

*The Pilot Water Quality Credit Trading Program for the  
Lower St. Johns River:*

*A Report to the Governor and Legislature*

**Division of Environmental Assessment & Restoration  
Florida Department of Environmental Protection  
October 2010**

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## Executive Summary

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Water quality credit trading is a voluntary, market-based approach to promote the protection and restoration of Florida's rivers, lakes, streams and estuaries. It is based on the fact that entities which discharge the same pollutants to a waterbody may face substantially different costs to control those pollutants. Trading allows pollutant reductions to be environmentally valued in the form of "credits," which can then be traded on a local "market" to promote cost-effective water quality improvements – better water quality protection for less money.

The Florida Legislature passed a pilot trading program for the Lower St. Johns River in 2008, authorized the Florida Department of Environmental Protection (Department) to establish requirements for trading in the restoration plan (Basin Management Action Plan, or BMAP) for the area, and required this report. The report summarizes how water quality credit trading has been implemented, describes the individual trades and estimated pollutant load reductions expected to result from each trade, outlines the conditions placed on trades, provides available information on the prices associated with the trades, and recommends whether other areas of Florida would benefit from trading.

Two types of trading of "nutrients" (total nitrogen and total phosphorus) have taken place:

- trading of pollutant load allocations before adoption of the BMAP, with the "trades" captured in the defined restoration actions in the plan; and
- formal trading after BMAP adoption.

Trades of both types have been conducted, but most trading to date happened before BMAP adoption. Formal trading has been limited under the pilot program in part

because stakeholders undertook the pre-BMAP trading and because numeric nutrient criteria proposed by the U.S. Environmental Protection Agency (EPA) in January 2010 have created significant uncertainty about the nutrient limits that facilities ultimately would have to meet.

Among the unknowns associated with EPA's numeric nutrient criteria are:

- a) Whether the criteria will be expressed exclusively as concentrations or if EPA will allow them to be implemented as pollutant loads;
- b) What requirement and limitations will apply to nutrient "mixing zones," mechanisms allowing for the practical implementation of criteria;
- c) How the criteria designed to protect downstream waters will be implemented; and
- d) Whether EPA will approve the Department's Total Maximum Daily Loads (TMDL) as "site-specific alternative criteria," another tool available to make practical implementation of the criteria more practical.

If EPA does not allow the nutrient criteria to be implemented as "loads" (mass of nutrients that can be discharged per year), then trading will likely not be viable. Few, if any, sources would be able to treat their discharges to concentrations lower than the proposed criteria and therefore could not generate credits for sale. Even if credits were available, there would be no buyers since these entities would not be authorized to discharge at concentrations in excess of the criteria

If instead, the EPA criteria could be implemented as loads, which is how most TMDLs are expressed, trading would be possible. Owners of pollutant sources would have a variety of ways to reduce their loads below their allowable loading, including combinations of increased treatment, reuse, changes in production, and pollution prevention. Unfortunately, EPA is not likely to reveal a clear position on this issue in the near future.

Even based on the small number of formal trades conducted to date, other areas of the state would likely benefit from trading. But, given current uncertainties, the Department recommends extending the pilot program for two years to determine the impact of EPA's numeric nutrient criteria for fresh and estuarine waters, which are scheduled for promulgation in October 2010, and August 2012, respectively. After that time, it would be useful to have the law reflect that formal trading programs would only be authorized in areas with adopted BMAPs or with detailed allocations adopted by Department order or rule, fostering the tracking, compliance assurance, and public information and accountability that are essential to a quality trading program.

## Chapter 1: Introduction and Background

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### 1.1 Purpose of Report

In 2008, the Florida Legislature authorized the Florida Department of Environmental Protection (Department) to establish a pilot Water Quality Credit Trading Program (“trading”) for the Lower St. Johns River Basin (LSJR) and establish specific requirements for trading in the river restoration plan, adopted in October 2008. The Legislature also directed the Department to report to the Governor and Legislature on the effectiveness of the pilot program no later than 24 months after the adoption of the restoration plan. The report includes the following information:

- (1) A summary of how trading was implemented, including the number of pounds of pollutants traded.
- (2) A description of the individual trades and estimated pollutant load reductions that are expected to result from each trade.
- (3) A description of any conditions placed on trades.
- (4) Prices associated with the trades, as reported by the traders.
- (5) A recommendation as to whether other areas of the state would benefit from trading and, if so, an identification of the statutory changes necessary to expand the scope of trading.

### 1.2 What is Water Quality Credit Trading?

Trading is a voluntary, market-based approach to promote the protection and restoration of Florida’s rivers, lakes, streams and estuaries. It enhances the various voluntary, regulatory and financial assistance programs already in place to improve surface water quality. Trading is based on the fact that businesses and industries, wastewater treatment facilities, urban stormwater systems and agricultural sites that

discharge the same pollutants to a waterbody (or a basin, watershed, or other defined geographic area) may face substantially different costs to control those pollutants. Trading allows pollutant reductions to be environmentally valued in the form of “credits,” which can then be traded on a local “market” to promote cost-effective water quality improvements. The result is better water quality protection for less money.

The purpose of trading is not to promote financial gain but to encourage more effective, lower-cost reductions of pollutants. Financial savings will accrue to parties that buy trading credits (pollutant reductions) from others for less than the cost of implementing the reductions themselves. Furthermore, parties will sell credits only if the value of the trade is equal to or higher than their investment in the facilities or activities necessary to achieve the pollutant reductions represented by the credits. Credits are not in any sense a right to pollute; they are solely an accounting mechanism to establish and verify the market exchange of effective pollutant reduction actions.

The objective of a trading program is to facilitate economic exchanges that demonstrably reduce pollution and clean up impaired surface waters more quickly. Water quality trading can accelerate cleanup because potentially unaffordable costs for individual dischargers can be reduced and cooperative relationships built through trading agreements that foster shared responsibility and commitment. Trading can also accommodate new growth, including new pollutant loadings from urban stormwater and domestic and industrial wastewater discharges. It offers the possibility for the owners of potential new or increased discharges to purchase credits – **quantifiable pollutant reductions** – from existing dischargers, so that overall pollutant loadings to a watershed are not increased and water quality is preserved.

### **1.3 The Total Maximum Daily Load and Basin Management Action Plan**

The area addressed by the LSJR restoration plan (Basin Management Action Plan or BMAP) is that portion of the St. Johns River that flows between the mouth of the

Ocklawaha River, its largest tributary, and the Atlantic Ocean, encompassing a 2,750-square-mile drainage area (**Figure 1**). The BMAP, which was developed in cooperation with local stakeholders, was designed to implement nutrient Total Maximum Daily Loads (TMDLs) adopted by the Department in 2003 and revised in 2008. A TMDL is the amount of a specific pollutant that a waterbody can tolerate and still meet standards and represents the target for pollutant load reductions. The nutrient TMDLs in the freshwater reach are for total phosphorus and total nitrogen, and are designed to reduce algae and its impacts. A total nitrogen TMDL was also established in the marine reach to meet dissolved oxygen levels that would protect aquatic life uses. **Figure 1** shows the location of the LSJR's fresh and marine reaches. The revised TMDLs require substantial reductions in nitrogen and phosphorus loading to the river, with average reductions of 49 percent for domestic wastewater facilities and 60 percent for stormwater discharges. These significant reductions made the LSJR a prime candidate for a pilot trading program.

