



GEORGIA  
SOUTHERN  
UNIVERSITY

# The Institute for Health Logistics & Analytics

Jessica Smith Schwind, Director  
Rural Development Council Presentation  
10.25.2023

# IHLA

Transforming the health & well-being of our communities through applied evidence-based practices & technology integration



## ANALYTICS & INFORMATICS

Utilizing technology & data to drive positive change for the benefit of health



## PLANNING & EVALUATION

Engaging with stakeholders to inform program planning efforts & ensure evaluation needs are met

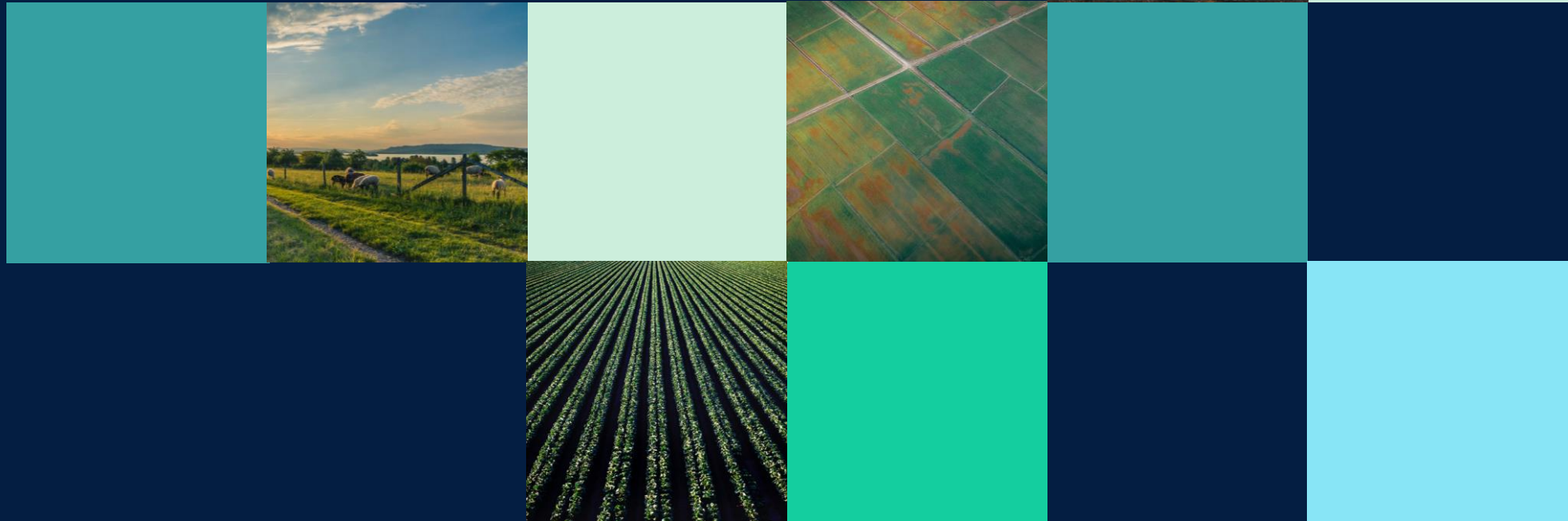


## LOGISTICS & TRAINING

Optimizing public health resource allocation & improving professional skills through training

# Our Vision

Addressing the multi-faceted health needs of rural Georgians by breaking down silos, leveraging community partnerships, & meeting people where they are



# Where We've Been Successful



# Institute Goals

01

Strengthen the local health informatics infrastructure to support data exchange & evidence-based practices

02

Promote cross-industry partnerships for a Total Worker Health framework addressing social determinants of health

