

A sunset over a body of water, with the sun low on the horizon, casting a golden glow across the sky and water. The water is calm, reflecting the colors of the sky. In the foreground, the dark silhouettes of trees and foliage are visible on the right side. The overall scene is peaceful and scenic.

# **Ideas for Enhancing Charlotte County's Management of Our Exceptional Estuaries, Waterways & Water Quality – Now**

**CHNEP Watershed Summit – June 2, 2020**  
**Dr. William Coty Keller, Local Ecologist**  
**Capt. Judy Ott, Estuary Escapes LLC**



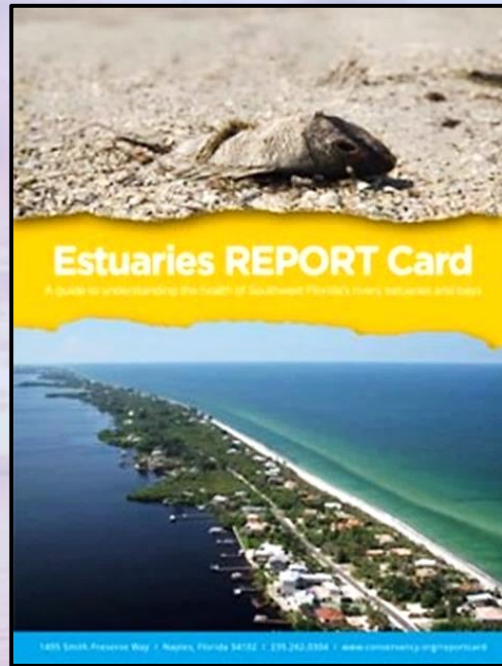
# The Health of Our Estuaries is an Economic & Lifestyle Necessity



**Our estuaries are where:**

- **Most of our *fish* are born & raised.**
- ***Wildlife* thrives.**
- **Locals & tourists *recreate*.**
- **We derive much of our *aesthetic enjoyment*.**
- ***Local marine, seafood & tourism industries* rely.**
- ***Waterfront property values* depend.**

# We Have a Water Quality Crisis in the Making



- Water quality impairments are well documented:**
- **Conservancy of SW FL 2017 Estuary Report Card.**
  - **CHNEP 2018 Water Quality Status Reports.**
  - **FDEP Impaired Waters Verified List.**
  - **Increasing algae blooms.**
  - **Fisheries resiliency.**
  - **Indian River Lagoon lessons.**