The LSJR Main Stem BMAP was adopted in October 2008. The BMAP provides a comprehensive plan to achieve the nitrogen and phosphorus reductions established in the TMDL, including specific projects, time frames and compliance schedules, and financing options.



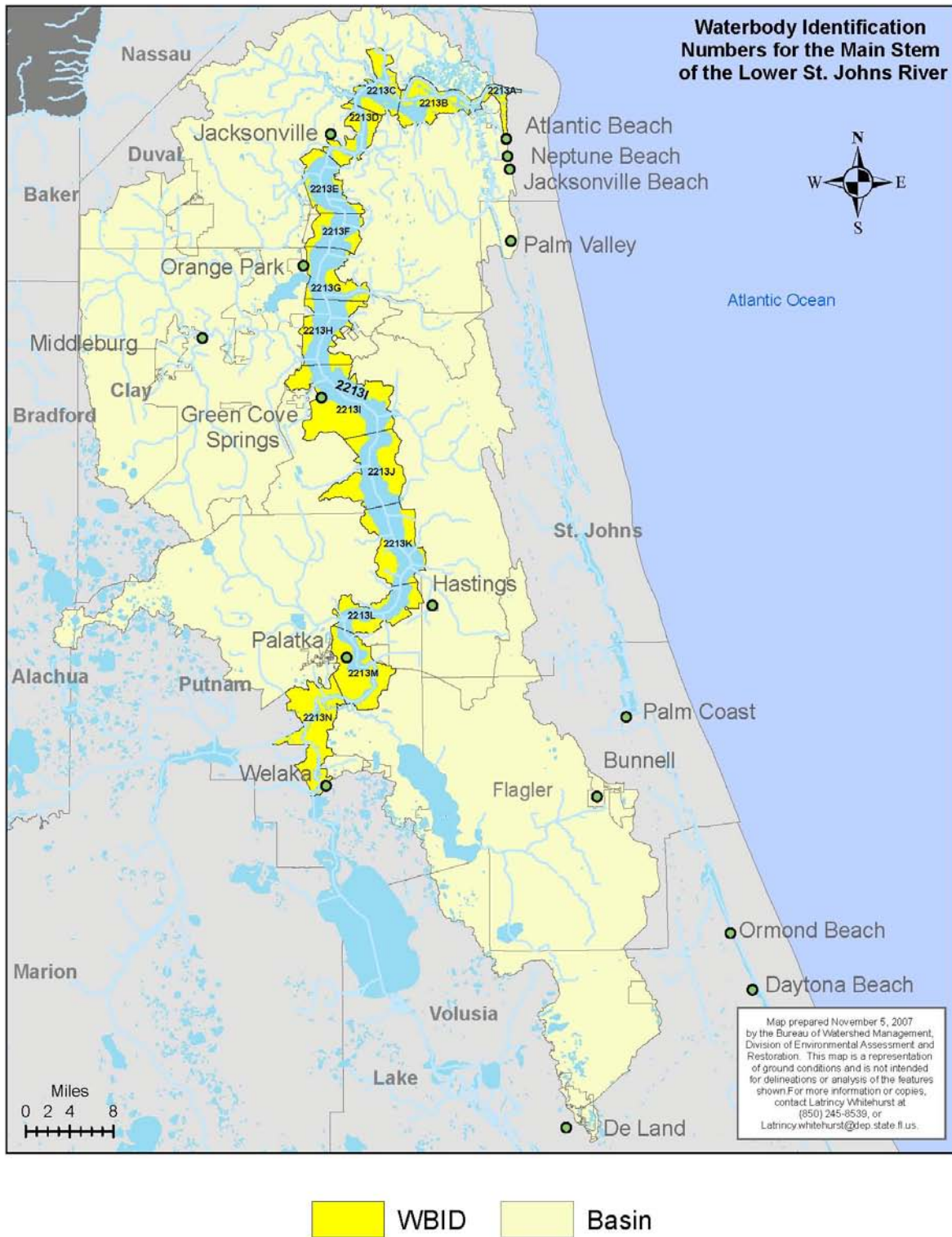


FIGURE 1: LOWER ST. JOHNS RIVER BASIN

While the loading reductions are fully enforceable, the BMAP was designed to allow entities the flexibility to change their restoration activities as long as they would achieve required reductions on the same schedule (or earlier). As part of this flexible design, the BMAP includes detailed provisions on trading, including factors to ensure that trading will be environmental protective (discussed in Appendix C).

#### **1.4 Statutory Authority and Rule for the Pilot Program**

The 2008 revisions to the Florida Watershed Restoration Act (Section 403.067, Florida Statutes [F.S.]) provide the statutory authority for the pilot trading program and directed the Department to establish trading requirements in the adopted LSJR Main Stem BMAP. Specifically, subsection 10 states:

*(10) Water quality credit trading shall be limited to the Lower St. Johns River Basin, as defined by the department, as a pilot project. The department may authorize water quality credit trading and establish specific requirements for trading in the adopted basin management action plan for the Lower St. Johns River Basin prior to the adoption of rules under paragraph (9)(c) in order to effectively implement the pilot project.*

The law also directed the Department to initiate rulemaking for trading to:

- Establish the process for determining how credits are generated, quantified, and validated;
- Develop a public accessible trading registry to track credits, trading activities, and prices;
- Set limitations on the availability and use of credits, including a list of pollutants eligible for trading and adjustment factors to account for uncertainties and site-specific considerations;
- Establish the timing, duration and transferability of credits; and

- Provide mechanisms to assure compliance with trading procedures, including record-keeping, monitoring, reporting, and inspections.

As required, the Department issued a Notice of Rule Development in August 2008 and held a public workshop on November 21, 2008, to discuss the plans for rule development. The Department then developed rule language based on the trading program outlined in the LJSR BMAP and held a second public workshop on October 13, 2009. In response to comments made at the workshop, the Department revised the rule and held an adoption hearing on the proposed rule on April 29, 2010 and, after several non-substantive changes, the rule became effective on September 7, 2010. The rule (Chapter 62-306, Florida Administrative Code [F.A.C.]; see **Appendix A**) establishes the procedures for the pilot LSJR WQCT Program consistent with the statutory requirements noted above.

## Chapter 2: How Trading Was Implemented in the Pilot Program

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### 2.1 Types of Trading Authorized

The trading rule addresses trading that occurs following the adoption of the LSJR BMAP, but the BMAP, which was adopted well before the rule, authorizes two types of “trading” activities:

- “BMAP trading,” which allows the trading of pollutant load *allocations* before BMAP adoption, which are subsequently included in the defined restoration actions of the adopted BMAP; and
- Formal trading after BMAP adoption, the type addressed in the adopted rule.

Both types of trades have been conducted, and both types are described in detail below.

### 2.2 Trading During BMAP Development

The main form of trading under the pilot program involved trading of draft pollutant reduction *allocations*, developed cooperatively by stakeholders and the Department, before adoption of the BMAP and incorporated into the final plan. Stakeholders worked together to develop “reasonable and equitable” allocations to achieve the needed nutrient reductions. The allocation process reflected each entity’s prior treatment efforts and overall pollutant load relative to other sources. For example, domestic wastewater facilities discharging to the marine portion (estuary) of the river that already provided advanced treatment received an allocation larger than their current load because their total nitrogen concentrations were lower than the target concentration of 5.4 milligrams per liter. These facilities then had a surplus allocation that they could either sell (“trade”) or keep to address future growth. In contrast, domestic wastewater facilities providing only secondary treatment had to make significant reductions to reach target total nitrogen concentration.

