Florida Department of Environmental Protection

Division of Environmental Assessment and Restoration

Wekiva River, Rock Springs Run, and Little Wekiva Canal Basin Management Action Plan (BMAP) Onsite Sewage Treatment and Disposal System (OSTDS) Remediation Plan

Moira R. Homann

July 21, 2016

Agenda

- Welcome and Opening Remarks
- Advisory Committee
  - Introductions
  - Overviews
    - Operating Procedures and Guidance
    - Sunshine Law
- Wekiva River, Rock Springs Run, and Little Wekiva Canal Brief BMAP Overview
- Identification of Three Main "Prongs" of the OSTDS Remediation Plan
  - Projects
    - Summary of BMAP projects that address OSTDS sources
    - Other projects funded/started since BMAP adoption
  - Scientific Information
    - Data availability and sufficiency
      - Florida Department of Environmental Protection (DEP)
      - Florida Department of Health (FDOH)
    - Research/studies (planned/underway/completed)
  - Education
- Public Comments
- Summary and Action Items
- Adjourn

OSTDS
Advisory Committee

Advisory Committee: Introduction

- OSTDS Advisory Committee members:
  - Represent the sectors that are affected by the OSTDS Remediation Plan.
  - Have expertise to lend to the process and to successful outcomes to reduce nitrogen loadings from OSTDS sources.

Sector	Representative	Entity/Group
DOH *+	Bart Harriss/Stephanie Daugherty/Nancy Smith	Lake County Orange County Seminole County
County *+	Nicholas Mcray/Mary Hamilton Julie Bortles Kim Ornberg	Lake County Orange County Seminole County
City *+	Jessica Schilling Danielle Marshall/Travis Hollman	City of Apopka City of Altamonte Springs
Public/Private Utilities *+	Megan Nelson/Elisabetta Natale	Orange County Utilities Department
Environmental Interest +	Michael D. Cliburn/Jay Exum	Friends of Wekiva, etc.
Homeowners +	Charles Whitaker	Property owners
Other interests +	Roxanne Groover	Florida Onsite Wastewater Association (FOWA)

*Required by Legislation

+ Per the BMAP

Purpose of OSTDS Committee

- OSTDS Remediation Plan for Priority Focus Areas (PFAs).
  - Advise/provide DEP with opinions or direction on Wastewater/OSTDS Remediation Plan.
  - Assist with specialized technical discussions and topics to be researched.
  - Provide information back to community leaders, decision makers, and homeowners.
- Plan needs to:
  - Allow for BMAP revision by July 2018.
  - Include development of 5-year, 10-year, and 15-year goals.
  - Include detailed plan to meet TMDL in 20 years.
  - Include elements of each of the three “prongs”.
    - Projects.
    - Science.
    - Education.

NOTE: Other source categories will be considered outside this committee.

Advisory Committee: Background

- OSTDS Advisory Committee will operate under the Sunshine Laws (Article 1, Section 24, Florida Constitution and Section 286.011, F.S.)
- Discussion or any form of communication between committee members on matters reasonably expected to come before the committee is **prohibited** outside of a publicly noticed meeting.
  - Communication includes but not limited to phone calls, writing, texting, and emailing another committee member.
  - Discussion between a committee member and non-committee members, including staff, is permissible.
  - Discussion of committee topics between a committee member and their alternate representative is permissible.
- Questions? Please contact:

  Kenny Hayman, Senior Attorney, Kenneth.Hayman@dep.state.fl.us

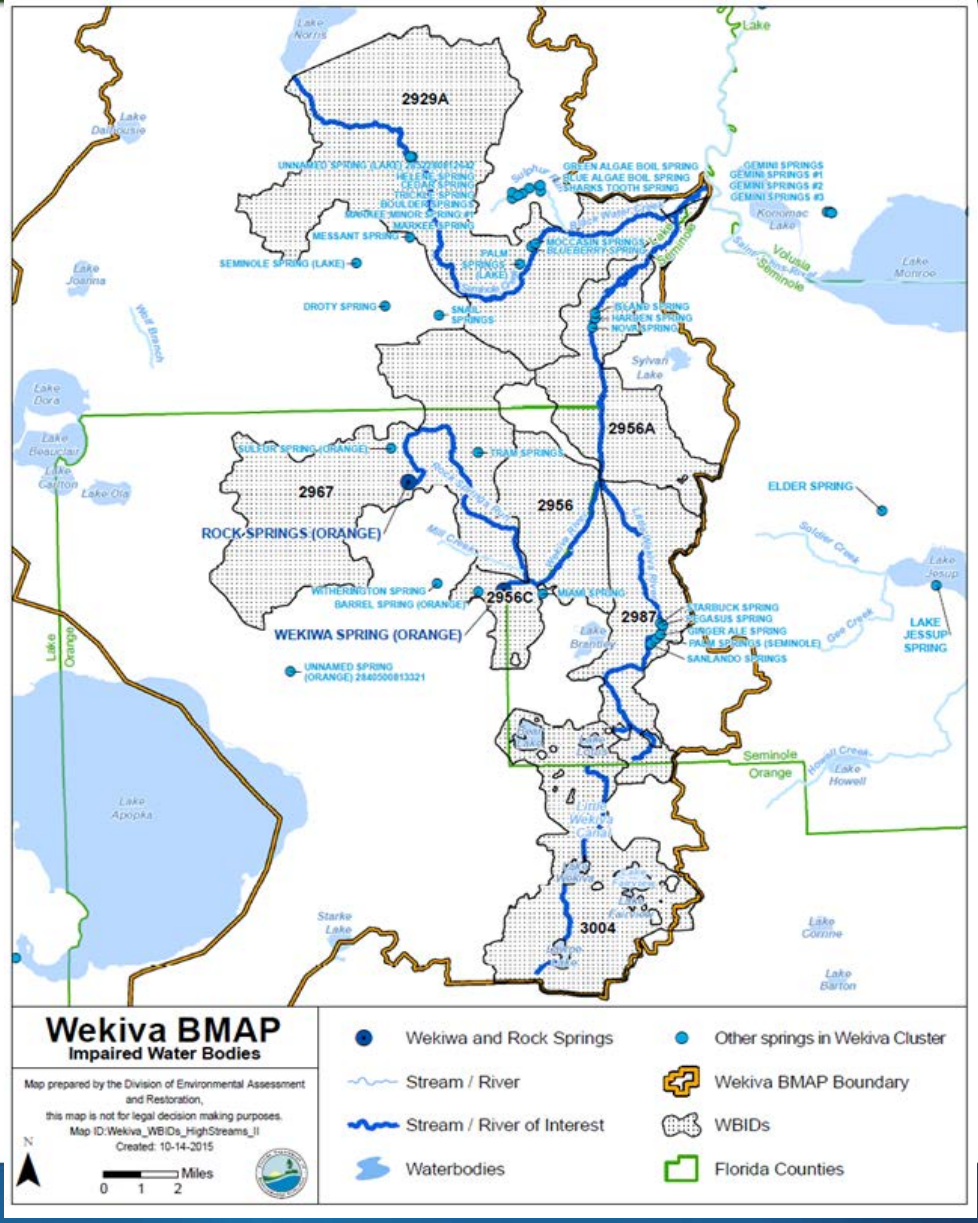
Advisory Committee: Operating Procedures and Guidance

- Purpose:
  - Provide ideas, comments, suggestions and concerns to DEP toward reducing nitrogen loads from on-site treatment and disposal systems (OSTDS) sources through development of an effective and cost-efficient OSTDS Remediation Plan.
- Key Operating Procedures:
  - Members will generally not vote or create recommendations as a group, but will relay the concerns and comments from the individual sectors represented on the committee to DEP.
