



A G E N D A

**SPECIAL MEETING OF THE STUART CITY COMMISSION
TO BE HELD January 22, 2019
AT 1:00 PM Commission Chambers - CITY TOPICS WORKSHOP
121 SW FLAGLER AVE.
STUART, FLORIDA 34994**

CITY COMMISSION

**Mayor Rebecca S. Bruner
Vice Mayor Eula R. Clarke
Commissioner Kelli Glass Leighton
Commissioner Merritt Matheson
Commissioner Mike Meier**

ADMINISTRATIVE

**City Manager, David Dyess
City Attorney, Michael J. Mortell
City Clerk, Mary R. Kindel**

Agenda items are available on our website at <http://www.cityofstuart.us>
Phone: (772) 288-5306 . Fax: (772) 288-5305 . E-mail: mkindel@ci.stuart.fl.us

In compliance with the Americans with Disabilities Act (ADA), anyone who needs a special accommodation to attend this meeting should contact the City's ADA coordinator at 772-288-5306 at least 48 hours in advance of the meeting, excluding Saturday and Sunday.

If a person decides to appeal any decision made by the Board with respect to any matter considered at this meeting, he will need a record of the proceeding, and that for such purpose he may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based.

(RC) next to an item denotes there is a City Code requirement for a Roll Call vote.
(QJ) next to an item denotes that it is a quasi-judicial matter or public hearing.

ROLL CALL

PLEDGE OF ALLEGIANCE

PRESENTATIONS

1. FUTURE PROOFING FOR ENVIRONMENTAL IMPACTS
2. CITY FACILITIES - WHERE DO WE GO FROM HERE?
3. RIVER UPDATE
4. URBAN RESILIENCE
5. GOALS OF CITY COMMISSION

COMMENTS BY CITY COMMISSIONERS

COMMENTS BY CITY MANAGER

APPROVAL OF AGENDA

COMMENTS FROM THE PUBLIC (5 min. max)

WHAT IS CIVILITY?: *Civility is caring about one's identity, needs and beliefs without degrading someone else's in the process. Civility is more than merely being polite. Civility requires staying "present" even with those persons with whom we have deep-rooted and perhaps strong disagreements. It is about constantly being open to hear, learn, teach and change. It seeks common ground as a beginning point for dialogue. It is patience, grace, and strength of character. Civility is practiced in our City Hall.*

PUBLIC COMMENT: *If a member of the public wishes to comment upon ANY subject matter, including quasi-judicial matters, please submit a Request to Speak form. These forms are available in the back of the Commission Chambers, and should be given to the City Clerk prior to introduction of the item number you would like to address.*

QUASI-JUDICIAL HEARINGS: *Some of the matters on the Agenda may be "quasi-judicial" in nature. City Commissioners will disclose all ex-parte communications, and may be subject to voir dire by any interested party regarding those communications. All witnesses testifying will be "sworn" prior to their testimony. However, the public is permitted to comment without being sworn. Unsworn testimony will be given appropriate weight and credibility by the City Commission.*

CONSENT CALENDAR: *Those matters included under the Consent Calendar are self-explanatory, non-controversial, and are not expected to require review or discussion. All items will be enacted by one motion. If discussion on an item is desired by any City Commissioner that item may be removed by a City Commissioner from the Consent Calendar and considered separately. If an item is quasi-judicial it may be removed by a Commissioner or any member of the public from the Consent Calendar and considered separately.*

CONSENT CALENDAR

END OF CONSENT CALENDAR

COMMISSION ACTION

ORDINANCE FIRST READING

ORDINANCE SECOND READING

DISCUSSION AND DELIBERATION

ADJOURNMENT:

**CITY OF STUART, FLORIDA
AGENDA ITEM REQUEST
CITY COMMISSION**

Meeting Date: 1/22/2019

Prepared by: DAVID DYESS, CITY MANAGER

Title of Item:

FUTURE PROOFING FOR ENVIRONMENTAL IMPACTS

Summary Explanation/Background Information on Agenda Request:

Susan Glickman, Florida Director Southern Alliance for Clean Energy will discuss environmental change and what can be done.

Funding Source:

N/A

Recommended Action:

Observe and discuss presentation

**CITY OF STUART, FLORIDA
AGENDA ITEM REQUEST
CITY COMMISSION**

Meeting Date: 1/22/2019

Prepared by: DAVID DYESS, CITY MANAGER

Title of Item:

CITY FACILITIES - WHERE DO WE GO FROM HERE?

Summary Explanation/Background Information on Agenda Request:

City manager will lead a discussion on city facilities.

Funding Source:

N/A

Recommended Action:

Observe and participate in discussion.

CITY OF STUART, FLORIDA AGENDA ITEM REQUEST CITY COMMISSION

Meeting Date: 1/22/2019

Prepared by: bhogarth

Title of Item:

RIVER UPDATE

Summary Explanation/Background Information on Agenda Request:

A brief presentation on water advocacy and future priorities addressing various issues relating to water quality and Lake Okeechobee discharges.

Funding Source:

N/A

Recommended Action:

N/A

ATTACHMENTS:

Description	Upload Date	Type
▣ River Update Presentation	1/14/2019	Presentation

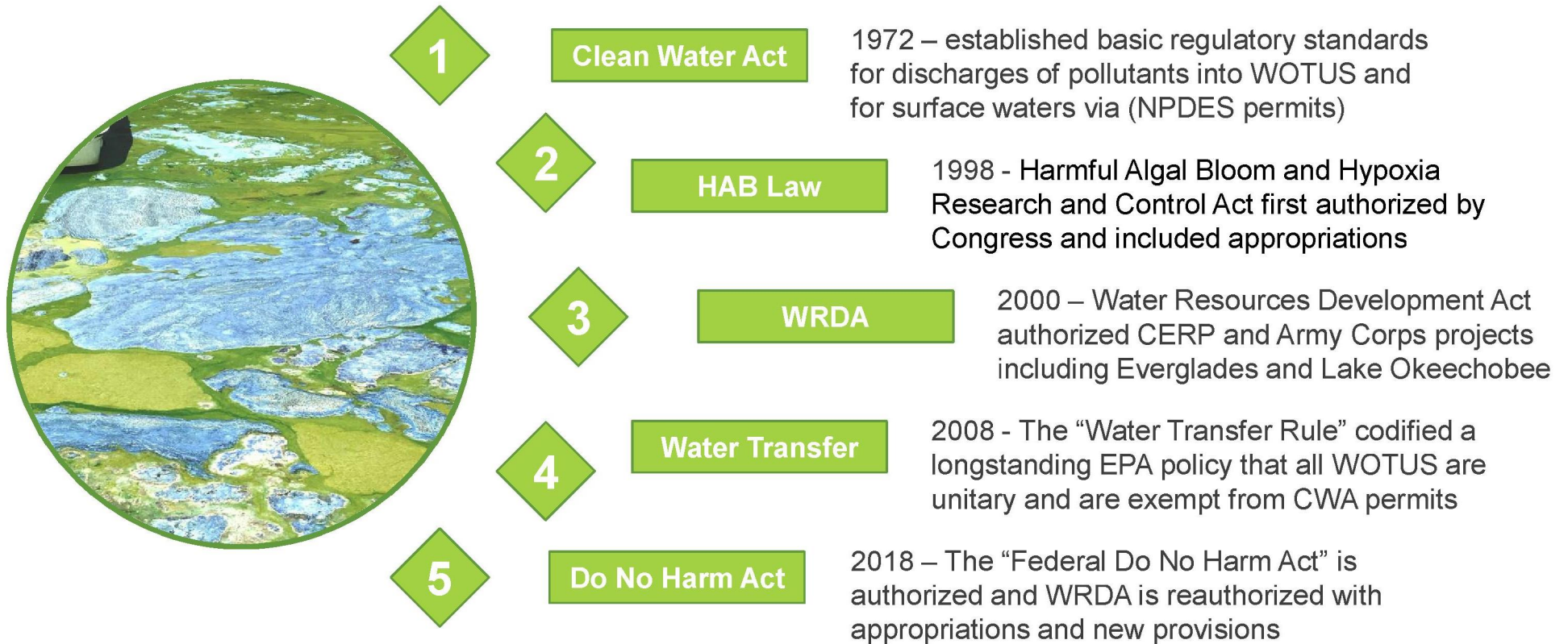


Harmful Algal Blooms & Our Water



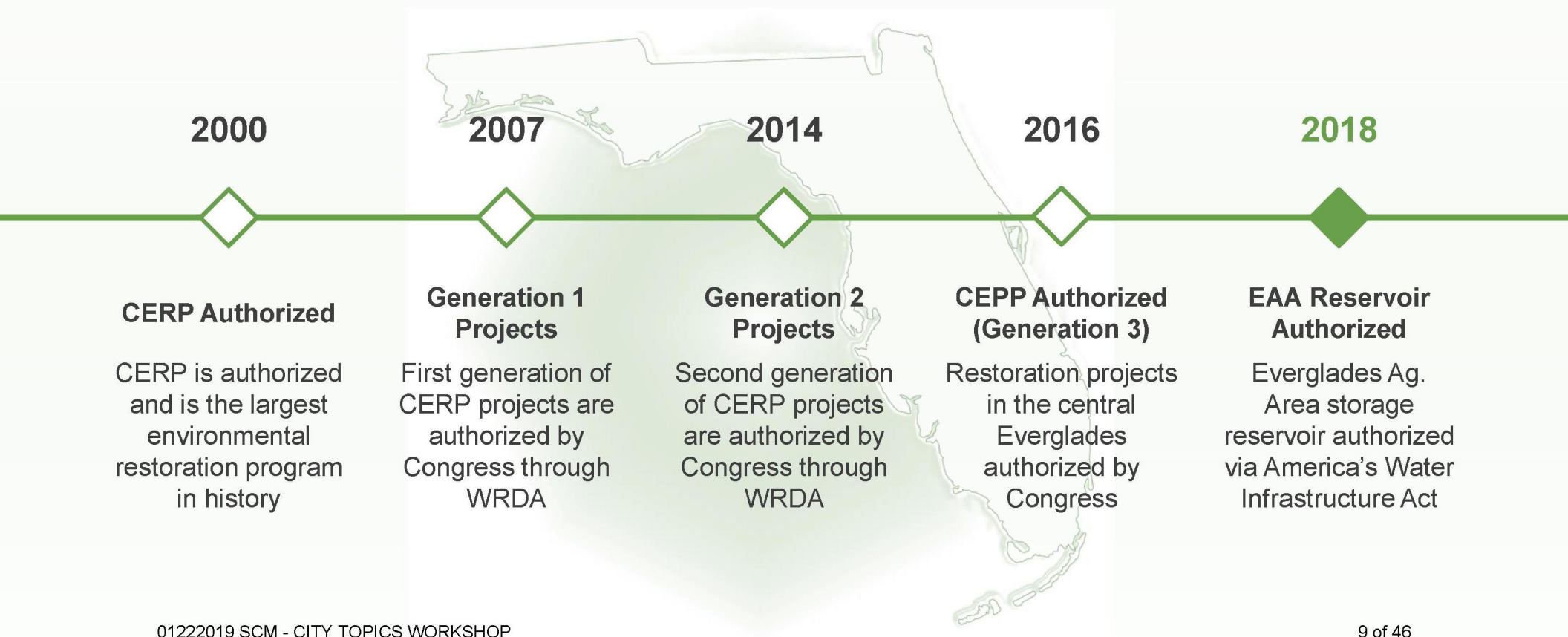
Environmental Legislation and Policy

Overview of critical laws and congressional authorizations



CERP Timeline

Comprehensive Everglades Restoration Plan congressional authorization history



State Initiative

New Executive Order from Governor DeSantis

Executive Order 19-12

- \$2.5 billion over 4 years for Everglades restoration & protection (\$1 billion increase)
- Blue-Green Algae Task Force to focus on algae bloom reduction
- SFWMD start next phase of EAA
- Office of Environmental Accountability and Transparency
- Appointment of a Chief Science Officer



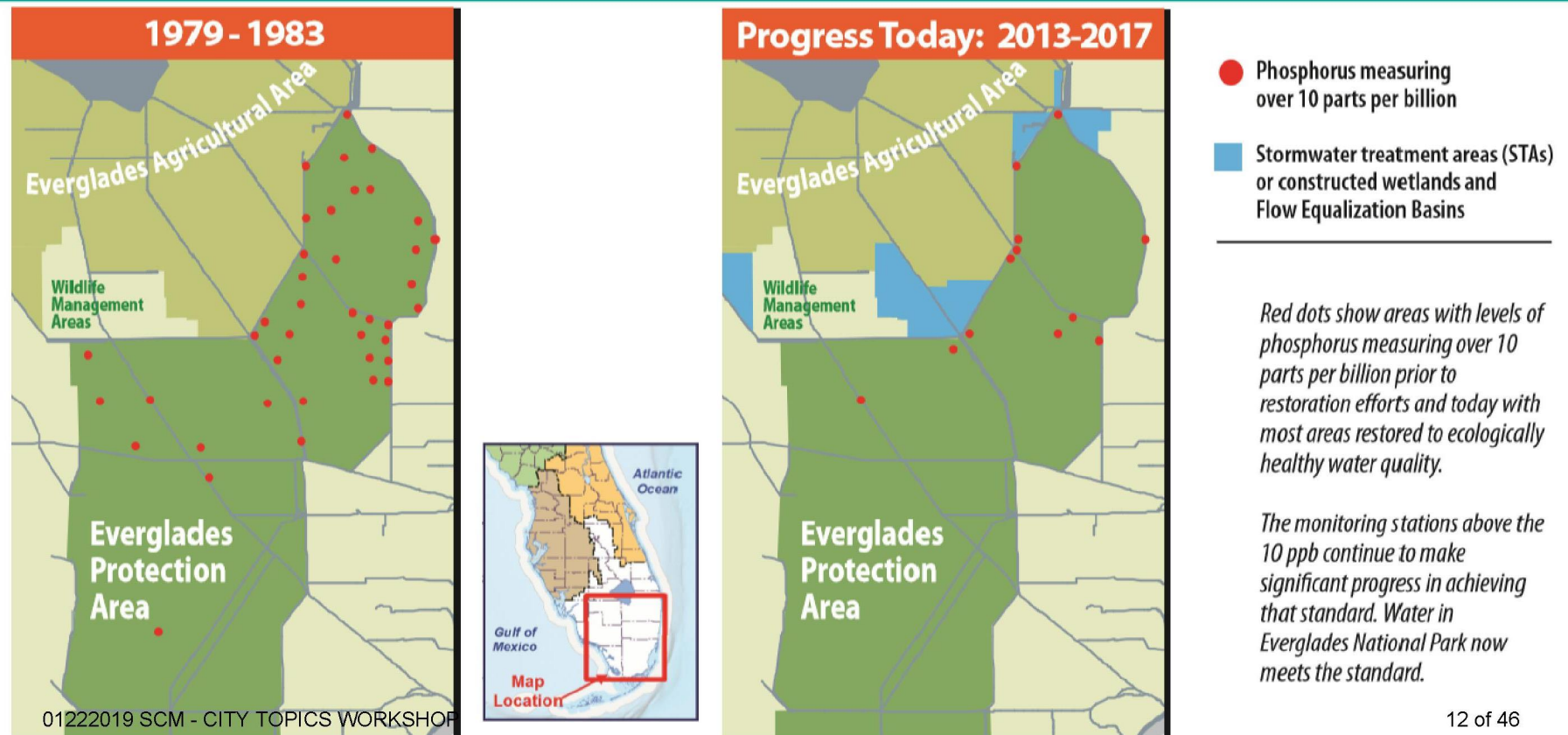
Future Project Outlook

- ✓ **SFWMD** – investigating deep well injection solution via exploratory well
- ✓ **Army Corps of Engineers** – evaluate / modify LORS Schedule
- ✓ **Florida Legislature** – fund septic-to-sewer conversions along the IRL
- ✓ **Congress** – Fund EAA Reservoir / Prioritize CREP and CEPP projects
- ✓ **NOAA / CDC** – Research and conduct tests involving human health



Phosphorus control programs over the last 20 years have significantly improved Everglades water quality.

