

Lake Jesup Basin Working Group

July 24, 2008

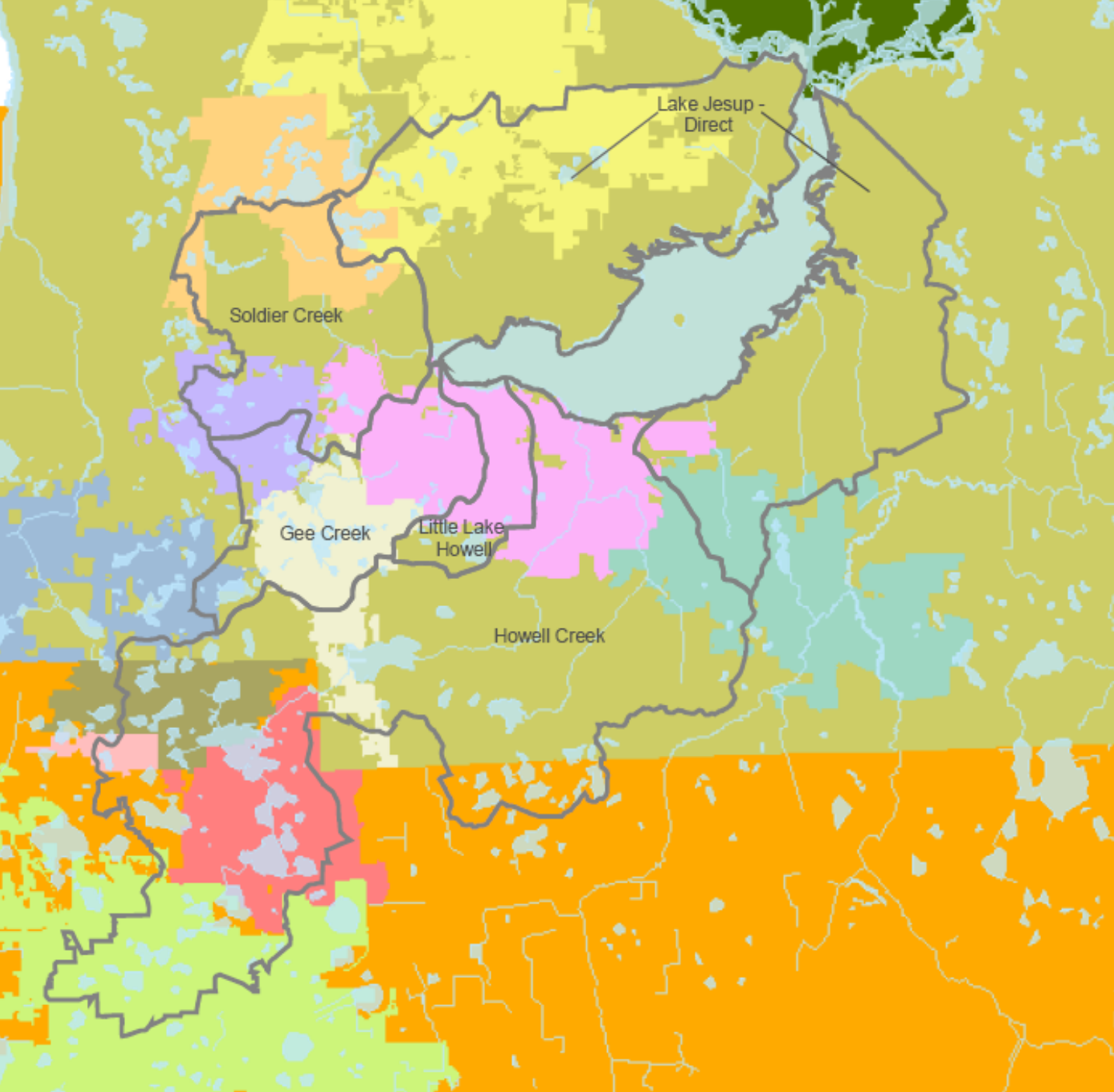


Presentation Topics

- Jesup BMAP Stakeholder Groups
- TMDL Basics & overview of the Jesup TMDL
- BMAP Basics & overview of Jesup BMAP: Where have we been?
- Next Steps & Decisions for the Working Group
- Questions & Discussion



Lake Jesup Subbasins and Local Governments



All Phase I MS4s



Basin Management Action Plan (BMAP) Stakeholder Groups

Technical Working Group

- Staff-level membership.
- “Fact-finding” – not subject to Sunshine (all meetings are open to the public).
- Excellent participation thus far.