The allocation process indirectly addressed economic considerations but did not attempt to establish the lowest-cost solution up front. However, after the Department worked with stakeholders to set fair pollutant load allocations for each source of nutrients, the responsible entities were given the option of trading allocations before the BMAP was adopted. This process allowed the evolution of the lowest-cost pollutant reduction alternatives, which were reflected in the final allocations adopted in the BMAP.

One of the benefits of a BMAP trade is its simplicity. Trading parties only had to submit a letter to the Department signed by both parties with (1) the term of the acquisition, (2) the number of credits traded, (3) the unit price paid and information on how the prices were determined, (4) any state funding received for the facilities or activities, and (5) the discharge location for each trading party.

**Table 1** lists the entities that requested a BMAP trade. In all of these trades, a given entity (local government or the U.S. Navy) transferred an allocation originally assigned to its permitted wastewater treatment facility to the allocation for its stormwater-related activities – typically, its municipal stormwater system permitted under the National Pollutant Discharge Elimination System (NPDES). These transfers were cost-effective because nutrient removal is approximately 10 times more expensive for stormwater than wastewater. Except for the transfer between Clay County and the Clay County Utility Authority, trades were within the same entity and no money was involved. In the case of Clay County and the utility authority, an independent entity created by the Legislature in 1994, the authority agreed to a transfer allocation without charge to the county.

**TABLE 1: BMAP TRADES AND REVISED ALLOCATIONS**

Credit Recipient	Credit Source	Trade (kilograms/ year)	Trade (pounds/ year)	Recipient's Revised Allocation (kilograms/ year)	Recipient's Revised Allocation (pounds/ year)	Source's Revised Allocation (kilograms/ year)	Source's Revised Allocation (pounds/ year)
City of Green Cove Springs MS4 (TP)	City of Green Cove Springs WWTFs (TP)	467.8	1,029.2	1,043.7	2,296.1	1,929.2	4,244.2
City of Palatka non-MS4 (TP)	City of Palatka WWTF (TP)	715.3	1,573.7	1,507.8	3,317.2	5,954.7	13,100.3
City of Green Cove Springs MS4 (TN)	City of Green Cove Springs WWTFs (TN)	1,299.5	2,858.9	6,266.5	13,786.3	7,752.5	17,055.5
City of Palatka non-MS4 (TN)	City of Palatka WWTF (TN)	1,950	4,290	8,858	19,488	38,845	85,459
City of Atlantic Beach MS4 (TN)	City of Atlantic Beach WWTFs (TN)	675	1,485	1,651	3,632	21,188	46,614
City of Jacksonville Beach MS4 (TN)	City of Jacksonville Beach WWTF (TN)	2,863	6,299	4,804	10,569	21,015	46,233
City of Neptune Beach MS4 (TN)	City of Neptune Beach WWTF (TN)	852	1,874	1,437	3,161	6,162	13,556
Clay County (marine MS4 and non-MS4) (TN)	CCUA (aggregate) (TN)	16,841	37,050	32,295	71,049	67,217	147,877
Clay County (freshwater MS4 and non- MS4) (TN)	CCUA (aggregate) (TN)	3,254*	7,159	7,077	15,569	63,963	140,719

Town of Orange Park MS4 (TN)	Town of Orange Park WWTF (TN)	2,059	4,530	3,348	7,366	7,940	17,468
U.S. Navy MS4s (TN)	U.S. Navy WWTFs (TN)	4,434	9,755	7,232	15,910	11,684	25,705

\* Since this trade is for an entity in the freshwater section buying credits from an entity in the marine section, the trading factors shown in **Table 1** in Appendix C were used. A 4.3:1 trading ratio was used for the portion of the trade from WBID I to WBID H, and a 5.4:1 trading ratio was used for the portion of the trade from WBID J to WBID H.

### **2.3 Formal Trading after BMAP Adoption**

The other type of trading authorized under the BMAP – formal trading that occurs after adoption – is the type authorized by the pilot program rule. Here, at least one of the trading parties must have an individual wastewater or stormwater permit, and credits are only generated when the permit is revised or otherwise issued with a nutrient limit below the baseline allocation established in the LSJR BMAP. Trading parties are required to submit an affidavit (**Appendix B**) that provides basic information about the trade as part of the permit application so that a detailed review of the activity that generates the credits can be conducted.

**Appendix C** provides details about the permitting process, including the application of location and uncertainty factors to ensure that trades fully protect water quality. To date, the only post BMAP trades that have occurred are:

- 1) 1,476 kilograms/year of total phosphorus from the Clay County Utility Authority Fleming Island wastewater treatment facility to Clay County.
- 2) 177 kilograms/year of total nitrogen (TN) and 43.6 kilograms/year of total phosphorus from the Hastings wastewater facility to the Town of Hastings.
- 3) 198.2 kilograms/year of total phosphorus from the Hastings wastewater facility to St. Johns County.



## 2.4 Conditions Placed on Trades

The main condition placed on trades under the pilot program is that at least one of the trading parties must have an individual wastewater or stormwater permit. This approach allows review of the activities that will generate the trading credits to ensure the load reductions they represent will be implemented and provides mechanisms to ensure compliance, including requiring monthly discharge reports, inspections, and clear enforcement authority if credits are not generated (see **Appendix C**).

Other conditions that will be placed on trades under the rule for the pilot program include the following:

- 1) Credits are only generated when a source's pollutant load is reduced below the baseline established for the entity. For a trade involving credits generated by a "nonpoint" source (typically related to stormwater), the pollutant loading must be less than that expected following the implementation of best management practices and any other reductions required in the BMAP.
- 2) For trades where the seller and buyer discharge to different locations, the amount of credits proposed for trading was adjusted by location factors to provide reasonable assurance that the trade would not result in localized adverse impacts to the river (see **Appendix C** for details).
- 3) Credits generated by a "point" source, such as a wastewater facility, must be confirmed by effluent monitoring throughout the life of the trade for the pollutant in question.
- 4) For trades involving estimated credits generated by nonpoint sources, uncertainty factors are applied and the applicant must provide reasonable assurance that the estimate is scientifically defensible. The Department will use default uncertainty factor ratios of 2:1 for urban stormwater (if two pounds of removal are estimated, one pound of credit will be created) and 3:1 for agricultural runoff. An applicant may propose a lower ratio based on site-

specific considerations. Site-specific uncertainty factors must be based on best professional judgment, taking into account the scientific support for the estimate; the level of confidence that the best management practices will be properly designed, installed, maintained; and the potential for failure of the management practices. In some cases, uncertainty and location factors may both be applied.

- 5) Credits must be used in the same calendar year in which they are generated.
- 6) Credits generated cannot be used to offset violations of a discharge permit or to comply with technology-based effluent limits.
- 7) Water quality credit trades cannot result in an increased nutrient load above the LSJR TMDLs.