  - Members are expected to come prepared to share their suggestions and comments during the meetings for the benefit of the other members and for the public in attendance.
  - DEP will give consideration to all comments and recommendations submitted by committee members for inclusion in the plan.

Review of Wekiva River, Rock Springs Run, and Little Wekiva Canal Springs BMAP

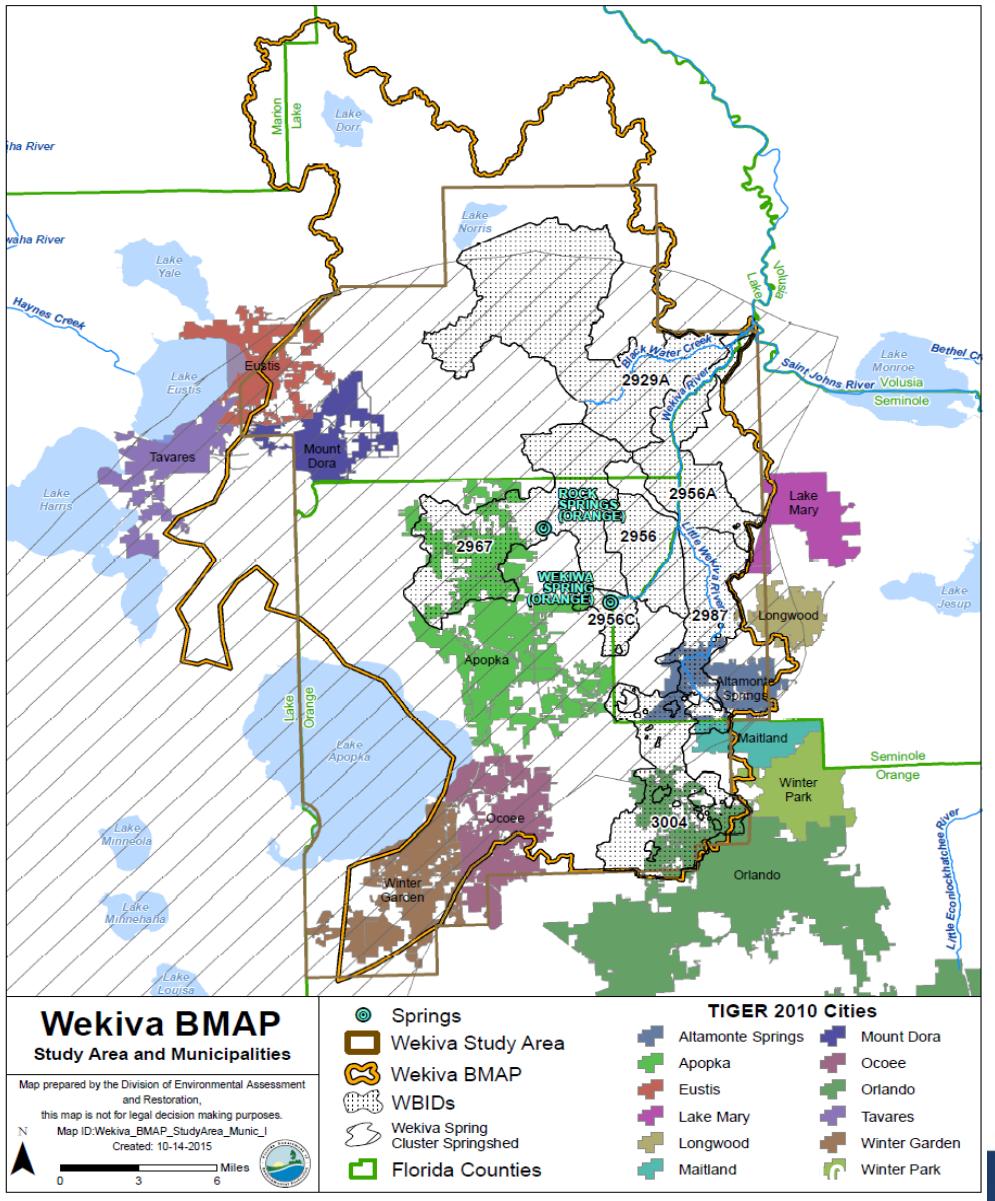
Wekiva River, Rock Springs Run and Little Wekiva Canal TMDLs