Basin Working Group

- Official decision-making body for the BMAP.
- Management-level membership.
- Subject to Sunshine.

Lake Jesup BMAP Technical Working Group (est. 5/2006)

Local Governments

Seminole Co

Orange Co

Altamonte Springs

Casselberry

Eatonville

Lake Mary

Longwood

Maitland

Orlando

Oviedo

Sanford

Winter Park

Winter Springs

Environmental

Friends of
Lake Jesup

State Agencies

DOT

DACS

FWC

SJRWMD

DEP

Other

Participants

SSNOCWTA

Seminole SWCD

Several consulting firms

Total Maximum Daily Loads (TMDLs)

TMDL = Maximum amount of a pollutant a waterbody can assimilate and still meet water quality standards

- TMDLs are established for “impaired waters”
- Jesup impairment due to elevated nutrients
- Typically involve water quality modeling, based on measured data
- Establish quantitative pollutant load reductions needed to meet water quality standards

Lake Jesup TMDL

- Adopted in 2006
- Surface water runoff model used to estimate surface loads by land use type; incorporated local information about BMPs
- Target based on historical conditions, plus growth factor, then used model to determine in-lake nutrient concentrations to meet target
- Set reduction goals for total nitrogen (~675,000 lbs) and total phosphorus (~24,000 lbs) relative to current conditions

TMDL Allocations

An adopted TMDL allocates the required reductions among four source categories:

$$\text{TMDL} = \text{WLA}_{\text{ww}} + \text{WLA}_{\text{sw}} + \text{LA} + \text{MOS}$$

- WLA_{ww} = sum of wastewater point source loadings
(none in Jesup)
- WLA_{sw} = sum of stormwater point source loadings
(multiple entities in Jesup)
- LA = sum of nonpoint source loadings
(multiple entities in Jesup)
- MOS = margin of safety (implicit – not quantified)

TMDL Implementation

A Basin Management Action Plan (BMAP) is the primary tool for implementing Total Maximum Daily Loads

- A BMAP is not required for every TMDL, but was considered necessary for Jesup
- Reasons: multiple stakeholders, clarify stormwater permit obligations, clarify agricultural obligations, etc.

BMAP Basics

- Developed collaboratively with stakeholders
- 403.067(7) F.S.
- Point Sources: BMAPs are enforceable through wastewater and municipal stormwater (MS4) permits
- Nonpoint Sources: BMAPs are linked to BMP implementation
- Adopted by DEP Secretarial Order, but include statements of commitment from stakeholders

Key BMAP Components

Water quality goals & load reductions

Refined source identification

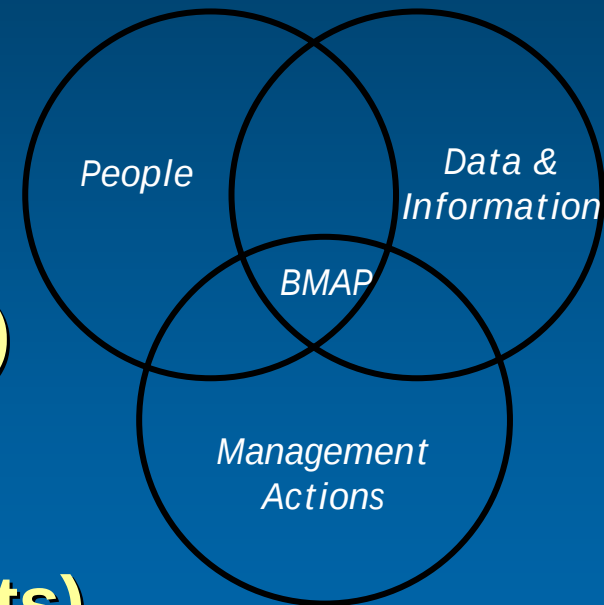
Detailed allocations

Management actions (i.e. projects)