As in any market situation, nonpoint sources that want to sell water quality credits must find a willing buyer with an individual wastewater or stormwater permit so that the credit-generating activity can be incorporated into the buyer's permit. In this scenario, the permittee (buyer) is responsible for complying with all the terms of its permit. If, ultimately, the credits purchased are determined to be invalid – sufficient pollutant reductions do not result – the invalidation is not a violation of the buyer's permit if the buyer otherwise meets its applicable permit limit.

In such cases, the Department would reopen the permit and issue an Administrative Order requiring the buyer, within a reasonable amount of time, to obtain credits from another source, increase treatment, or otherwise achieve its baseline pollutant reduction load. Each seller of water quality credits is also responsible for achieving the load reductions on which the credits are based and complying with the terms of its permit, if applicable, and any trading agreements into which it may have entered.

## 2.5 Prices Associated with Trades

As noted previously, no money has been exchanged in the BMAP trades conducted to date and, thus, no price information is available. For the post BMAP trades, there was no cost for the credits transferred from the Clay County Utility Authority to Clay County or for the credits transferred from the Hasting wastewater facility to the Town of Hastings. The unit cost for credits traded between Hastings wastewater facility and St. Johns County was \$151.50/kilogram of reduction (or \$68.87/pound).

Under Section 403.067(8)(d), F.S., the Department cannot participate in the establishment of credit prices, including negotiations between trading partners. The law does require disclosure of information about the cost of credits for the benefit of the public. When public funds from legislative appropriations or water management district grants cover some of the costs for projects that generate credits, the Department, the St. Johns River Water Management District, and the LSJR TMDL Executive Committee agreed that the entity receiving the public funds should receive the credits generated by the project to offset some of the increased operating costs. In this case, the entity receiving the public funds would be required to sell any credits at cost to that entity, including accounting for the public subsidy. As noted at the beginning of the report, trading is not a “profit-making” venture – it is a mechanism to promote lower collective costs for cleaning up polluted waters.

## Chapter 3: DEP Recommendations

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There has been little formal water quality credit trading under the pilot program, largely because pre-BMAP “trades” of pollutant load allocations were incorporated into the BMAP when it was adopted. EPA’s proposed numeric nutrient criteria in January 2010 also stifled activity because of the uncertainty about the ultimate nutrient limits that facilities would have to meet. Some of the entities that may have generated credits under the BMAP wanted to keep the credits in case they needed them in the future to meet more stringent limits.

Even with the small number of formal trades to date, other areas of Florida could benefit from trading because it allows stakeholders to more economically achieve their obligations to restore impaired waters. That said, the Department recommends extending the pilot program for two years to allow a thorough evaluation of EPA’s numeric nutrient criteria for fresh and estuarine/coastal waters, which are scheduled for promulgation in October 2010 and August 2012, respectively. If the implications of the EPA criteria become clearer and entities become more comfortable with trading, the additional time would also allow a more thorough evaluation of its economic and environmental benefits.

For the present, however, the viability of future trading depends on how EPA’s nutrient criteria are expressed and implemented. Key issues include:

- a) Whether EPA will express the criteria exclusively as concentrations, which would greatly inhibit trading or allow them to be implemented as loads;
- b) What requirement and limitations will apply to nutrient “mixing zones,” limited areas in a waterbody within which compliance must be achieved;
- c) How criteria designed to protect downstream waters will be implemented; and

d) Whether EPA will approve the Department's TMDLs as "site-specific alternative criteria," which, like mixing zones, are another mechanism for establishing reasonable water quality compliance requirements.

If the EPA nutrient criteria are expressed in terms of concentration (mass of nutrients in a given volume of water) and EPA does not allow them to be implemented as loads (mass of nutrients that can be discharged per year), then trading will be undermined. Few, if any, sources would be able to treat their discharges to concentrations lower than the proposed criteria, and therefore could not generate credits for sale. Even if credits were available, there would be no buyers since these entities would not be authorized to discharge at concentrations in excess of the criteria.

If, instead, the EPA criteria were expressed so they could be implemented as loads, which is how most TMDLs are expressed, trading would be viable. Owners of pollutant sources would then have a variety of ways to reduce their loads below their allowable loading, including combinations of increased treatment, reuse, changes in production, and pollution prevention. Unfortunately, EPA is unlikely to reveal a clear position on this issue until the Department's submits the LSJR TMDL and other nutrient TMDLs as site specific alternative criteria (see the list of key issues above).

Assuming at some point in the future, EPA clearly indicates that nutrient criteria can be expressed in terms of nutrient loads and not strictly concentrations, the Department would recommend that formal trading be authorized in any basin where detailed pollutant load reduction allocations and appropriate location factors have been established. These allocations and location factors should only be authorized in areas with formally adopted BMAPs or detailed allocations adopted by Department order or rule. These actions allow the necessary tracking, compliance assurance, and public information and accountability. This clarification of the circumstances under which water quality credit trading could occur would require only a minor change to Section

403.067(10), F.S., to explicitly state the requirement for an adopted BMAP or detailed allocation.

At this point, the Department would also need to revise the rule for the pilot program so that it would apply to BMAP trading and any watershed with an adopted BMAP or allocations.

Given the tremendous costs associated with restoring Florida's impaired waters and the current economic conditions, it is important that Floridians have options that allow them to restore impaired waterbodies at a lower cost. Trading provides sources with additional restoration options and can result in significant savings without any loss in protection to our water resources if the program is transparent, verifiable and enforceable.

## Appendix A: Rule for the Pilot LSJR WQCT Program

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### 62-306.100 Scope and Intent

(1) This chapter establishes the requirements for a pilot program for water quality credit trading among the pollutant sources to the Lower St. Johns River (LSJR) Basin pursuant to Section 403.067, F.S.

(2) The generation, registration, and trading of water quality credits provided for in this chapter are intended to provide flexibility among pollutant sources to meet the requirements of the LSJR Basin Management Action Plan (BMAP), as adopted by Secretarial Order on October 14, 2008. Copies of the LSJR BMAP may be obtained from the Department's internet site at <http://www.dep.state.fl.us/water/watersheds>, or by writing to the Florida Department of Environmental Protection, Bureau of Assessment and Restoration Support, 2600 Blair Stone Road, MS 3560, Tallahassee, FL 32399-2400.

(3) The LSJR BMAP provides for the implementation of Total Maximum Daily Loads (TMDL) for Total Nitrogen and Total Phosphorus adopted by the Department in Subsections 62-304.415(1) and (2), Florida Administrative Code (F.A.C.). The following parts of the LSJR BMAP, which are hereby incorporated by reference, will be used to implement the trading program in the LSJR Basin:

- (a) Figure 1, which identifies and delineates the watershed boundaries of the LSJR in which trading may occur;
- (b) Point and nonpoint source baseline allocations (Tables 9-14) or management practices for sources that may generate, use, or trade credits in the plan area; and
- (c) Tables 22 and 23, which provide Location Factors.

(4) This chapter does not address aggregation of wasteload allocations by an entity with multiple wastewater facilities. Aggregate load allocations will be implemented via an aggregate permit that limits the total allocated nutrient TMDL load for the entity.

Rulemaking Authority 403.067(9) FS. Law Implemented 403.067(8)-(10) FS. History - New - -10.