Florida has invested more than \$1.8 billion in water quality improvements aimed at lowering phosphorus levels. Today, as a result of Florida's efforts, concentrations within the Everglades have positively responded and are now at 10 ppb.



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FROM 24 PARTS PER BILLION TO 9 PARTS PER BILLION: The reduction in average phosphorus concentrations in water within the Everglades over the past two decades.

Aquifer Confinement & Injection Wells

Data provided by the USGS

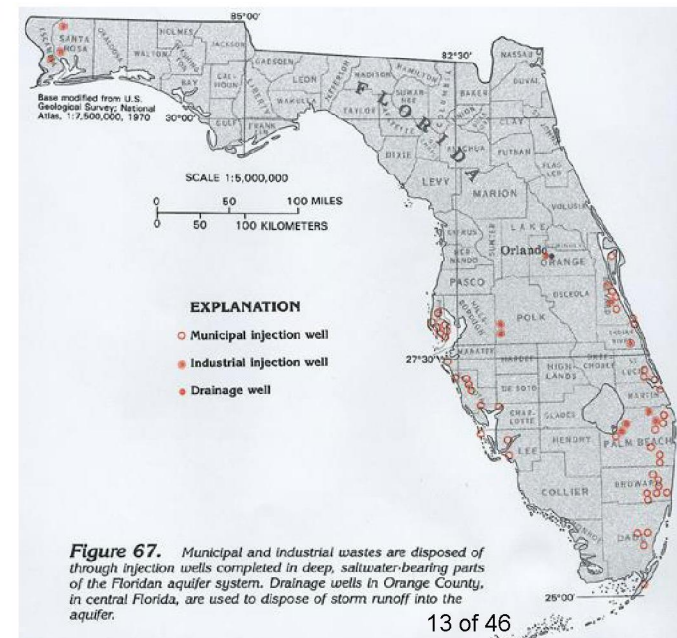
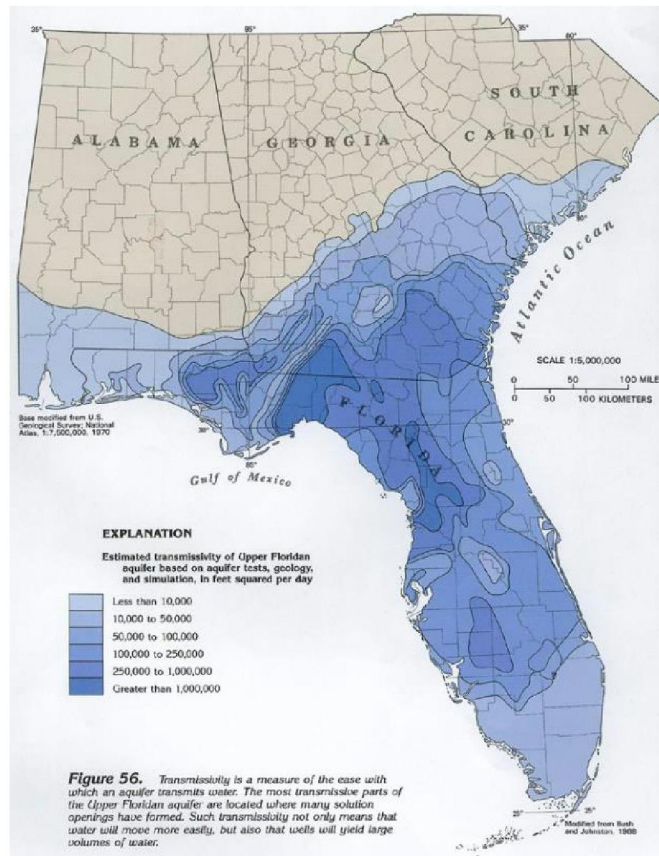
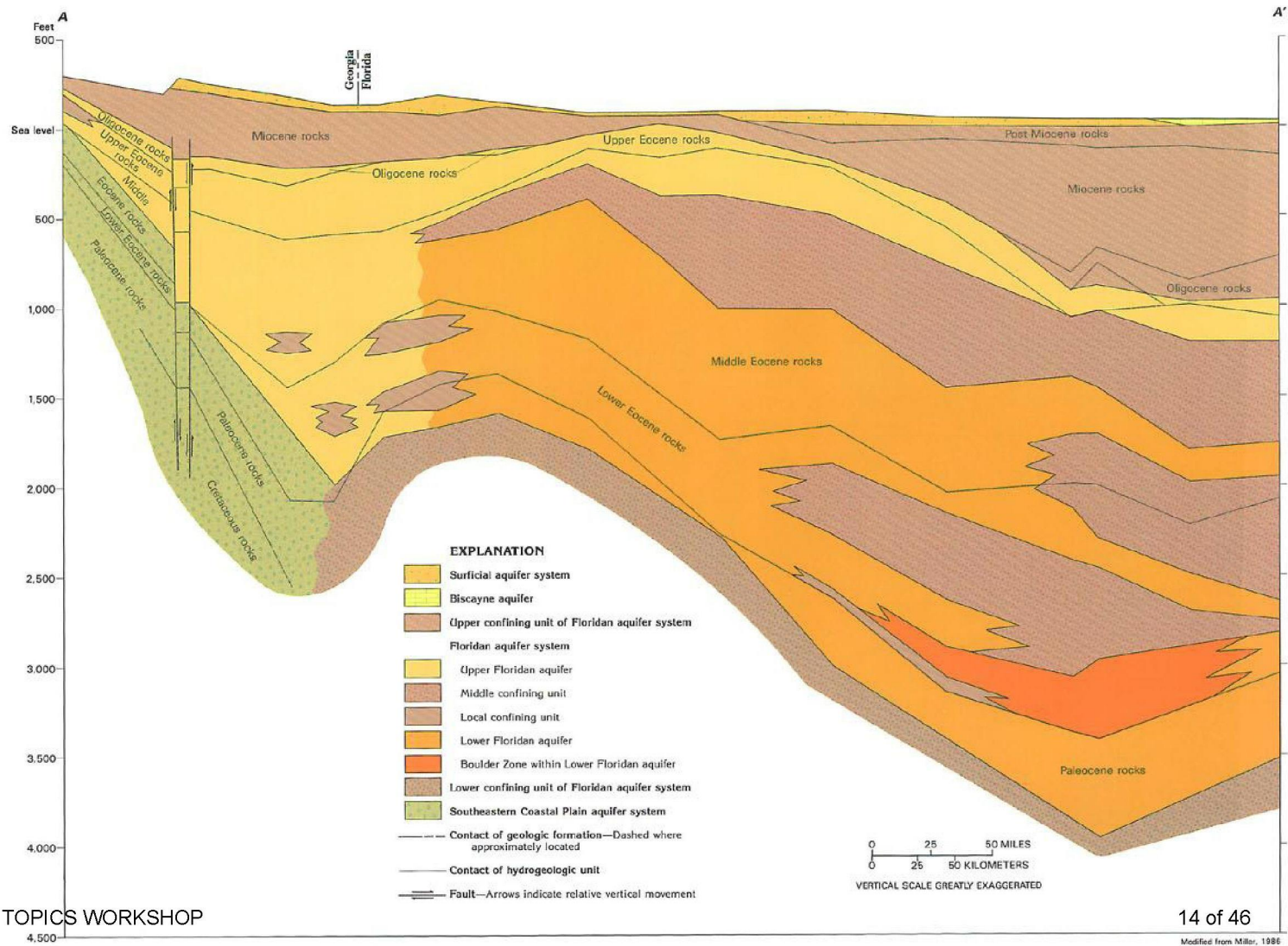


Figure 52. The Floridan aquifer system changes significantly from south-central Georgia to southern Florida. Aquifers and confining units in the system thicken and thin from well to well, and generally resemble complexly inter-fingering, lens-shaped bodies of rock. The line of the hydrogeologic section is shown in figure 51.