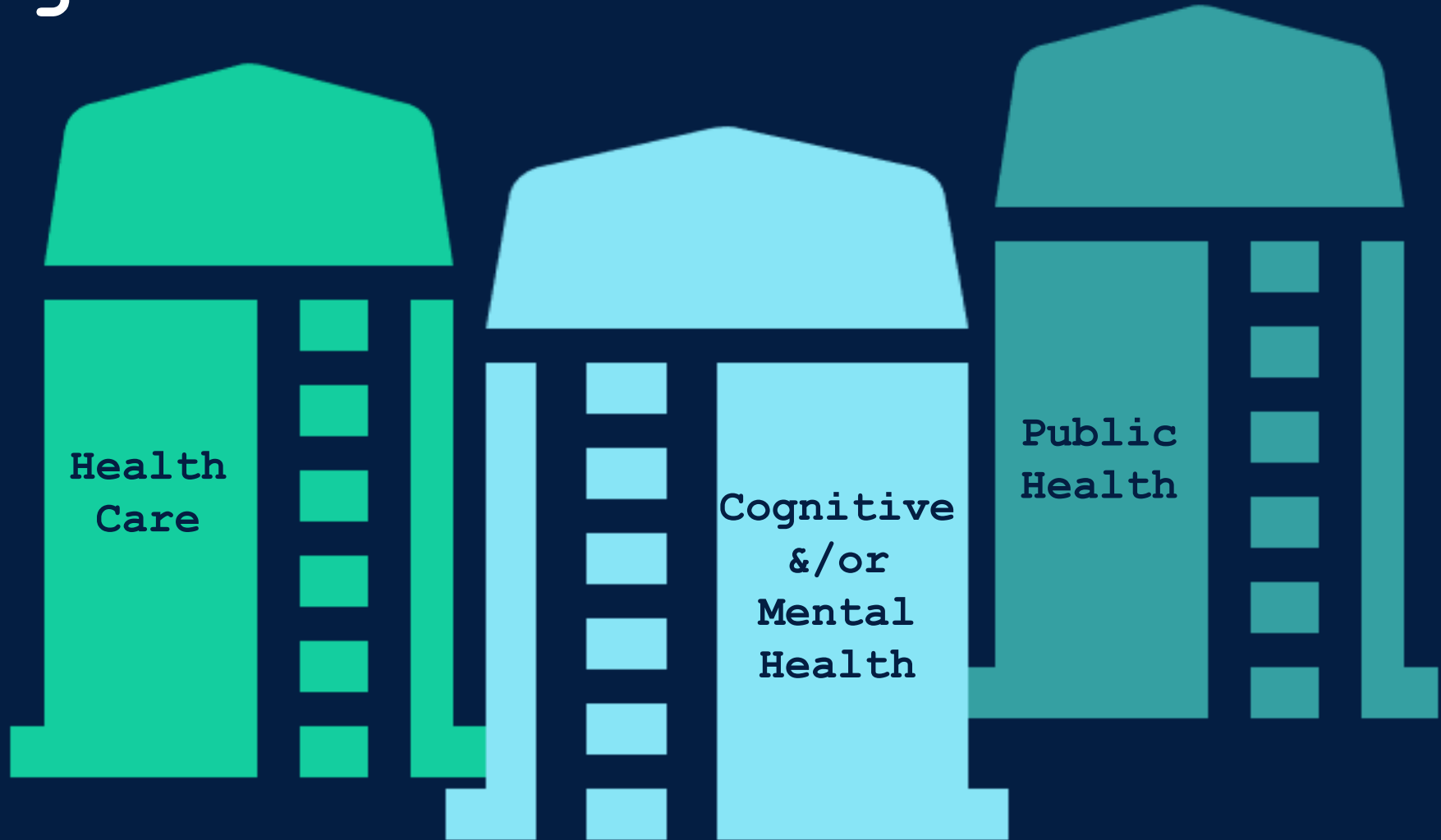
03

Contribute to the evidence base by studying the advantages of an integrated, holistic approach to rural community health and well-being

04

Enhance local-level health infrastructure by implementing intern placements & workforce development

