

Why Regional Treatment Projects?

- ▣ Jesup models show that even with BMPs and extensive stormwater ponds, sufficient reduction of external loads will not happen without **innovative treatment technologies**
- ▣ Larger projects provide lowest unit cost
- ▣ Joint projects receive higher consideration for federal/state \$\$
- ▣ Current list includes old ideas, new concepts & locations agreed to by stakeholders during one-on-one meetings as best starting point

Stakeholders Will Own Regional Treatment Projects

- ▣ Three agencies used LJIRS to demonstrate commitment to significantly improve Lake Jesup's water quality and habitat
- ▣ But, they do not own allocation obligations within this particular basin
- ▣ Municipalities and counties need to choose and fund their reduction strategies whether local or regional
- ▣ SJRWMD providing development support not typically feasible for smaller stakeholders

Simplified Table from LJIRS

PROJECT	ESTIMATED COST/LB TP REMOVED	POTENTIAL TP REMOVAL MT/YR	LAND & CAPITAL COSTS	O & M PER YEAR	ESTIMATED TIME TO STARTUP
Howell Creek, Bear Gully ATT	\$73 -150	5	\$5M - \$25M	~\$150,000	2 yrs after land purchase
Soldier/Gee Creek ATT	\$300	1.5	~\$2.6M	~\$813,000	1-2 years
Six-Mile Creek, Sanford Ave Canal ATT	\$73 -500	~1	~\$2.6M	~\$50,000	2 yrs after land purchase
Salt/Sweetwater Creek Marsh Diversion	\$150 - \$190	1 - 2	\$7M - 15M	None	1 month after permitting

Feasibility Studies

- ▣ Feasibility of regional projects listed in LJIRS will be determined this way:
 - An engineering firm will review existing data on available technologies, examine Jesup specific locations for technical feasibility and calculate costs based on 20 year life
 - **Or** a pilot-scale project using more innovative technology will be constructed on or near the site for final deployment and used to evaluate efficiency and cost
- ▣ Cost/lb TP removed primary criteria
- ▣ Other criteria dependent upon total treatment required
- ▣ If first set of projects doesn't work, findings and stakeholder input will be used to research new projects
- ▣ Answers in about 2 years
- ▣ Currently 100% funded by SJRWMD (Total estimated expenditure >\$12,000,000)

TP Removal Feasibility Projects Status – In Progress

Project Description	Issue Addressed	Funding	Estimated Completion
Algal Initiative – Lake George & SJR	Identification & testing of advanced TP removal technologies	\$200K spent \$500K design \$6M pilot studies	ID complete 2009 Design ~ 2 years Construction ~ 4 years
Solary Canal stormwater pond & wetland	TP removal Lake Jesup tributary	\$1.8M land purchase \$300K Design	90% Design complete Construction timing up to stakeholders, no more feasibility required
Pay for Performance ATT - AquaFiber	In-lake water column TP removal	Will pay \$226/lb TP removed up to 1MT first five years; \$2.5M	Construction to begin when FDEP grants permit

TP Removal Feasibility Projects Status

- New

Project Description	Issue Addressed	Funding	Estimated Completion
Floating Island ATT	Tributary treatment without land requirement	\$150K for one year pilot study, may renew to evaluate scalability	Advertised now; first year results 9/09
Salt/Sweetwater Marsh Diversion (stream restoration)	Converting straight canals into serpentine channels to mimic natural stream paths and increase TP treatment	\$50K for feasibility	Feasibility assessment 9/09
Alum treatment in tributaries	Appropriate locations and overall project requirements	\$50K for feasibility	Feasibility assessment 9/09

Iterative Process

- ▣ All projects ranked for criteria agreed to by stakeholders
- ▣ More specific \$\$ costs determined
- ▣ Stakeholders choose regional option or local to meet BMAP reduction
- ▣ Agencies will facilitate regional treatment process, but stakeholders responsible for capital and O&M for life of project
- ▣ Timeline:
 - Rankings 2-3 years from BMAP adoption
 - Design and Construction 2-3 years from stakeholder selection

Solary Canal Good Example of Regional Treatment Process

- ▣ District acted on opportunity to buy appropriate land (\$1.82M)
- ▣ \$300K spent for 90% complete design traditional STA; working with local stakeholders to transfer project ownership
- ▣ Seminole County, Winter Springs and Oviedo considering splitting credits for ~1MT TP/yr
- ▣ Capital and O&M to be split among stakeholders using regional treatment credits
- ▣ Biggest difference: accepted treatment method versus less conventional methods