**62-306.200 Definitions**

- (1) "Act" means the Florida Watershed Restoration Act, as codified under Section 403.067, F.S.
- (2) "Baseline" means the pollutant-specific point source discharge or nonpoint source load allowable under the TMDL or BMAP.
- (3) "Best management practices (BMPs)" means a practice or combination of practices adopted by rule by the Department of Agriculture and Consumer Services, the Department of Environmental Protection, or the applicable Water Management District as the most effective and practicable means for improving water quality, taking into account economic and technological considerations.
- (4) "Clean Water Act" means the Federal Water Pollution Control Act, commonly referred to as the Clean Water Act, 33 U.S.C. §1251 et seq.
- (5) "Credit" means the pollutant-specific point source load reduction or nonpoint source load reduction that is generated and may be used or traded as water quality credits (WQCs). A credit may only be generated when pollutants loads are reduced below the baseline load allowable under the TMDL or BMAP. Credits shall be in either the units of pounds per year or kilograms per year.
- (6) "Department" means the Florida Department of Environmental Protection.
- (7) "Estimated credits" means load reductions from nonpoint sources that are used for credit trading but which cannot be reasonably measured through direct monitoring.
- (8) "Location Factors" (LFs) means the WBID-specific numbers, as listed in the LSJR BMAP Tables 22 and 23, that are used to ensure that trades do not result in localized impacts on the river. Location Factors represent the relative impact a given unit of nitrogen or phosphorus discharged at a WBID has on water quality in the worst case WBID compared to the same amount of nitrogen or phosphorus discharged directly to the worst case WBID. LFs are used in trades to provide reasonable assurance that the seller's credits are functionally equivalent in protecting the water quality of the water body or water segment.



(9) “Lower St. Johns River (LSJR)” means the main stem of the St. Johns River that flows between the mouth of the Ocklawaha River and the mouth of the St. Johns River.

(10) “Measured credits” means load reductions from point sources that are used for credit trading that can be directly monitored using effluent samples.

(11) “Nonpoint source” means those sources of pollutants that discharge to surface or ground water in response to rainfall events, and which are not defined as point sources and do not have a point source permit.

(12) “NPDES permit” means a surface water discharge permit issued by the Department under section 403.0885, F.S., or by the U.S. Environmental Protection Agency pursuant to the National Pollutant Discharge Elimination System (NPDES) under Section 402 of the Clean Water Act.

(13) “Permit” means an authorization to discharge into surface waters issued by the Department pursuant to Chapter 403, F.S.

(14) “Person” means a person as defined by Subsection 403.031(5), F.S.

(15) “Point source” means a point source as defined by Subsection 62-620.200(37), F.A.C.

(16) “TMDL” means the total maximum daily load for nutrients for the LSJR River adopted in Subsections 62-304.415(1) and (2), F.A.C.

(17) “Trading Registry” means the water quality credit database created and maintained by the Department for the purpose of registering the generation and trading of water quality credits (WQCs).

(18) “Technology-Based Effluent Limitation” (TBEL) means a minimum waste treatment requirement established by the Department based on treatment technology.

(19) “Uncertainty Factor” (UF) means the ratio of the estimated number of pounds or kilograms of reduction by a nonpoint source to the number of pounds or kilograms of credit that will be authorized. The UF reflects the uncertainty associated with estimates of nonpoint source pollutant reductions.

(20) “Water Quality Credit Trading” means the exchange of credits between point and nonpoint sources in the LSJR Basin to achieve or maintain the TMDL.

(21) “WBID” means the unique waterbody that was used to divide the Lower St. Johns River Basin into water assessment polygons, as shown in LSJR BMAP Figure 1.

(22) “Worst case WBIDs” means the WBIDs in the marine and freshwater portions of the river where adverse impacts due to nutrient loadings were greatest, and which controlled the maximum allowable nutrient loading to the LSJR.

Rulemaking Authority 403.067(9) FS. Law Implemented 403.067(8)-(10) FS. History - New - -10.

### **62-306.300          General Requirements**

(1) To be eligible to generate and trade credits between point and nonpoint sources, the following must be met:

(a) Credits generated by a point source must be confirmed by effluent monitoring for the pollutant subject to the trade. This monitoring must be undertaken throughout the effective period of the trade.

(b) Credits generated by a nonpoint source can either be measured where treatment methods allow influent and effluent water quality to be measured, or can be estimated for the type of operation. However, if credits are estimated, the applicant must provide reasonable assurance, using peer reviewed literature-based estimates of removal efficiency that the estimate is scientifically defensible, and any applicable uncertainty factor shall be applied.

(c) At least one of the trading parties must have an individual wastewater or stormwater permit. The activities necessary to generate credits must be authorized under the appropriate point source stormwater or wastewater NPDES permit. The permit application shall describe how the activities necessary to achieve the load reductions required to generate the credits will be implemented and monitored.

(d) Wastewater or stormwater facilities that purchase or sell credits must revise their existing NPDES permit or acquire a new NPDES permit if necessary, to authorize the use or sale of such credits. The NPDES permit shall reflect the amount by which the permitted load has been adjusted by the purchase or sale of credits.

(e) Credits are only generated when a source's load is reduced below the baseline established for the entity, which is the wasteload allocation for point sources. For a trade involving credits generated by a nonpoint source, the loading from the nonpoint source must be less than that expected following implementation of applicable BMPs and any additional reductions required for the nonpoint source category under the BMAP.

(f) Credits must be used in the same calendar year in which they are generated.

(2) No facility or activity may generate or use water quality credits until such time as all required permits have been obtained. Facilities that meet their TMDL obligations via trading must demonstrate that their discharge, including any trades, will not cause or contribute to violations of water quality standards. Credits generated under this part shall not be used to offset violations of a discharge permit or to comply with any applicable technology-based effluent limits (TBELs).

(3) Water quality credit trades cannot result in an increased nutrient load above the LSJR TMDLs.

(4) Nothing in this rule is intended to limit any actions by federal, state, or local agencies, affected persons, or citizens pursuant to other rules or regulations.

Rulemaking Authority 403.067(9) FS. Law Implemented 403.067(8)-(10) FS. History - New - -10.

#### **62-306.400 Eligibility for Generation of Credits**

(1) For discharge or load reductions to be generated and registered as credits, a credit generator shall meet each of the following conditions:

(a) The pollutant load reduction shall continue to be generated after the effective date of this chapter.

(b) Reasonable assurance shall be provided that discharge or load reductions will result in credits.

(c) Applicable control devices or best management practices must be fully implemented and properly maintained throughout the period of the trade.

(2) Activities that are eligible to generate credits include:

(a) Installation or modification of water pollution control equipment.

(b) Operational changes or the modification of a process or process equipment that reduce the quantity of water discharged through reuse, recycling, water conservation, or other measures and thereby reduce the load of nutrients discharged.

(c) Implementation of structural nonpoint source management controls.

(d) Installation, operation and maintenance of drainage projects designed to control stormwater as part of a city or county drainage improvements.

(e) Other similar pollution controls or management practices with a demonstrated ability to reduce the load of nutrients discharged.

(3) Activities that are not eligible to generate credits include:

(a) A reduction in nutrient loading that is required under a regulatory program.

However, reductions beyond those required under a regulatory program shall be eligible to generate credits.