Septic “Crackdown”

A Legislative Priority for the Interim

- 2.6 million homes in State
- 600,000 homes around IRL
- 10,000 homes identified in MC
- 1,000 homes identified in Stuart
- Avg. per-home conversion cost between \$15,000 to \$20,000

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88 the C-51 reservoir project or projects identified in
89 subparagraph 1. and must be used in accordance with laws
90 relating to such projects. Any funds made available for such
91 purposes in a fiscal year are in addition to the amount
92 appropriated under subparagraph 1. This distribution shall be
93 reduced by an amount equal to the debt service paid pursuant to
94 paragraph (a) on bonds issued after July 1, 2017, for the
95 purposes set forth in this subparagraph.

96 5. A minimum of the lesser of 7.6 percent or \$50 million
97 shall be appropriated annually each fiscal year for projects
98 dedicated to the conservation and management of the Indian River
99 Lagoon. This distribution must be reduced by an amount equal to
100 the debt service paid pursuant to paragraph (a) on bonds issued
101 after July 1, 2019, for the purposes set forth in this
102 subparagraph. The Department of Environmental Protection shall
103 use the funds to provide grants for the following categories of
104 projects that implement the updated Indian River Lagoon
105 Comprehensive Conservation and Management Plan, including
106 multiyear grants for construction of such projects:

107 a. The construction of facilities or the upgrade of
108 existing facilities that provide advanced waste treatment, as
109 defined in s. 403.086(4).

110 b. The expansion of existing wastewater treatment
111 facilities to bring services to homes and businesses that are
112 not connected to an existing wastewater treatment facility.

113 c. The connection of onsite sewage treatment and disposal
114 systems to central sewer systems.

115

116 Each grant must require a minimum 50 percent local match. The

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Dr. Gilmore – Endangered Species

Research and Scope of Work

- ✓ **Phase I** – Listing Procedures
- ✓ **Phase II** – Data Collection
- ✓ **Phase III** – Data Analysis
- ✓ **Phase IV** – Produce Detailed Species Account
- ✓ **Phase V** – Presentation of Accounts and Arguments
- ✓ **Phase VI** – Travel to Washington D.C. for Review Panels

Total cost - \$121,520

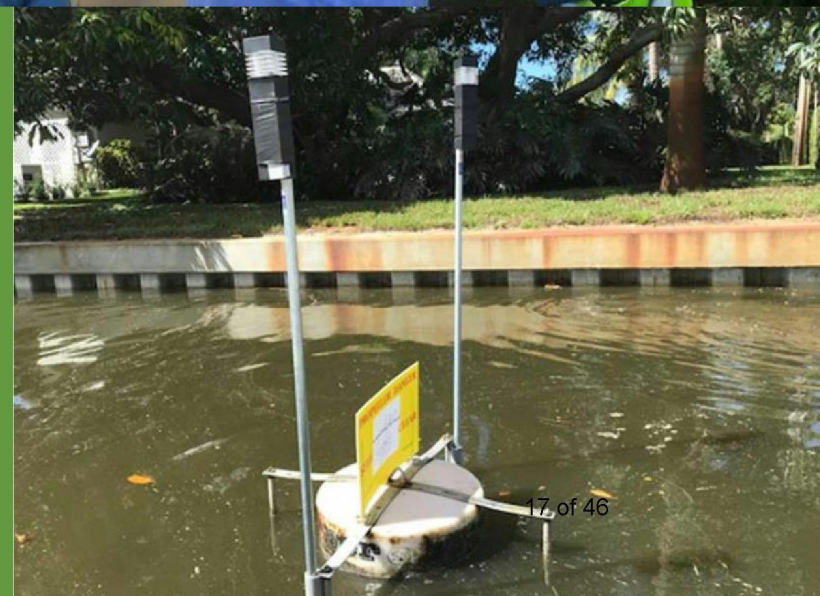
Species Listing

1. Mountain Mullet, *Dajao (Agonostomus) monticola*,
2. Opossum Pipefish, *Microphis brachyurus lineatus*,
3. Swordspine Snook, *Centropomus ensiferus*,
4. Burrow Grunt, *Pomadasys crocro*,
5. Bigmouth Sleeper, *Gobiomorus dormitor*,
6. River Goby, *Awaous banana*,
7. Slashcheek Goby, *Ctenogobius pseudofasciatus*,
8. Violet Goby, *Gobioides broussonetii*.



Watershed Restoration & Protection / Pilot Projects:

- Poppleton Creek
- Haney Creek
- Algae diversion at Shepard Park
- Future projects?



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Gauging Engagement

Communicating with the public and external agencies

How involved should we be and what do we prioritize?



Local Projects

Work to ensure that all local contributions to environmental pollution and degradation is mitigated



Public Awareness

Provide critical information to the public during emergencies and broaden awareness



Policy Advocacy

Communicate with all levels of government regarding immediate needs and long term solutions



City of Stuart
PUBLIC WORKS

Biennial Photo Contest

The 2019 "Creating a Healthier River...Day-by-Day" Calendar is sponsored by the City of Stuart Public Works Department. The department is inviting student, amateur, and professional photographers to submit their entries for a chance to be selected in the 2019 calendar edition. All images must be landscape (horizontal) in orientation and have been taken within the city limits. Deadline for submissions is June 30th, 2018.

For more information, please visit:
www.cityofstuart.us



The City of Stuart Presents **WATER & ENVIRONMENTAL FESTIVAL**

APRIL 21
9 AM - 1 PM
MEMORIAL PARK



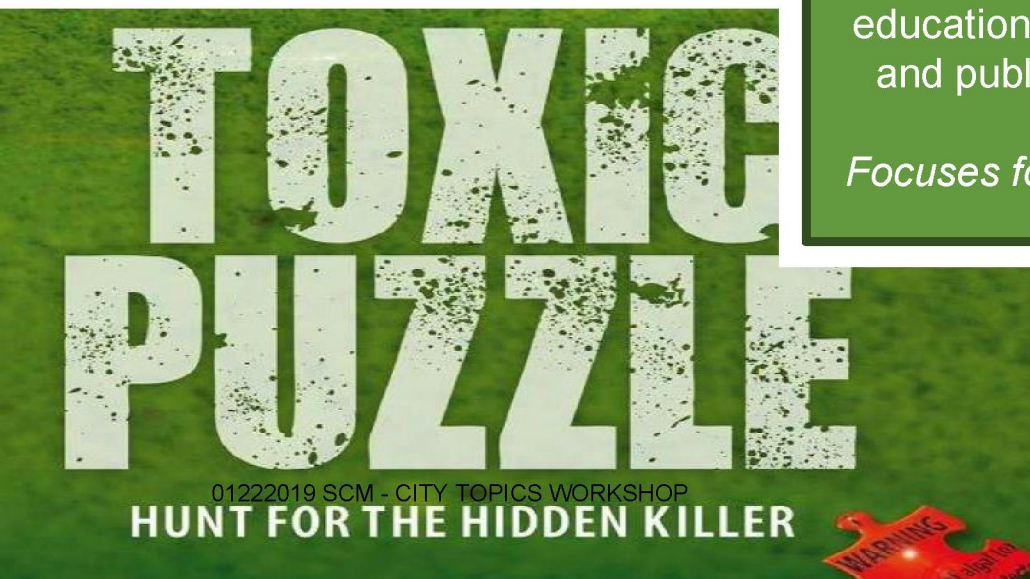
LEARN WHILE LEARNING!

