

GREEN INFRASTRUCTURE PROJECTS AND PARTNERSHIPS



**Katrina Locke
Sustainability and Natural Resource Director
Volusia County Environmental Management Division**



About Us

- Volusia County: Sustainability Action Plan in 2014
- “Green Volusia” coordinates this plan’s objectives
- Be Floridian Now is a collaboration between many organizations





HOW TO FERTILIZE LIKE A FLORIDIAN

Volusia County bans the use of fertilizer containing nitrogen or phosphorus from June 1 through Sept. 30

In Florida, summer rains wash fertilizers with nitrogen and phosphorus into our lakes and rivers, damaging what makes this state so beautiful. That's why it's illegal in Volusia County to use fertilizer with nitrogen or phosphorus during the summer rainy season, and why slow-release is required the rest of the year.

The good news is there are lots of ways to keep your yard looking great – while keeping algae-feeding nitrogen and phosphorus out of our waterways.

OCTOBER THROUGH MAY

- **Twice is nice.** Fertilize just twice a year, in April and October.
- **Watch the weather.** Rainstorms don't water in fertilizer; they wash it away. That wastes money and pollutes our water.
- **Skip the phosphorus.** Florida soils are naturally rich in phosphorus. Use phosphorus-based fertilizer only if a soil or plant tissue test turns up a deficiency.
- **Go slow by half.** Nitrogen in our lawn and landscape fertilizers must be at least 50% slow release (also called timed release or controlled release) from Oct. 1 through May 31.

JUNE THROUGH SEPTEMBER

- **Just say no to nitrogen and phosphorus.** Volusia County ordinance bans the use of lawn and landscape fertilizer containing nitrogen or phosphorus from June 1 through Sept. 30.
- **Pump some iron.** Use Florida-friendly yard products that contain iron or other micronutrients to green up your lawn during the summer.
- **Get better dirt.** Give your garden a boost by adding compost, composted cow or chicken manure, perlite, or other soil amendments.
- **Pick better plants.** Florida-friendly landscaping needs less fertilizer, water and overall care – leaving you more time for fun. Ask a sales rep or visit fyn.ifas.ufl.edu to learn more.

Enjoy Florida. It's where you live!



befloridiannow.org



You've mastered the art of fertilizing like a Floridian. Now you're ready to go all out. After all, our very way of life – boating, fishing, relaxing while sipping drinks with little umbrellas – is at stake.

SEVEN WAYS TO STEP IT UP AND KEEP OUR WATERS FUN

- 1 **Test your turf.** Before throwing fertilizer on your yard, do a little research – or you could be throwing money away. If the problem is a pH imbalance, pest invasion or nutrient deficiency, fertilizer isn't going to make a difference. Learn more by calling the University of Florida/Volusia County Extension at 386-822-5778 or visiting volusia.org/fertilizer.
- 2 **Fab 15.** Keep fertilizer at least 15 feet away from any body of water.
- 3 **Sweep it up.** Whisk any fertilizer granules that fall onto sidewalks, streets or driveways back into the landscaping.
- 4 **On your guard.** Use a spreader with a deflector shield or edge guard so you spread fertilizer only where you need it.
- 5 **Keep the clippings.** Don't throw grass clippings away; leave them right on your lawn. Clippings can supply up to 50% of the nitrogen your grass needs.
- 6 **Mow high.** Mowing too short stresses the turf and makes it vulnerable to disease, pests and drought. St. Augustine grass should be mowed at 3.5 to 4 inches.
- 7 **Be Floridian.** What works in other places is silly here in the semitropics. Ask a sales rep about how you can create a Florida yard. Or visit fyn.ifas.ufl.edu for ideas and help.

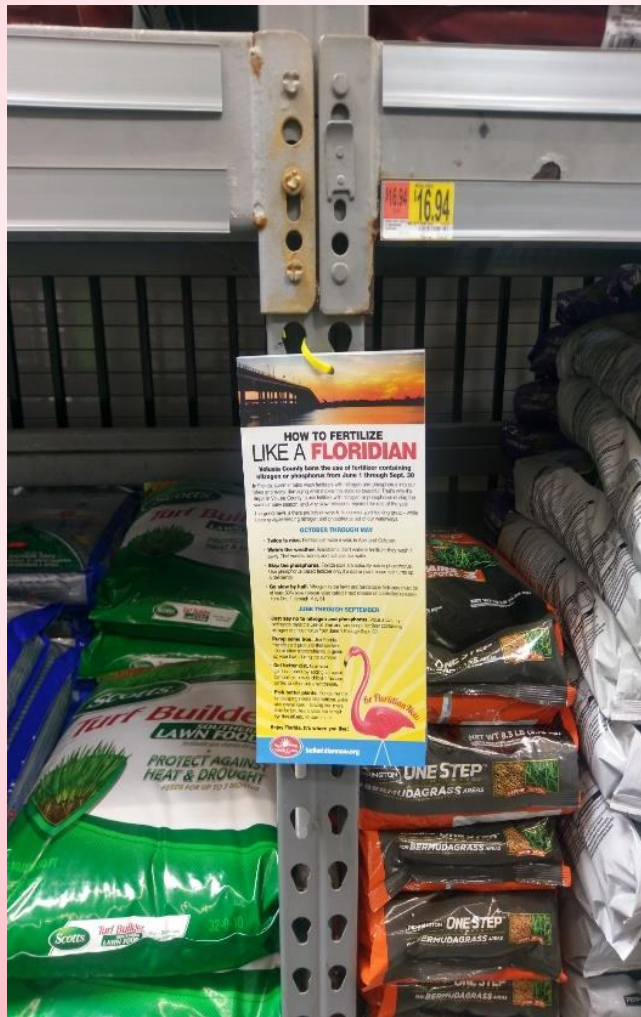
Enjoy Florida. It's where you live!



befloridiannow.org







VICTORIA PARK HOME OWNERS ASSOCIATION (HOA), DELAND, FL

Overarching Project Goals:

- Reducing fertilizer and irrigation inputs across the HOA landscape
- Studying and quantifying the environmental and economic benefits of these reductions
- Resident survey that examines factors that inform social marketing and educational efforts as they relate to:
 - Communicating with landscapers about their practices
 - Fertilizer practices that protect water quality
- Targeted education for residents about Florida-Friendly Landscaping (FFL)

Principles



VICTORIA PARK HOME OWNERS ASSOCIATION (HOA), DELAND, FL

Overarching Project Goals:

- Exploring conservation, biodiversity and their relationships to different management approaches in the HOA landscape
- Working with builders and developers to incorporate strategies of low-impact development, soil development, and/or green infrastructure
- Working with Victoria Park HOA to incorporate the FFL Landscaping language into its guiding documents and landscaping contracts



DEBARY GOLF AND COUNTRY CLUB HOA

Involvement to Date:

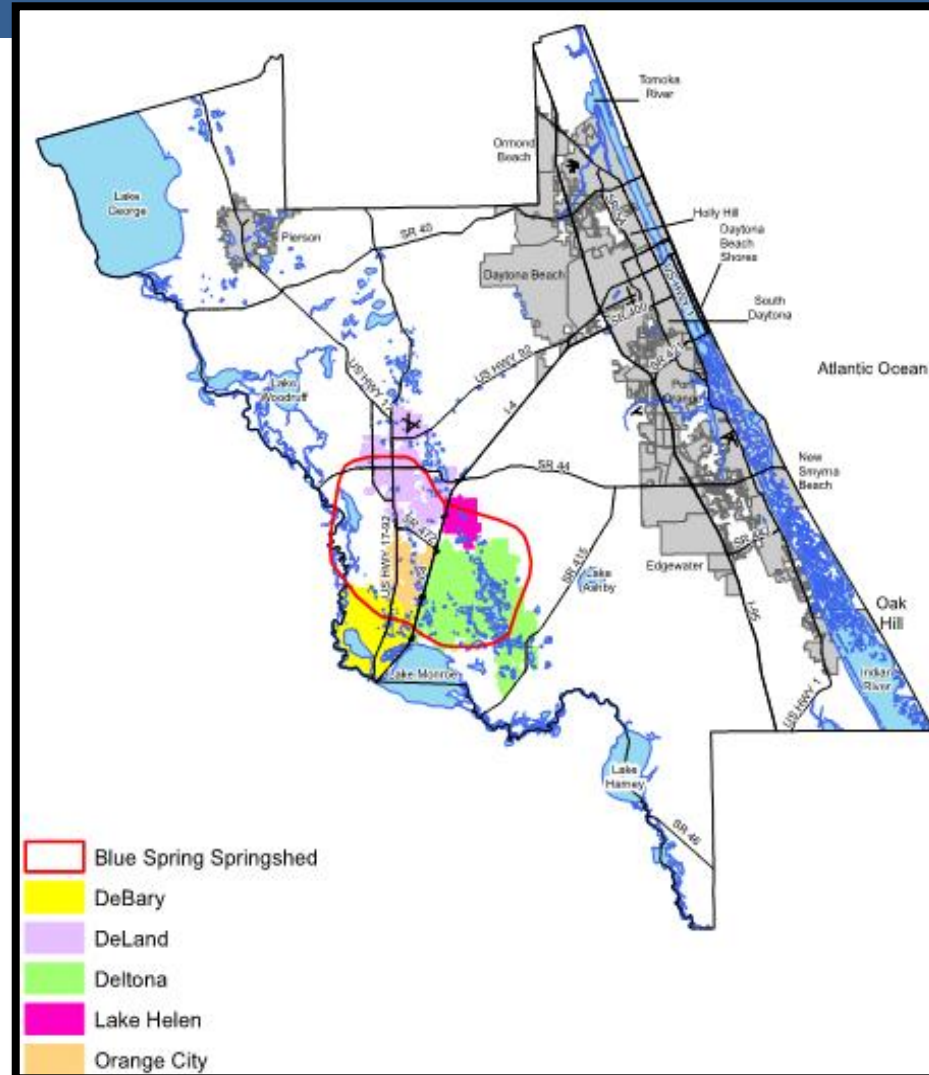
- Be Floridian Now information on homeowner website
- Community Association Annual Block Party
- Tour of Southwest Regional Water Reclamation Facility for residents and community decision-makers
- Presentation to Landscaping committee (including landscapers) about Volusia County's fertilizer ordinance, and the benefits of sustainable turf alternatives and buffer zones around stormwater ponds



DEP 319(H) GRANT FOR NONPOINT SOURCE EDUCATION

Collaboration of Volusia
County, Project H2O, and
local cities - DeLand, Lake
Helen, and
Orange City

- Focus on Volusia Blue Spring Springshed
- \$240,000 grant
- March 2018 through June 2021



Support:

- Blue Spring State Park
- Riverside Conservancy
- East Central Florida Regional Planning Council
- Florida Green Building Coalition
- UF IFAS Volusia County Extension
- Stetson University
- Blue Spring Alliance
- St. Johns Riverkeeper
- Center for Earth Jurisprudence
- And more...

LOW-IMPACT DEVELOPMENT WORKSHOPS



- LID: works with nature to manage stormwater close to its source
 - Preserving and re-creating natural landscape features
 - Minimizing imperviousness to create functional and appealing site drainage
 - Treating stormwater as a resource, rather than a waste product

Free Event open to the Public
Low-Impact Development Workshop



August 1, 2018 6 to 7:30 p.m.
Lyonia Environmental Center - 2150 Eustace Avenue, Deltona, FL

Polluted stormwater is a threat to rivers, the aquifer and springs. Join local experts in the discussion about how Low-Impact Development (LID) practices keep stormwater on site, can remove pollutants, prevent flooding, and benefit wildlife.

Elected officials, residents, builders, city planners and concerned citizens are encouraged to attend. For more information, visit www.greenvolusia.org or call 386-736-5927.



SAVE OUR SPRINGS AND RIVERS SPEAKERS INCLUDE:

Clay Ervin, Volusia County Growth and Resource Management Department Director

Fred Milch, Planning Manager, East Central Florida Regional Planning Council

Katrina Locke, Sustainability and Natural Resources Director, Volusia County Environmental Management; and Florida Green Building Coalition



- LID practices keep stormwater on-site, can remove pollutants, prevent flooding, and benefit wildlife
- Four workshops to date
- Topics discussed in workshops:
 - LID concepts, examples, and advocacy strategies

www.greenvolusia.org

Save our Springs and Rivers

LOW-IMPACT DEVELOPMENT WORKSHOPS

Free Event open to the Public

Green Infrastructure Workshop

September 20, 2018
6 to 7:30 p.m.

Lyonia Environmental Center - 2150 Eustace Avenue, Deltona, FL

Green Infrastructure, a Low-Impact Development strategy, incorporates nature into built environments to prevent flooding, remove pollution from stormwater on site and benefit people and wildlife. Polluted stormwater is a threat to rivers, the drinking water aquifer and springs. Join local experts as they discuss this topic and share examples of projects that can be used in our community.

Elected officials, residents, builders, city planners and concerned citizens are encouraged to attend. For more information, visit www.greenvolusia.org or call 386-736-5927.

SAVE OUR SPRINGS AND RIVERS SPEAKERS INCLUDE:

Dr. Jason M. Evans, Associate Professor of Environmental Science and Studies, Stetson University and Co-Editor-in-Chief, Journal of Environmental Management

Paul Haydt, Florida Coordinator, East Coast Greenway Alliance

Sandy Falcon, Lyonia Environmental Center Manager

Joseph Sowards, Extension Agent, Urban/Residential Horticulture/Master Gardener Coordinator, University of Florida Institute of Food and Agricultural Sciences



This cooperative project has been funded in part by the United States Environmental Protection Agency.

Free event open to the public

Green Building Workshop

November 14, 2018
6:30 to 8 p.m.

Lyonia Environmental Center - 2150 Eustace Avenue, Deltona, FL

Building, buying, owning or renting? Think Green!

Green, or sustainable, buildings reduce the impact we have on our natural environment. Whether building or retrofitting a home or commercial property, green buildings conserve water and energy, reduce waste, and use building materials that are healthier for the occupants. The return on investing in green building includes reducing your operation, utilities and maintenance costs.

Join presenters as they explain green building practices, cost(s) and benefits. Learn how green building relates to Low-Impact Development and resiliency. Elected officials, residents, builders, city planners and concerned citizens are encouraged to attend.

For more information, visit www.greenvolusia.org or call 386-736-5927.

SAVE OUR SPRINGS AND RIVERS SPEAKERS INCLUDE:

C.J. Davila, Executive Director, Florida Green Building Coalition (FGBC). FGBC is dedicated to improving the built environment, and its mission is "to provide a statewide green building program that defines, promotes and encourages sustainable efforts with environmental and economic benefits."