(b) A change in land use, including taking agricultural lands out of production and changes in crops grown, unless the change results in post development pollutant loading being equal to or less than loading under natural conditions for the property.

(c) Implementation of BMPs that are required under the LSJR BMAP.

Rulemaking Authority 403.067(9) FS. Law Implemented 403.067(8)-(10) FS. History - New - -10.

## **62-306.500 Credit Generation and Validation**

(1) Point Sources

(a) The baseline for point sources, including both wastewater and stormwater dischargers, shall be the source's wasteload allocation under the LSJR BMAP, unless a lower water quality-based effluent limitation has been established for the discharge.

(b) Credits shall only be generated by point sources after the entity provides reasonable assurance that it can meet an effluent loading limit that is lower than its

baseline allocation and the source's applicable permit limits are revised to reflect the reduced load.

(2) Nonpoint Sources

(a) The baseline for nonpoint sources shall be the source's load allocation specified under the LSJR BMAP or, for nonpoint sources that are covered under categorical load allocations, shall be the load expected following implementation of applicable BMPs and the additional reductions required for agricultural sources.

(b) Credits shall only be generated by nonpoint sources if the source reaches an agreement with a permitted point source and the activity generating the credits is incorporated into the point source's permit.

Rulemaking Authority 403.067(9) FS. Law Implemented 403.067(8)-(10) FS. History - New - -10.

**62-306.600 Use of Credits and Credit Adjustments**

(1) Wastewater Facilities.

(a) The use of credits must be authorized in the buyer's permit. At the time of permit application, the buyer must submit an affidavit, signed by the buyer and seller, disclosing the term of the trade, the number of credits traded, the date when the credits will be generated, the unit price, and the amount of any state funding used to generate the credits traded. The affidavit used by the Department for Water Quality Credit Trading, Form 62-306, "Water Quality Credit Trading Affidavit" [Effective Date], is hereby adopted and incorporated. Copies of the form may be obtained from the Department's internet site at <http://www.dep.state.fl.us/water/tmdl>, the Northeast District Office, or by writing to the Florida Department of Environmental Protection, Bureau of Assessment and Restoration Support, 2600 Blair Stone Road (MS3560), Tallahassee, FL 32399.

(b) The Fact Sheet or Statement of Basis for the buyer's permit shall note that the permit authorizes a trade and identify the source of the credits purchased.

(c) If the buyer subsequently decides to change the source of credits during the permit cycle, the buyer must submit a new Water Quality Credit Trading Affidavit pursuant to paragraph (1)(a) and apply for a permit revision. The Department will evaluate the permit revision and determine whether the seller has credits available in accordance with Rules 62-306.300, 62-306.400, and 62-306.500, F.A.C.

(2) Municipal Separate Storm Sewer Systems (MS4s) and Nonpoint Sources.

(a) The buyer must submit a Water Quality Credit Trading Affidavit, signed by the buyer and seller, disclosing the term of the trade, the number of credits traded, the date when the credits will be generated, the unit price, and the amount of any state funding used to generate the credits traded. The Department will determine whether there is reasonable assurance that the seller has credits available. The Department shall notify the buyer within thirty days if the buyer has not provided reasonable assurance that the seller has credits available.

(b) If the buyer subsequently decides to change the source of credits, the buyer must submit a new Water Quality Credit Trading Affidavit so that the Department can evaluate whether the buyer has provided reasonable assurance that the seller has credits available. The Department shall notify the NPS within thirty days if the NPS has not provided reasonable assurance that the seller has credits available.

(3) If the seller of credits is a nonpoint source, the buyer must provide information about the nonpoint source activity that will generate the 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 Professional Engineer, supporting the credit generation.

(a) If the credits to be traded are based on measured credits, the point source permittee must propose monitoring locations and submit monthly discharge monitoring reports to validate the generation of the credits.

(b) If the credits purchased are estimated, the permittee must:

1. Provide information describing the basis for the estimates, including references or models used, calculations showing the amount of credits generated, and any needed adjustment factors to address uncertainty pursuant to subsection (4);

2. Keep detailed records demonstrating they are in compliance with any applicable BMP requirements; and

3. Agree to be subject to inspections at the nonpoint source activity.

(4) Use of Location Factors.

(a) For trades where the seller and buyer discharge to different WBIDs, the amount of credits proposed to be traded shall be adjusted by the applicable Location Factors to provide reasonable assurance that the proposed trade does not result in localized adverse impacts to the water body or water segment.

(b) The number of credits needed for a proposed trade shall be calculated as follows:  
Number of Credits Needed = (Number of Pounds or Kilograms Needed) x (LF for Buyer's WBID/LF for Seller's WBID).

(c) This formula may not be used to reduce the number of credits needed below the number of pounds or kilograms needed.

(5) Use of Nonpoint Source Uncertainty Factors Ratios.

(a) For proposed trades involving estimated credits for nonpoint sources, the Department shall use default Uncertainty Factor ("UF") ratios of 2:1 for urban stormwater (if 2 pounds or kilograms of removal are estimated, 1 pound of credit will be created) and 3:1 for agricultural runoff. However, an applicant may propose a lower UF ratio if justified by site-specific considerations.

(b) Any site-specific UF must be based on best professional judgment taking into account the scientific support for the estimate, the level of confidence that the BMP will be properly designed, installed, maintained, and the potential for failure of the BMP. Rulemaking Authority 403.067(9) FS. Law Implemented 403.067(8)-(10) FS. History - New - -10.

(1) The Department shall track all credits generated or trades authorized in permits, and shall post information about trades and available credits on the Department's website at <http://www.dep.state.fl.us/water/watersheds>.

(2) Information tracked related to credit generators and sellers shall include:

(a) The generator or seller's name, street address, location, receiving water (WBID), and the pollutant being traded;

(b) The generator or seller's baseline, permit number for permit authorizing the credit generation, the new permit limit authorizing a reduced discharge level, and the amount of credits generated;

(c) A description of the actions that generated credits and whether the credits are measured or estimated;

(d) Effective date of the permit, the date when credits will start to be generated, and the duration of the credits;

(e) The amount of credits traded to date and any adjustments for location or uncertainty; and

(f) The unit price of the credits, including the amount of any public funding used to generate the credits.

(3) Information tracked related to buyers of credits shall include:

(a) The buyer's name, location, permit number, receiving water (WBID), and pollutant being traded;

(b) The description of the source of the credits, including permit number of seller if applicable, the amount of credits purchased;

(c) The new permit limit authorizing an increased discharge level, effective date of the permit, and the date when credits will be available for use; and

(d) The unit price of the credits, including the amount of any public funding used to generate the credits.

Rulemaking Authority 403.067(9) FS. Law Implemented 403.067(8)-(10) FS. History - New - -10.



**62-306.800 Compliance with Trade Provisions**

(1) If the credits traded are measured credits, the permittee shall report to the Department the quantity of the Total Nitrogen or Total Phosphorus discharged on a monthly basis to demonstrate compliance with the effluent limitations, and monitoring and reporting requirements specified in their NPDES permit. Permittees may use the precoded Discharge Monitoring Report form provided by the permitting office to the permit holder at the time of permit issuance to report the amount of Total Nitrogen or Total Phosphorus discharged.

