



Wisconsin's Green Fire Policy Analysis

2019 Senate Bill 91, Legislation to Buy and Sell Water Pollution Credits through a Central Clearinghouse

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Executive Summary of Wisconsin's Green Fire Analysis

2019 Senate Bill 91 would create a clearinghouse for sale and purchase of water pollution credits between water pollution sources. Although water pollution credit trading is a provision in current federal and state law to help achieve pollutant reductions, the use of trading in Wisconsin has been limited.

This bill would establish a single non-public entity as a clearinghouse to encourage trading opportunities, providing limited state oversight. Wisconsin's Green Fire's analysis evaluates example start up and operating costs. Our analysis raises significant concerns as to whether a pollutant credit clearinghouse in Wisconsin can be managed sustainably without subsidy. Our analysis suggests that while the concept of a central clearinghouse for selling water pollution credits has value, the economics of trading schemes may be marginal given the current market limitations on the value of credits and the transaction costs that will need to be incurred. The limited oversight of the clearinghouse operator may also lead to inconsistent or inadequate performance.

Legislation Description

The following is an excerpt of the analysis of 2019 Senate Bill 91 (SB 91) prepared by the Legislative Reference Bureau (LRB). The bill and LRB analysis are available at <http://docs.legis.wisconsin.gov/2019/related/proposals/sb91>.

This bill creates a system for buying and selling water pollution credits through a central clearinghouse.

Under current law, the Department of Natural Resources administers a program for trading water pollution credits between sources of water pollution. Under this program, DNR may authorize a person (permit holder) who holds a water pollution discharge elimination system (WPDES) permit or storm water permit to discharge a pollutant

above the levels authorized in the permit if the permit holder enters into an agreement with another party under which the other party will reduce water pollution. The agreement must result in an improvement in water quality, and the increase and reduction in pollutants under the agreement must involve the same pollutant or same water quality standard and occur within the same water basin.

Under this bill, DNR may authorize a permit holder to discharge a pollutant above the levels authorized in the permit if the permit holder purchases credits from a clearinghouse that has contracted with the Department of Administration.

The bill requires DOA to solicit vendors to operate as the single clearinghouse in this state for the purpose of buying and selling water pollution credit.

Under the bill, the term of a contract between DOA and the clearinghouse is five years.

Under the bill, the clearinghouse that contracts with DOA must generate credits by entering into agreements with parties to reduce pollution; maintain a bank of credits; sell credits to any person; establish and maintain a centralized registry of credits generated and sold in this state; and maintain an Internet-based platform to facilitate the location of potential buyers, available credits, and other information that will facilitate credit transactions.

The bill also allows DOA to contract with the clearinghouse to further the implementation of an adaptive management, multidischarger variance, water quality trading, or future market-based water quality programs in this state.

Background

Water quality (pollution) trading is a compliance option accepted by the U. S. Environmental Protection Agency (EPA) for point source discharges, under the National Pollutant Discharge Elimination System (NPDES), to comply with the permit requirements for a number of non-toxic pollutants, such as phosphorus. Chapter 283, Wisconsin Statutes, establishes a state trading program.

The concept of water quality trading is that control of pollutants at a location other than the permitted municipal, industrial or other wastewater treatment facility, can be accomplished in a manner that costs less than removal of that pollutant at the facility. Most often the trading will occur with an agricultural nonpoint source, an urban storm water source, or another permitted wastewater facility.

Many Wisconsin permitted municipal and industrial wastewater facilities are considering compliance options such as water quality trading, implementation of a watershed adaptive management project, or payments to control other sources. Under the compliance schedules within their permits, many facilities are under time constraints to move ahead with implementing a compliance option. To date, water quality trading has primarily occurred with new dischargers that don't have other cost effective options available under state law.

Water quality trading may occur directly between two parties, called a “bi-lateral agreement,” or with the involvement of a third party. A central clearinghouse is one example of third party involvement in water quality trading. As proposed in SB 91, the central clearinghouse would enter into trade agreements with willing sellers and then sell those purchased credits to permit holder wanting to buy the credits.

According to EPA guidance on water quality trading, central clearinghouses for water quality trading tend to function best where there are an abundance of buyers and sellers and where the supply of pollutant credits available is large relative to the demand from buyers. Central clearinghouses have transaction costs in addition to those of a bi-lateral agreement. Given the transaction costs, a clearinghouse works best when there is a wide margin between the cost to buy the credits from the seller and the cost paid by the buyer.