- Wekiva River, Wekiwa Springs, and Rock Springs Run
  - Impaired in 2007
    - Nitrate-nitrogen and Total Phosphorus (TP)
  - TMDLs in April 2008
- Little Wekiva Canal
  - Impaired in 2007
    - Total Nitrogen (TN) and biochemical oxygen demand (BOD) which caused impairment for dissolved oxygen (DO)
  - TMDLs in June 2008
- TMDL Targets
  - Monthly average nitrate concentration of 0.286 milligrams per liter (mg/L)
  - Monthly average TP concentration of 0.065 mg/L



Wekiva River, Rock Springs Run, and Little Wekiva Canal BMAP

- Adopted October 2015.
  - To implement nutrient reductions in the BMAP planning area to achieve the TMDLs.
- BMAP includes:
  - Projects and management strategies
  - A schedule for implementation for the first five-year iteration.
  - Monitoring plan.
- BMAP area encompasses 513 square miles.
- Area includes roughly half of the Wekiva ground water basin drawn by the St. Johns River Water Management District (SJRWMD)
  - Including the springs that contribute to the Wekiva River, Rock Springs Run, the Little Wekiva River, and Blackwater Creek.



BMAP Approach

- Phased BMAP.
  - Total reductions addressed in five-year increments.
  - Implementation of management strategies.
  - Simultaneously monitor and conduct studies.
- Future Iterations.
  - Discussions with stakeholders to identify additional management strategies, as needed.
- In 2018 the BMAP will be revised to include requirements set forth in Chapter 2016-1 Laws of Florida.

Projects Adopted in Wekiva BMAP

Project Types	# of Projects	Status of Projects
Stormwater Structural Best Management Practices (BMPs)	85	Proposed 10 Under Construction 9 Completed / ongoing 66
Agricultural BMPs	0	Acres enrolled 8600.8 Remaining Acres 38,500.7
Special Studies/Research, Data Collection and Planning	10	Proposed 0 Under Construction 5 Completed / ongoing 5
Education and Outreach	1	Proposed 0 Under Construction 0 Completed / ongoing 1
Stormwater Operation and Maintenance and Street Sweeping	49	Proposed 0 Under Construction 0 Completed / ongoing 49
Conservation Land Acquisition	16	Proposed 0 Under Construction 0 Completed / ongoing 16
OSTDS Conversion	16	Proposed 1 Under Construction 1 Completed / ongoing 14
Wastewater Reuse	27	Proposed 7 Under Construction 1 Completed / ongoing 19
Wastewater Collection System Maintenance	2	Proposed 0 Under Construction 0 Completed / ongoing 2
Total Number of Projects	206	Proposed 18 Under Construction 16 Completed / ongoing 172

Nitrogen Source Inventory and Loading Tool (NSILT)

- Planning tool that provides the best available assessment of where nitrogen is currently being applied in the BMAP area.
- Estimates nitrate loads from multiple sources:
  - Atmospheric deposition.
  - Agricultural and nonagricultural fertilizer.
  - Livestock waste.
  - Septic systems.
  - Wastewater application.
- The department will develop an NSILT for the Wekiva basin to:
  - Help provide information on the significant sources of nitrogen in the ground water contribution area, and
  - Estimate their loads to ground water in the area covered by the BMAP.