Katrina Locke, Sustainability and Natural Resources Director, Volusia County Environmental Management Division.

Ralph Locke, President, Environmental Construction & Consulting, Inc. Locke is a Florida licensed building, roofing and solar contractor, green building consultant, FGBC certifying agent and board member.



This cooperative project has been funded in part by the United States Environmental Protection Agency.

Implementing the Unimaginable: An exploration of effective strategies for environmental change

April 25, 2019
6 to 7:30 p.m.

Lyonia Environmental Center
2150 Eustace Ave., Deltona

Low-Impact Development: Protecting water quality using on-site, natural features



Polluted stormwater is a threat to rivers, the aquifer and springs. Low-Impact Development (LID) practices keep stormwater on site and can remove pollutants, prevent flooding and benefit wildlife.

Join us as we explore real examples of effective social and organizational change. Learn strategies that can be employed to address water quality issues and effective LID advocacy, taking examples from the nonviolent mass action of the civil rights movement in the United States and the fall of apartheid in South Africa. The workshop will be led by Dr. Michael Llewellyn Humphreys, Associate Professor of Ethics at Bethune-Cookman University.

Elected officials, residents, builders, city planners and concerned citizens are encouraged to attend. 1.5 Certification Maintenance Credits available for planners. Event# 9174201.

For more information, visit GreenVolusia.org or call 386-736-5927.



COMMUNITY BASED SOCIAL MARKETING



Take our survey on environmental issues for a chance to win a \$50 gift card!



Your Volusia County Government would like your opinions on issues in your community relating to water, sewage and septic tanks. Your input is very important to us as we plan upcoming programs. Please visit [SurveyMonkey.com/r/Volusia](https://www.surveymonkey.com/r/Volusia) to take our survey, or use a QR code reader to scan the attached QR code. Green Volusia is providing \$50 gift cards for gas or groceries to 20 randomly selected participants. Your participation is greatly appreciated. Thank you!

Send questions to
GreenVolusia@volusia.org
For ADA assistance call
813-226-3096

Volusia County 319 Grant
Social Marketing Campaign
Research Final Report
Provided by Uppercase, Inc.



UPPERCASE INC.

Data Collected 01/01/2019
– 03/14/2019
Report Date 04/26/2019

- Pre campaign research – survey and focus groups
- Campaign development
- Pretesting
- Pilot or soft roll out
- Full Scale implementation

COMMUNITY BASED SOCIAL MARKETING

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Septic tanks are responsible for over half of the nitrogen pollution in the Blue Spring Springshed. Fifty-four percent to be exact. Septic tanks are designed to slowly release pollutants into our drainage fields - that's how they function. But, with over 41,000 septic tanks currently in use in our springshed, the nitrogen is leaching into our groundwater and polluting our springs. It's time to rethink our systems and get ready for changes. My name is Katrina Locke. I'm not just an environmental scientist, this is my home.

- Katrina Locke
DeLand, Florida

SepticTankTruth.com

**ALL SEPTIC TANKS POLLUTE
THE GROUNDWATER.**

☒ **TRUE?**
☐ **FALSE?**

Start a movement!
SepticTankTruth.com

SepticTankFacts.com

**We've come a long way.
Time to change the way you go.**

Start a movement!
SepticTankTruth.com

SepticTankTruth.com

□ July 2019 - 3 focus groups with 28 total attendees

SAVE OUR SPRINGS AND RIVERS ACADEMY 2018



Save our Springs and Rivers Academy



Limited Seating. Pre-registration Required.

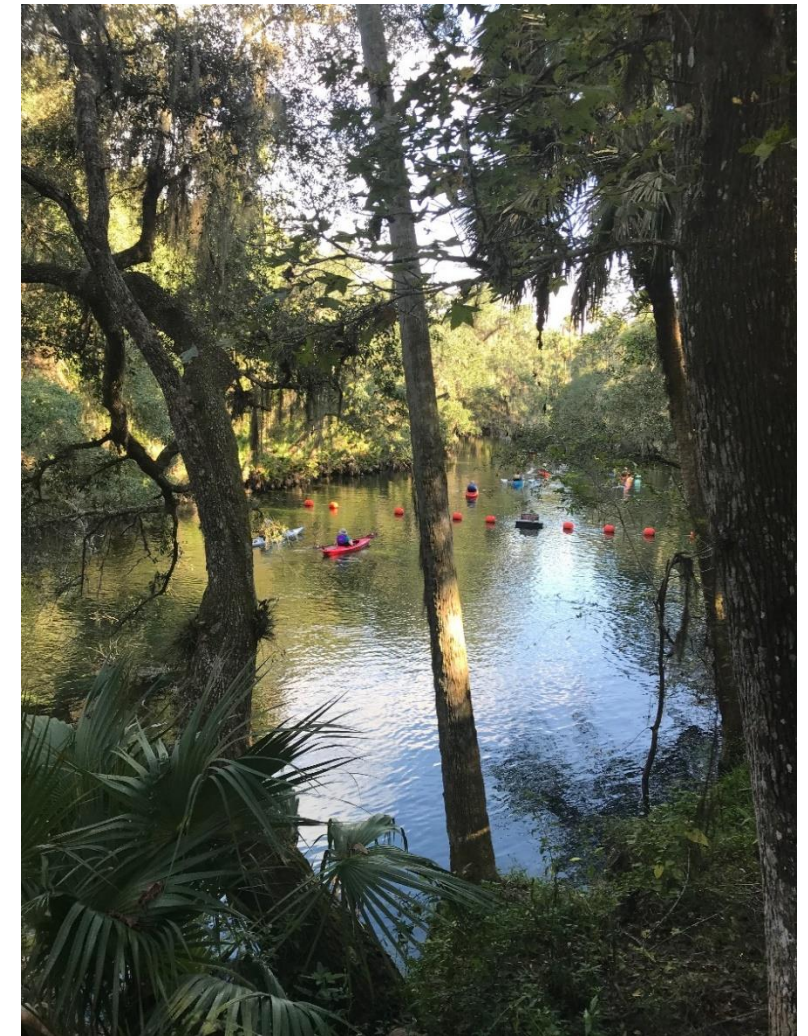
Want to become a Blue Spring advocate and help us spread the word about solutions to water pollution? We invite you to attend our **FREE** adult education course: Save Our Springs and Rivers Academy. The Academy will include classroom and field trip experiences, guest speakers, and hands-on, feet-wet learning to provide the ultimate citizen engagement experience. Those participating in the six-week course will gain valuable knowledge and will pledge to educate others on behalf of Volusia Blue Spring after the course's completion as "Ambassadors."

For more information or to register, visit www.greenvolusia.org or call 386-736-5927.

Date	Start Time	End Time	Location	Field Trip
October 12	9:30 AM	2:00 PM	Lyonia Environmental Center (LEC) (Deltona, FL)	St. Johns River Boat Tour
October 19	8:30 AM	2:00 PM	Blue Spring State Park & LEC (DeLand, FL)	Kayak Tour
October 26	9:00 AM	4:00 PM	Wayne G. Sanborn Center (DeLand, FL)	Water Symposium
November 2	9:30 AM	2:00 PM	Volusia County Council Chambers (DeLand, FL)	Simulated/Mock County Council Meeting
November 9	9:30 AM	2:00 PM	Lyonia Environmental Center (Deltona, FL)	Southwest Regional Water Reclamation Facility tour.
November 16	9:30 AM	2:00 PM	Lyonia Environmental Center (Deltona, FL)	Scrub Habitat Tour



This cooperative project has been funded in part by the United States Environmental Protection Agency.



www.greenvolusia.org Save our Springs and Rivers

SAVE OUR SPRINGS AND RIVERS ACADEMY 2019

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Save our Springs and Rivers Academy



Limited Seating. Pre-registration Required.