# Existing Strategies



# The Bigger Picture

## SOCIAL DETERMINANTS OF HEALTH

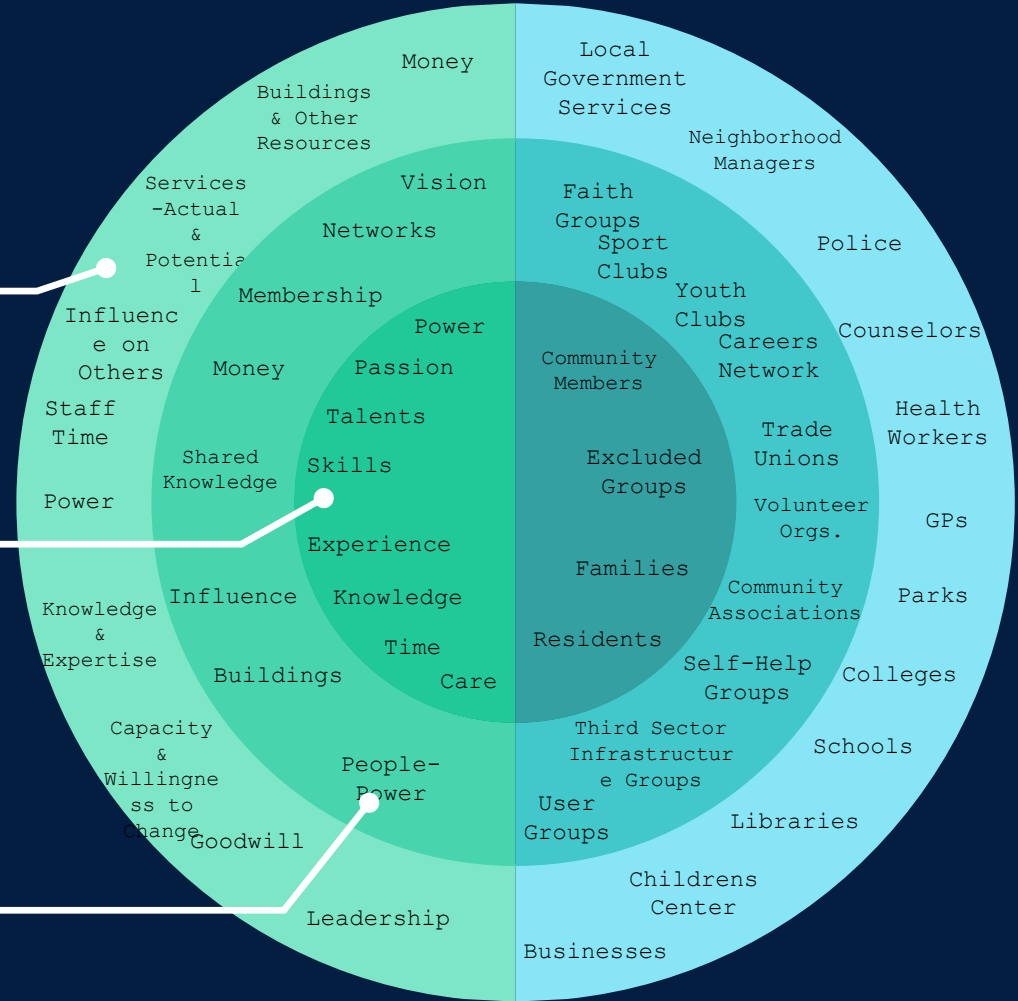


# Value of Community Asset Mapping

Assets of Organizations

Assets of Individuals

Assets of Associations

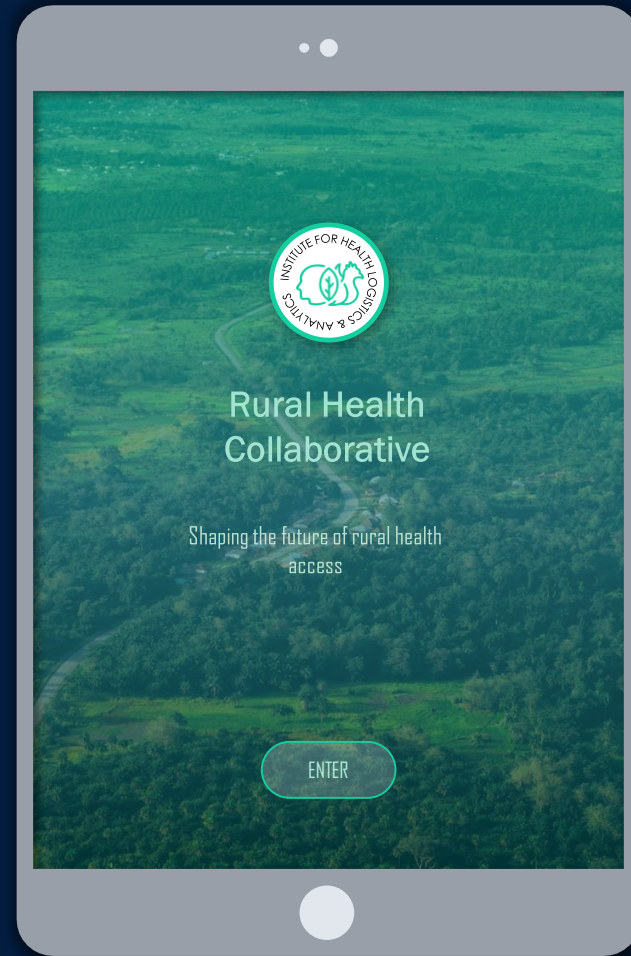


WHAT THEY HAVE

WHO THEY ARE



# Optimized for the End User



# Team IHLA



Director



Project Manager



Business & Finance  
Coordinator



Administrative  
Assistant III



Learning  
Experience  
Designer



Outreach &  
Marketing  
Coordinator



Community Outreach  
Coordinator





**GEORGIA  
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**INSTITUTE FOR WATER AND HEALTH**

**Safe Water · Sustainable Environment · Resilient People**

Asli Aslan

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# Institute for Water and Health (IWH)

**Mission:** Uniting science, practice, and community funds of knowledge for a collective vision of safe water, sustainable environment, and resilient communities in Georgia and beyond.



## Focus Areas



Sustainable Water and  
Wastewater Management



Water Quality and  
Health Risk Assessment



Environmental  
Education and Justice

# Focus Area 1: Sustainable Water Resource Management

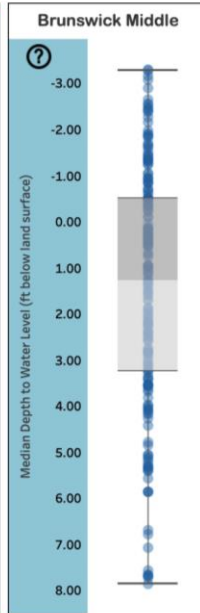