Funding

Monitoring (water quality & projects)

Timeline & commitments



Jesup BMAP

Data Refinements



Detailed Allocations



Projects



Timelines



Related Factors

(e.g. monitoring, research needs,
predicting lake responses, cost-benefit)



**Funding
Commitments**

Jesup BMAP Status

TMDL Data Refinement

- Adjusted surface runoff loading values
- Refinements focused on TP

Addressing Unknowns

- Research identified and initiated to address key unknowns (e.g. N-fixation & P-sediment flux rates)

Jesup BMAP Status, cont.

Allocations

- Developing tools to support allocations
- Refining allocation values
(stormwater & septic tanks)

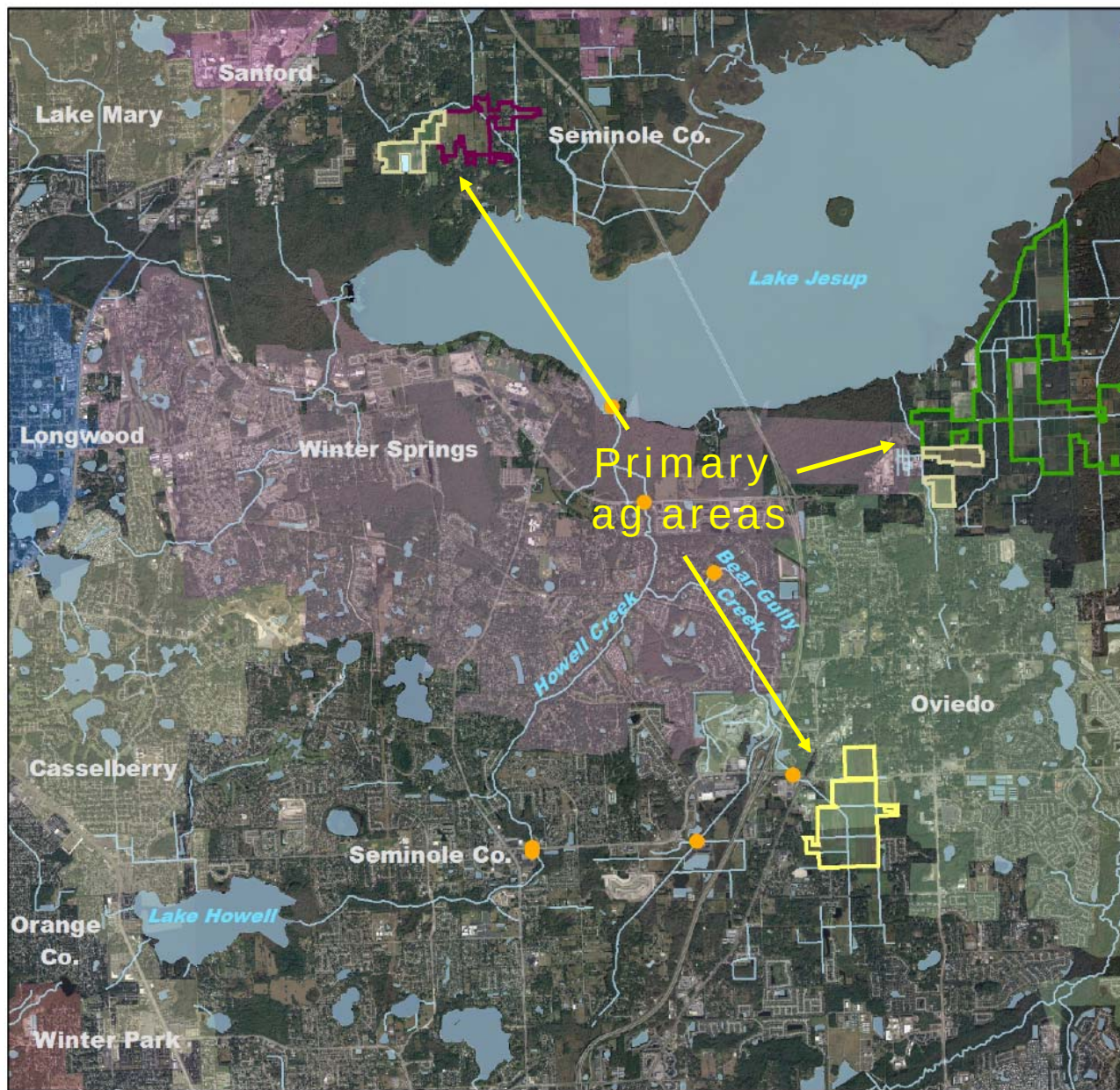
Projects

- Gathering information about current projects
(including low impact development)
- Tools & data to quantify load reductions
- Comparing load reductions to TMDL allocations

Detailed Allocations

- Quantify load reduction obligations, specific to each entity
- Based on TP loading by entity & source, relative to reductions required in the TMDL
- Incorporates all TP sources within jurisdiction of each entity (*some entities have only stormwater nutrient reductions; some are also responsible for septic tank nutrient reductions*)

Agriculture



- Some ag areas near hotspots (Bear Gully, SE creeks)
- Ag areas have an allocation (joint for all ag land)
- Working with DACS to quantify BMP load reductions

Projects

- Technical Working Group members are identifying projects to meet allocations
- Projects=structural stormwater BMPs, nonstructural stormwater BMPs, ordinances, low impact development programs, regional facilities, education (e.g. FL Yards & Neighborhoods), etc.

Projects

- Tool for quantification of project load reductions
- Benefits will then be summed by entity and compared to allocation
- New projects will need to be identified by each entity to meet remaining allocation
 - Within jurisdiction
 - Interagency projects
- Funding & implementation timeline

Projects – Interagency Strategy