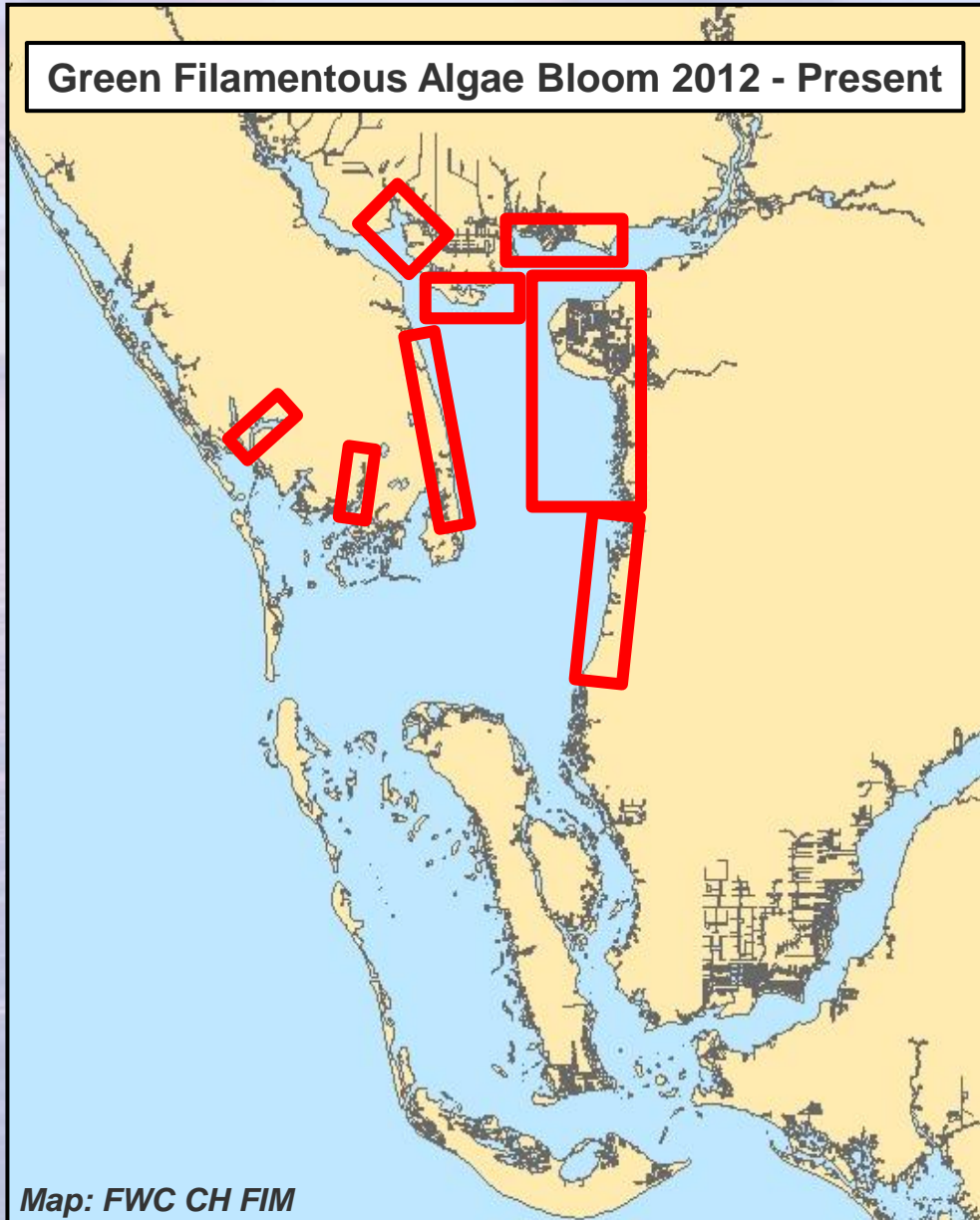


# Increasing Filamentous Algae Blooms Have Been Observed during FWC Fisheries Monitoring



**Until recently, we thought Charlotte Harbor was immune to these water quality crises.**

# Large Filamentous Algae Blooms are Now Occurring throughout Charlotte Harbor





# We Must Learn from Indian River Lagoon's Lessons



**Vast filamentous green algae “guacamole” bloom starting in summer 2018 in southern Indian River Lagoon & St. Lucie Estuary near Stuart & Roosevelt Bridge.**

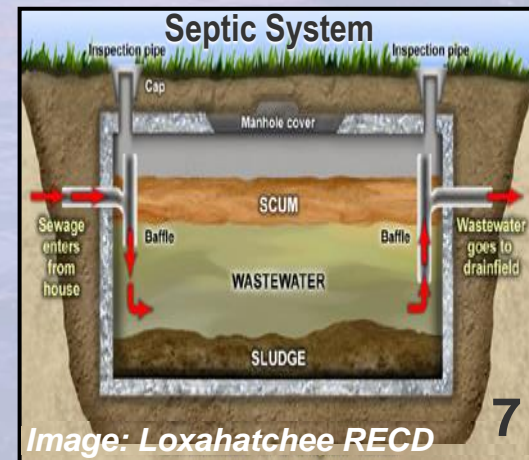
# We Know the Basic Causes & Solutions of Our Water Quality Problems

## Basic Causes:

- Excess nutrients from human activities.
- Wastewater & stormwater runoff.
- Climate change – warming waters & intensifying rainfall.

## Basic Solutions:

- Monitor & report nutrient levels in all waterways.
- Manage runoff & nutrients below prescribed levels.
- Mitigate & reverse global warming.





# **Currently – We Lack Sufficient Local Capacities to Adequately Manage Our Estuaries**

## **County Structural Gaps:**

- **Water quality is separated into 2 departments – wastewater & stormwater.**
- **There is no mission to safeguard our estuaries.**
- **There is not a person assigned to comprehensively manage our waterways.**

## **County Opportunities Missed:**

- **2015 CHNEP offer to help expand county water quality monitoring was not accepted.**
- **2016 FAU study recommendations were not heeded –**
  - 1) manage water quality to state criteria &**
  - 2) create a comprehensive water monitoring program.**