**Sponsor:** GA DNR Environmental Protection Division

- Identify how existing conditions impact groundwater levels
- Develop future water policies to support growing economy

## Coastal Georgia Water Dashboard

Source: United States Geological Survey (USGS) at [waterdata.usgs.gov](http://waterdata.usgs.gov)

[Introduction](#)
[Groundwater](#)
[Precipitation](#)
[Discharge/Gage Height](#)



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INSTITUTE FOR WATER AND HEALTH

Select Well Location

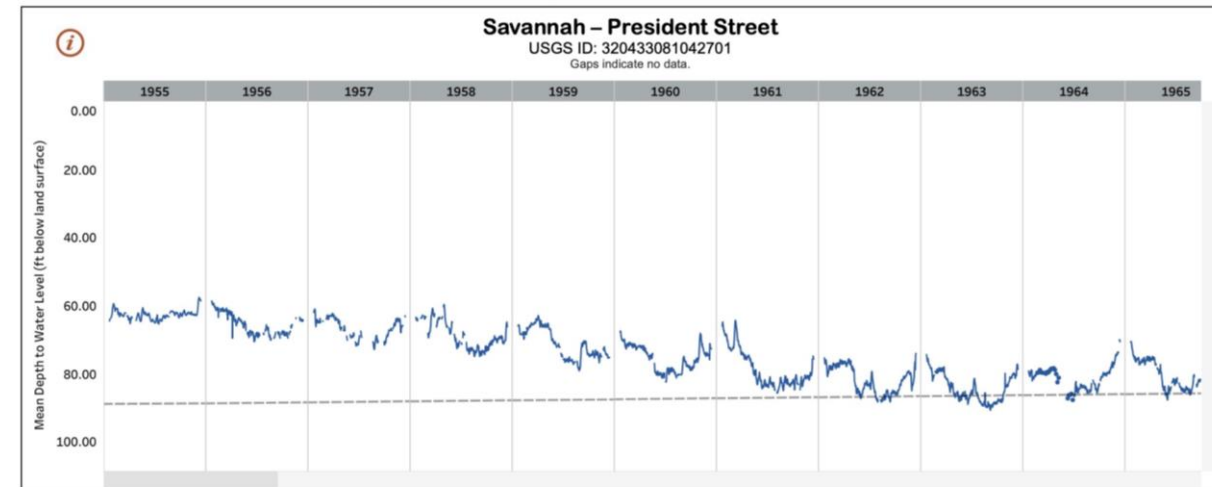
Brunswick Middle

- Brunswick Middle
- Brunswick North
- Brunswick South
- Bulloch County - Hopeulikit
- Hilton Head
- Jekyll Island
- Main, South of Brunswick
- Richmond Hill
- Savannah - Alfred Street
- Savannah - Fort Pulaski
- Savannah - President Street
- Savannah - Quacco Rd
- Savannah - Skidaway 1
- Savannah - Skidaway 2
- Savannah - Veterans Pkwy
- St. Mary's
- Tybee Island

## Welcome!

This dashboard offers an overview and chronological record of the present hydrologic conditions in Coastal Georgia using an easily accessible format for a wide audience including managers, policymakers, and citizens in the region. Publicly accessible datasets at select gage sites are used in developing this dashboard. This platform will support regional water planning efforts to identify challenges and make informed management decisions.