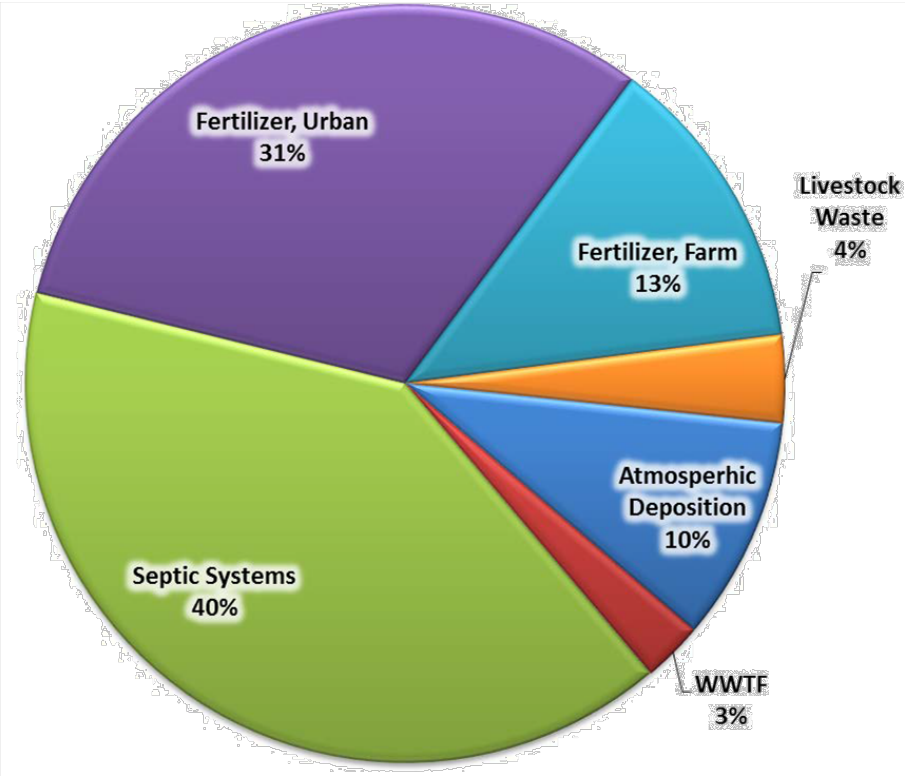
NSILT Details

- GIS- and spreadsheet-based tool.
  - Provides estimates of the relative contribution of nitrogen from various sources.
  - Identifies areas where nitrogen source reduction efforts could be focused to achieve the most beneficial and cost-effective effect on water quality.
- General approach.
  - Identify categories of land use that are potential nitrogen sources.
  - Estimate nitrogen input at the land surface.
    - Attenuation by type of source.
  - Apply attenuation based on ground water recharge.
    - Higher recharge rate lower attenuation.
  - Calculate the estimated nitrogen load to ground water.

NSILT Example

- Nitrogen loading estimates to ground water include these considerations:
  - Attenuation factor for each of the source categories.
  - Rate of ground water recharge within the three areas of aquifer confinement (confined, semi-confined , and unconfined).
- Example figure shows relative nitrogen **loads to the ground water** contributed from the nitrogen source categories evaluated for the Kings Bay BMAP area.

Example: **Kings Bay BMAP Area**



Priority Focus Areas (PFAs)

PFA
Requirements of Chapter 2016-1 Laws of Florida

- PFA
  - Sub-Section 373.802, Chap. 2016-1 Laws of Florida:
    - Definition: Area or areas of a basin where the Floridan Aquifer is generally most vulnerable to pollutant inputs where there is a known connectivity between ground water pathways and an Outstanding Florida Spring (OFS).
  - Sub-Section 373.803, Chap. 2016-1 Laws of Florida:
    - To be delineated considering factors that may lead to degradation of an OFS, such as:
      - Ground water travel time to the spring.
      - Hydrogeology.
      - Nutrient load, etc.
    - Must be completed by July 1, 2018.

OSTDS Remediation Plan "Prongs"

OSTDS Remediation Plan "Prongs"

- Projects/Management Strategies.
  - Summary of projects in the BMAP that address OSTDS/Wastewater sources.
  - Other projects funded/started since BMAP adoption.
  - Identify additional cost-effective and financially feasible projects
- Scientific information.
  - Collect and evaluate credible scientific information on the effect of nutrients, particularly forms of nitrogen, on springs and springs systems
    - Data availability and sufficiency – i.e. what we have and/or what we need.
    - Research/studies (planned/underway/completed).
- Public education.
  - Plan to provide reliable, understandable information about OSTDS and springs.