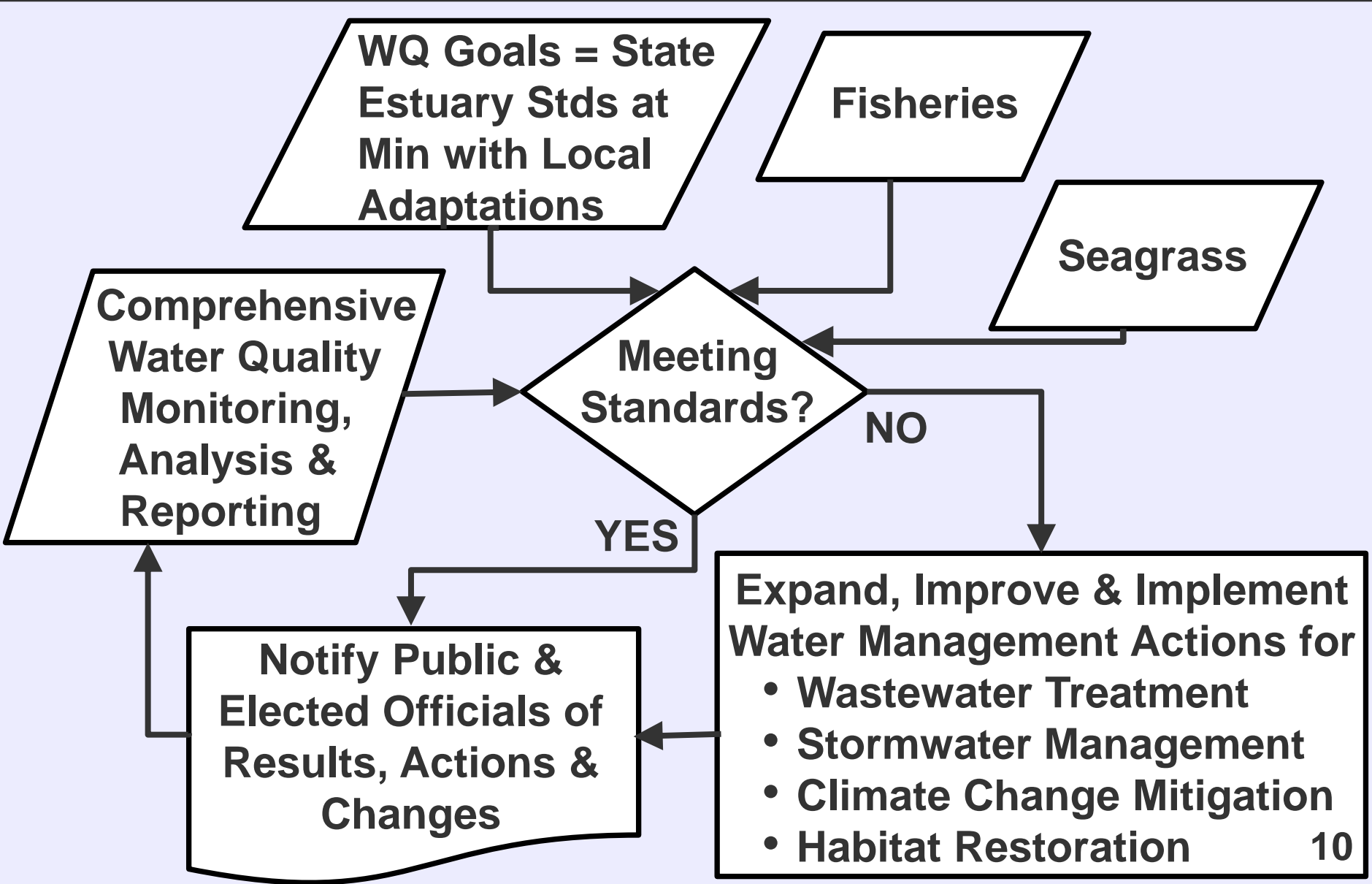




# Effectively Managing Our Waterways & Water Quality Entails 5 Essential Elements



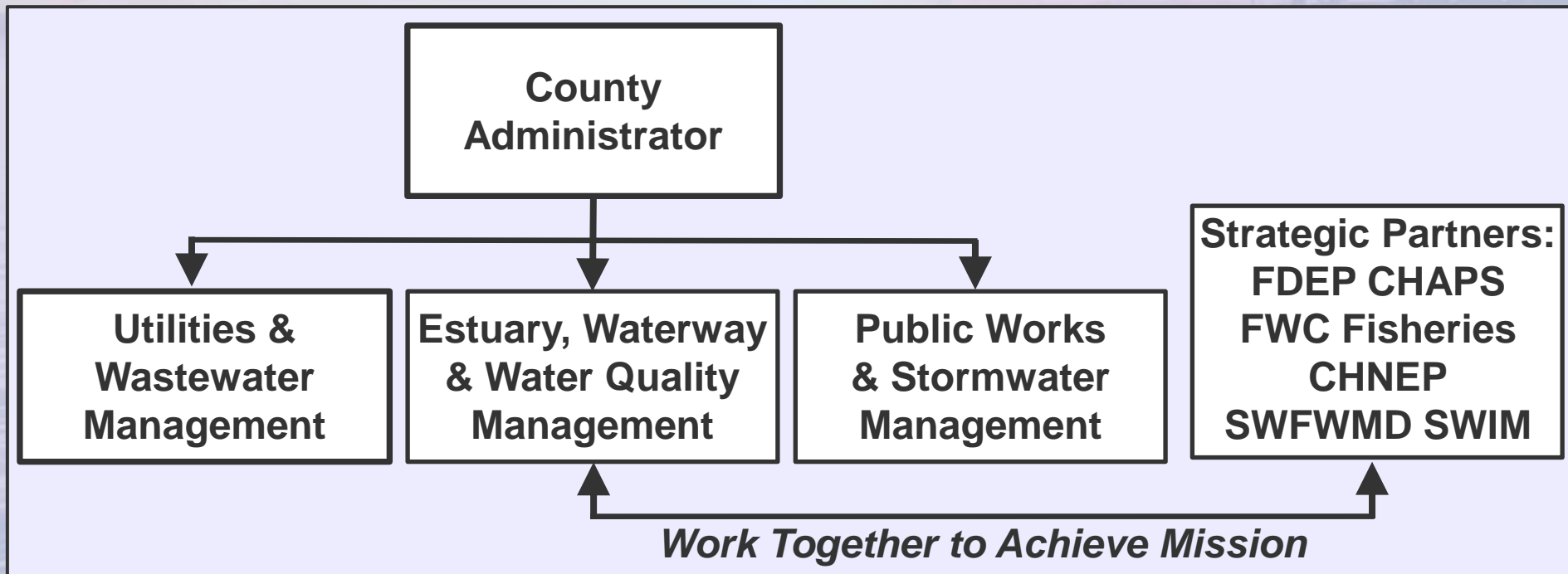
# Restoring Our Estuaries Requires Managing to State Standards Using a Science-Based Decision Process





# Sustaining Our Estuaries Long Term Necessitates Creating an Overall