HANDS-ON ACTIVITIES ~ DEMONSTRATIONS ~ CONTESTS
 MUSIC ~ REFRESHMENTS ~ SAMMI SAILFISH & SMURFETTE
 FACE PAINTING ~ WALK FOR WATER ~ FREE ADMISSION

Don't miss the Walk 4 Water 9:30am

TOXIC PUZZLE

01222019 SCM - CITY TOPICS WORKSHOP
HUNT FOR THE HIDDEN KILLER



Public Information

Awareness campaigns,
 community events,
 educational materials,
 and public signage.

Focuses for the future?



BLUE-GREEN ALGAE
AVOID CONTACT WITH THE WATER

FOR MORE INFORMATION CONTACT
 FLORIDA DEPARTMENT OF HEALTH IN MARTIN COUNTY
 (772)221-4000

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Priorities for the Future

Grants, Programs, and Projects

- ❖ DEP / State grants
- ❖ IRLC Grants
- ❖ Emergency Management
- ❖ Legislative Advocacy
- ❖ Endangered Species
- ❖ Local Projects and Water quality monitoring



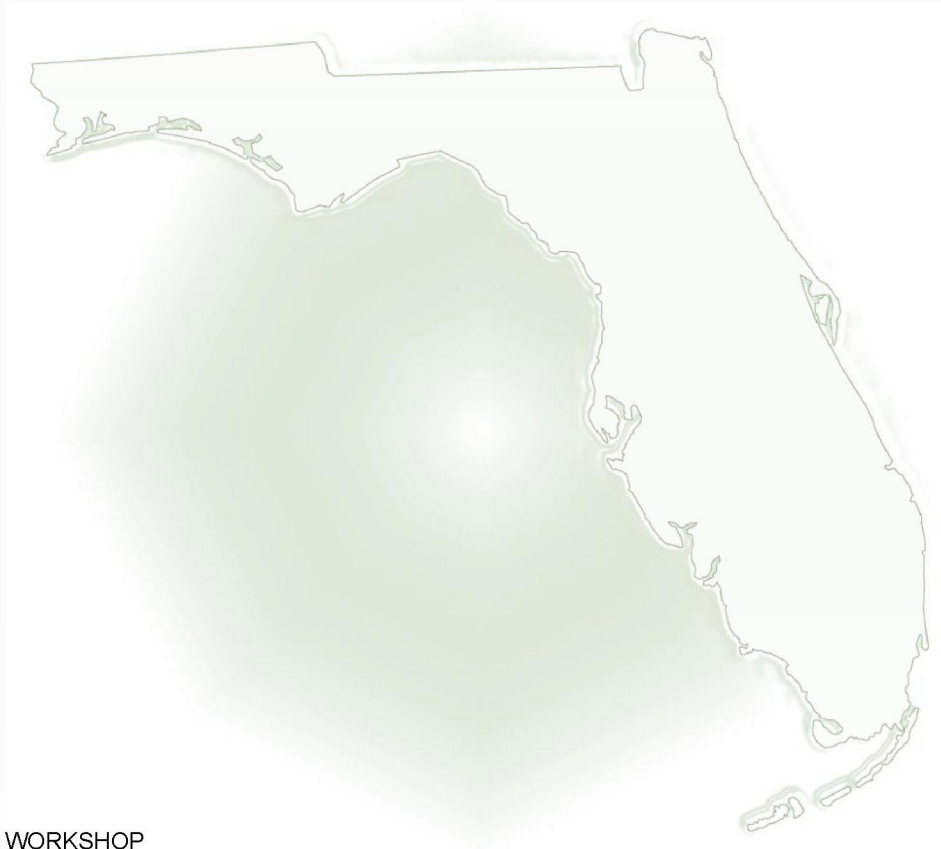
An aerial photograph of a large, dark green body of water, possibly a reservoir or lake, surrounded by a dense layer of white, fluffy clouds. The land around the water is green and appears to be agricultural fields. The text "Questions?" is overlaid in the center of the image.

Questions?

Thank You

Reference Section

Following slides are for educational purposes



Marine Algae

(Seaweed, kelp, and other non-plant cellular organisms)



Green Algae – “*Chlorophyta*” consist of more than 4,000 species (new classification), typically found in shallow bodies of water.



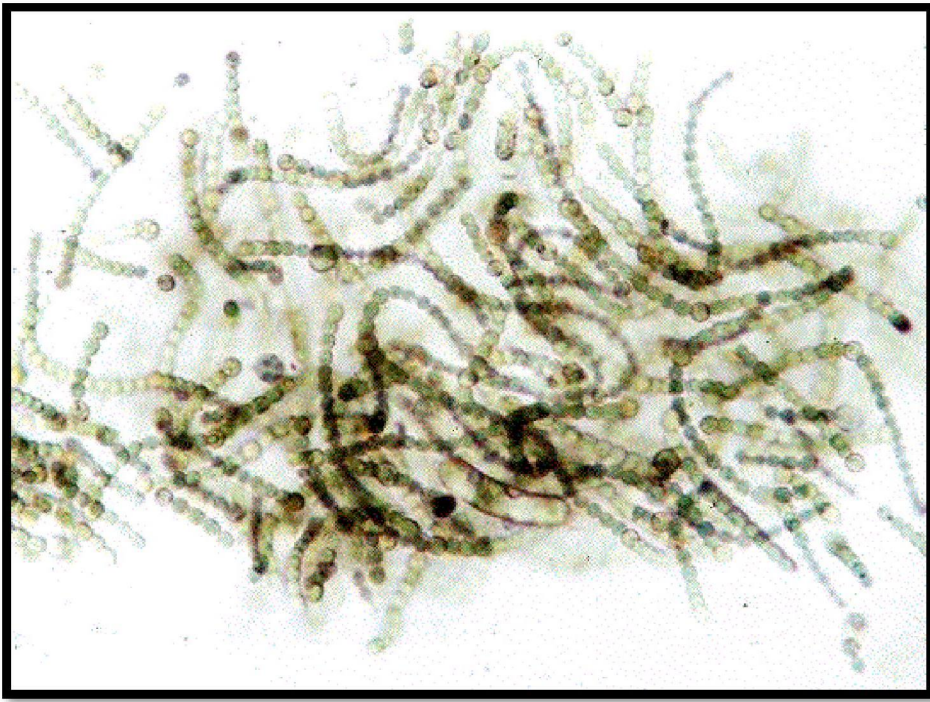
Red Algae – “*Rhodophyta*” consist of more than 6,500 species of which 200 are freshwater based. (Red Tide specifically linked to *Karenia brevis* – an algae that produces brevetoxin).



Brown Algae – “*Phaeophyta*” consist of more than 1,500 species and the most complex of algae variations.