Wisconsin Pollutant Discharge Elimination System (WPDES) permit holders may favor a central clearinghouse because if the seller defaults, it is often the responsibility of the clearinghouse to provide substitute credits. This arrangement does not eliminate the responsibility or liability of the permit holder, but it reduces the risk relative to bi-lateral agreements.

Impact Synopsis of Senate Bill 91

Single Central Clearinghouse

The bill calls for establishing a single central clearinghouse for the entire state through a contract with the Department of Administration (DOA). Trading partners are not restricted to use of the clearinghouse and may enter into bi-lateral trade agreements. However, the bill does not allow establishing other clearinghouses, such as regional clearinghouses. DOA may also expand the contract to handle other permit compliance options created in s. 283.16, Wis. Stats.

The proposed clearinghouse is not a public entity. Conceivably, the clearinghouse could be a for-profit business or a not-for-profit organization. The contract with DOA is limited to five years and presumably could be renewed. Presumably, DOA could place requirements for the conduct of the central clearinghouse in the contract. Presumably, if no company or organization applies to DOA or if DOA determines the applying business does not meet specified requirements, a single central clearinghouse would not be set up.

State Oversight

Although the single central clearinghouse would be a private business or other organization, it would be allowed to establish policies and procedures for transacting

water quality trades with limited state oversight. With one exception, state oversight comes through the terms of the contract with DOA. DNR, the state’s point source permitting authority, is consulted, but is not required to approve the contract. The clearinghouse would need approval from DNR on the methods to determine the amount of credits for various practices. The practices may include tables and models based on the best available scientific protocols.

The table shows examples of differences between present water quality trading procedures and those proposed in SB 91.

Item	Present Procedure	SB 91 Proposed Procedure
Approval of trades	DNR, as the WPDES permit agency, approves individual trades as part of permit compliance provisions. EPA also approves individual trades.	No requirement for DNR approval. Clearinghouse reports annually to DNR and DOA.
Trade Ratios	DNR determines trade ratios	Allows the clearinghouse to determine trade ratios provided the trade ratio is at least 1.2 to 1.0.
Length of trade contract	Presently, DNR limits the trade agreement to 5 years, the length of the WPDES permit. Renewal of the agreement is allowed.	The central clearinghouse would determine the length of the trade agreement.
Frequency of compliance inspections	Generally annual inspections are required,	The central clearinghouse would determine the frequency of compliance inspections.

Start-Up Costs

Any third-party entity for water quality trading will have start-up costs, but the start-up costs for a central clearinghouse are likely higher than other alternatives. From the draft of the bill, it is unclear whether the central clearinghouse entity will be sufficiently capitalized to meet the start-up costs or whether DOA is to provide funds through the contract to meet the start-up costs.

Start-up costs include:

- Either hiring staff or entering into contracts with local governments, such as county land and water conservation departments, or consultants to identify, contact and discuss the potential sale of credits.
- Either hiring technically qualified staff or entering into contracts with local governments, such as county land and water conservation departments, or consultants to provide technical assistance to design management practices or other methods to reduce phosphorus reaching waters of the state.
- Hiring staff to use technical methods approved by DNR to calculate trade credits.
- Hiring staff to prepare and negotiate water quality trading contracts.
- Purchasing the credits from sellers.
- Hiring staff to establish a centralized registry of all credits generated on an internet-based platform.

Particularly for agricultural source credits where management practices may take six to nine months for a management practice to become effective and able to generate credits, it may take a minimum of two years before a clearinghouse may be able to sell a meaningful number of credits.

Ongoing Costs

For a central clearinghouse to break-even or to make a profit, there must be sufficient margin between the cost of purchasing the credits from the willing sellers and the revenue received from willing buyers.

That margin must cover the costs for all of the tasks listed under start-up costs, plus:

- Establishing a reserve pool of credits in the event a credit seller defaults for a variety of reasons, including weather related reasons.
- Maintaining a data management system for reporting to DNR and making available to the public pertinent information.

Whether a central clearinghouse operating in Wisconsin can break-even or make a profit margin is questionable, since it appears the margin will be small. Particularly in Total Maximum Daily Load (TMDL) allocated watersheds or basins, the supply of credits may be significantly restricted and the cost per credit relatively high. In these TMDL situations, agricultural source sellers must achieve the reduction corresponding to the load allocation prior to generating credits. For many of the recent TMDLs this corresponding reduction is often in the range of 60 to 80 percent. In these situations,

the number of potential credits would be greatly reduced and the cost of generating credits would increase.