Want to help us spread the word about solutions to water pollution? We invite you to attend our **FREE** adult education course: Save Our Springs and Rivers Academy. The Academy will include classroom and field trip experiences, guest speakers, and hands-on, feet-wet learning to provide the ultimate citizen engagement experience. Those participating in the six-week course will gain valuable knowledge and will pledge to educate others on behalf of Volusia Blue Spring and local rivers after the course's completion.

For more information or to register, visit www.greenvolusia.org or call 386-736-5927.

Date	Start Time	End Time	Location	Field Trip
October 24	9:30 AM	2:00 PM	Lyonia Environmental Center 2150 Eustace Ave. Deltona, 32725	Lyonia Preserve
October 25	9:00 AM	4:00 PM	Wayne G. Sanborn Center 815 S Alabama Ave DeLand, FL 32724	Water Symposium
October 31	9:00 AM	4:00 PM	Blue Spring State Park 2100 W French Ave, Orange City, FL 32763	Kayak Excursion and Pontoon Boat Tour
November 1	9:30 AM	3:00 PM	120 W. Indiana Ave. 2 nd Floor Training Room DeLand, FL 32720	Southwest Regional Water Reclamation Facility in DeBary
November 8	9:30 AM	2:00 PM	120 W. Indiana Ave. 2 nd Floor Training Room DeLand, FL 32720	Simulated/Mock County Council Meeting
November 15	9:30 AM	4:00 PM	News-Journal Center 221 N. Beach St. Daytona Beach, Florida	Sh.O.R.E. Symposium



This cooperative project has been funded in part by the United States Environmental Protection Agency.

Save Our Springs and Rivers Academy

October 24
9:30 AM to 2:00 PM
120 W. Indiana Ave.
2nd Floor Training Room
DeLand, FL 32720

9:30 AM	Welcome and Introductions What Does Resiliency Mean to You?
9:55 AM	Katrina Locke , Volusia County Sustainability and Natural Resources Director kl Locke@volusia.org www.greenvolusia.org
10:00 AM	Keynote Speaker: Deb Denys , Volusia County Council Woman and Chair of the IRL Council  
10:30 AM	Resiliency 101 Katrina Locke , Volusia County Sustainability and Natural Resources Director kl Locke@volusia.org 
11:00 AM	 Michael Watkins , Park Manager Blue Spring State Park
11:15 AM	Lyonia Environmental Preserve Scavenger Hunt  Lunch
12:00 PM	 Michael L. Humphreys, Ph.D. Bethune-Cookman University Associate Professor, Ethics Email Address: humphreysm@cookman.edu
1:00 PM	
1:45 PM	Instructions for October 25 th class.

SAVE OUR SPRINGS AND RIVERS ACADEMY

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SAVE OUR SPRINGS AND RIVERS ACADEMY

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COMMUNITY RESILIENCE THROUGH GREEN INFRASTRUCTURE IN THE SPRING HILL COMMUNITY, DELAND

Barry University

Barry University News

ABOUT BARRYCOLLEGES AND SCHOOLSFUTURE STUDENTSCURRENT STUDENTUALUMNIGIVINGATHLETICSADMINISTRATION

BARRY UNIVERSITY | NEWS | CEJ RECEIVES GRANT FOR SUSTAINABILITY

CEJ RECEIVES GRANT FOR SUSTAINABILITY

Posted On : December 14, 2018

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CENTER
FOR
EARTH
JURISPRUDENCE

Barry University
Dwayne O. Andreas | School of Law

Barry Law's Center for
Earth Jurisprudence

receives a grant for

**COMMUNITY
RESILIENCE**

CENTER FOR EARTH JURISPRUDENCE AT BARRY UNIVERSITY SCHOOL OF LAW RECEIVES GRANT FROM SOUTHEAST SUSTAINABILITY FUND

Green Infrastructure for Climate Resiliency

Climate change is impacting urban areas in many ways, from exacerbating the urban heat island effect to elevating flood risk. Build green infrastructure to help improve community resilience.

FLOODING



By the end of the century, annual damages from flooding in the U.S. are projected to **increase by 30%**.¹

DROUGHT



1 out of 3 U.S. counties in the lower 48 states face higher risks of water shortages by mid-century.²

COASTAL DAMAGE



50% of Americans live in coastal counties, where water and energy infrastructure are increasingly vulnerable to higher sea levels.³

URBAN HEAT



Climate change will likely lead to **more frequent and severe** heat waves during summer months.⁴

Green Infrastructure Builds Resiliency

- 1** Vegetation-based green infrastructure practices can mitigate carbon pollution.
- 2** Build green infrastructure like rain gardens and permeable pavement to manage flooding.
- 3** Reduce dependence on imported water and save money. Let water soak into the ground to recharge local groundwater supplies.
- 4** Keep water local. Capture runoff in cisterns and rain barrels to reduce municipal water use.
- 5** Plant trees and green roofs to mitigate the urban heat island effect.
- 6** Use living shorelines, buffers, dunes and marsh restoration to reduce the impact of storm surges.

www.barry.edu/news/article.html?id=31121

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[illegible]☐ Spring Hill CRA

COMMUNITY RESILIENCE THROUGH GREEN INFRASTRUCTURE



- \$299,600 Southeast Sustainability Directors Network grant for a two-year project with Barry University Center for Earth Jurisprudence
- Government Alliance on Race & Equity (GARE)
- Facilitating discussions within the community (values and needs);
- Green Industries BMP certification trainings
- Resiliency academies
- Community resiliency team
- Installation of two green infrastructure projects
- Lacey Family Boys and Girls Club summer education program

SPRING HILL GREEN INFRASTRUCTURE PLANTING SURVEY

OUT OF 18 PARTICIPANTS:

Replant: 2 of these participants expressed the **children** in the community as their top area of concern

Replant: 4 of these participants expressed **beauty** as their top area of concern

