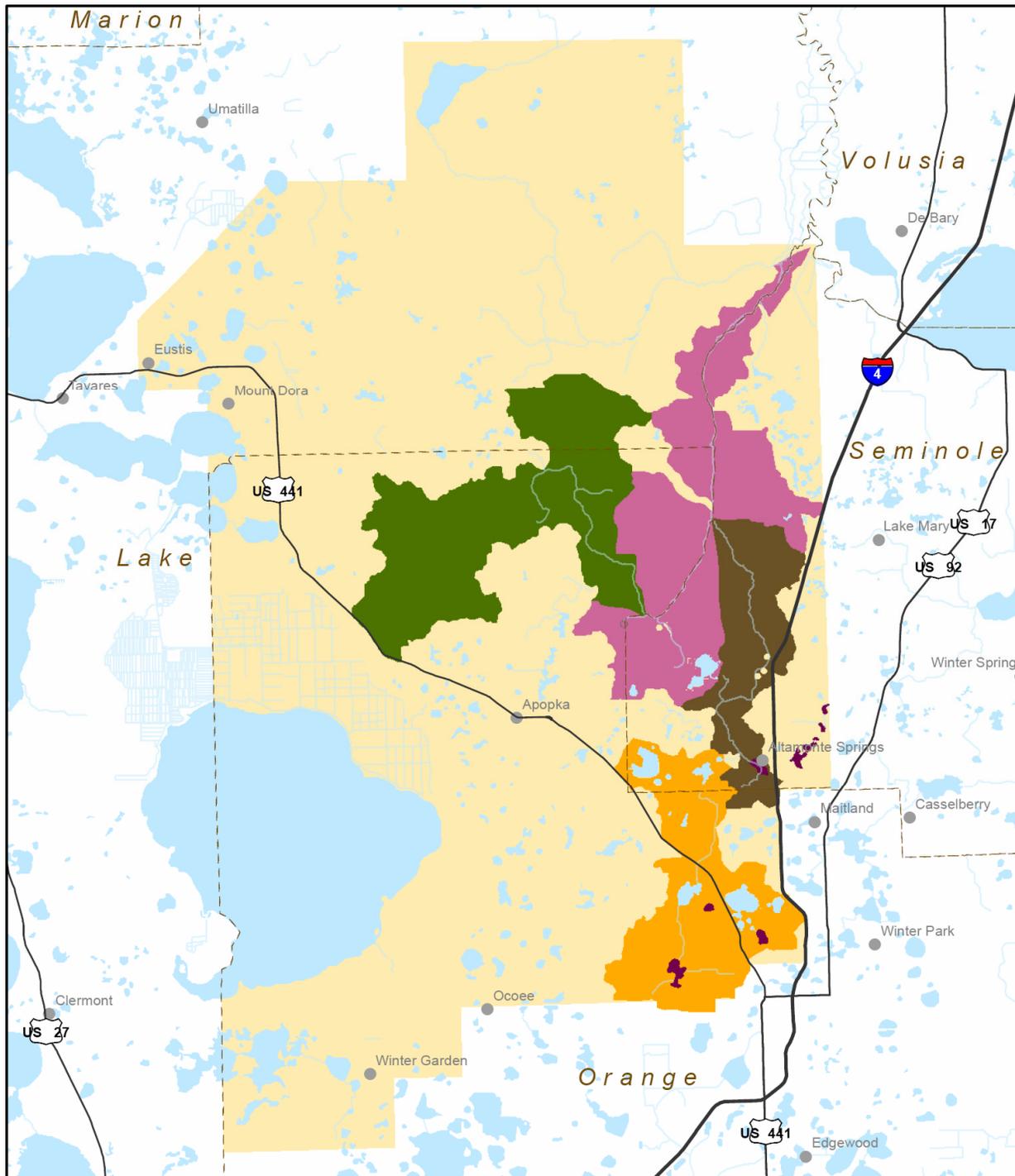


# Wekiva Basin TMDL & BMAP Update

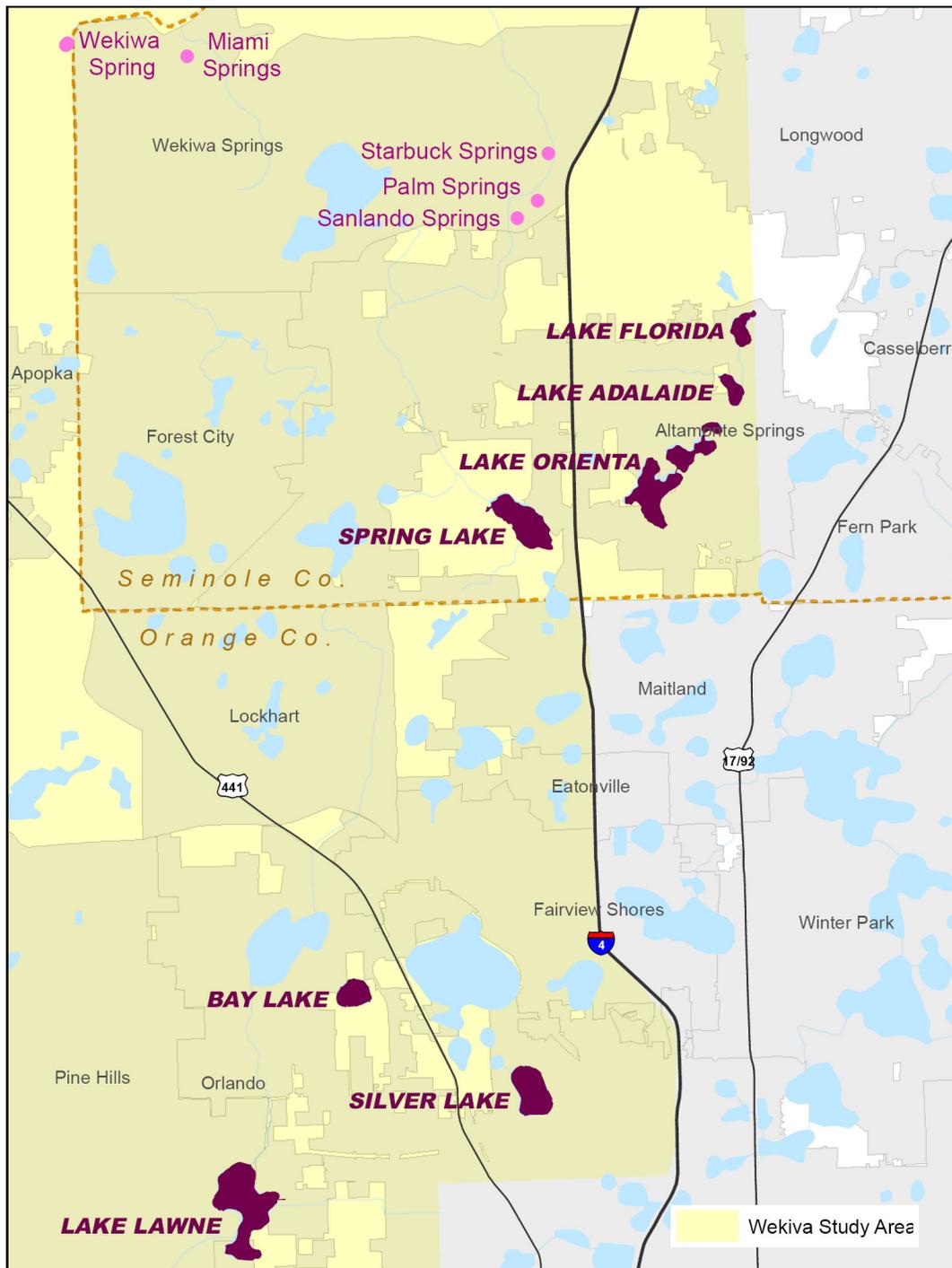
February 27, 2008

*Jennifer Gihring, FL DEP*





- Wekiva Study Area
- Wekiva River Mainstem & Wekiwa Spring (Nutrients)
- Little Wekiva River (Coliforms)
- Little Wekiva Canal (Coliforms, Nutrients, & DO)
- Rock Springs Run (Nutrients)
- TMDL Lakes (Nutrients)