County Waterways & Water Quality Management Function

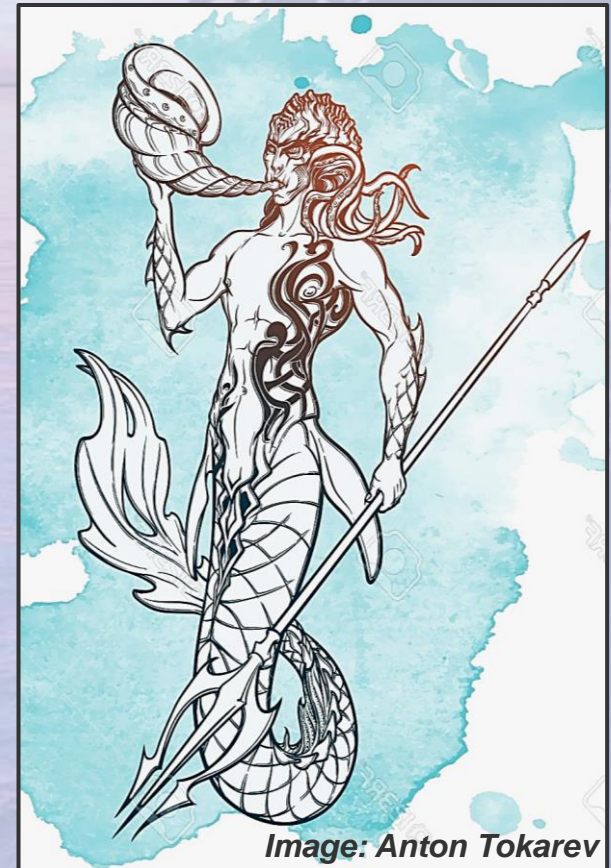
- **Mission:** Restore estuaries & waterways to state water quality standards – at a minimum & preserve them for long-term community & economic good.



- **Essential:** Must be given adequate authority, expertise, resources & support for success.

