

Educating with Extension



Volume 16 Issue 2

UF/IFAS Extension Monroe County

February 2017

Florida Bay Sponge Restoration

By Dawn Thomas, Extension Coordinator Shelly Krueger, Florida Sea Grant Agent

Where have all the sponges gone? Healthy sponge populations are an important part of the Florida Keys ecosystem. But a series of harmful algal blooms has essentially eliminated once-thriving sponge communities over large areas of Florida Bay.

Researchers from Old Dominion University (ODU) and the Florida Fish and Wildlife Conservation Commission (FWC) are now testing methods to restore sponge communities. They have been studying various aspects of sponge biology and ecology in the Florida Keys for many years. Several years ago, these researchers started studying sponge community restoration. They recently are scaling up their sponge restoration research efforts. This large-scale project also presents opportunities for community participation, inviting volunteers to work side-by-side with scientists to restore sponges in the Florida Keys.



A healthy sponge community in Florida Bay.

Sponges are animals that are among the most visible residents of the hard-bottom habitats typical of the Florida Keys and Florida Bay.

They are essential to the healthy ecosystem functioning of the Florida Keys, because they continuously filter large volumes of water, removing particulate matter. They also alter water chemistry by cycling nutrients

and provide essential nursery habitat for important fisheries species such as spiny lobster, stone crab, and bonefish.

The loss of such an important component of nearshore habitats has prompted calls for sponge restoration. Scientists are currently evaluating if sponge nurseries are an efficient means of producing a biologically diverse assemblage of sponges in order to restore Florida Bay sponge communities. By transplanting sponges into experimental sites, researchers will evaluate how to ensure sponge transplants become self-sustaining and help restore the health of the Florida Bay ecosystem.



A loggerhead sponge after a die-off.

Phytoplankton blooms in the early 1990s, 2007, and 2013 caused mass sponge die-offs over wide areas of the Middle and Upper Keys. Once such an extensive die-off occurs, the recovery of the sponge community can be lengthy due to their slow growth and limited larval dispersal.

Consequently, restoring sponge communities by transplanting cuttings of healthy sponges into areas where die-offs occurred can be a crucial tool to jump-start natural sponge recruitment and re-establish vital ecosystem services that sponges provide. Preliminary sponge restoration research showed that cuttings of several sponge species can be successfully transplanted to produce new sponges. Current sponge

restoration research will examine whether transplanted sponge cuttings can restore critical ecological functions that are provided by healthy sponge communities.



Propagating new sponges using cuttings from a healthy sponge.

Four sponge nurseries have been established and hold more than 4,000 sponges of seven common shallowwater sponge species, with the goal of more than 15,000. There are nine research sites spread over a 500 km2 area in the Middle Keys.

In 2018, scientists and partners from the University of Florida, The Nature Conservancy, Bonefish and Tarpon Trust, and the Florida Keys Environmental Fund will conduct large-scale sponge restoration in areas of Florida Bay with community participation.

A Shallow-Water Sponge
Restoration Forum will be held
on Thursday, March 9,
from 6:00 to 9:00 p.m., at the
Marathon Government Center
2798 Overseas Highway
2nd floor BOOC meeting room in
Marathon.

To register for the Forum online, go to http://spongeforum2017.eventbrite.com or e-mail Shelly Krueger at krueger-shelly@monroecounty-fl.gov or call her at 305-292-4501 or you can call Jennifer Stein at 305-872-7071.

Horticulture News Kim Gabel





Marine News Shelly Krueger

Kim recently accomplished the following activities:



Master Gardeners who managed the environmental horticulture table at Marathon Garden Club's January Jamboree are, from left: Judy Shaw, Harriet Lindsay, Tom Peterson, Kathy Warner, Bill Warner.

- Set up an environmental horticulture booth at the two-day "GardenFest" at the Key West Tropical Forest and Botanical Garden. Eight Master Gardeners assisted by answering questions for 86 clientele.
- Set up an environmental horticulture booth at Layton Flea Market. Five Master Gardeners ran the booth and answered questions for 20 clientele.
- Was invited to speak at Marathon Garden Club on "Green Landscaping." Educated 75 members and visitors about environmentally friendly landscaping practices.
- Held five winter plant clinics with 11 Master Gardeners assisting 25 clients.
- · Made nine site visits:
- → Key West (2) landscape assessment at the Stock Island landfill; iguana & loss of vegetation.
- → Cudjoe Key Venture Out Landscape Committee to discuss upcoming meeting and plants.
- → Sugarloaf Key Chinch bug.
- → Key Largo (5) Croton Scale.
- → Marathon Zoysia grass.
- Proctored one CORE pesticide
- Spoke on US 1 Radio about Gumbo Limbo trees and sap-sucking insects; on WFFG 1300 AM - venomous and stinging caterpillars.