 TMDL Lakes  
(Nutrients)

# **Wekiva Basin TMDL Targets**

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## **Springs & Spring Runs - nutrients**

- Studies in Wekiva/Rock Springs Run and other spring systems

## **Little Wekiva Canal – nutrients and DO**

- Quantitative relationships between TN, TP, BOD, chl-a, & DO

## **Lakes - nutrients**

- TN and TP concentrations to meet trophic state index (TSI) 5 units above natural background (undeveloped conditions)

## **Little Wekiva River & Canal - coliforms**

- Meet standard of less than 400 mpn/100 mL 90% of the time

# Source Identification

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Source identification was general in all Wekiva TMDLs.

Loading and associated reductions were not identified for specific sources or source categories.

Note - septic systems

- Modification of septic tank information will not affect spring/spring run TMDLs (calculated as % reductions from current to target condition)



# Proposed Wekiva Basin TMDL % Reductions

| <b>Waterbody &amp; WBID</b>                           |       | <b>Nitrate</b>        | <b>TP</b> |
|---|-------|-----------------------|-----------|
| <b>Wekiva River (Upstream)</b>                        | 2956  | 68%                   | 61%       |
| <b>Wekiva River (Downstream)</b>                      | 2956A | 47%                   | 57%       |
| <b>Wekiwa Spring</b>                                  | 2956C | 79%                   | 64%       |
| <b>Rock Spring</b>                                    | 2967  | 63%                   | 58%       |
| <b>Rock Springs Run</b>                               | 2967  | 81%                   | 23%       |
| <b>Waterbody &amp; WBID</b>                           |       | <b>Fecal coliform</b> |           |
| <b>Little Wekiva River &amp; Canal</b><br>2987 & 3004 |       | 43%                   |           |

- Same values as proposed at public meeting (Nov. 2007)
- No public comments received that would affect targets or % reductions
- No changes anticipated prior to adoption

# Proposed Wekiva Basin TMDL % Reductions

| <b>Waterbody &amp; WBID</b> | <b>% Reductions</b> |            |
|-----------------------------|---------------------|------------|
|                             | <b>TN</b>           | <b>TP</b>  |
| <b>Lake Adalaide</b> 2998E  | <b>37%</b>          | <b>72%</b> |
| <b>Bay Lake</b> 3004G       | <b>27%</b>          | <b>68%</b> |
| <b>Lake Florida</b> 2998A   | <b>40%</b>          | <b>71%</b> |
| <b>Lake Lawne</b> 3004C     | <b>30%</b>          | <b>53%</b> |
| <b>Lake Orienta</b> 2998C   | <b>38%</b>          | <b>75%</b> |
| <b>Silver Lake</b> 3004D    | <b>40%</b>          | <b>78%</b> |
| <b>Spring Lake</b> 2987A    | <b>29%</b>          | <b>67%</b> |

- Same values as proposed at public meeting
- Revisions will incorporate new rainfall data from Orange County
- Early calculations show shifts from 2-3%

# TMDL Public Comments

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- Clarification needed regarding the original waterbody verifications
- Need to clarify assumptions
- Need to clarify terms (e.g. septic tank vs. system)
- Attenuation issues
- Need to use local information for septic tank failure rates (e.g. DOH Wekiva Study)
- Need more detailed source information
- Consider effects of bird populations on fecal coliform loads

