

Water Quality Credit Trading

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Summary of Presentation

- Why Water Quality Credit Trading?
- Trading Principles
- **2008 Trading Legislation**



Why So Much Interest in Pollutant Trading?

- **Allows market forces to find the most cost-efficient solutions to water quality problems**
 - Different abatement costs between sources
- **Cheaper generally means greater/faster reductions in loading for same fixed costs**
- **Allows additional nexus (money) for addressing nonpoint sources**
 - which are main source of impairment
- **Provides mechanism to offset loads from new growth, thereby allowing growth**



Principles of Water Quality Credit Trading

- Trading is Voluntary!
- Must meet CWA requirements, including
 - meeting water quality criteria throughout watershed (no “hot spots”), and
 - meeting applicable TBEL/BAT requirements
- Must occur within watershed or segment
- Must be enforceable if point source involved
- Must be able to quantify reductions for credits
- Need organizational structure/marketplace
 - to process trades, track implementation, and monitor effectiveness



Trading Legislation (HB 547)

- 2008 Revisions to Florida Watershed Restoration Act (FWRA¹) primarily addressed water quality credit trading
 - Authorized trading, but limited to pilot project in Lower St. Johns River Basin (LSJR)
 - Longer-term, DEP envisions that trading will be limited to basins with adopted Basin Management Action Plans (BMAPs)
 - ◆ BMAPs are TMDL implementation plans, and include implementation schedules and funding
 - ◆ Can include site-specific information needed to ensure trading is protective

¹ Section 403.067, Florida Statutes



Trading Provisions in BMAP Section

- Trading does not remove obligations to meet Technology Based Effluent Limits (TBELS) or Best Management Practices (BMPs)
- Trading between point sources and nonpoint sources is allowable IF the nonpoint source voluntarily elects to obtain DEP authorization for the generation and sale of credits
- Statutorily limits “equitable abatement” provision [Rule 62-4.242(4), F.A.C.] to areas where a BMAP has not yet been adopted
 - Provision allows new facilities to request re-allocation to accommodate their discharge



Provisions in New Subsection (8) Water Quality Credit Trading

- Must be consistent with federal laws and regs
- Must be implemented through permits, other authorizations, or other legally binding agreements as established by Department rule
- The Department must determine amount of credits generated and authorize their use
- Buyers must submit an affidavit, signed by buyer and seller, disclosing the term of trade, number of credits traded, unit price, and any state funding



Provisions in New Subsection (8) Water Quality Credit Trading

(continued)

- Seller is responsible for achieving the load reductions and complying with the DEP authorization and any trading agreements
- Buyers are responsible for complying with terms of their permit, but...
 - DEP should take action against seller if seller fails to meet load reductions
 - If DEP determines credits are not valid, DEP should issue an Administrative Order allowing reasonable schedule for buyer to meet it's permit limits
 - Invalidation of credits is not a violation



Provisions in Subsection (9) Rules

- Requires DEP to initiate rulemaking by September 1, 2008, which provides for:
 - The process to determine how credits are generated, quantified, and validated
 - A Trading Registry, which tracks credits, trades, and prices paid
 - Limitations on the use of credits, including eligible pollutants, minimum water quality requirements, and any adjustments for uncertainty or location
 - Timing, duration, and transfer of credits
 - Mechanisms for determining compliance with trade provisions (monitoring, recordkeeping, and inspections)



Provisions in Subsection (9) Rules

(continued)

- **Rule must be submitted to EPA for review**
 - EPA has indicated that they do not plan to “approve” State water quality credit trading programs, but
 - We want assurance that they will not object to subsequent permits
- **We plan to submit applicable parts of trading rule as part of NPDES Program**



Provisions in New Subsection (10)

- Authorizes trading in the LSJR pilot program under process established in adopted BMAP
 - Trading parties must report price paid for credits, how prices were determined, and any state funding
- Within 24 months of BMAP adoption, DEP must submit a report to the Governor and Legislature on the pilot, including
 - Summary of how trading was implemented
 - Description of trades and reductions expected
 - Description of any conditions placed on trades
 - Recommendation on whether to expand to other areas and if statutory changes needed
 - Prices paid