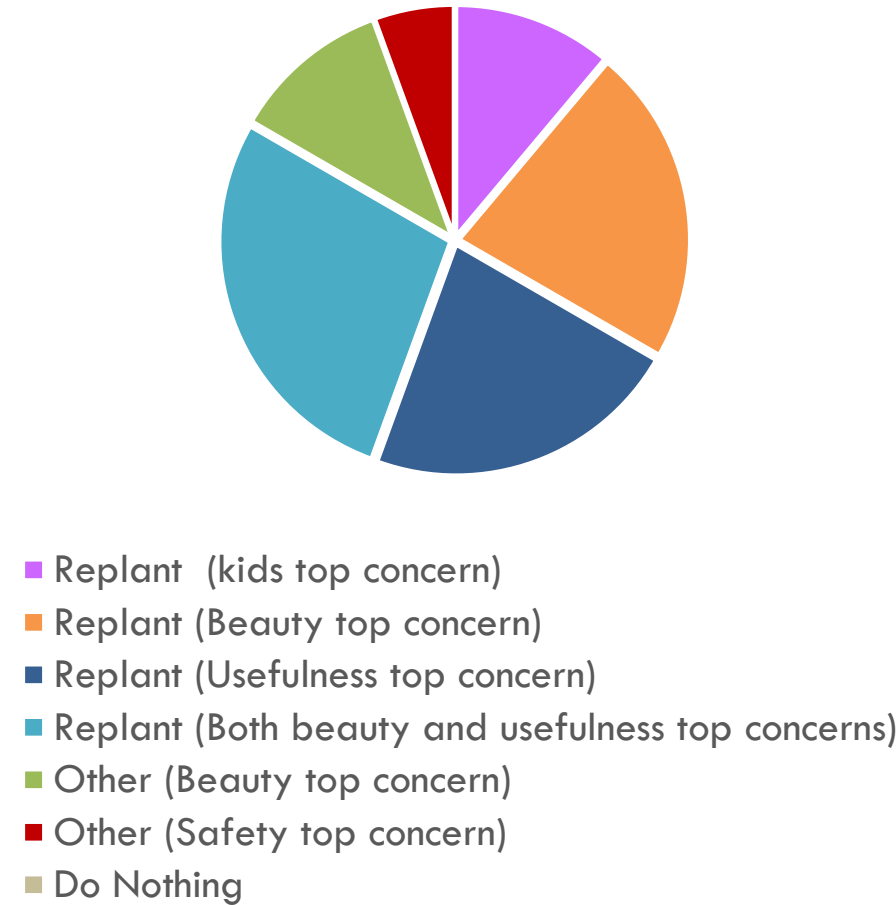
Replant: 4 of these participants expressed **usefulness** as their area of top concern

Replant: 5 of these participants expressed **both beauty and usefulness** equally as areas of their top concern

Other: 2 participants with a new idea expressed **beauty** as their top concern

Other: 1 participant with a new idea expressed **safety** as their top concern

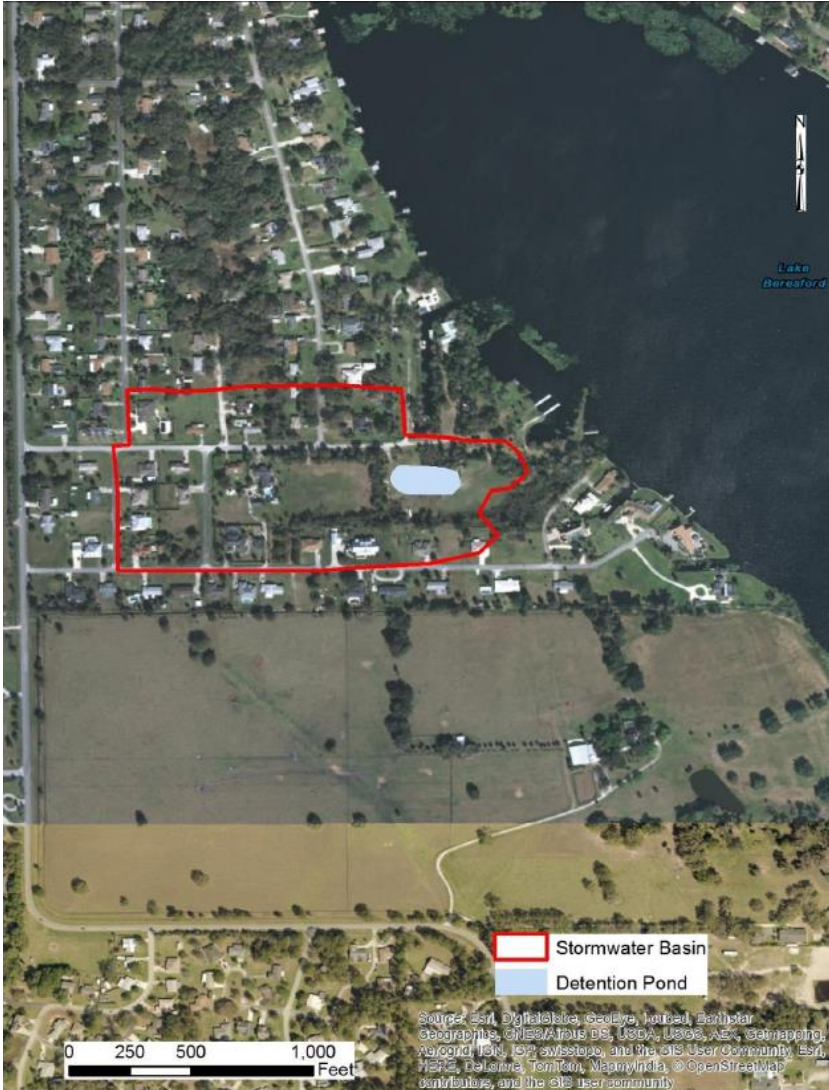
Choices Broken Down by Area of Top Concern



COMMUNITY RESILIENCE THROUGH GREEN INFRASTRUCTURE



GREEN INFRASTRUCTURE AND WATER QUALITY PROJECT AT THE SANDRA STETSON AQUATIC CENTER



Collaboration of Volusia County and Stetson University

- Sandra Stetson Aquatic Center located on Lake Beresford
- \$60,000 grant
- Littoral gardens and floating Islands in the detention pond and a rain garden that will include native and pollinator plants
- Nutrient treatment of storm water runoff from a medium density neighborhood
- Demonstration project and education on GI
- Project Runs through September 2020

RESILIENCY

2017

Resilient Volusia County



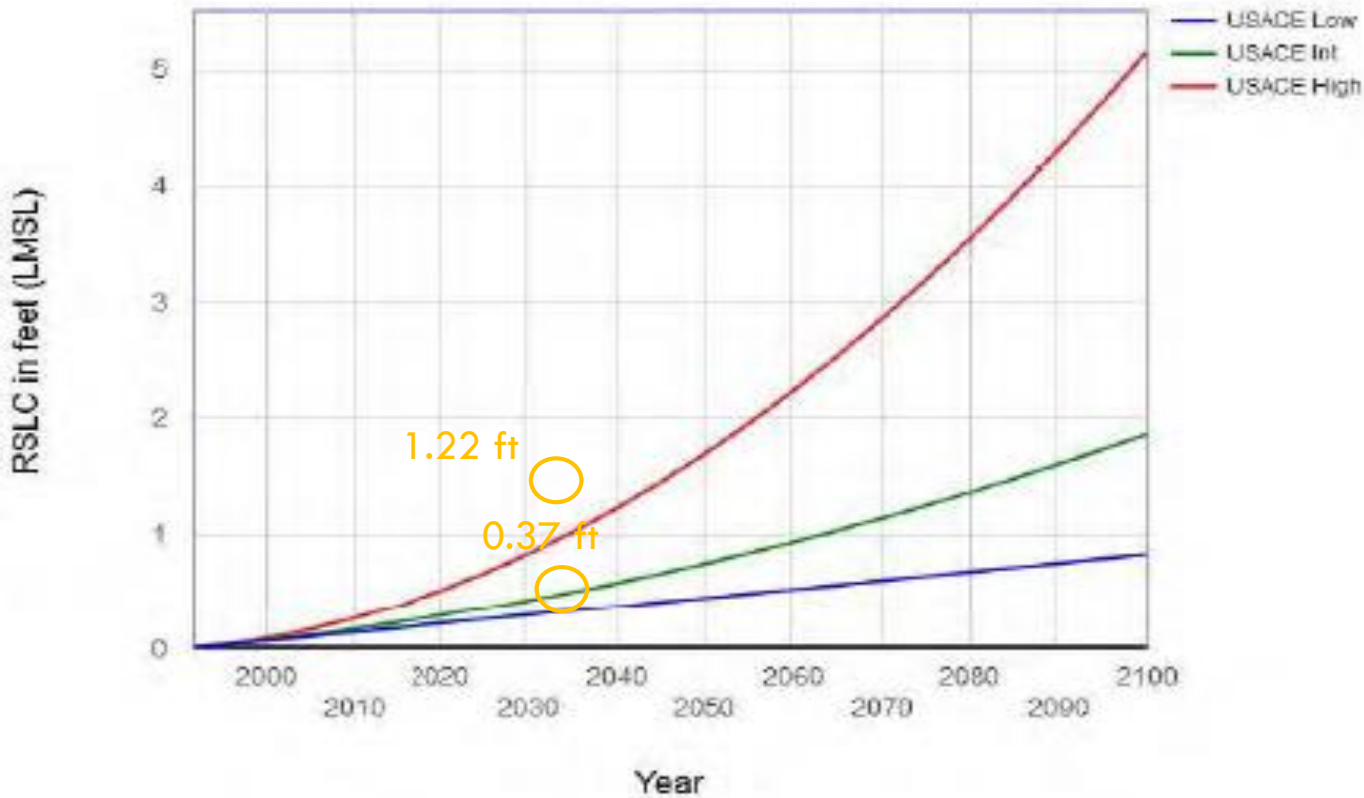
Prepared by the East Central Florida Regional Planning Council (ECFRPC) for Volusia County and our partners the River to Sea Transportation Planning Organization (R2CTPO), Florida Department of Transportation, UF Geoplan and the Florida Department of Environmental Protection