Blue Green Algae (BGA)

“Cyanobacteria” aka *Cyanophyta*



- Simplest form of algae (many unicellular) with tens of thousands of known species
- Not all BGA produce toxins
- Toxins released when cell wall is ruptured or cellular decay occurs
- Microcystin (hepatotoxin) primary known toxin can be absorbed through skin contact, ingestion, and/or inhalation

Known Algae Toxins

Toxin Types	Examples	Effects
Neurotoxins	Anatoxin-a, Anatoxin-a(s), Saxitoxin, Neosaxitoxin	Affects central nervous system, causes seizures, paralysis, respiratory failure, and death
Hepatotoxins	Microcystins, Nodularins, Cylindrospermopsin	Affects liver, causes hemorrhaging, tissue damage, tumors, liver cancer, and death
Dermatotoxins and Gastrointestinal toxins	Aplysiatoxins, Lyngbyatoxin-a, lipopolysaccharide endotoxins	Affects skin and mucous membranes, causes rashes, respiratory illness, headache, and stomach upset
Cytotoxins	Cylindrospermopsin	Affects liver and other organs, causes chromosome loss, DNA strand breakage, and organ damage

*BMAA (beta-Methylamino-L-alanine) - a cyanobacterial metabolite believed to be the causative or a contributory factor in the development of non-familial neurodegenerative diseases (like ALS, Parkinson's, and Alzheimer's)

Exposure and Diet

Is consumption of local fish / shellfish dangerous?

- Current science extremely limited.
- Bivalves (oysters, mussels, clams, scallops, etc.) – particularly dangerous to consume during or after an algal bloom.
- “Red Tide” can take months to flush out of bivalves after exposure.
- Link between BMAA at high levels in brains of dead dolphins – shows the toxin can cause plaques and tangles in brain.
- Benthic-oriented (bottom feeding) fish / organisms of special concern.

“The consumption of algal cells was the main factor to influence the accumulation of MCs by fish. Smaller fish accumulated more MCs in their kidneys and hearts. The ADI (acceptable daily intake) values based on the consumption of these four fish all exceeded the provisional tolerable daily intake (TDI) proposed by the WHO” (World Health Organization).

([Junmei Jia, Wei Luo, Yonglong Lu, John P. Giesy, 2014](#))

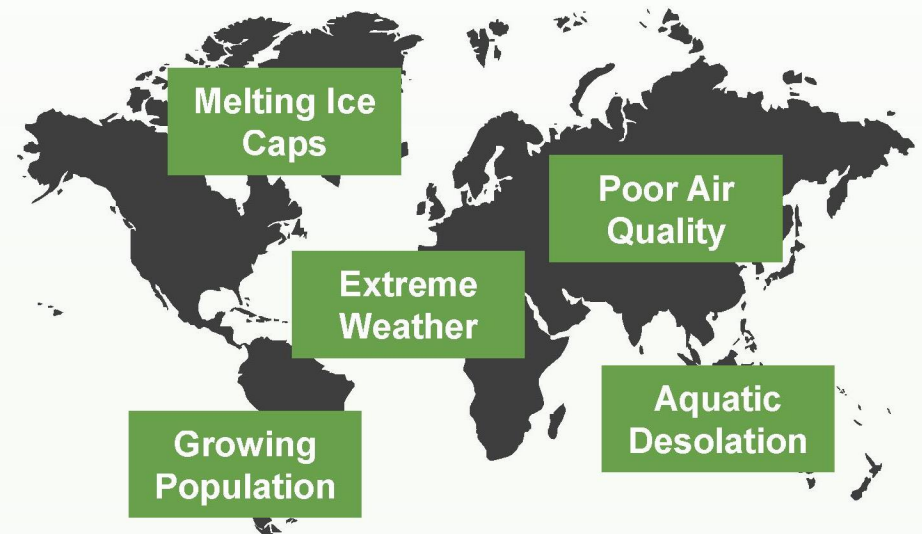
Global Climate Change

Increasing duration, frequency, and distribution of environmental events



Water Management

The future of water quality will not simply be reserved to pollution standards, but also where and how water is transferred, retained, and ultimately treated.



“Widespread scientific consensus exists that the world’s climate is changing. Some of these changes will likely include more variable weather, heat waves, heavy precipitation events, flooding, droughts, more intense storms, sea level rise, and air pollution. Each of these impacts could negatively affect public health. – The U.S. Centers for Disease Control and Prevention

CITY OF STUART, FLORIDA AGENDA ITEM REQUEST CITY COMMISSION

Meeting Date: 1/22/2019

Prepared by: Kev Freeman

Title of Item:

URBAN RESILIENCE

Summary Explanation/Background Information on Agenda Request:

A presentation regarding how innovative storm water treatment can strengthen the City's urban resilience during a time of growth.
Presentation attached.

Funding Source:

N/A

Recommended Action:

None

ATTACHMENTS:

Description	Upload Date	Type
▣ Urban Resilience	1/14/2019	Presentation

Urban Stormwater Resilience

Managing the Impact of Growth
Sustainably

What is Resilience

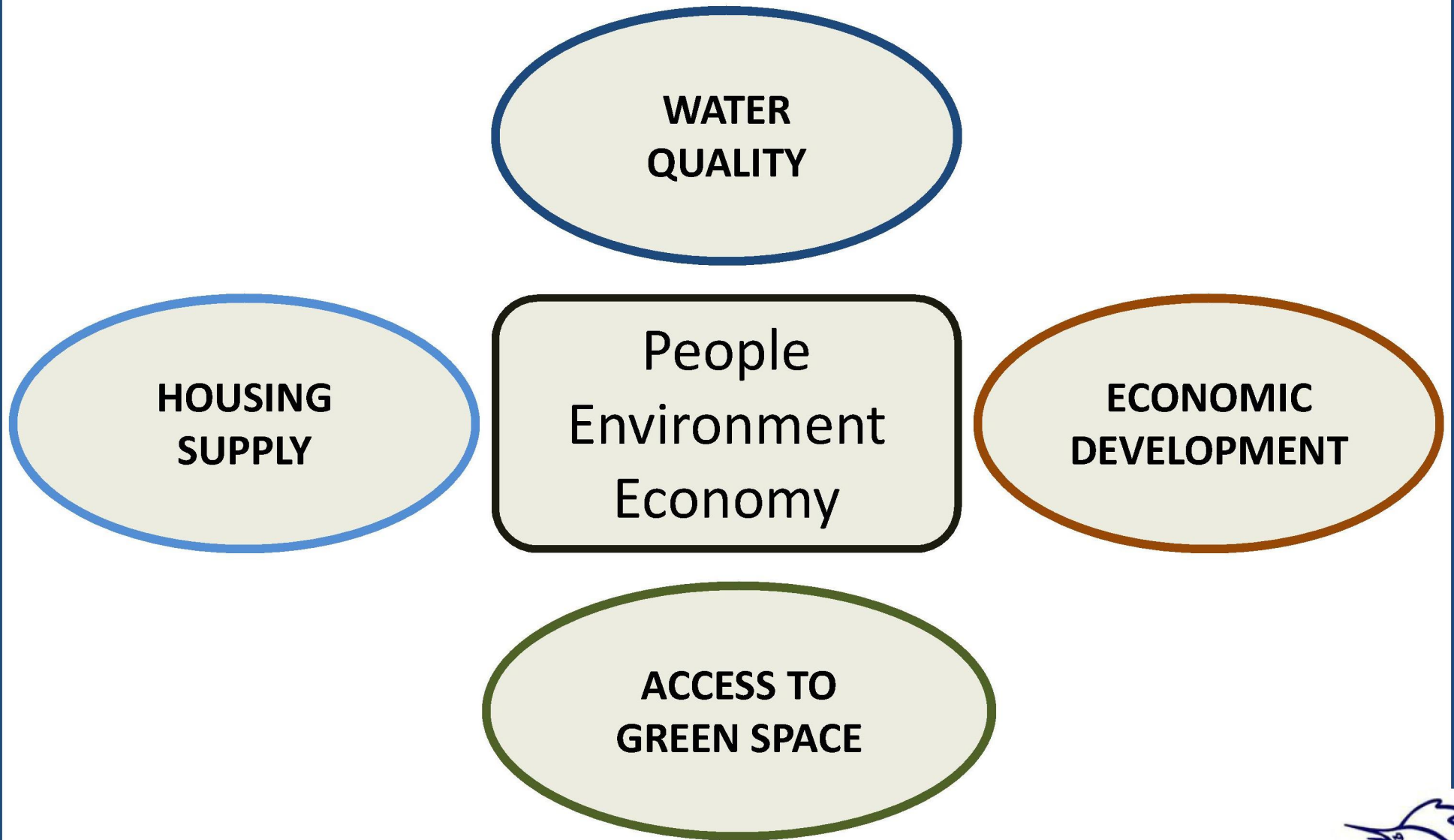
Resilience is the ability of a local economy and local environment to withstand or recover from a shock or disturbance.