Discussion About Trading Legislation



Water Quality Credit Trading in the LSJR Pilot Program

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Summary of Presentation

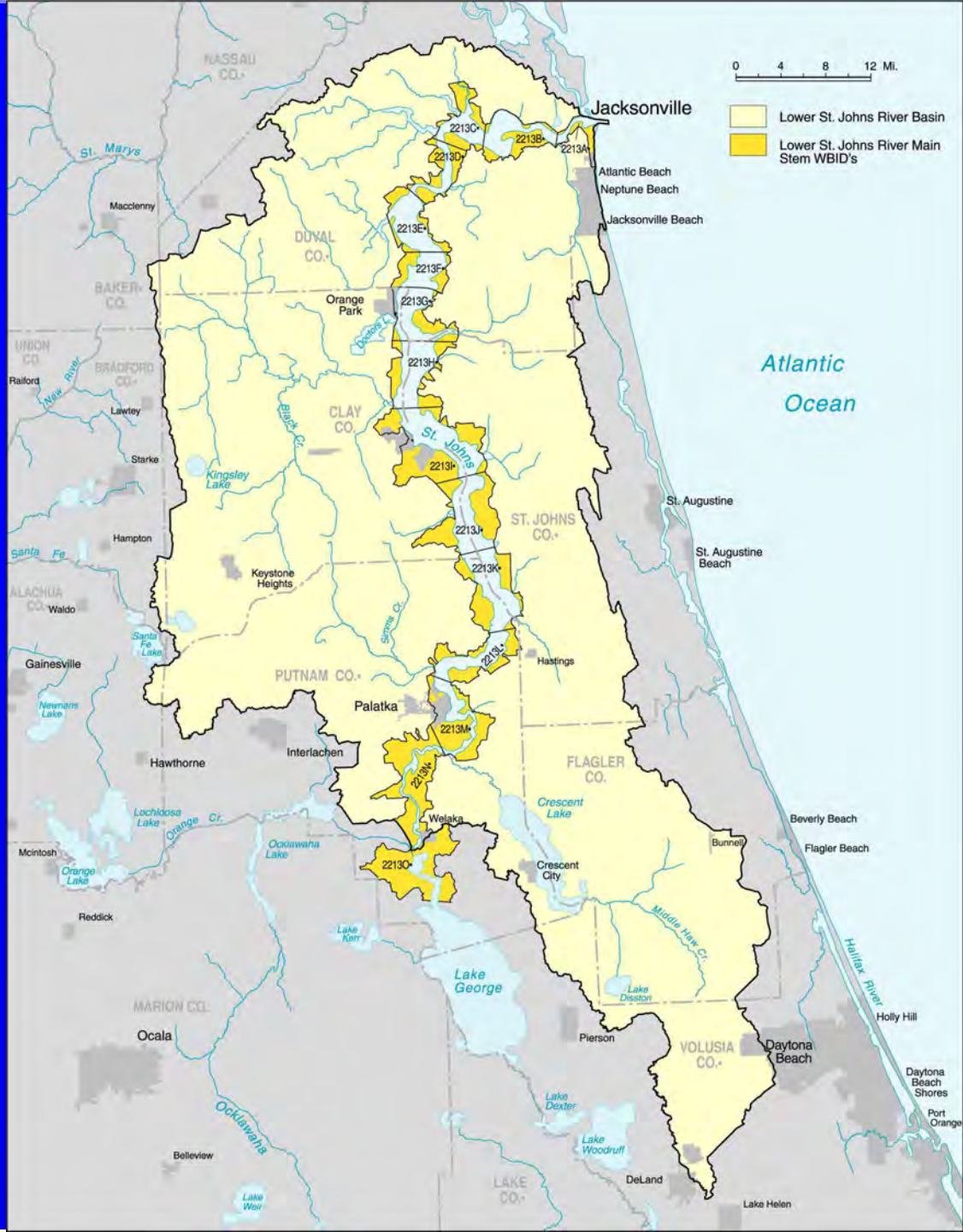
- LSJR TMDL and Basin Management Action Plan (BMAP)
- Pre-BMAP or Informal Trading
- **Post-BMAP or Formal Trading**
- Aggregate Permitting



Scope of TMDL, BMAP, and Pilot Program

- **TMDL and BMAP applies to main stem segments of the Lower St. Johns River between Buffalo Bluff and the mouth**
 - 101 river miles
 - Water surface area of 115 square miles