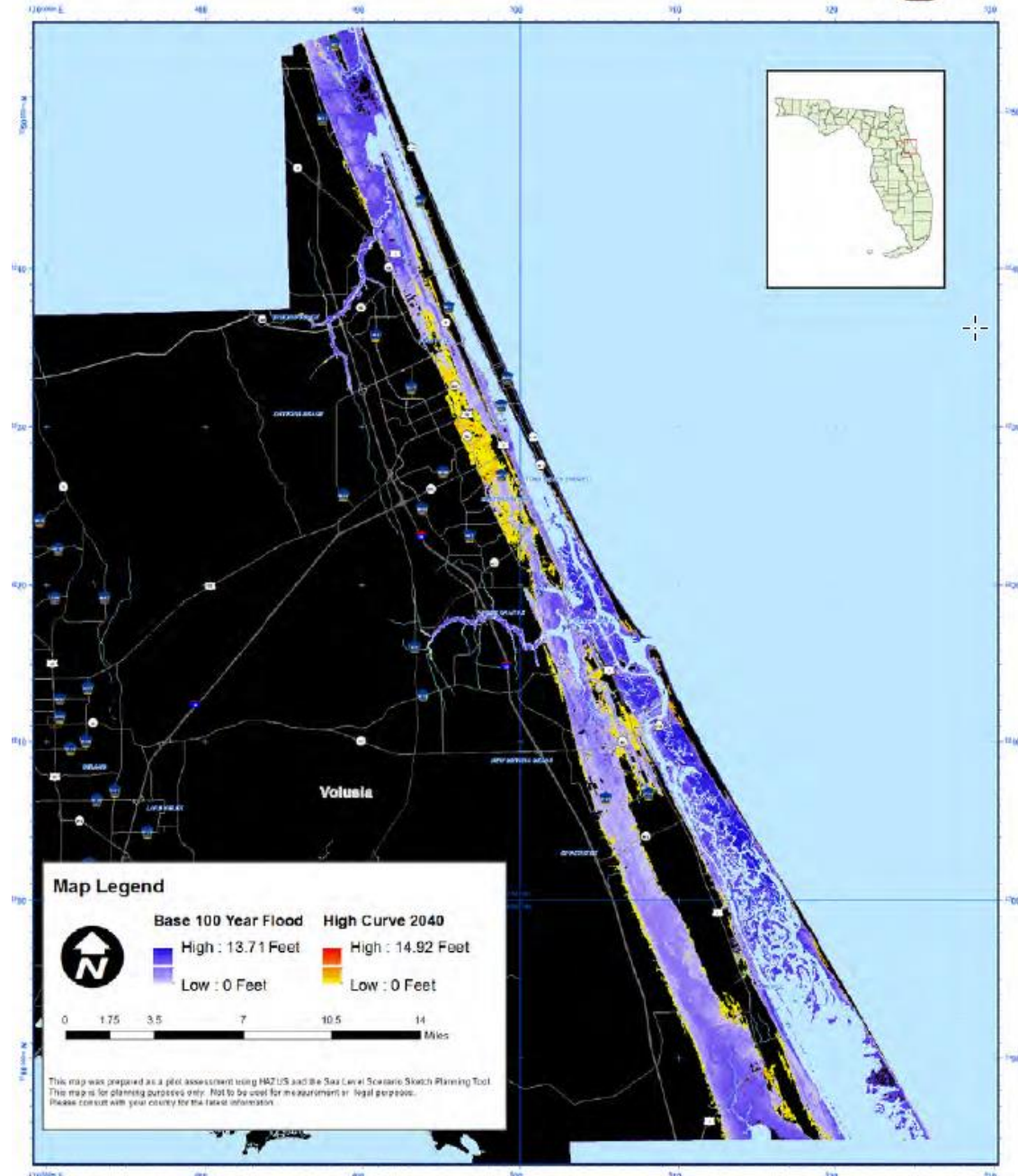


Table 2: Relative Sea Level Change Projections, Daytona Beach Shores, FL, U.S. Army Corps of Engineers sea-level change calculator

8721120, Daytona Beach Shores, FL
NOAA's Published Rate: 0.00761 feet/yr

Relative Sea Level Change Projections - Gauge: 8721120, Daytona Beach Shores, FL (05/01/2014)