Kim Gabel and the Monroe County Master Gardeners are ready, willing, and able to help you with your plant problems or insect identification at the following locations:

KEY WEST Gato Building / Extension Office

1100 Simonton Street, #2-260 1:00 to 4:00 p.m. March 6 & 20

BIG PINE KEY BPK Community Park

31009 Atlantis Drive 9:00 a.m. to 12 noon March 18

MARATHON The Home Depot

4555 Overseas Highway 9:00 a.m. to 12 noon March 18

KEY LARGO

Murray E. Nelson Government & **Cultural Center / Extension Office** 102050 Overseas Hwv., #244 9:00 a.m. to 12 noon March 1 & 15

For a complete print-out of schedules and / or brochures, visit our Plant Clinic webpage at

monroe.ifas.ufl.edu/lawn/lawn.shtml







Can you identify this invasive exotic?



Hints: • It is also the name of a country.

 Jalapeño, red, green, hot, chili, banana...

Schinus terebinthifolius.

Answer on page 4 or http://edis.ifas.ufl.edu/aa219 Shelly recently accomplished the following activities:

- Has been organizing the Shallow-Water Sponge Restoration Forum on March 9 in Marathon with The Nature Conservancy and a media event for invitees from the Key West Citizen, the Miami Herald, and the Sun Sentinel.
- · Was recertified by Georgia Adopt-A-Stream at their annual advisory board meeting and was awarded the "Beyond Borders" award, which will be given out at their annual Confluence Conference in March.
- Gave a talk about water quality to the Long Key Ladies Club.
- Is a member of the Florida Keys National Marine Sanctuary Blue Star Fishing Guide working group, which held its second workshop and one public comment meeting in Key West.
- Held three Florida Keys Water Watch

workshops and trained 12 people, including REEF interns. Islamorada Youth Council. and staff at



Long Key State Park.

- As chair of the Gulf Council Coral Advisory Panel, attended the scoping meeting for public comment regarding Coral Amendment 7, which is to expand the boundaries of the Pulley Ridge habitat area of particular concern.
- Attended a NOAA Coral webinar about mesophotic corals in the Gulf of Mexico and Channel Islands.
- Is on the committee to assist Florida Keys Community College in establishing a bachelor's of arts degree in marine management and policy; attended their first 2017 meeting.
- Spoke on US 1 Radio's "Morning Magazine" about the public hearing on February 21 regarding expanding the boundaries of the Pulley Ridge habitat area of particular concern.



Family and Community Development News

Alicia Betancourt

March Happenings

Key West Garden Club

Atlantic Blvd. & White Street
Thursday, March 2
1:30 p.m. - General Meeting
Speaker: Shelly Krueger, "Sponges"
keywestgardenclub.com 294-3210

Marathon Garden Club House & Garden Tour

Saturday, March 4 - \$25 10:00 a.m. - 4:00 p.m. 5270 Overseas Highway, Marathon marathongardenclub.org 743-4971

Marathon Original Seafood Festival

Saturday, March 11
10:00 a.m. - 9:00 p.m.
Sunday, March 12
11:00 a.m. - 5:00 p.m.
Marathon Community Park
US 1 & 36th Street, Marathon
marathonseafoodfestival.com

2nd Annual Outdoor Fest

March 11 - 18
For more information, call
Kristie Killam at 305-304-9625 or visit
favorfloridakeys.org/outdoor-fest

Big Pine Key Botanical Society

Monthly Meeting Thursday, March 16, 7:30 p.m. Lord of the Seas Church Key Deer Blvd., BPK

Monroe County Climate Change Advisory Committee Meeting

Monday, March 20 12:30 - 4:00 p.m. Marathon Government Center 2nd floor - EOC meeting room 2798 Overseas Highway, Marathon

Ocean Life Series

Sea Level Rise, Everglades Restoration and the Health of our Coastal Waters Friday, March 17, 7:00 p.m. Murray E. Nelson Government & Cultural Center 102050 Overseas Highway MM 102, Key Largo

Economic Resource Development News Harry Crissy

Harry recently accomplished the following activities:

- Met with the Executive Director of the Star of the Sea Foundation to discuss working together on the development of a community kitchen in Key West for entrepreneurship training and product implementation.
- Met with University of Florida faculty regarding the development of local food chain infrastructure and affordable housing.
- Met with a local entrepreneur to further develop an IT application and to develop a logistics plan for further implementation.
- Met with a local marketing entrepreneur to aid in business plan development.
- Met with the City of Key West Solid Waste Manager to visit a site for the development of a biodigester.
- Met with a local nonprofit entrepreneur to discuss funding strategies.
- Met with a local entrepreneur to develop an IT application to conduct an initial Geographic Information System (GIS) analysis concerning potential introductory market locations.
- Met with a local entrepreneur to examine the logistics of an event planning venture.
- Met with a local social entrepreneur to confirm the logistics of developing school community gardens for use for Science Technology Engineering and Math (STEM) training.
- Participated in a Marketing Committee meeting at the Key West Tropical Forest & Botanical Garden.
- Held two phone conferences with the University of Florida Campus Food System Coordinator in order to develop food system infrastructure demonstration models for the benefit of the state.
- Spoke on US 1 Radio's "Morning Magazine" about the importance of experience to the local economy.

- Alicia recently accomplished the following activities:
- Worked with the Monroe County Climate Change Advisory Committee to advance a timeline and process for development of a climate communication plan that will be completed by the fall of 2017.
- Collaborated with Extension specialists, agents, and researchers to help develop a district-wide training on natural resources. Presented Extension opportunities to engage governments on policy recommendations to 56 Extension professionals. The group met over two days and among the invited speakers were the National Park Service, the U.S. Geological Survey, and UF Research Hydrologists.
- As president of the Florida
 Association of Natural Resource
 Professionals (FANREP), worked with members to develop a policy and procedure manual for the FANREP board and committee members.



- Met with utility directors from San Francisco to establish guidance in the formation of Science Advisory Panels for regional cooperation. Helped direct the effort to establish academic, decision maker, and practitioner cooperation in climate planning.
- Spoke on US 1 Radio's "Morning Magazine" about life-long learning opportunities for adults: UF/IFAS Extension offers training courses such as Master Gardener and small business classes, and Florida Keys Community College offers non-credit classes for community education such as language, computers, real estate, and health care.



UF/IFAS/MONROE COUNTY EXTENSION

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We're on the Web at http://monroe.ifas.ufl.edu f on Facebook **Twitter**



http://SolutionsForYourLife.ufl.edu

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EDIS Publications

Hazardous Household Substances: Alternatives That Are Relatively Free of Toxic Effects

Some products that we use in our homes contain chemicals that are hazardous or toxic. We can reduce the potential for exposure to chemicals from household products and produce less hazardous household waste by using alternatives that are relatively free of toxic effects. This six-page fact sheet describes some alternatives that are relatively free of toxic effects. http://edis.ifas.ufl.edu/he791

Common Pines of Florida

Pine trees are highly important to Florida's ecosystems and economy. There are seven species of native pines and each grows best in a particular environment. People have found varied uses for each species as well. Several species are of commercial value and are cultivated and managed to enhance wildlife habitat and to provide attractive landscapes. Pines may provide more benefits Slash Pine. Photo by if they are managed wisely. This

11-page fact sheet gives an



Branch and trunk of Niels Proctor, UF/IFAS

overview of the features and identification of the major pines found in Florida. http://edis.ifas.ufl.edu/fr003







"IRISH" QUOTES

"We have always found the Irish a bit odd. They refuse to be English."

Winston Churchill, Former British Prime Minister 1874-1965

"Ninety percent I'll spend on good times, women, and Irish Whiskey. The other ten percent I'll probably waste."

Tug McGraw, professional baseball pitcher 1944-2004

11th Annual EARTH HOUR

What is Earth Hour?

Earth Hour is a global environmental movement made possible by teams in 172 countries around the world. This massive effort was formed to raise support and funds for access to renewable energy,

protection of wildlife and their habitats. building sustainable livelihoods, and driving climate-friendly legislation and policy.

When is Earth Hour?

Saturday, March 25, from 8:30 to 9:30 p.m., turn your lights off in support of Earth Hour.

Visit <u>earthhour.org</u> for more information.



UF/IFAS/MCES QUARTERLY CONTACTS

	Dec	Jan	Feb	Total
Phone calls	157	204	186	547
Office visitors	27	24	46	97
Visits to clients	17	15	22	54
Learning events	33	39	34	106
Participants	674	530	544	1748
Media submissions	6	5	5	16
Publications distributed	467	488	573	1528
TOTAL contacts	1381	1305	1410	4096