(2) If the credits traded are estimated credits, the permittee shall submit a quarterly report to the Department providing the following information:

- (a) The name and location of the site;
- (b) The pollutants controlled;
- (c) The control devices installed or management practices implemented and date completed;
- (d) The linear feet or acres for which controls or management practices have been completed; and
- (e) A calculation of the quantity of each pollutant controlled using the same methods and procedures used to determine the load reductions and credits.

(3) Liability

(a) Sellers of water quality credits are responsible for achieving the load reductions on which the credits are based and complying with the terms of their permit, if applicable, and any trading agreements into which they may have entered.

(b) Buyers of water quality credits are responsible for complying with all terms of their permit. In the event that credits purchased are determined to be invalid but the buyer otherwise meets its applicable permit limit, the invalidation of credits shall not be a violation of the buyer's permit. In such cases, the Department shall re-open the permit and issue an Administrative Order requiring the buyer, within a reasonable

amount of time, to obtain credits from another source, increase treatment, or otherwise reduce the discharged load to meet its baseline load.

Rulemaking Authority 403.067(9) FS. Law Implemented 403.067(8)-(10) FS. History - New - -10.

## Appendix B: Affidavit for the Pilot LSJR WQCT Program

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### WATER QUALITY CREDIT TRADING AFFIDAVIT (Rule 62-306.900, F.A.C.)

STATE OF FLORIDA

COUNTY OF \_\_\_\_\_

Before me, the undersigned authority, personally appeared, \_\_\_\_\_  
as the authorized representative for \_\_\_\_\_ (“Buyer”), and \_\_\_\_\_  
\_\_\_\_\_ as the authorized representative for \_\_\_\_\_  
 (“Seller”), who each being duly sworn aver:

- 1) The Buyer and Seller are engaged in a Water Quality Credit Trade pursuant to Chapter 62-306, F.A.C.
- 2) Buyer has purchased \_\_\_\_\_ (pounds/year) of Water Quality Credits from Seller for the term of \_\_\_\_\_ (date) to \_\_\_\_\_ (date) .
- 3) Buyer has paid Seller \$ \_\_\_\_\_ for the purchase of the Water Quality Credits, which reflects a purchase price of \$ \_\_\_\_\_ per credit.
- 4) The Seller acknowledges that state funding in the amount of \$ \_\_\_\_\_ was received for the facilities or activities that generated the purchased credits.
- 5) The Seller’s load allocation under the Lower St. Johns River (LSJR) Basin Management Action Plan (BMAP) is \_\_\_\_\_ pounds/year, and the Buyer’s load allocation under the LSJR BMAP is \_\_\_\_\_ pounds/year.
- 6) The Seller generated credits by reducing its pollutant load below the baseline load allowable under the BMAP, and pursuant to Rule 62-306.400(2), F.A.C., the Seller has undertaken activities that will reduce its load by \_\_\_\_\_ (number of pounds/year).
- 7) The Buyer/Seller has been issued or has applied for an individual wastewater or stormwater permit (Permit No. \_\_\_\_\_)
- 8) The WaterBody IDentification (WBID) number and Location Factor (LF) for the discharge location of the Buyer and Seller, and any calculations used to account for differences in location (attach additional material as needed) are as follows:

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9) For estimated credits, calculations used to account for the uncertainty in the estimated reductions are as follows (If default uncertainty factor (UF) ratios were not used, attach documentation supporting the use of site-specific UF ratios):

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10) A description of any proposed monitoring that will be done to verify credit generation (attach additional material as needed):

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11) The Seller certifies that the credits purchased in this Water Quality Credit Trade have not been previously sold to another buyer.

\_\_\_\_\_  
Representative for Buyer

\_\_\_\_\_  
Representative for Seller

Sworn to and subscribed before me on \_\_\_\_\_ by \_\_\_\_\_

(Affiants' names) \_\_\_\_\_ and \_\_\_\_\_  
Buyer Seller

\_\_\_\_\_  
Notary Public

Personally Known \_\_\_\_\_ OR Produced Identification \_\_\_\_\_

Type of Identification Produced \_\_\_\_\_

## Appendix C: Permitting Details

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### General Requirements

#### *Permit Requirements for Credit Sellers*

A wastewater treatment facility generating water quality credits has two options to revise their permit. The facility can wait for their permit renewal, or request to revise the permit. Very similar information is required for both scenarios, but the administrative process is different. The key objective for the Department is to review how the credit was generated; track information about the credits; establish a new, lower pollution load reflecting the trade; establish monitoring requirements to confirm the load reduction generating the credit; and provide clear enforcement authority.

#### *Permit Requirements for Credit Buyers*

A facility that plans to meet its permit requirements using credits is required to apply for a permit revision to incorporate the trade provisions. When the source of credits is a point source, usually a wastewater facility, the facility's permit will include a revised permit limit that includes the credits and any other adjustments for trading factors (see section on trading factors). The buyer's permit must be issued after or simultaneously with the seller's permit to ensure that the facility will meet its permit limits. As a part of the permit application the buyer must provide signed contracts with the seller(s) indicating that it has purchased credits.

The permit does not need to include a specific condition for the trade, but the Fact Sheet or Statement of Basis for the permit will include information about the trade, including the proposed source(s) of credits and any trading factor adjustments.

The permit may include an administrative order and compliance schedule that provides a buyer with time before it must meet the wasteload allocation and an interim limit.

### ***Permit Requirements for Changing Credit Sources***

When a buyer wants to change the source of its credits during the five-year permit cycle it will be required to submit a new affidavit to the Department. The buyer may also need to apply for a permit revision so that the department can evaluate the new credits and revise the Fact Sheet or Statement of Basis for the permit. As long as the permitted effluent limits are not changed and there is no other significant change or modification the revision would be considered a “minor revision”, which has a lesser permit fee and does not require public notice. Adjusting effluent limits or making other significant permit changes will require a higher fee and possibly notification requirements.

### **Credit Life**

Credits are not actually generated and cannot be used to meet the buyer’s permit limit until the management actions that will create the reductions are actually implemented, even if the buyer’s permit has been modified to include the credits. Credits cannot be “banked” or accumulated for a period extending beyond the time expressed in the TMDL. The Lower St. Johns River TMDL is expressed as an annual load so the credits can be applied any time within the same year.

The overall “credit life” is limited to the life of the permit, but the credit will be valid for the duration of the existing TMDL/BMAP. A buyer may “lock in” a trade for a period longer than the permit life in their contract with the seller; but, both the buyer and the seller should be aware that the TMDL and its allocation are subject to revision and the permit limits may change during subsequent permit cycles.

## **Trades Involving Two Point Sources**

Point source facilities can only generate credits by agreeing to reduce their permit limit. Point sources that plan to purchase credits will also be required to revise their permits to allow for credit trading.

## **Trades Involving a Point Source Buyer and Nonpoint Source Seller**

### ***Basic Permitting Approach and Application Review***

Nonpoint sources can only generate credits by documenting that they have reduced their pollutant loading below the baseline condition (the level of pollutant loading prior to any reductions occurring). Nonpoint source activities that could generate credits include advanced best management practices or taking land out of production.

The nonpoint source must also identify a specific buyer, and the buyer's permit must be revised to include a specific condition that will serve to incorporate the nonpoint source control activities. The buyer is required to submit an affidavit providing information about the nonpoint source activity that will generate the trade, including the baseline condition, a description of the activity, and pollutant load calculations, signed and sealed by a professional engineer, that support the amount of credits generated.