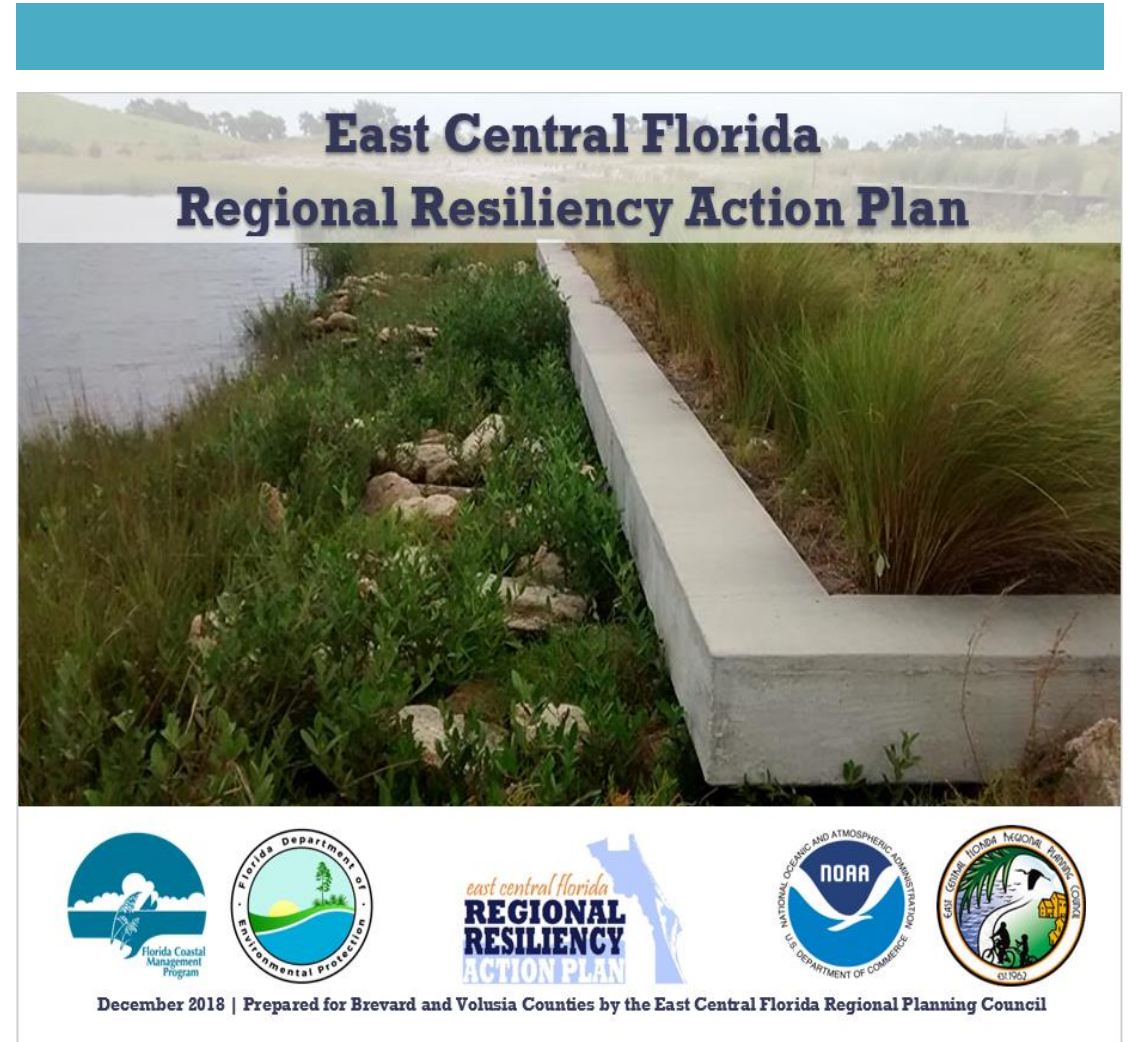
PLAN OUTCOMES

- Analyzed impacts on critical assets such as shelters, evacuation routes, land uses, airports, transit facilities and other critical infrastructure necessary for economic and community resiliency.
- Without accounting for sea level rise, a 100-year coastal flood event would leave approximately 6.1% of Volusia flooded today. In the 2100 high scenario, almost 10% of Volusia will be vulnerable to flooding; an approximate 56% increase.
- Analyzing the new flood impacts provides emergency management with the critical information to develop necessary response plans and continued collaboration between critical agencies.

East Central Florida Regional Resiliency Action Plan

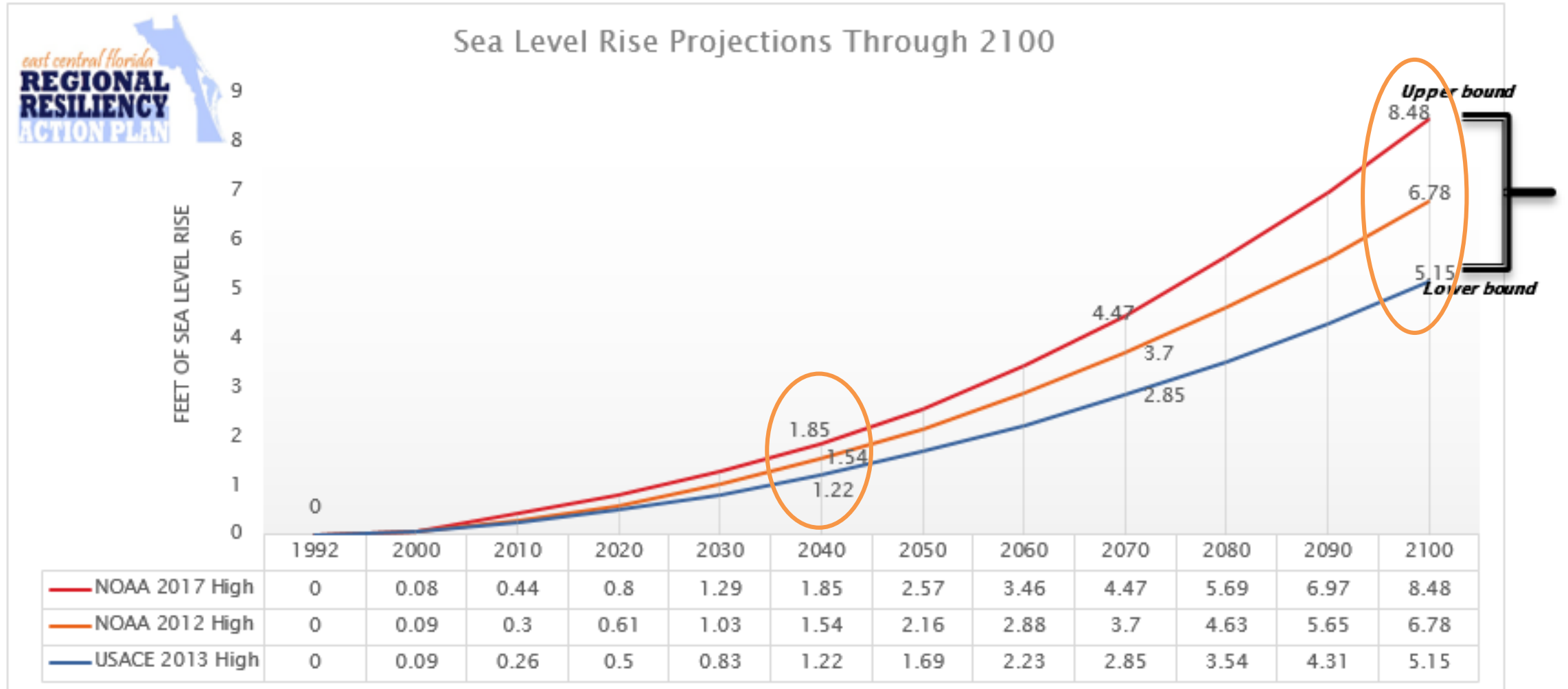
26

In 2017, the East Central Florida Regional Planning Council (ECFRPC) was awarded grant funding from the Florida Department of Environmental Protection to develop a non-regulatory regional action plan for Volusia and Brevard counties that focused on resiliency and sustainability.



Sea Level Rise Projections

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Plan focus areas

Leadership and Strategy –
Promote leadership, education
and empowerment both in
government, and public and
private sectors to foster the
implementation of resiliency
strategies across disciplines
and communities

Infrastructure and Environment –
encourage development of
cross-disciplinary plans, policies
and strategies to protect the
health, safety and economic
welfare of residents, businesses
and visitors through recognition .
. . of when and how to develop
infrastructure . .



Health and Wellbeing –
Create resilient communities
by facilitating programs,
opportunities, and community-
wide education pertaining to
local sustainability, disaster
response, and climate change
mitigation strategies.