Scope of TMDL and BMAP

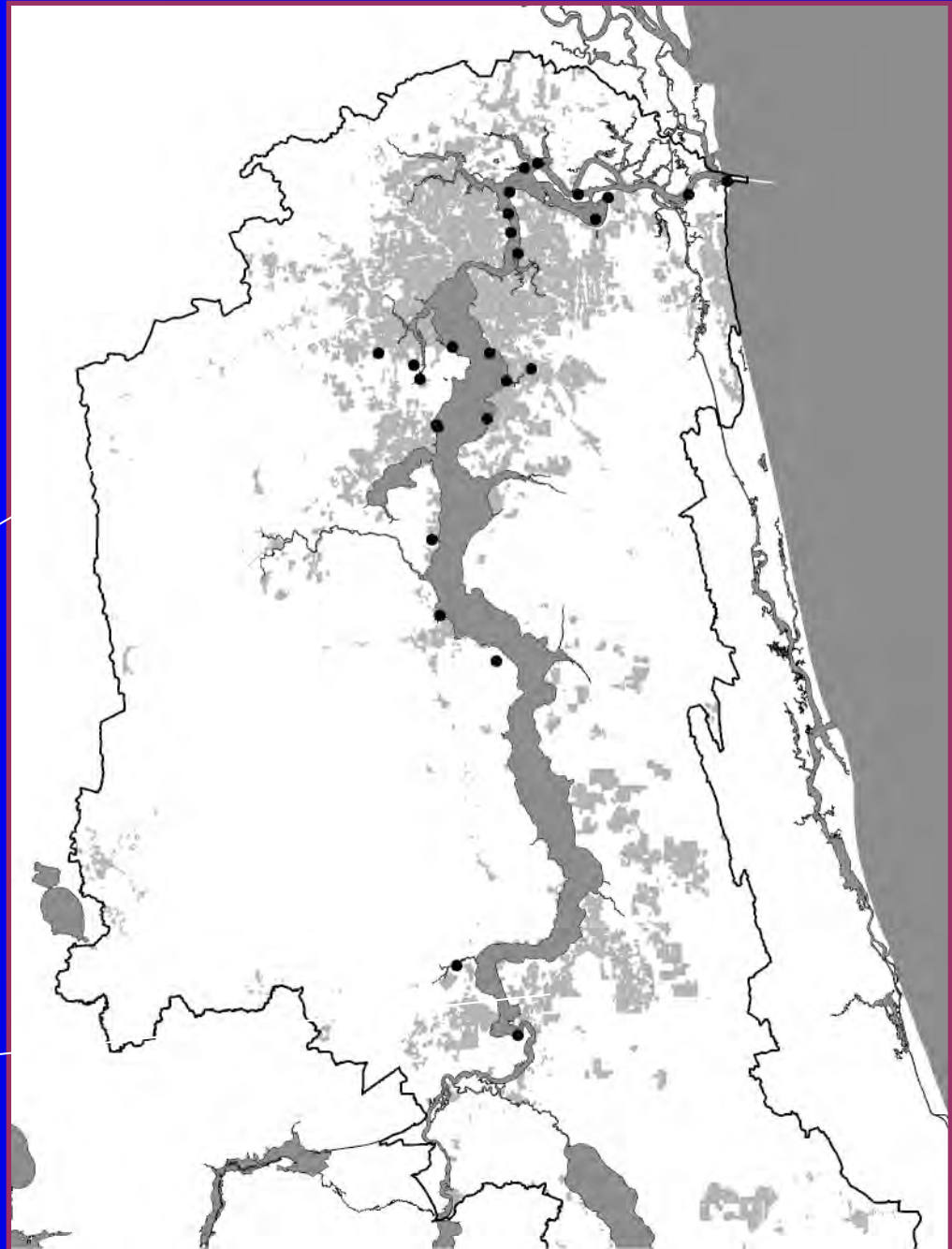
(continued)

- TMDL addresses nutrient impairment of river, which was verified as impaired using the Impaired Waters Rule (Chapter 62-303, F.A.C.)
 - Main “symptoms” of nutrient enrichment have been algal blooms upstream and low Dissolved Oxygen near the mouth
 - TMDLs for Total Nitrogen and Total Phosphorus in Freshwater part of river, and Total Nitrogen in marine part of river



**Priority External
Load Sources
within the Lower
St. Johns River
Basin**

- **Jacksonville
Urban Area
Nonpoint Source**
- **Point Sources
Basin-wide
(black dots)**
- **Tri-county Ag
Area**



BMAP Adoption and Trading

- LSJR BMAP was adopted on October 10, 2008 and was noticed in the FAW on October 24
 - Challenge period ended on November 14
- Which means that report to the Governor and Legislature on pilot program due by Oct. 2010
- “Informal” trading already occurred as part of allocation phase of BMAP development



LSJR BMAP Allocation

- Initial allocation based on stakeholder's attempts to determine a “reasonable and equitable” allocation
 - Addressed fairness by looking at treatment effort and overall load of each source, and assigned responsibility for reductions
 - Only indirectly addressed economics
 - ◆ looked at BAT and treatment costs
 - Did NOT try to find lowest cost solution
 - ◆ cheapest is not necessarily FAIR
- Included allocations to MS4s and NPSs