Projects and Management Strategies Included in BMAP

Lead Entity	Project Number	Project Name	Project Type	Status	TN Reduction (kg/yr)	Start Date	Completion Date
City of Apopka	A-19	WWTP Expansion and Nutrient Removal	Reclaim	Underway	-	-	-
City of Apopka	A-4	Chalet North Mobile Home Park	Sewer collection	Completed	58,586.00	-	-
City of Apopka	A-5	Individual Septic to Sewer Projects	Sewer collection	Completed	3,381.00	-	-
City of Apopka	A-6	Kelly Park Rd at Rock Springs (Orange County Park)	Sewer collection	Completed	1,296.00	-	-
City of Apopka	A-7	Kelly Park Rd 8-inch Force Main	Sewer collection	Completed	-	-	-
City of Apopka	A-8	U.S. Highway 441 Force Main Extension	Sewer collection	Completed	-	-	-
City of Apopka	A-9	Yothers Rd. and Zellwood Station	Sewer collection	Completed	355,388.00	-	-
City of Altamonte Springs	AS-19	Adventist Health System Headquarters Development	Sewer collection	Completed	72.36	-	-
City of Altamonte Springs	AS-20	Spring St., Central St., Marker St., and Campello St. Septic System Removal	Sewer collection	Completed	101.31	-	-
City of Altamonte Springs	AS-21	640 Jasmine Ave. Septic System Removal	Sewer collection	Completed	14.50	-	-
City of Altamonte Springs (with Apopka)	AS-23	Altamonte Springs- FDOT Integrated Reuse and Stormwater Treatment (A-FIRST)	Reclaim	Underway	31,872.00	-	-
City of Mount Dora	MD-11	Community Development Block Grant	Sewer collection	Completed	-	-	-
Orange County	OC-37	Lake Gandy Hydrologic and Nutrient Study	Study	Completed	-	-	-
Orange County	OC-38	Lake Lawne Hydrologic and Nutrient Study	Study	Underway	-	-	-
City of Orlando	ORL-14	Arthur Ave. Sewer Line	Sewer collection	Completed	-	-	-
City of Orlando	ORL-15	Fairview Shores – North Service Area	Sewer collection	Completed	-	-	-
City of Orlando	ORL-16	Lynx Facility	Sewer collection	Completed	-	-	-
City of Orlando	ORL-17	Rio Grande Sanitary Sewer	Sewer collection	Completed	-	-	-
City of Orlando	ORL-18	West Lake Fairview Sanitary Sewer	Sewer collection	Underway	-	-	-
Seminole County	SC-26	Bear Lake Chain-of-Lakes Hydrology/Nutrient Budget and Water Quality Management Plan	Study	Completed	-	-	-
Seminole County	SC-27	Spring Lake/Spring Lake Watershed Hydrology/Nutrient Budget and Water Quality Management Plan	Study	Underway	-	-	-
Seminole County	SC-29	Seminole County Water Quality Master Plan	Study	Underway	-	-	-
Wekiwa State Park	WSP-2	Remove Wekiva State Park from Septic	Sewer collection	Underway	-	-	-

Projects and Management Strategies since BMAP Adoption

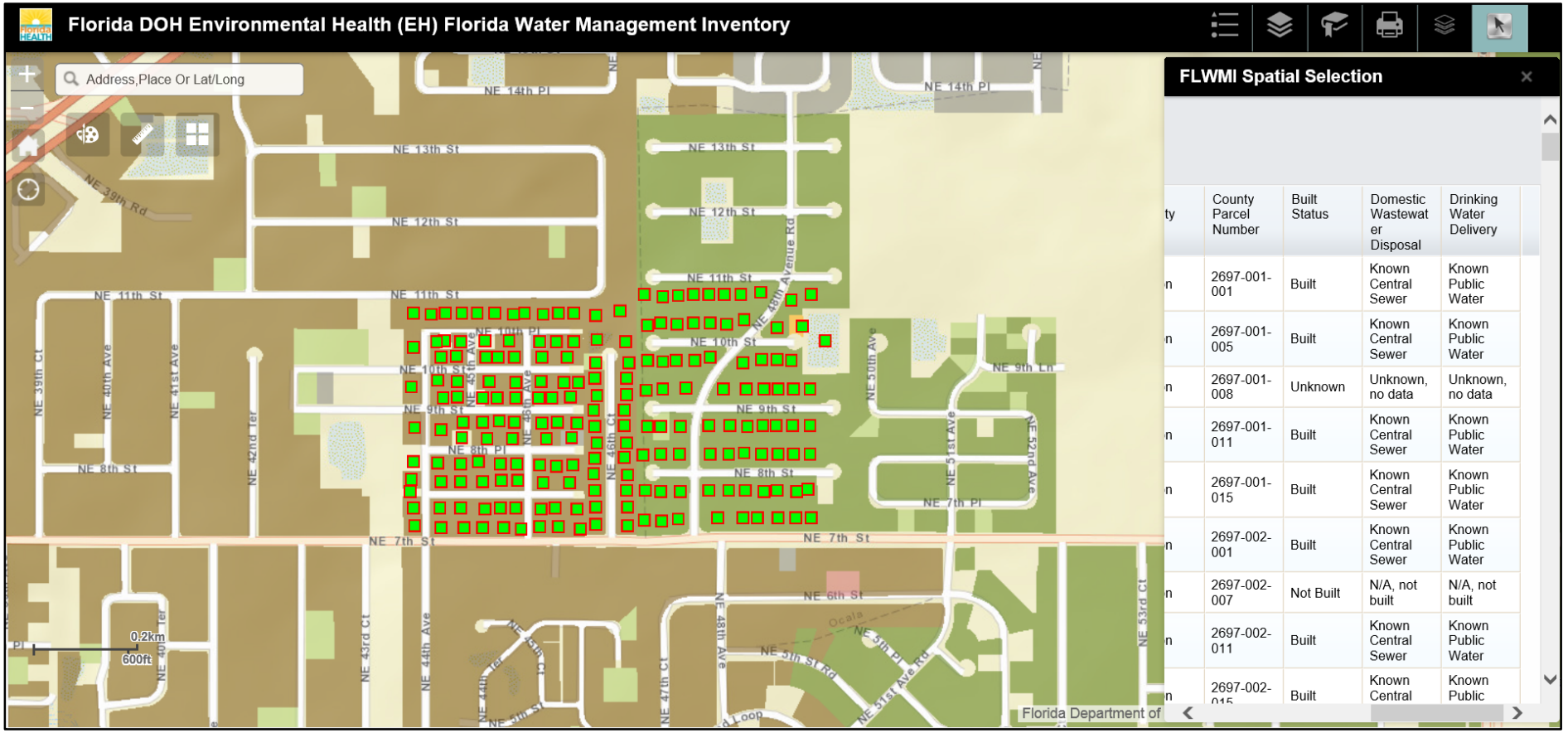
- Have any projects/management strategies been proposed/funded/started since the adoption of the BMAP (October 2015)?
- If so, please submit them to the department.
  - Project collection instructions.
  - Management strategies collection spreadsheet (Wekiva BMAP).
    - Fill out as completely as possible for each project/strategy.