Consideration should be given to whether a central clearinghouse in Wisconsin can be sustainably managed without a public or other subsidy. At the time this paper was prepared, a fiscal estimate on the bill had not been prepared.

Hypothetical example illustrating the water quality trading situation in a TMDL basin:

Municipal wastewater treatment facility #1 (WWTF #1) wants to obtain 1000 pounds of phosphorus credits per year through water quality trading of \$45 per pound per year or \$45,000 per year. WWTF #1 has at least one other option at less risk available at about \$50 per pound through the multi-discharger variance authorized under S. 283.16(8), Wis. Stats. So trading must be a lower cost option. The central clearinghouse manager looks at WWTF #1's request and determines the clearinghouse will need to obtain at least 1,250 pounds of credit per year to meet WWTF #1's needs. The clearinghouse must provide the 1,000 pounds of credit and account for the minimum trade ratio of 1.2:1 or 1,200 pound. In addition, the clearinghouse needs to credit a reserve for two reasons: sellers default and reserve for WWTF #1 to purchase more, if needed. This reserve is required in the bill. This example uses a 5% reserve.¹

The central clearinghouse has -- with assistance -- found six farms able and willing to sell credits. Each of these farms is already meeting the state nonpoint source phosphorus index performance standard. To keep this example simple, each farm is presumed to be the same: 420 acres and able to generate 0.5 pounds per acre per year phosphorus credits averaged over a crop rotation; each farm generating 210 pounds credit per year.² To further simplify this example, the same number of credits are generated each year. The six farms then generate 1,260 pounds of credits per year, sufficient to meet WWTF #1 needs and the needs of a small reserve.

There are many costs associated with generating the credits and processing the transactions. Presume the farmer uses a lower cost management practice to generate most of the credits. For each farm, the farmer wants to be paid \$25 per

¹ A 5% reserve is very small, but included to illustrate the concept.

² As part of the Wisconsin River TMDLs report, published by the Department of Natural Resources, the current average farm phosphorus index (PI) values by watershed are between 2 and 4 pounds; much lower than the state performance value of 6. To achieve the TMDLs' load allocation for nonpoint sources, about a 65% reduction is required. According to DNR guidance, credits may only be generated after equivalent of the load reduction is achieved. Using a current value of 3, a 65% reduction would result in a phosphorus index value of 1. A 0.5 pound per acre reduction decreases the PI value from 1.0 to 0.5 in this example.

pound of phosphorus saved per year, plus being reimbursed for grassed waterways needed to comply. For the \$25 per pound per year -- or \$5,250 in taxable income per year -- the farmer must purchase and plant the seed, for example, and incur other costs. For this annual payment, there is not much profit or incentive for the farmer. Also, presume the grassed waterways cost \$5,000 and are a one-time cost that is spread over (amortized) the five-year length of the contract, or \$1,000 per year. The payment to the farmer for the credits averages \$6,250 yearly on the books of the central clearinghouse.

Installing conservation practices is only one component of the total costs of a project. Trained technical staff need to develop and use information from a farm nutrient management plan covering three to five previous years and five years into the future, and calculate the potential credits. Technical staff with proper training and technical certification determine the need for the grassed waterway, design the grassed waterway, and certify its proper installation. The cost is difficult to estimate, so a placeholder of \$2,520 is used in this analysis: \$420 per year for each farm. Each farm must be inspected each year; an estimate of \$100 per inspection per farm is used in the analysis for a total of \$520 per farm per year.

In summary, the cost per farm per year to generate and inspect the credits is \$6,770. With six farms, the cost is \$40,620.

This leaves a difference of \$4,380 from WWTF #1's order ($\$45,000 - \$40,620 = \$4,380$) for the central clearinghouse to pay staff to negotiate and prepare the trade agreement, file appropriate paper, develop and maintain the data management system, and file the appropriate check lists with DNR. In addition to direct costs, the central clearinghouse has typical overhead costs such as rent, phones, vehicles, and a need to generate reasonable profit. With a large volume of trades, this system might work. With a small volume, it may not.

In Summary, Wisconsin's Green Fire's analysis suggests that while the concept of a central clearinghouse for selling water pollution credits has value, the economics of trading schemes may be marginal given the current market limitations on the value of credits and the transaction costs that will need to be incurred. The limited oversight of the clearinghouse operator may also lead to inconsistent or inadequate performance.

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