Informal Trading in the LSJR

- **Informal or “PreBMAP” Trading**
 - Trading of allocations that occurred before BMAP adoption
- **Most entities with both wastewater facilities and MS4s agreed to this type of trade, with allocation moved from wastewater to MS4**
 - **Examples include: Green Cove Springs, Palatka, Atlantic Beach, Jacksonville Beach, Neptune Beach, Clay County, and Orange Park**



Informal Trading in the LSJR

- This trading helped evolve final adopted allocation towards the lowest cost alternatives, but
- Some uncertainty about duration of trade
- Should last at least until BMAP revised, which is scheduled for five years
- Some people concerned that trades of allocation would be permanent or would be used as starting point for next allocation
- As a result, there were no trades between separate entities



Informal Trading in the LSJR

(continued)

- Administratively simpler process
- Requested documentation was limited to a letter to the Department signed by both parties, that included:
 - 1) the term of the acquisition,
 - 2) number of credits traded,
 - 3) unit price paid,
 - 4) any state funding received for the facilities or activities, and
 - 5) the discharge location for each trading party.



Formal or Post-BMAP Trading

- BMAP also authorizes “Formal” Trading that occurs **AFTER** adoption of BMAP with detailed allocations to individual sources
 - Must be implemented via permits
 - Example: Planned trade between FDOT and JEA
 - Others “to be determined”
- This is the type addressed by statute and what is largely addressed by BMAP
 - However, trading envisioned in LSJR Pilot is somewhat narrower in scope
 - ◆ Implemented via permitting process



BMAP Trading Requirements: General Concepts

- **Allocation and Implementation Schedule in BMAP are important**
 - Allocation establishes baseline for credit generation
- **BMAP provides flexibility for sources to change management actions (from WWTP upgrades to buying credits, for example), but must still meet schedule in BMAP**
 - Credits must be available in time



BMAP Trading Requirements

(continued)

- Credits only generated when an entity reduces load below its allocation
 - Point source sellers must prospectively reduce their permitted load
 - ◆ Must provide reasonable assurance that discharged load will be below the allocation, and agree to a lower permit limit
 - Nonpoint sources must either
 - ◆ Apply for, and receive, a permit that provides reasonable assurance that the entity will reduce its loading below its load allocation, or
 - ◆ The NPS control activity must be incorporated into the buyer's permit



BMAP Trading Requirements

(continued)

- Credits cannot be “banked” and must be used in same year generated
 - LSJR TMDL is expressed as annual loads
- Credit “life” is limited to the life of the permit, but the buyer and seller should have a reasonable expectation that the credit will be valid for the duration of the adopted BMAP
 - TMDL and/or its allocation are subject to be revised during subsequent watershed cycles if necessary



Permitting Details - Buyers

- Permitted sources that plan to purchase credits will also be required to revise their permit to allow for credit trading
 - Can be done at permit renewal or as revision
 - Trading will not affect any fundamental permitting requirements, and all facilities must meet anti-degradation requirements and provide reasonable assurance that their discharge will not cause or contribute to violations of water quality standards



Permitting Details – Buyers

(continued)

- To provide Reasonable Assurance (RA) that they will meet their permit limits,
 - Buyer will need to provide signed contracts with the seller(s) indicating that they have purchased adequate credits
 - ◆ Buyer's permit will have to be issued after, or simultaneously with the seller's permit
 - Fact Sheet or Statement of Basis for the permit would describe trade, including source(s) of credits
 - Permit may include an AO that provides time before required to meet WLA
 - ◆ AO should include an interim limit that holds the line on current loading



Permitting Details – Buyers

(continued)

- If buyer wants to change the source of credits during permit cycle, will be required to notify the Department and may need to apply for a permit revision so that the Department can
 - evaluate whether there is reasonable assurance that the source has credits available, and
 - revise the Fact Sheet or Statement of Basis for the permit
- Permit action could be a “minor revision” as long as the effluent limits are not changed
 - would provide for a smaller permit fee and would not require public notice



Permitting Details – Buyers

(continued)

- If source of credits is a nonpoint source, buyer must provide information about the nonpoint source activity that will generate credits including,
 - the baseline loading for the type of operation,
 - a description of the management activities that will generate the reduction, and
 - calculations, signed and sealed by a PE, supporting the amount of credit generation



Permitting Details – Buyers

(continued)