Scientific Information

- Data availability and sufficiency
  - Municipal boundaries.
  - Septic tank locations.
  - Information on new tanks being permitted.
  - Wastewater treatment facility (WWTF) information.
    - Utility lines/utility boundaries.
    - Method of disposal/location of disposal.
  - Soils.
  - Land use.
  - Aquifer vulnerability.
  - Other?
- Research/studies.
  - Planned.
  - Underway.
  - Completed.

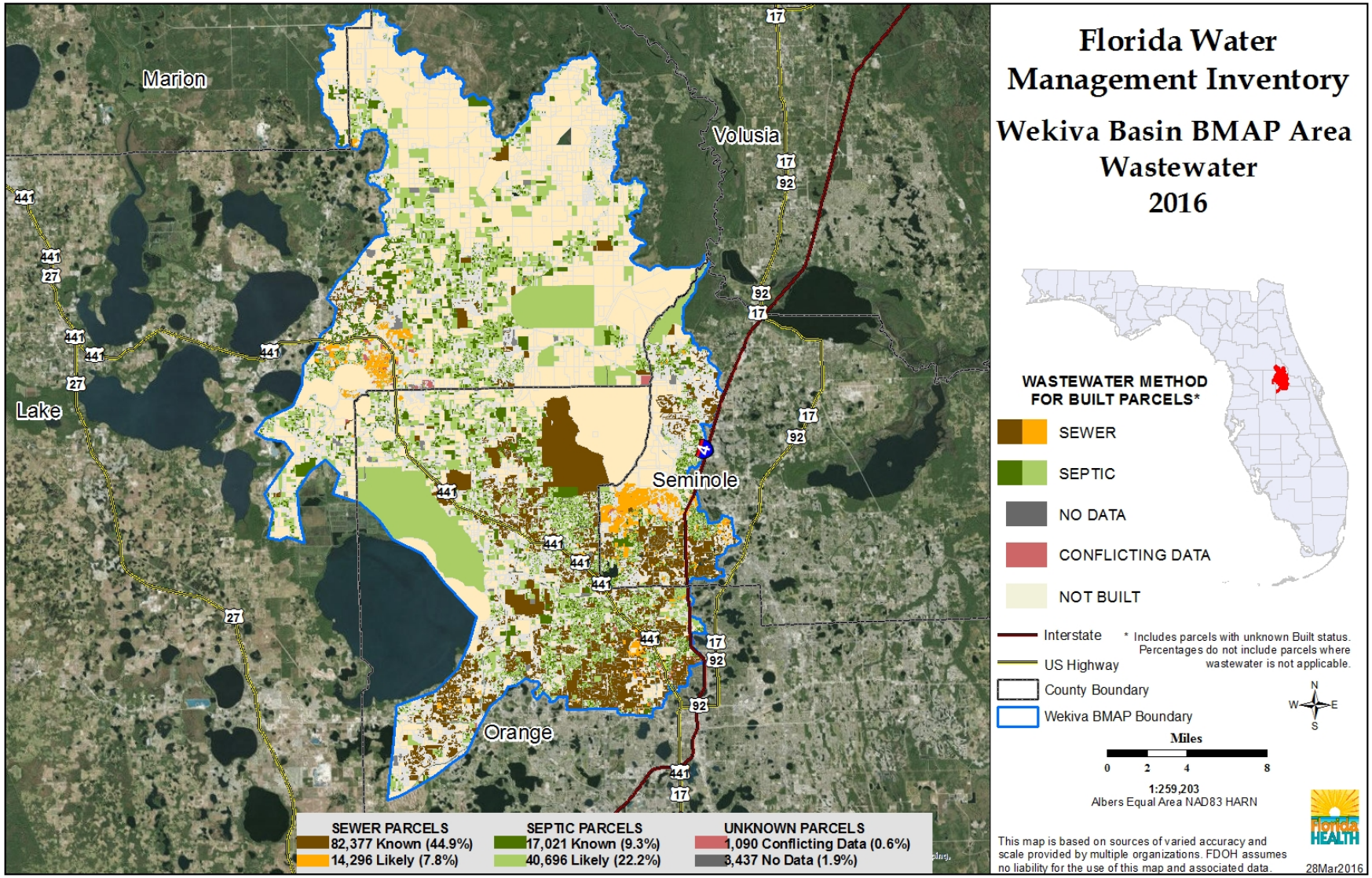
Florida Department of Health

Searchable Web Application

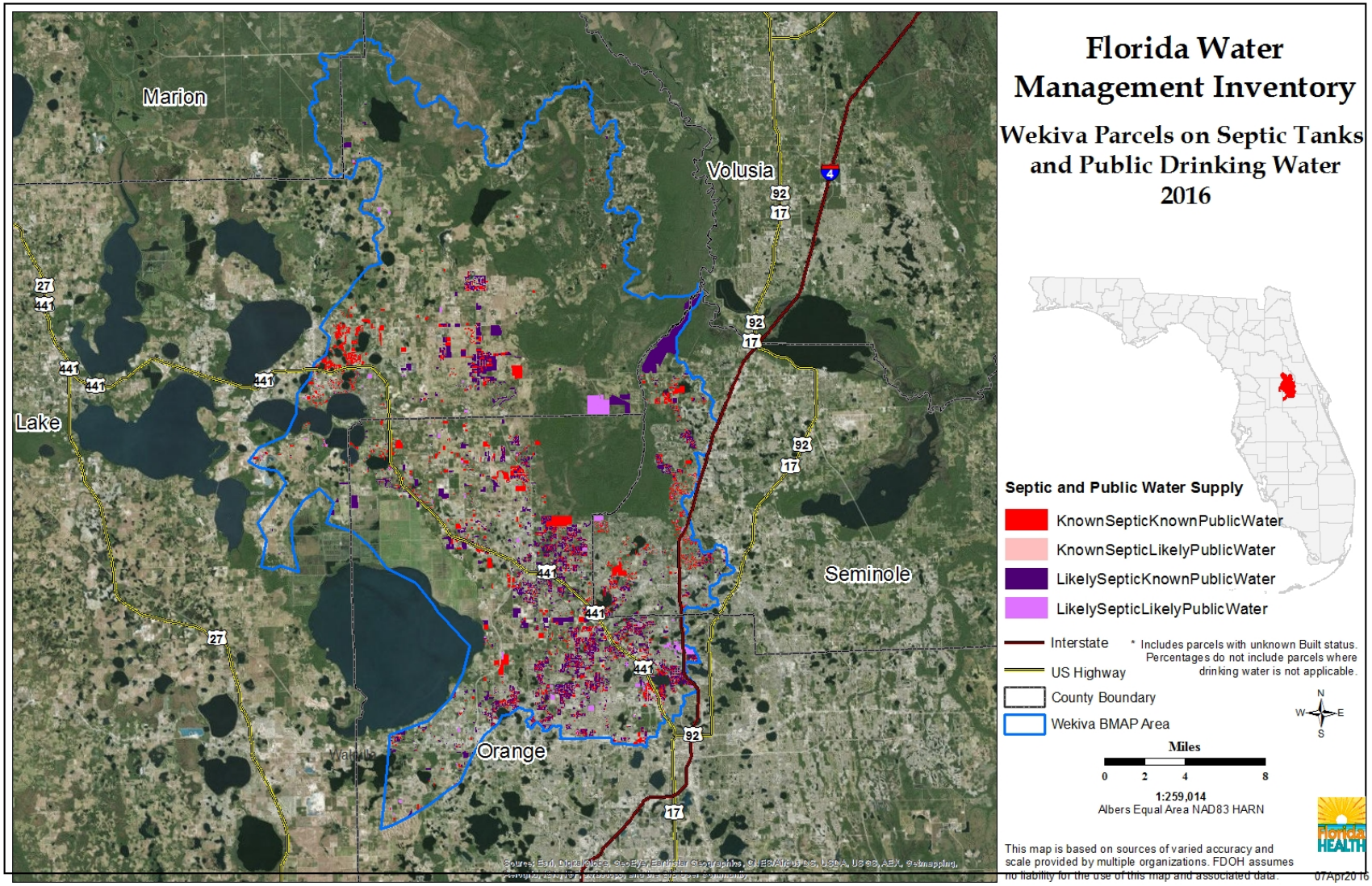


https://gis.flhealth.gov/FLWMI

Wastewater Distribution



Expanding the Analysis



Scientific Information (cont'd)

- Please review existing files and upload additional or revised information by **Friday, August 19, 2016**.
- Links.
  - For reviewing files.
  - For uploading files (open in Windows Explorer to upload files).