If the credits will be measured, the buyer must include a description of the proposed monitoring locations. If credits are estimated, the buyer must provide information describing whether the estimates are based on literature values, watershed modeling output, or site-specific monitoring results and provide calculations for the estimated credits considering uncertainty factors and location factors (see Trading Factors below).

The Department will review the credit calculations, including any proposed uncertainty factors and then inform the applicant if the credits will be accepted or amended.

## **Trading Factors**

### ***Uncertainty Factors for Estimated Credits***

Reductions in loading from many nonpoint sources of pollution, especially agricultural dischargers, must be estimated because the diffuse nature of their discharges makes it difficult to measure pollutant loading. The Department will apply an uncertainty factor for credits generated by nonpoint sources to ensure that trades do not result in additional loading to the watershed due to errors in the estimate. The Department will use a default uncertainty factor of 3:1 (if three pounds of removal are estimated, one pound of credit will be created) for agricultural runoff and 2:1 for urban stormwater. However, an applicant may propose a lower ratio based on site-specific uncertainty factors. Site-specific uncertainty factors must be based on best professional judgment, taking into account the scientific support for the estimate; the level of confidence that the best management practices will be properly designed, installed, and maintained; and the potential for failure of the management practices.

Wastewater sources do not have the option to provide estimated credits. They are required to monitor their effluent throughout the effective period of the trade to ensure that the treatment system is achieving the estimated reductions. Some nonpoint sources will have the option of using either measured or estimated credits. The uncertainty factor provides an incentive for these operations to measure their discharge because they would not have to use the uncertainty factor, which would otherwise reduce their available credits.

### ***Location Factors***

Location factors are used where the seller and buyer discharge to different locations. The amount of credits needed is adjusted by the applicable location factor to ensure that the proposed trade does not result in localized pollutant loading to the river.



The location factors for the Lower St. Johns River nutrient TMDLs were calculated using the water quality model used to develop the TMDL.

**Table 1** provides the location factors (LF) that were calculated for each waterbody segment or “WBID” of the river, based on the water quality target for the marine portion of the river. This table should be used whenever the buyer is in the marine portion of the river, regardless of the seller’s location. **Table 2** provides the location factors (LF) for trades based on the water quality target for the freshwater portion of the river. This table should be used whenever the buyer is in the freshwater portion of the river. While location factors were calculated for every waterbody segment of the river (see **Figure 1** of main report) they are not shown in **Table 2** if they were less than 0.01.

**TABLE 1: LOCATION FACTORS FOR TRADES WHEN BUYER IS IN THE MARINE REACH**

Entry WBID of Pollutant	Section of River	LF
2213A	Marine	1.0
2213B	Marine	1.0
2213C	Marine	1.0
2213D	Marine	1.0
2213E	Marine	1.1
2213F	Marine	1.2
2213G	Marine	1.2
2213H	Marine	1.3
2213I	Freshwater	1.3
2213J	Freshwater	1.4
2213K	Freshwater	1.7
2213L	Freshwater	1.6
2213M	Freshwater	1.4
2213N	Freshwater	1.4

**TABLE 2: LOCATION FACTORS FOR TRADES WHEN BUYER IS IN THE FRESHWATER REACH**

Entry WBID of Pollutant	Section of River	LF
2213E	Marine	0.01
2213F	Marine	0.03
2213G	Marine	0.04
2213H	Marine	0.12
2213I	Freshwater	0.52
2213J	Freshwater	0.65
2213K	Freshwater	1.00
2213L	Freshwater	0.90
2213M	Freshwater	0.90
2213N	Freshwater	0.90

The location factors can be used to adjust the amount of pollutant load reduction needed for a given trade. For example, if a point source discharging to WBID J wanted to offset 100 credits of total nitrogen (TN) and found a willing trading partner who discharged to WBID I, the amount of credits that the discharger in WBID J would have to purchase would actually be:

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

This same formula works for parties trading in any pair of WBIDs. For example, if a point source discharging to WBID L wanted to offset 100 credits of total nitrogen and found a willing trader who discharged to WBID I, the amount of credits that the discharger in WBID L would have to purchase would be:

$$\begin{aligned}\text{Number of Credits Needed} &= \text{Number of TN Pounds to Offset} \times [\text{Buyer's LF (WBID L)}/\text{Seller's LF (WBID I)}] \\ &= 100 \times [0.90/0.52] \\ &= 173 \text{ credits of TN}\end{aligned}$$

## Reporting Requirements and Recordkeeping

Buyers requesting measured credits are required to submit monthly discharge monitoring reports demonstrating the reduction in loading projected in the application. Buyers requesting estimated credits are not required to provide discharge reports, but will be required to keep records demonstrating that they are meeting any applicable best management practice requirements and may have to perform downstream monitoring to evaluate the effects of the best management practices. The Department may also perform inspections as a part of the buyer's permit.

## Enforcement Authority

Integrating the nonpoint source control activity into the buyer's permit provides the Department with the authority necessary to review documentation supporting the generation of credits, require appropriate monitoring or recordkeeping, and take enforcement action against a buyer if the seller fails to generate the necessary credits.

The 2005 revisions to the Florida Watershed Restoration Act (Section 403.067, Florida Statutes) also provide the department with enforcement authority for nonpoint source dischargers that do not complete the management actions stipulated in an adopted BMAP. This provides important enforcement authority to ensure the implementation of best management practices, but the BMAPs will likely not be sufficiently detailed to describe individual trades, so a permit condition is needed.

## Trade Tracking

The Department will track detailed information about individual trades to ensure that generated credits are not sold to multiple parties. Information tracked related to credit sellers would include the following:

- (1) *Seller's name, location, permit number, and receiving water (waterbody segment or WBID);*
- (2) *The pollutant traded, and the expression of the TMDL is expressed (annual, monthly, or seasonal);*
- (3) *The seller's wasteload allocation<sup>1</sup>, the new permit limit authorizing a reduced discharge level and the amount of credits generated;*
- (4) *A brief description of the actions that generated the credits;*

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<sup>1</sup> If the seller is a restoration project, then the permittee would not have a wasteload allocation. For these facilities, the amount of credit generated would be based on the amount of load reduction the project will produce.

- (5) *The effective date of the permit and the date when credits will start to be generated; and*
- (6) *The amount of credits traded to date and any adjustments for location.*

Information tracked related to credit buyers would include the following:

1. *Buyer's name, location, permit number and receiving water (water body segment or WBID);*
2. *The pollutant being traded and the expression of the TMDL (annual, monthly, or seasonal);*
3. *The buyer's wasteload allocation, the new permit limit authorizing an increased discharge level and the amount of credits purchased;*
4. *A brief description of the source of credits, including the permit number of the seller (if permitted) or the name of the nonpoint source that generated the credits;*
5. *When the source of credits is a nonpoint source, the uncertainty factor used;*
6. *The effective date of the permit and the date when credits will be available for use; and*
7. *The amount of credits purchased to date and the unit price of the credits.*

The tracking database will be made available on the Department's website to provide public access to information on the trading program. This information will also serve as an important source of information to prospective buyers. Facilities that generate credits through permitting actions will be entered in the database even if they do not already have buyers.