- If based on measured credits, permittee must
 - propose monitoring locations, and
 - submit monthly discharge monitoring reports
- If based on estimated credits, permittee must
 - Provide information describing the basis for the estimates (whether based on literature values, watershed modeling, or monitoring results),
 - Provide calculations for the amount of credits generated, and any needed adjustment factors
 - Keep records demonstrating they meet any applicable BMP requirements, and
 - Agree to be subject to inspections



BMAP Trading Requirements

(continued)

- **Uncertainty Factor (UF) will be used if the credit generator is a nonpoint source**
 - **Used to account for uncertainty in the estimates of reductions from nonpoint source control activities (if credits generated by NPS)**
 - ◆ **Default UFs of 3:1 for Agriculture and 2:1 for urban stormwater**
 - ◆ **Seller can propose site-specific UF**



BMAP Trading Requirements

(continued)

- **Location Factors (LF)**
 - Used to account for differences in location of the credit buyer and seller
 - Separate tables provided in BMAP for when buyer in marine and freshwater portions
 - Can only increase the number of credits needed to be purchased by the buyer
 - ◆ “One-Way” application



Location Factor Example

Entry WBID of Pollutant	Section of the River	Location Factor
E	Marine	0.01
F	Marine	0.03
G	Marine	0.04
H	Marine	0.12
I	Freshwater	0.52
J	Freshwater	0.65
K	Freshwater	1.00
L	Freshwater	0.90
M	Freshwater	0.90
N	Freshwater	0.90



Location Factor Example

- If a Buyer discharging to WBID J wanted to offset 100 units of TN and found a seller who discharges to WBID I, the amount of credits the buyer would have to purchase would be:

$$\begin{aligned}\text{Credits Needed} &= \text{TN Pounds to Offset} \times [\text{Buyer's LF/Seller's LF}] \\ &= 100 \times (\text{WBID J LF/WBID I LF}) \\ &= 100 \times [0.65/0.52] \\ &= 125 \text{ units of TN}\end{aligned}$$



Trading Registry

- Department will track all credits generated and all trades
 - Will ensure that credits only sold once
- Tracking database will be made available on DEP website
 - Will include cost information, including whether any public funding used



Trading Registry

(continued)

- **Information tracked related to sellers includes:**
 - Seller's name, location, permit number, receiving water (WBID), and pollutant being traded
 - Seller's WLA, which constitutes the baseline, the new permit limit authorizing a reduced discharge level, and the amount of credits generated
 - A description of the actions that generated credits
 - Effective date of the permit, and the date when credits will start to be generated
 - The amount of credits traded to date and any adjustments for location



Trading Registry

(continued)

- **Information tracked related to buyers include:**
 - Buyer's name, location, permit number, receiving water (WBID), and pollutant being traded
 - Buyer's WLA, the new permit limit authorizing an increased discharge level, and the amount of credits purchased
 - Description of the source of credits, including the permit number of the seller (if permitted) or the name of the NPS that generated the credits
 - Effective date of the permit, and the date when credits will be available for use
 - The amount of credits purchased to date and the unit price of the credits



Aggregate Permitting

- **BMAP also allowed entities with multiple sources to “aggregate” their allocations, which EPA considers another form of trading**
 - **Entities with multiple wastewater treatment facilities will be issued an additional “aggregate permit” that focuses on permit limits to implement the aggregate allocation**
 - ◆ **Old permits remain in place and address other parameters and other issues**
 - **Entities with both wastewater and MS4 wasteload allocations used “Pre-BMAP” trades of allocation instead**



General Plans for Rulemaking Process

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Needed Rulemaking

- As noted previously, 2008 Legislation provides authority for Pilot Trading Program under process established in adopted BMAP
 - But, preferable to adopt rule for Pilot
- Longer term, will also need to revise rule for any expansion of program
- Will be done in “phases” with initial rulemaking focused on pilot program



Proposed Approach

- **Generally speaking, we need to translate BMAP text into rule language to support pilot**
 - **Will need extra detail**
- **Plan to informally involve members of the Pollutant Trading Policy Advisory Committee**
 - **Legal Subcommittee of PTPAC previously worked on draft rule, and we plan to use that draft as starting point**
 - **We will ask full PTPAC to review draft rule before public workshops**



Schedule

- We plan to hold public workshops as draft rule text is available, with goal to adopt rule before trades expected
- Based on LSJR BMAP, JEA will likely develop trade agreements to sell credits to the City of Jacksonville and FDOT
 - Contract with City not expected before 2011, while DOT must submit plan by June 30, 2009



Schedule

(continued)

- **As noted previously, report on pilot program due to the Governor and Legislature by October 2010**
 - **Plan to include copy of rule with report, including any recommended changes needed to expand scope (if supported by pilot)**

