Wekiva Basin TMDL & BMAP Update

July 11, 2008

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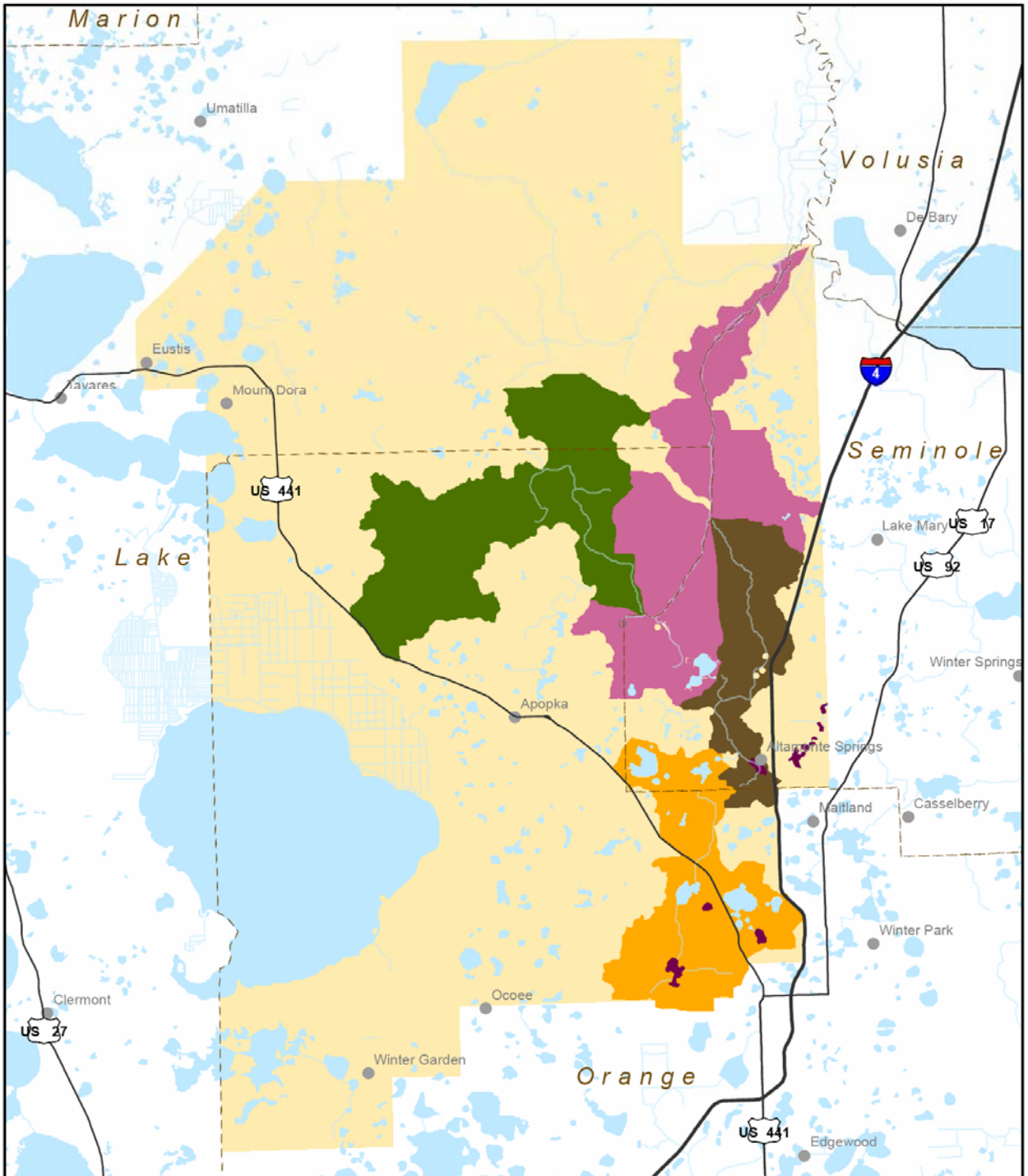


Wekiva Study Area

TMDL Waterbodies

Wekiva River Mainstem & Wekiwa Spring (Nutrients)