- Developed & signed by SJRWMD, DEP, & FWC
- Reviewed by Jesup BMAP TWG members
- Establishes following priorities for Jesup restoration:

Phase 1

- Develop the BMAP
- Implement external load reduction projects
- Remove nutrients stored in the lake

Phase 2, if necessary

- Implement water clarity improvement projects
- Implement projects to increase native vegetation & control exotics
- Implement sport fish enhancement projects

Projects – Interagency Strategy

- Identifies 5 regional projects to reduce external loads
 - Fertilizer & reclaimed water use education
 - Howell Creek/Bear Gully Advanced Treatment
 - Soldier/Gee Creek Chemical Treatment
 - 6-Mile Creek/Sanford Canal Advanced Treatment
 - Salt/Sweetwater/Wharf Creek Marsh Diversion
- Projects eligible for BMAP allocation credits
- Available:
<ftp://ftp.dep.state.fl.us/pub/water/BMAP/MiddleStJohns/InteragencyStrategy/>

Detailed Allocation Table

Pounds total phosphorus – **example values only!**

Allocation Entity	Loading (BMAP Adjustments)	Total Reduction Required	Load Reductions from Completed/ Funded Projects	Load Reductions from New Projects	Load Reduction Credits from Interagency Project Participation
Alt. Springs	100	90	30	30	30
Casselberry	1,300	1,000	600	300	100
DOT	700	550	450	100	0
Eatonville	200	150	75	25	50
Lake Mary	850	650	400	200	50
Longwood	800	600	300	150	150
Etc.	18 total allocation entities in the Jesup BMAP				

Future Actions of this Working Group

Formal Recommendations to DEP on:

- **Detailed allocation values**
- **Final project lists**
- **Monitoring strategy obligations**
- **BMAP text**

Facilitate statements of commitment (e.g. local govt resolution) when BMAP is complete

Next Steps

- **Technical Working Group:** continue developing allocation table, project lists, and monitoring strategy
- **Basin Working Group:** reconvene when technical allocation issues have been resolved and draft project lists have been generated



Questions & Discussion

Photos courtesy of FL Turnpike, Flickr, & Friends of Lake Jesup