Although the concept of resilience was developed in relation to ecosystems, it is a valuable concept that we should apply across the built environment through the design and planning of the City.

The County, including the City, faces pressure from growth
Unsustainable growth is a disturbance to the People / Environment/
Economy.

How does the City plan (in partnership with the County) to promote sustainable growth?

Growth Challenges



Designing for Urban Resilience

Resilience accepts that some level of change/growth is inevitable and normal.

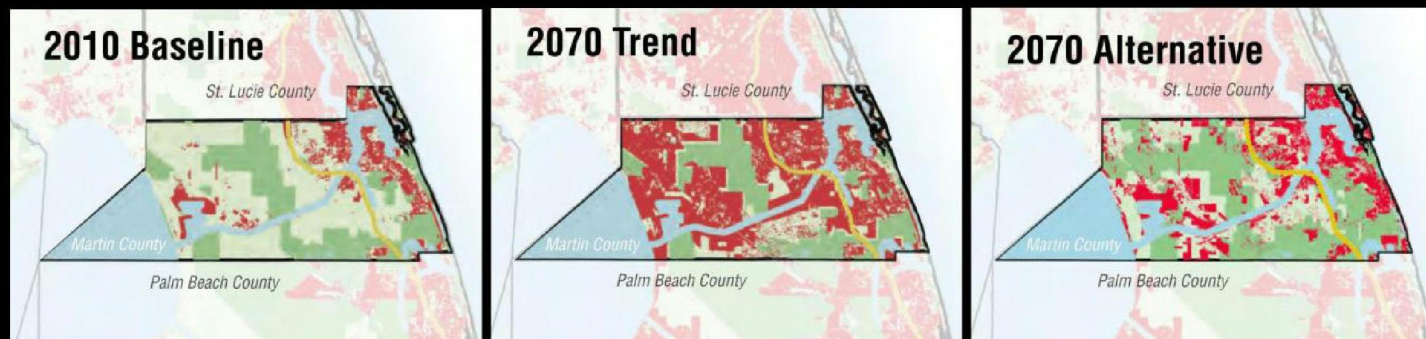
Change that is too impactful can lead to abrupt shifts in the environment and/or the economy that may be very difficult or impossible to reverse and have an adverse effect on the sustainability of the City.

Need to balance Growth with Resilience
(Housing and Economic and Environment)

Martin County – Growth

Martin County 2070

What can we do today to plan for a better tomorrow?



1000 Friends of Florida

1. Reduce Sprawl
2. Promote Compact patterns for new development



Urban Development and Stormwater

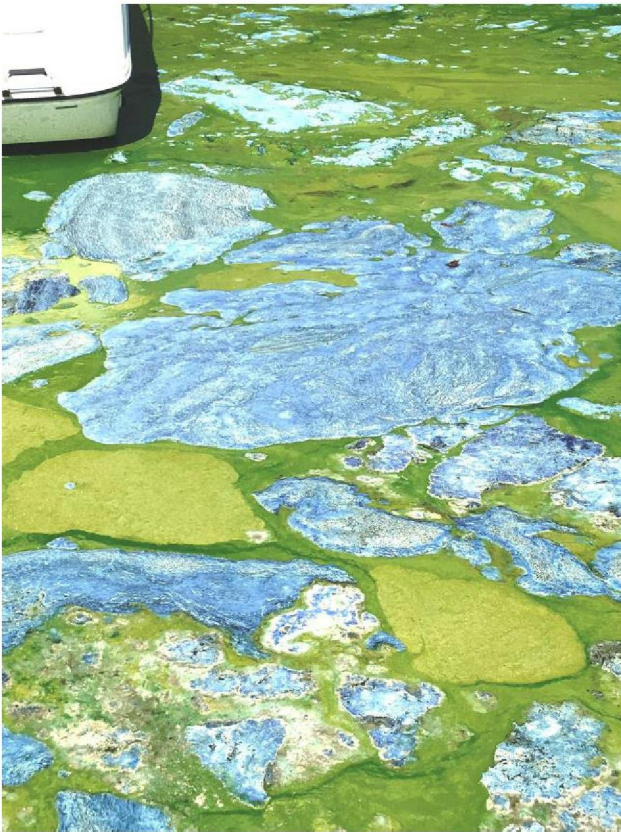
The City of Stuart is an urban area and the continued planned buildout of the CRA and downtown will test the resilience of the existing stormwater system to maintain water quality

The City have historically dealt with stormwater treatment using traditional methods including detention areas and baffle box's

These methods work – are they enough to maintain or improve water quality? Will the system be resilient enough to cope with continued challenges?