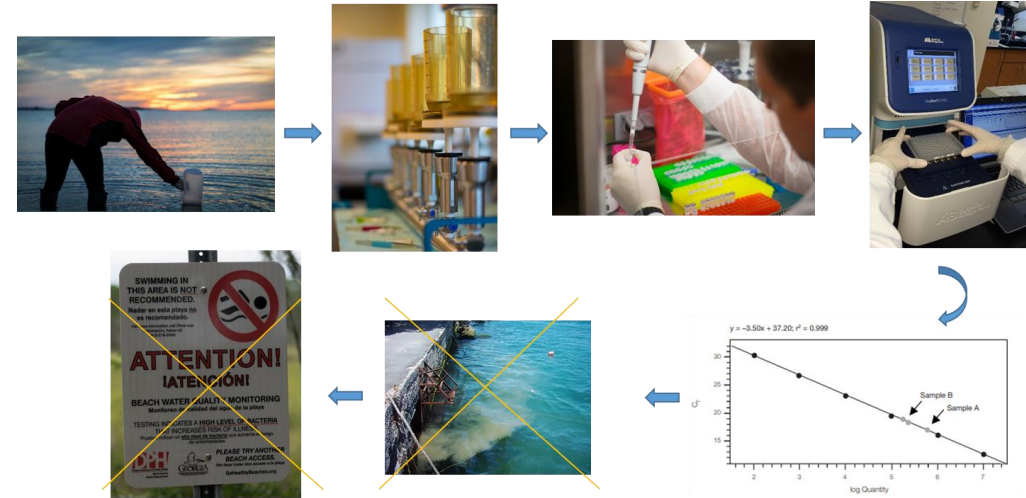
The Institute for Water and Health at Georgia Southern University developed this dashboard in partnership with the Coastal Georgia Regional Water Planning Council. The project is funded by the Georgia Department of Natural Resources, Environmental Protection Division.



# Focus Area 2: Water Quality and Health Risk Assessment

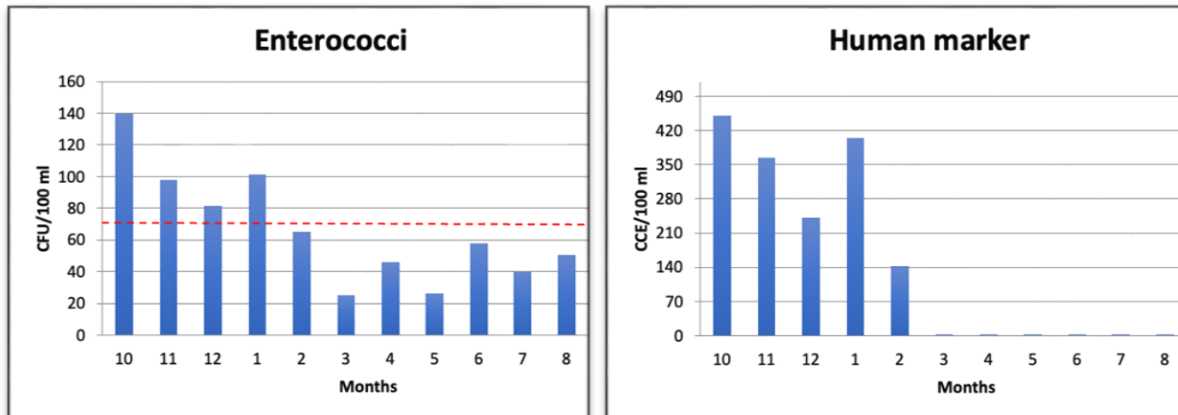
**Sponsor:** USEPA, GA DNR Coastal Resources Division and Municipalities

- Monitoring with quantitative polymerase chain reaction (qPCR)
- Reporting same-day results instead of yesterday's
- Effective waterborne disease outbreak response, predictive models
- Rapid science communication before harmful human exposures can occur
- Microbial source tracking for impaired waters, leaking septic systems
- Prioritize impaired water remediation
- Effective academia-government partnership for rapid decision making