Economy and Society –
Provide opportunities and
strategies to foster economic
prosperity and improve social
equity and justice in
preparation for and recovery
from stressors and shocks.

Plan Matrix

Goal	Objective	Action	Agency	Task	Year	Related Plans
Infrastructure & Environment	IE1: Prioritize the use of Green Infrastructure as a first line of defense.	IE1.1	Public Works Department Natural Resource Department Environmental Department SJRWMD FDEP	Conduct an audit of coastal areas to identify locations for living shorelines and prioritize areas for implementation. (Example: UCF Study in Brevard, Gulf of Mexico Alliance Living Shoreline Study for Tampa Bay Region)	1	
		IE1.2	Transportation Department Engineering Department Public Works Department TPO FDOT	Include narrative to include use of green infrastructure to create "green streets" to mitigate stormwater impacts where feasible in project prioritization and programming.	1	Long Range Transportation Plan TPO Priority Project Listing
		IE1.3	Public Works Department Natural Resource Department SJRWMD FDEP Florida Sea Grant	Create/implement/expand a program or partnership to educate property owners about the benefits of living shorelines and assist with installation.	2	
		IE1.4	Planning Department Sustainability Board	Conduct an audit to improve urban tree canopy cover in jurisdiction and develop an Urban Canopy Plan.	2	Sustainability Plan
		IE1.5	Planning Department Natural Resource Department Environmental Department	Assess comprehensive plan, LDRs and process applications for barriers to implementing green infrastructure and to prioritize natural solutions versus engineered engineering projects.	2	Comprehensive Plan Land Development Regulations
		IE1.6	FDEP SJRWMD Natural Resource Department Environmental Department NEE	Develop a Restoration Plan(s) to prioritize the restoration of tidal wetlands, dunes and salt marshes and create living shorelines to soften the impacts of wave-induced erosion in high risk areas. Include indicators to measure success and return on investment.	3	Restoration Paln

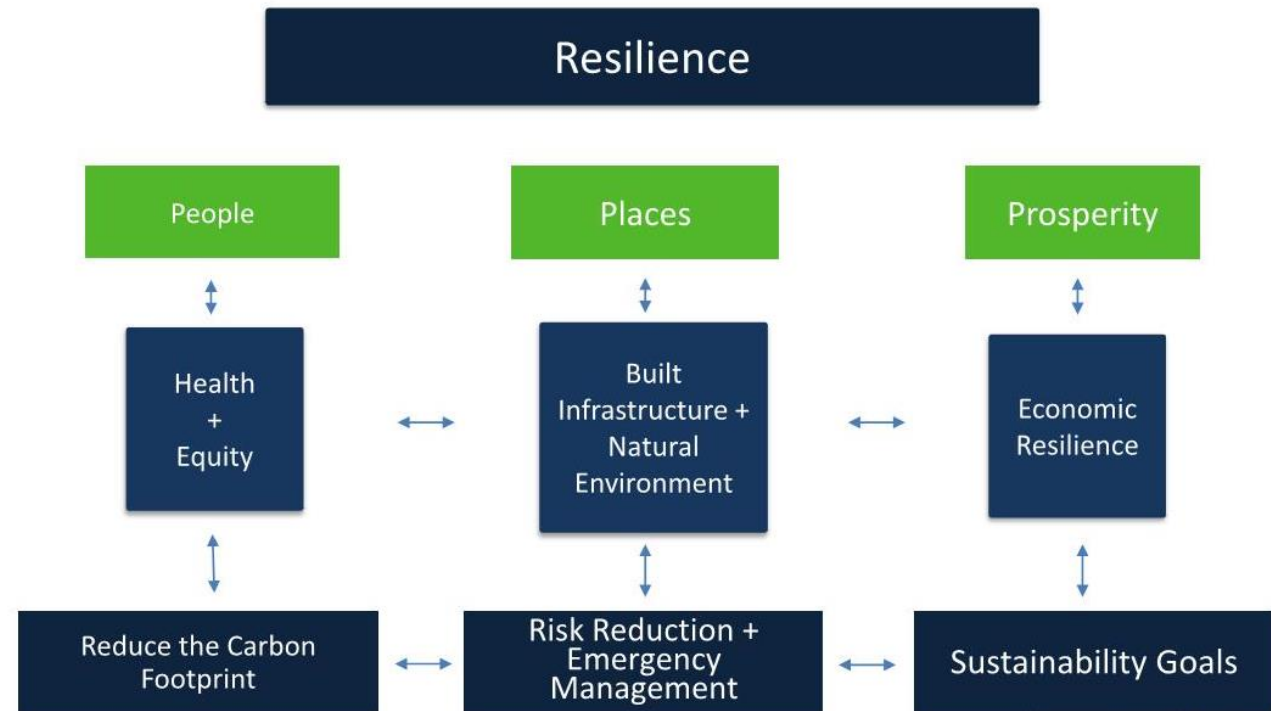
Infrastructure & Environment: Prioritize the use of Green Infrastructure as a first line of defense.

Plan Matrix

Goal	Objective	Action	Agency	Task	Year	Related Plans
Infrastructure and Environment	IE4: Improve water quality in surface water bodies.	IE4.1	Indian River Lagoon Council All Local Jurisdiction Commission FDEP SJRWMD	Continue financial/staff support of programs and projects to improve water quality.	on-going	
		IE4.2	Indian River Lagoon Council FDEP SJRWMD UF IFAS Extension Public Works Department	Identify and educate communities about best management practices (BMP's) for reducing nutrient loads flowing into surface waters via residential, commercial, industrial and agricultural lands.	on-going	
		IE4.3	FDACS USDA UF IFAS Extension	Educate agriculture land owners on fertilizer best practices as well as the ecological resources their property provides in regards to resilience and mitigation.	on-going	
		IE4.4	FDEP SJRWMD Colleges/Universities ECFRPC	Identify projects and programs aimed at improving water quality and conduct a gaps analysis.	1	
		IE4.5	FDEP SJRWMD Indian River Lagoon Council	Review current total maximum daily load (TMDL) requirements and recommend new targets.	2	
		IE4.6	Marine Resource Council ECFRPC UF IFAS Extension	Evaluate existing fertilizer ordinances and successfulness. Conduct gap analysis to determine a regional approach.	2	
		IE4.7	FDEP SJRWMD Colleges/Universities ECFRPC	Evaluate policies or ordinances for enhancing septic tank standards along waterways.	2	
		IE4.8	Planning Department All Local Jurisdiction Commission	Develop and adopt a fertilizer ordinance.	2	

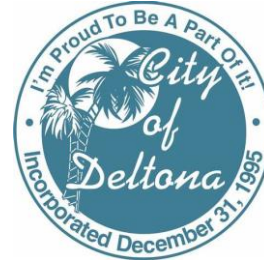
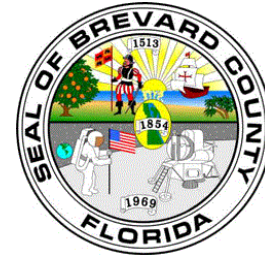
Infrastructure & Environment: Improve water quality in surface water bodies.

EAST CENTRAL FLORIDA REGIONAL RESILIENCE COLLABORATIVE





Formalized Partners @ Signing Ceremony





Katrina Locke
Sustainability and Natural Resource Director
Volusia County Environmental Management Division