Our #1 Environmental Issue

THE RIVER - WATER QUALITY - NUTRIENTS - PESTICIDES

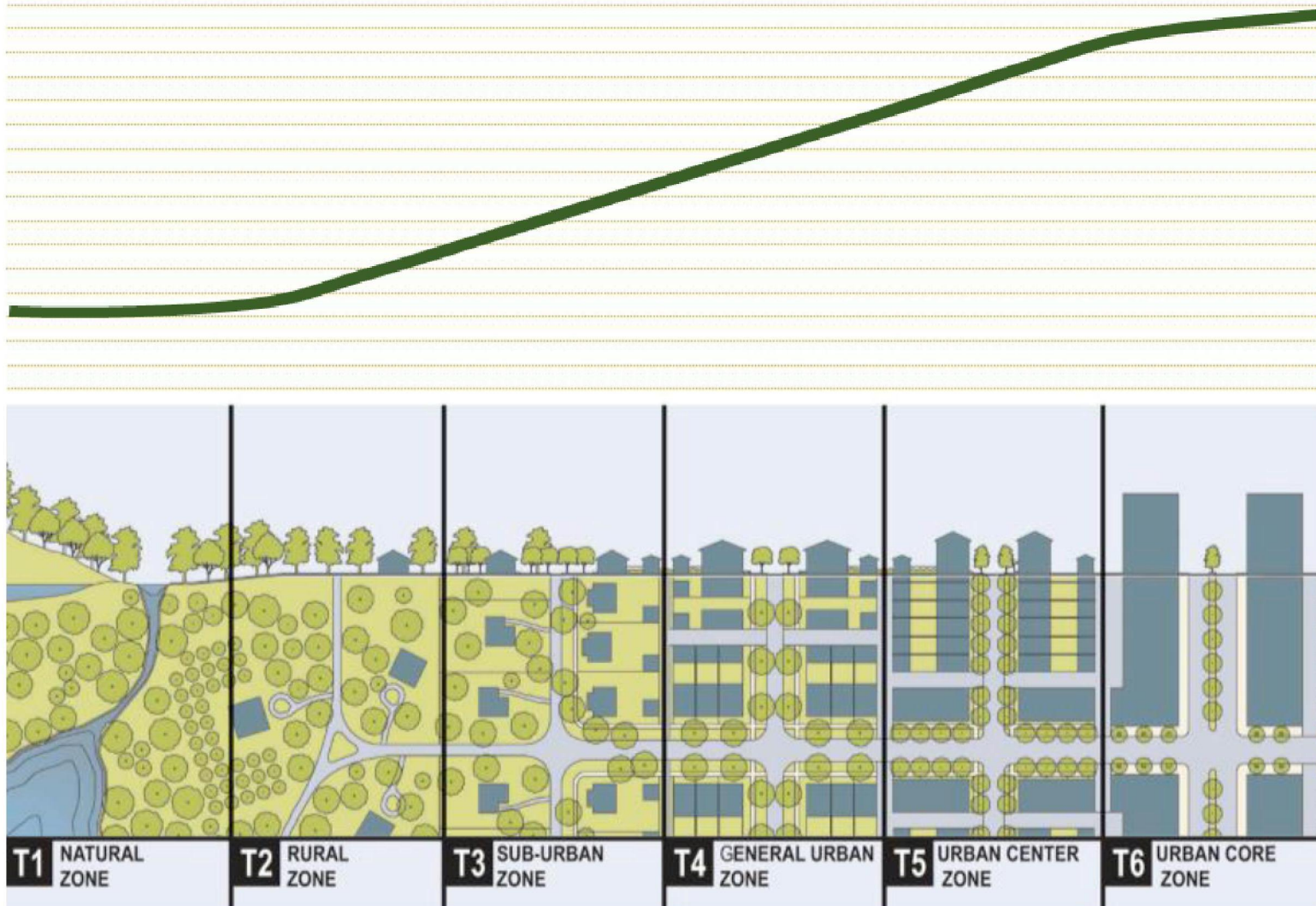


Outside of the releases from Lake Okeechobee we need to ensure that any stormwater discharged from our urban areas has been sufficiently cleaned.

The City has an excellent existing stormwater treatment program that can be enhanced by small interventions

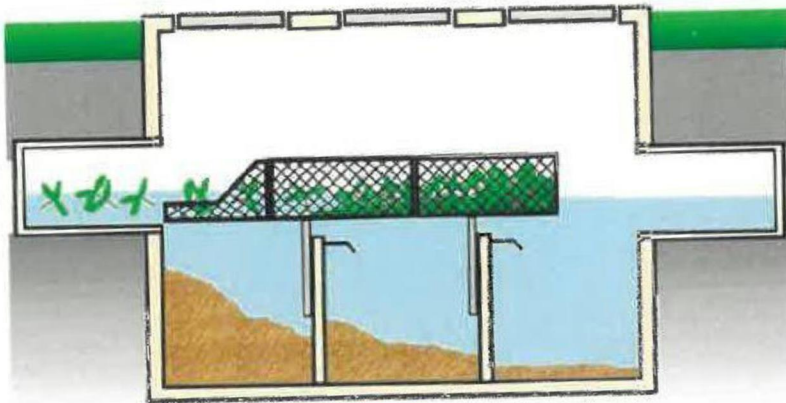
Impact of Development

INCREASED INTERVENTION TO MAINTAIN STORMWATER QUALITY



Urban Stormwater Storage-Treatment

Design – Baffle boxes



Regarding Innovative Stormwater Treatment Methods and New Development:
“Integrating is an enabler to reduce costs.”¹

Urban Resilience

Design urban stormwater management to maximize the efficiency and resilience of the urban environment.

Rather than replace existing levels of stormwater treatment with the same – we should be enhancing the treatment whenever and wherever possible.

Use City Right-of-Way as an additional water quality intervention and integrate innovative stormwater treatment systems with new development that combine to form a City-wide treatment train as water makes its way back to source

Urban Stormwater - Roadways

Replace Concrete/Asphalt with Pervious Asphalt on low volume residential streets or in Parking Lots.



Urban Stormwater - Development

Design – Bio-Swales, Rain Gardens, Littoral Zone
Planting, Tree Box Filters, Vegetative Filter Strips.
Create Urban Stormwater Treatment Chains



Urban Stormwater - Buildings

On buildings install Roof Top Gardens



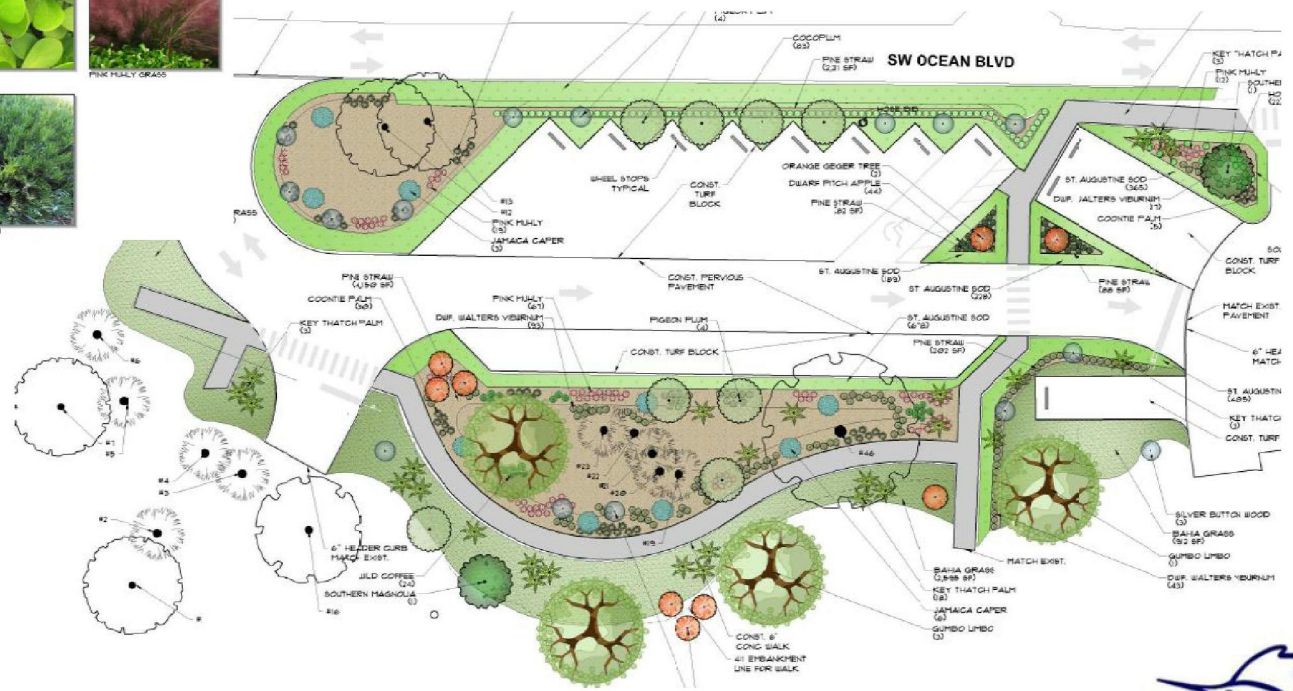
Urban Stormwater - Shoreline

Living Shoreline.



Urban Stormwater - Projects

Shepard's Park Rainwater Garden.



City has Finite Land Resources

County is the Environmental Mainstay

Urban Development should be concentrated
within the City Limits

Urban Stormwater Treatment Trains within the
City's RoW can be part of the City's contribution
to a Sustainable Environmental Resilience

**CITY OF STUART, FLORIDA
AGENDA ITEM REQUEST
CITY COMMISSION**

Meeting Date: 1/22/2019

Prepared by: DAVID DYESS, CITY MANAGER

Title of Item:

GOALS OF CITY COMMISSION

Summary Explanation/Background Information on Agenda Request:

Discuss commissions desired growth patterns for the city.
Discuss goals set by commissioners for the year.

Funding Source:

N/A

Recommended Action:

Discuss