## Kings Ferry-Ogeechee River (Bryan County)

Identified a failing septic system  
Bryan County fixed the issue next month permanently

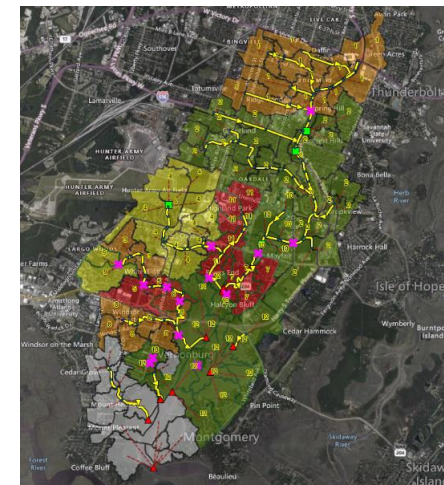


## Vernon River Watershed Management Project (City of Savannah)

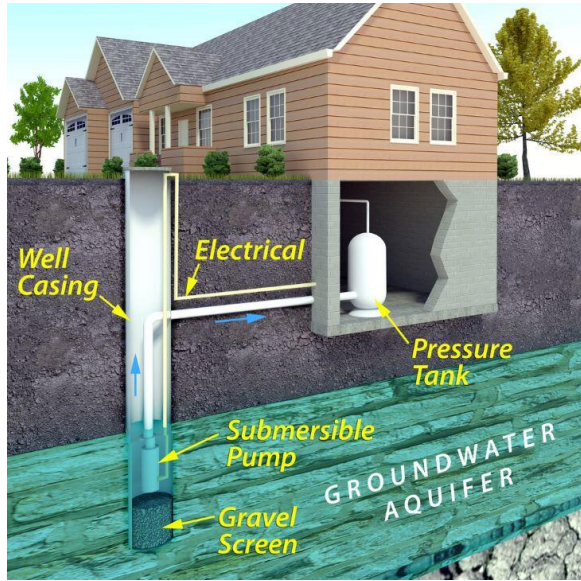
Started in January 2023

Identified one major sewer failure using the human marker in a specific location

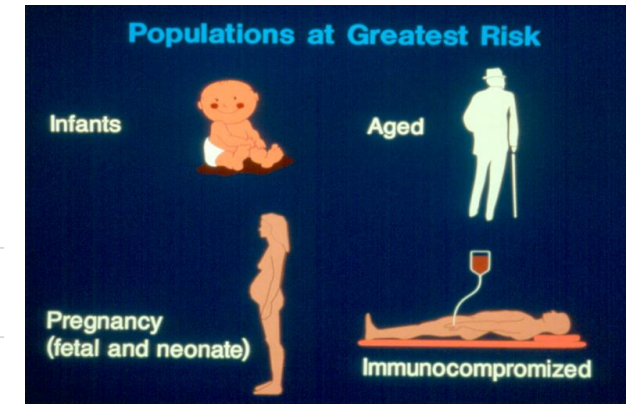
The municipality applied for additional funding from the governor's office to improve sewer systems across the city



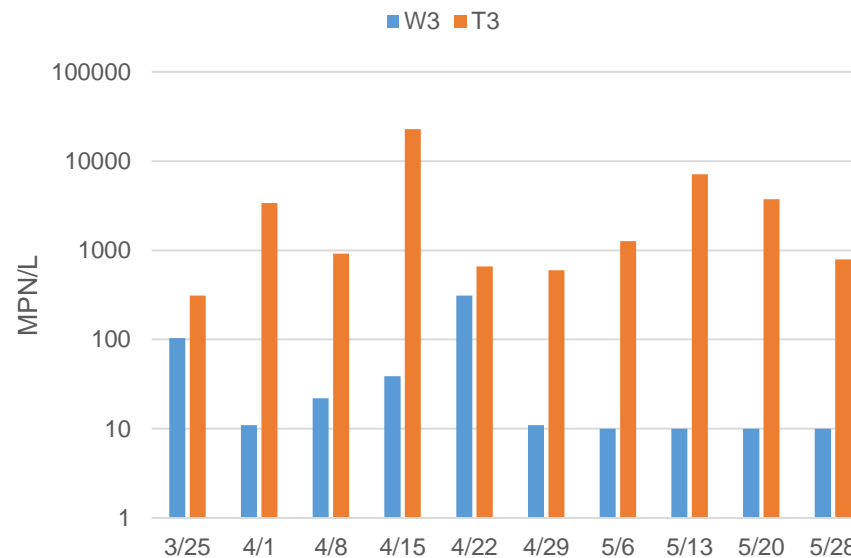
# Focus Area 3: Environmental Education-Private Well Stewardship