Little Wekiva River (Coliforms)

Little Wekiva Canal (Coliforms, Nutrients, & DO)

Rock Springs & Rock Springs Run (Nutrients)

TMDL Lakes (Nutrients)

TMDL Status

- TMDL rule language was proposed in late April 2008
- No hearing was requested; no challenges received
- **TMDLs adopted in F.S. 62-304.506 on June 3, 2008**
- Final rule text is available here: ftp://ftp.dep.state.fl.us/pub/water/BMAP/Wekiva/TMDLRule
- Final TMDL documents are available here: http://www.dep.state.fl.us/water/tmdl/final_tmdl.htm#Group2

TMDL Summary:
Springs, Rock Spring Run, & Wekiva River

- TMDL written for nitrate (target = 0.286 mg/L) and total phosphorus (target = 0.065 mg/L)
- Source identification for Wekiva River watershed: (Table 4.13)
  Surface runoff = 43% of nitrate; 73% of TP
  Springs = 57% of nitrate; 27% of TP
- Sources were not further quantified

% Reductions to Meet TMDL Targets							
	Rock Springs	**Rock Springs Run**	**Wekiwa Spring**	**Upper Wekiva River Mainstem**	**Lower Wekiva River Mainstem**	**Little Wekiva River**	**Black-water Creek**
Nitrate (Table 5.1)	81%	63%	79%	68%	47%	59%	52%
TP (Table 5.2)	23%	58%	64%	61%	57%	78%	36%

TMDL Summary: Lakes
(Adelaide, Bay, Florida, Lawne, Orienta, Silver, & Spring)

- Lake TMDLs written for total nitrogen & total phosphorus

Fraction of Loading by Source & TMDL Percent Reductions								
		Adelaide	Bay	Florida	Lawne	Orienta	Silver	Spring
TN Load (Tables 4.10-4.16 & 4.18)	Surface runoff	83%	69%	78%	78%	78%	81%	83%
	Septic Tanks	3%	9%	9%	6%	1%	1%	1%
	Baseflow	10%	10%	11%	12%	10%	11%	11%
	Atmospheric	4%	12%	2%	4%	11%	7%	5%
TP Load (Tables 4.10-4.16 & 4.18)	Surface runoff	93%	87%	90%	90%	93%	93%	94%
	Septic Tanks	1%	4%	4%	3%	1%	0.5%	0.2%
	Baseflow	5%	6%	5%	6%	4%	5%	5%
	Atmospheric	1%	3%	1%	1%	2%	2%	1%
TMDL (Table 6.1)	TN	40%	39%	34%	26%	42%	24%	30%
	TP	72%	66%	69%	49%	74%	70%	65%

TMDL Summary: Lakes ALTERNATIVE

(Adelaide, Bay, Florida, Lawne, Orienta, Silver, & Spring)

- Lake TMDLs written for total nitrogen & total phosphorus
- Surface runoff identified as the most significant nutrient source for all lakes

Source Summary: % of Total Loading				
	Surface Runoff	Septic Tanks	Baseflow	Atmospheric Deposition
TN	69-83%	1-9%	10-12%	2-12%
TP	87-94%	0.2-4%	4-6%	1-3%

TMDL % Reductions							
	Adelaide	Bay	Florida	Lawne	Orienta	Silver	Spring
TN	40%	39%	34%	26%	42%	24%	30%
TP	72%	66%	69%	49%	74%	70%	65%