# **TMDL Modifications Since Public Meeting**

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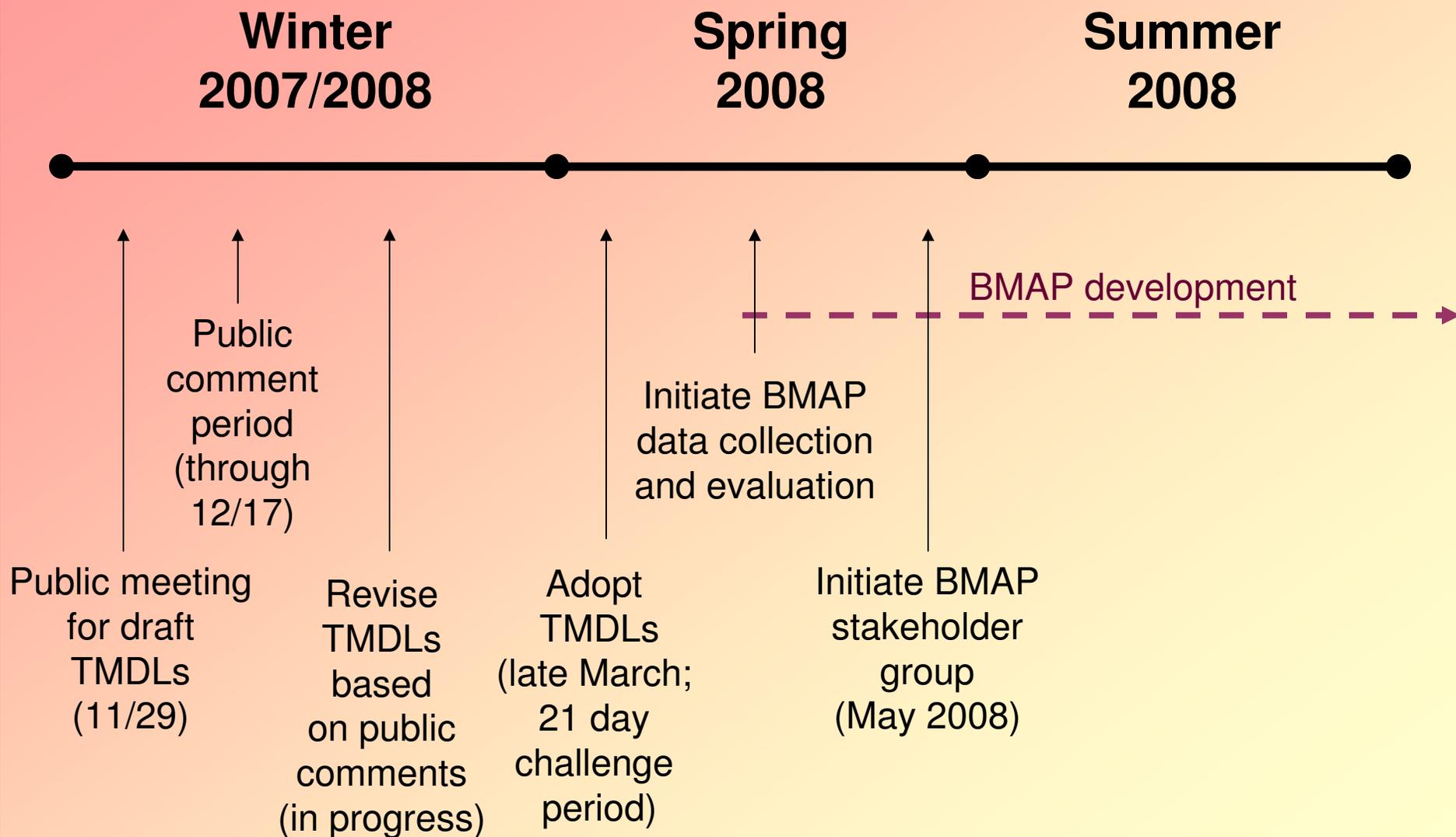
## **New Rainfall Data from Orange County**

- Will affect surface runoff loading rates for lake TMDLs
- Early results show 2-3% difference in reduction requirements for lake TMDLs
- Will not affect spring/spring run TMDLs

## **Septic Tanks**

- Clarifying definition of “failing” septic tanks
- Researching information about more appropriate failure rate estimates
- Will not affect TMDLs, because % reductions were calculated as comparison of current concentrations to targets
- New information will be used in the BMAP process

# Wekiva Basin TMDLs – Next Steps



# **BMAP Development – First Steps**

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**Compile existing information and evaluate what's known and unknown about the Wekiva basin**

**Detailed source identification (type, location, etc.)**

- Map stormwater and wastewater infrastructure
- Identify “hot spots”



## **For more information...**

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