- Serve less than 25 people over 60 days/ has less than 15 independent connections
- Not subject to federal or state testing requirements
- Homeowners are responsible for water quality
- Aging pipes and minimum maintenance
- Proximity to a septic system or agricultural runoff
- Emerging contaminants



*Legionella pneumophila*



# Well Water Stewardship at Evans County, GA

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Georgia has 159 counties and 120 are considered rural. Private well users are 1.7 million people.

## Water Testing

- Evans County residents 34% have tested their water
  - Most tests were conducted over 10 years ago (41%)
  - No chlorine
  - *Legionella pneumophila* was positive in 66% of these sites.

## Water Treatment

- Only 25% treat their water
  - Most common method is the refrigerator filter (75%)

## Well Maintenance

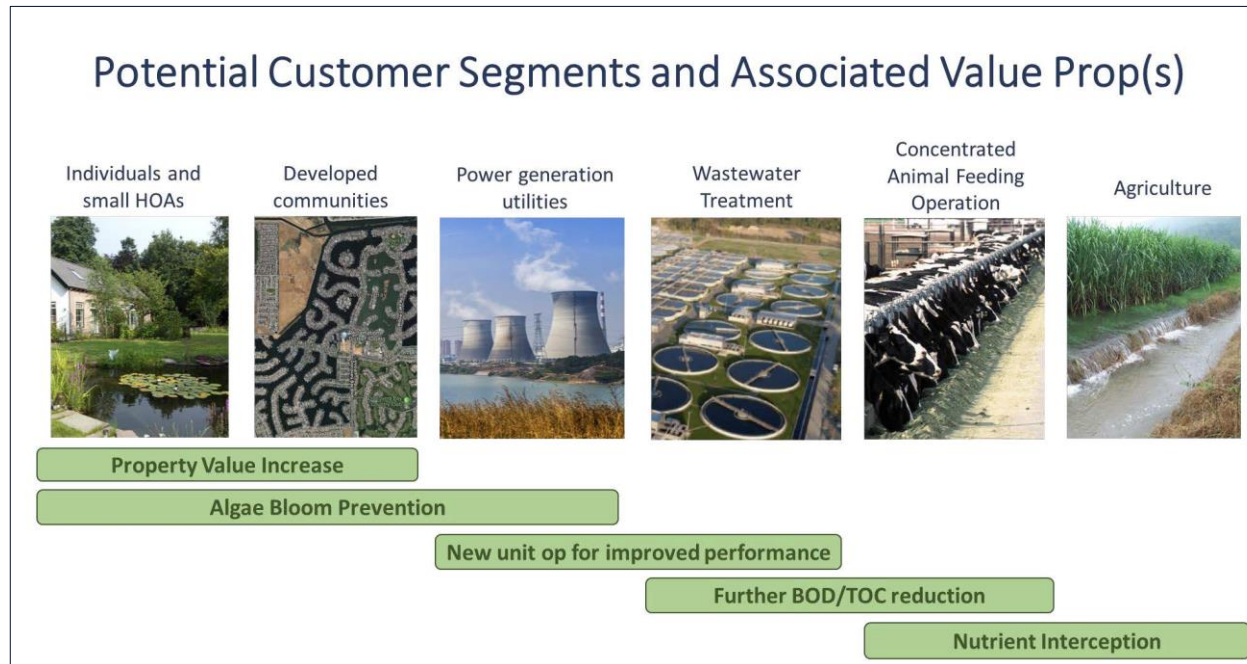
- Only 16% conduct preventative/ regular maintenance





# Nature-based, cost-effective solutions to reduce non-point source pollution

- Algal Turf Scrubbers at Bulloch and Dodge counties
- Reduce nitrogen and phosphorus in agricultural lands
- Reduce pesticides and pharmaceuticals from irrigation ponds
- 65% reduction in antibiotic-resistant bacteria from wastewater



Contact: [aaslan@georgiasouthern.edu](mailto:aaslan@georgiasouthern.edu)



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