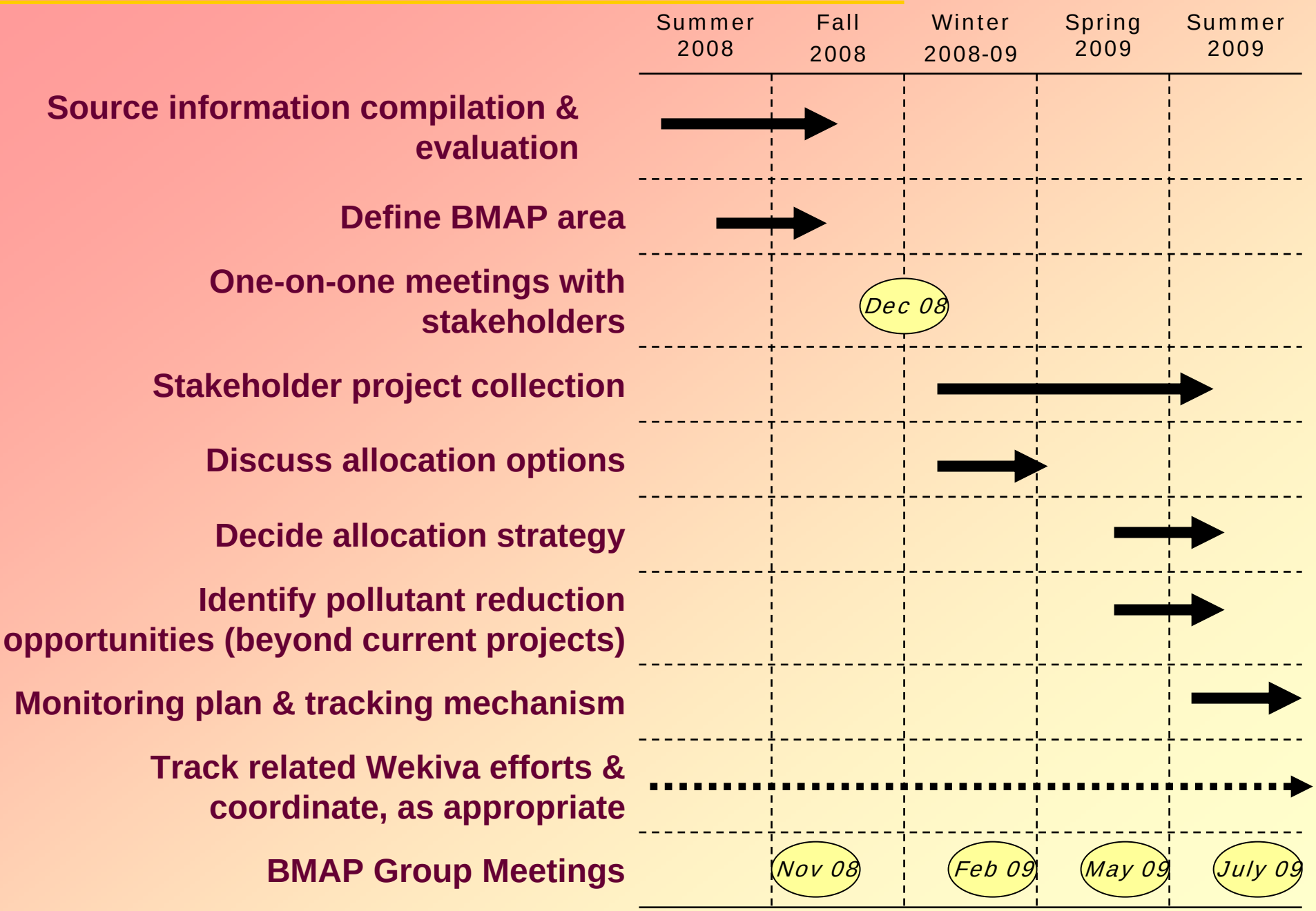
TMDL Summary:
Little Wekiva Canal (DO and nutrients)

- TMDL written for biochemical oxygen demand (target=2.0 mg/L) and total nitrogen (target=1.02 mg/L)
- TMDL calculations based on land use
- Majority of loading from medium- and high-density residential areas
- Sources were not further quantified in this TMDL

% Reductions to Meet TMDL	
BOD (Table 6.1)	11%
TN (Table 6.1)	45%

TMDL Summary:
Little Wekiva River & Canal (bacteria)

- TMDL written for fecal coliform bacteria (target= 2.06E+11 counts/day)
- TMDL calculations based on comparison of current in-stream concentrations to target
- One TMDL set for both waterbodies
- Sources were not quantified

% Reductions to Meet TMDL	
Fecal Coliforms (Table 6.1)	46.2%

Wekiva Basin BMAP – Preliminary Plan