# Having a Local Water Quality Chief is Vital

- **Position Description:** in progress March 2020.
- **Mission:** Restore & preserve local waterways.
- **Management Process:** Manage to state standards at a minimum using science-based decisions.
- **Coordinate:**
  - ~ *Water monitoring & reporting*
  - ~ *Wastewater treatment*
  - ~ *Stormwater management*
  - ~ *Education & awareness*
  - ~ *Supplemental resource mgmt*
- **Strategic Partners:**
  - ~ *FDEP Aquatic Preserves*
  - ~ *FWC Fisheries*
  - ~ *SWFWMD SWIM*
  - ~ *CHNEP*





# Education is the Key to Future Healthy Estuaries



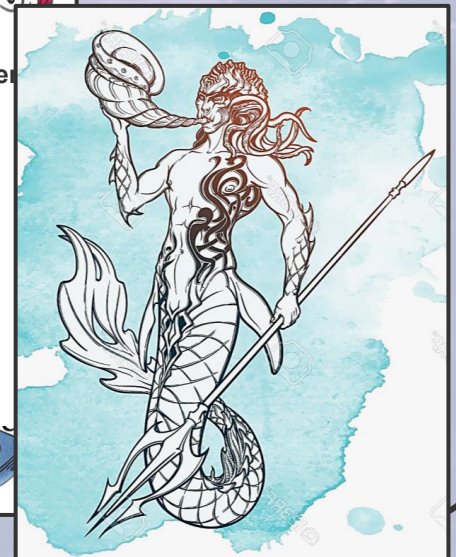
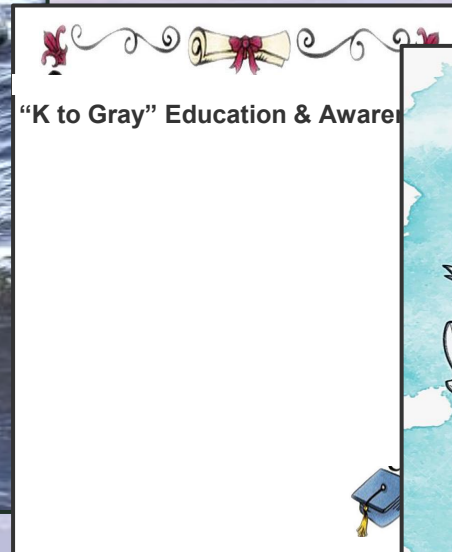
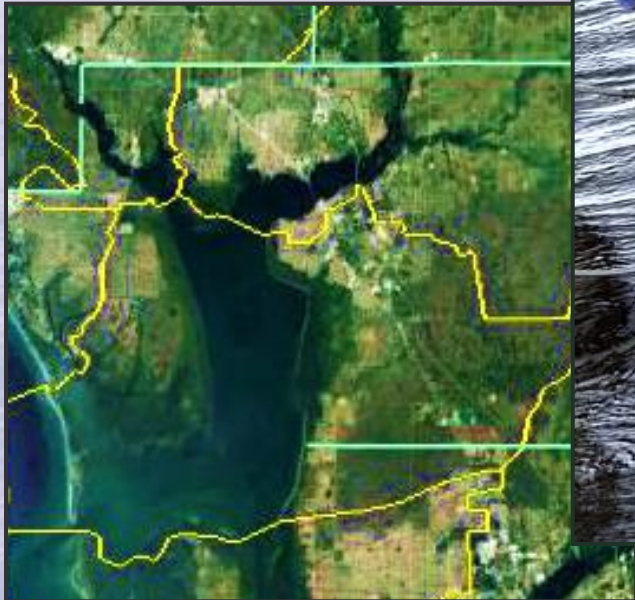
## “K to Gray” Education & Awareness Campaign:

- **Audiences = schools, colleges, kids, adults, retirees, new residents, staff, elected officials & others**
- **Goal = Prepare & distribute audience-specific educational materials.**
- **Partners = FDEP, FWC, WMDs, Colleges, Non-profits**
- **Materials = fact sheets, lesson plans, brochures, curricula & others.**
- **Topics = for specific audiences, including:**
  - ~ ***Estuaries & You*** – economy, lifestyle & estuaries
  - ~ ***Water Pollution Basics*** – sources & solutions
  - ~ ***History & Future of Human Impacts to Local Waters***
  - ~ ***Water Quality Monitoring*** – importance & value
  - ~ ***Wastewater & Stormwater*** – projects, costs & benefit



# Take Home Messages

- **Healthy estuaries are an economic & lifestyle necessity.**
- **Water quality is declining; we know causes & solutions.**
- **Managing estuaries & waterways sustainably requires:**
  - ~ ***A local estuary & waterway mission.***
  - ~ ***A local water quality structure & chief.***
  - ~ ***A local science-based water quality decision process.***
  - ~ ***A local water quality monitoring & reporting program.***
  - ~ ***A local “K to Gray” education & awareness campaign.***





## More Information is Available From:

- Reports & Presentations <https://ecopapak.org>
- Dr. Coty Keller [wckeller@earthlink.net](mailto:wckeller@earthlink.net)
- Capt. Judy Ott [judyott@embarqmail.com](mailto:judyott@embarqmail.com)

Thank You & Any Questions?