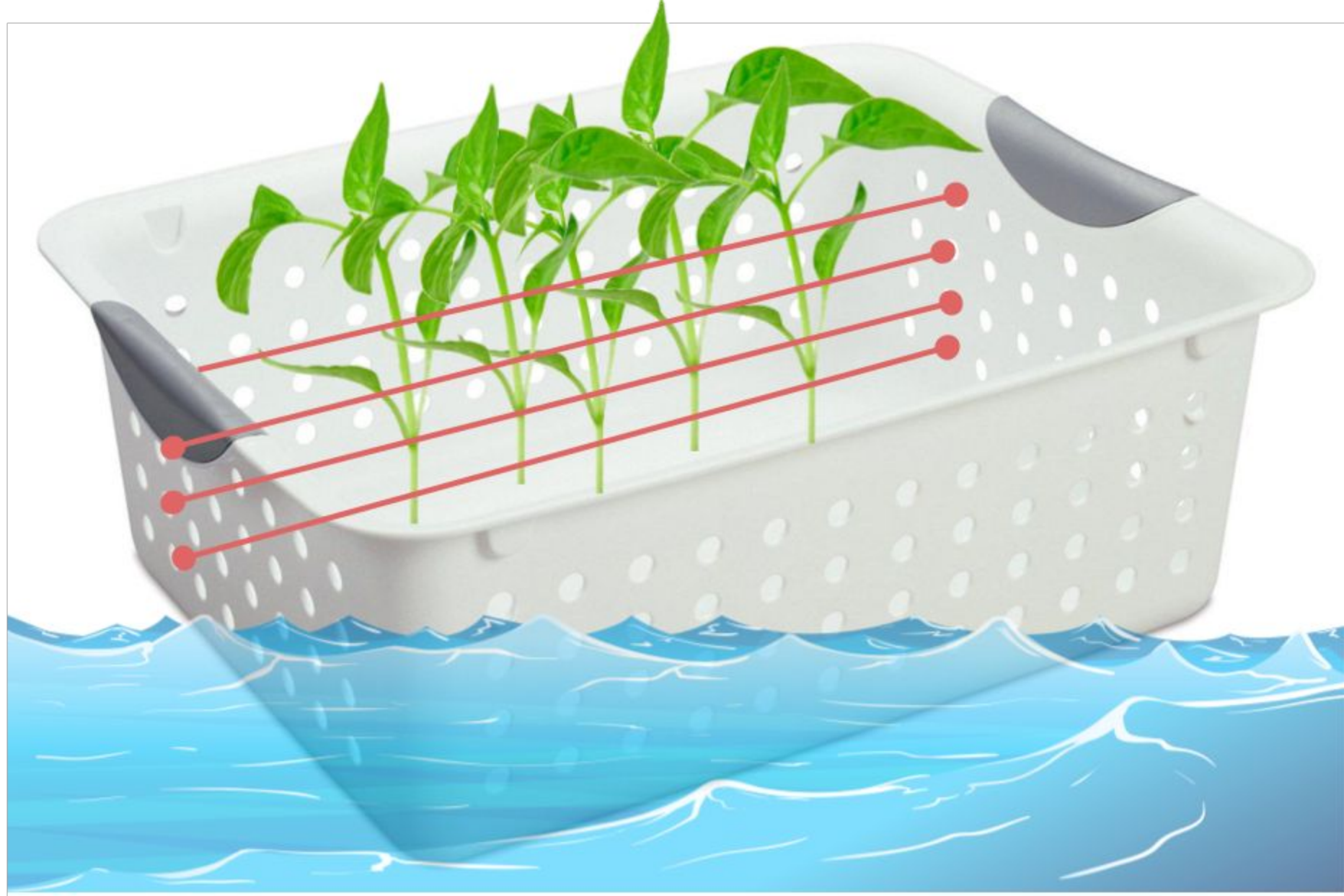
5th Grad

South Ca

5th Grad



create a lost estuary initiated by the ve Extension Matanzas *terniflora*, activation and ant Consortium ners will be outtheastern increase the ccess.



Jan 23, 2018 - Feb 21, 2018

Average Total Stem Count

25.26

Select your school in Florida

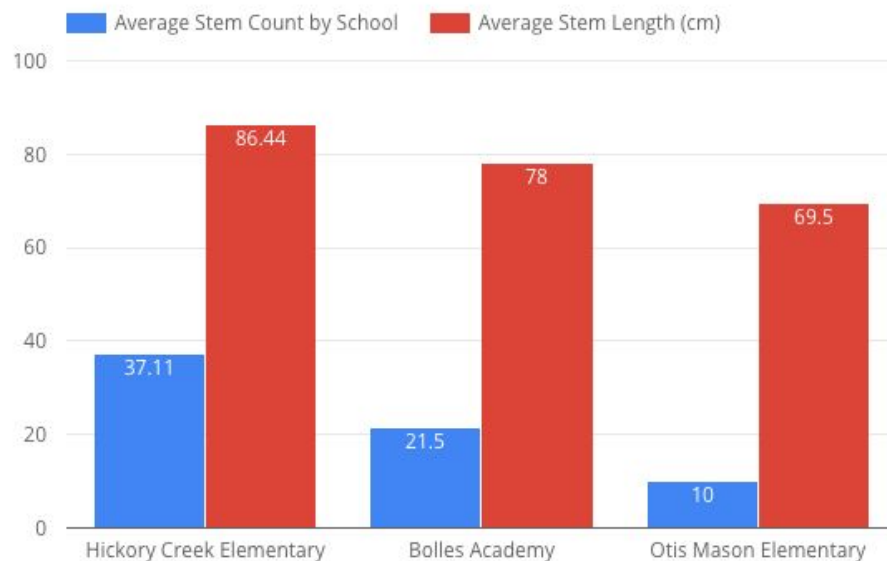
Average Total Stem Height (cm)

79.32

[CLICK HERE](#) to access the student raw data.



School Name	Group Name	Average Stem Count	Average Stem Length (cm)
Bolles Academy	Bolles 1	24	77
Bolles Academy	Bolles 2	27	77
Bolles Academy	Bolles 3	20	92
Bolles Academy	Bolles 5	15	66
Hickory Creek Elementary	Moody	49	474
Hickory Creek Elementary	Reese g and mikala	21	46
Hickory Creek Elementary	Andrew & Tyler	15	76
Hickory Creek Elementary	Reese Mac, Haniel	32	82
Hickory Creek Elementary	Jacob Guthmiller Be...	21	100
Otis Mason Elementary	Mason 1	17	64
Otis Mason Elementary	Mason 2	10	57
Otis Mason Elementary	Mason 3	14	60
Otis Mason Elementary	Mason 4	7	61
Otis Mason Elementary	Mason 5	6	93
Otis Mason Elementary	Mason 6	6	82





Acknowledgements

USFWS

NOAA

Florida Dept. of Environmental Protection

NERRS and NERRS Science Collaborative

Partner Schools

University of Michigan's Water Center



Questions?