Public education

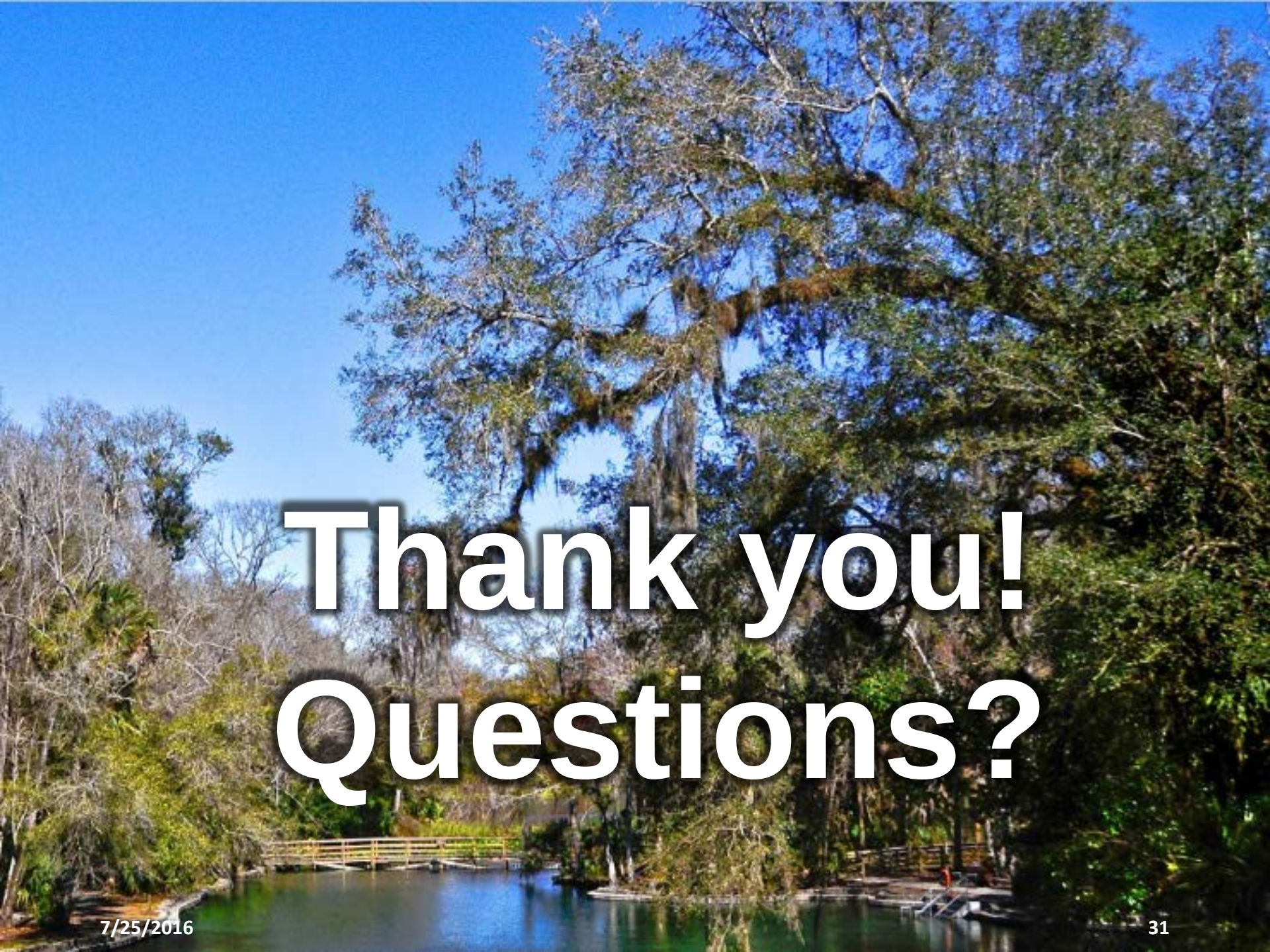
- Inventory of public education components
  - Ongoing education efforts?
  - Education needs?
- Overall goal:
  - Communicate consistent coordinated message to public.
  - Increase public education/awareness about:
    - Springs.
    - Local groundwater systems and nutrient connections.
    - Wastewater management issues including septic systems.

Possible Topics for Next Meeting

- Start discussions on:
  - Define the magnitude of the problem.
    - How much loading reduction is needed.
    - Where is the problem located?
  - What we know about wastewater and OSTDS management in these basin.
  - What can we do to manage the problem?
    - Planning requirements.
    - Local ordinances.
    - Alternative treatment systems.
  - Possible approaches to address septic systems and implications associated with each:
    - Sewering.
    - Alternatives to sewering.
      - DOH.
      - FOWA.
    - Others.
  - Education Plan.

Summary and Action Items

- Summary.
  - TMDL needs to be achieved no more than 20 years after adoption of BMAP.
    - Wastewater/OSTDS Remediation Plan will be developed with input from Advisory Committee to help achieve TMDL reduction for these sources within 20 years.
  - Need to update information (data, projects, studies, etc.).
  - Need to start gathering necessary information under three "prongs".
    - Identify projects to meet the 5-year, 10-year and 15-year targets.
    - Identify what and where scientific information is needed.
    - Identify what public education efforts exist & what needs to be done.
- Action Items.
  - Review existing data files and upload additional or revised information by August 19, 2016.
  - Possible next meeting topics.
- Next meeting date.
  - September 7th.


Thank you!
Questions?

Contacts

- Tom Frick, Director, Division of Environmental Assessment and Restoration, Thomas.Frick@dep.state.fl.us
- Kevin Coyne, Administrator, Watershed Planning and Coordination Section, Kevin.Coyne@dep.state.fl.us
- Rick Hicks, Administrator, Ground Water Management Section, Richard.W.Hicks@dep.state.fl.us
- Moira Homann, Wekiva River, Rock Springs Run, and Little Wekiva Canal BMAP Coordinator, Moira.Homann@dep.state.fl.us
- Kenny Hayman, Senior Attorney, Kenneth.Hayman@dep.state.fl.us
- Tiffany Busby, Facilitator/Consultant, TLBusby@wildwoodconsulting.net
- Heather York, Consultant, HYork@wildwoodconsulting.net

Possible Topics for Next Meeting

- Start discussions on
  - What we know about wastewater and OSTDS management in these basin.
  - Possible approaches to address septic systems and implications associated with each:
    - Sewering
    - Alternatives to sewering
      - DOH
      - FOWA
    - Others