



February 28, 2018

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RE: 1712Pot1–Comments on Development of a Water Quality Credit Trading Program for Louisiana

Dear Ms. Vincent:

The Gulf Restoration (GRN) respectfully submits the following comments that were solicited in 1712Pot1–Notice of Stakeholder Meeting and Request of Comments on Development of a Water Quality Credit Trading Program for Louisiana. We hope these comments will be considered, in addition to all comments and discussion that occurred at the Stakeholder Meeting held on January 23, 2018. We look forward to a written response and further conversations and stakeholder meetings.

Why is a water quality trading program needed?

The Draft Water Quality Trading Guidance (Draft Guidance) has no statement of need or who would benefit from water quality trading. Have point sources stated that they cannot reach numeric limits in their permits? If so, which dischargers and what pollutants?

It was stated at the January 23, 2018 stakeholder meeting that a purpose of trading would be to achieve reductions in non-point pollution. However, as the Draft Guidance is currently written, reductions in non-point pollution would be offset by increases in point source pollution. This does not result in a net benefit. Trading, as presented by LDEQ, may result in non-point pollution reduction, but would not necessarily result in a net reduction of pollution.

The plan should be addressed toward specific problems rather than implemented as a paper exercise. This is especially true since water quality trading can create its own host of issues including increased pollution through 'phantom credits,' creation of hot-spots, increased agency costs, and more difficult enforcement of permits.

We request a specific rationale as to why Louisiana is embarking on the development of a water quality trading program. Who is requesting it? How would it benefit specific waters? Is the cost in staff time and increased regulatory investment a good use of LDEQ limited resources?

A Louisiana water quality trading program should explicitly promote pollution reduction

The essence of any water quality trading program should be to create environmental benefit in the form of pollutant reduction. LDEQ's Draft Guidance contemplates trading under four scenarios:

- To maintain water quality in waters that currently meet or exceed water quality standards, provided the beneficial uses are protected. For example, trading may be used to offset new or increased discharges of pollutants to avoid degradation of high quality waters;
- To offset new or expanding point source discharges to a CWA-impaired water body without an EPA-approved TMDL. Point sources must ensure their discharge does not further impair the water body by the specific pollutant consistent with the requirements of 40 C.F.R. 122.4(i);
- To offset existing pollutant loadings to a CWA-impaired water body with an EPA-approved TMDL or similar watershed analysis needed to support trades; and
- To offset existing pollutant loadings prior to TMDL approval where a trade can provide documented environmental benefits, and the watershed provides enough context on loading to ensure trades do not cause or contribute to violations of water quality standards.

The Draft Guidance, by its literal terms, is designed to *offset* pollution rather than reduce it. The Draft does not contain any statement of intent or purpose with which the plan must comport. The plan should contain a statement that identifies the goal of the program as *pollution reduction* rather than just offsetting pollution from one source to another.

Some proposed pollutants may be inappropriate

The Draft Guidance misstates that nutrients, BOD, sediment, and temperature are all consistent with the 2003 EPA Trading Policy. The EPA Trading Policy states:

EPA supports trading that involves nutrients (e.g., total phosphorus and total nitrogen) or sediment loads...EPA believes that [other types of] trades *may pose a higher level of risk and should receive a higher level of scrutiny to ensure they are consistent with water quality standards...*¹ [emphasis added]

This guidance does not include temperature, and LDEQ has not offered justification as to why this should be allowed.

Regarding BOD, EPA further states that:

EPA also supports cross-pollutant trading for oxygen-related pollutants where adequate information exists to establish and correlate impacts on water quality.²

While nutrients and BOD can have some correlation, they are not equal. While BOD may be acceptable as a unit for trade, LDEQ must justify this correlation. This is particularly difficult if you are attempting to equate the two. For example, how many pounds of BOD are equivalent to a pound of phosphate, orthophosphate, nitrate, total nitrogen, or the myriad other species of nutrients?

Use of BOD and/or DO to control nutrient pollution is potentially scientifically invalid, as dissolved oxygen concentrations are often strongly influenced by weather and other factors besides nutrient pollution. In addition, impairment from nutrient pollution commonly occurs without high BOD or hypoxia.

LDEQ has not justified trading temperature or BOD trading in the Draft Guidance. If these are to be traded, a robust justification must be made.

Funding a trading program

Trading programs are a significant cost to the agency. Implementing a plan puts more requirements on dischargers, new

¹ EPA, Office of Water, *Water Quality Trading Policy*, 2003.

² *Id.*

requirements on credit-sellers, and increases workload on inspectors. In a time of reduced resources for LDEQ and most Louisiana agencies, how will LDEQ pay to maintain a robust trading program?

One common economic barrier in water quality trading programs is related to the high transaction costs associated with research, negotiations, monitoring and enforcement, and finding trading partners^{3,4}. Because nonpoint sources are generally widely spread throughout watersheds, point sources may have difficulty locating non-point sources, increasing transaction costs and limiting trading with nonpoint sources.⁵ Nonpoint sources face similar costs to locate suitable buyers.⁶

The Draft Guidance calls for the use of a “Credit Ledger.” The Credit Ledger, as proposed, could serve several useful purposes; however, more detail about how the Credit Ledger will function is needed. In particular, while “LDEQ is responsible for maintaining the credit ledger for tracking trades and for the day-to-day oversight of trading. . . LDEQ may designate another entity to assist with those tasks.” Whether this entity is another governmental entity or a private entity is unclear. Similarly, while the Credit Ledger will “make[] trading information readily available to regulatory agencies and the public,” exactly how this will be achieved is unclear. A trading program design should consider how a credit ledger/registry is maintained and what form it takes.⁷

The LDEQ plan should specifically identify how the Credit Ledger will be implemented. Similarly, all users involved in the trading program should be educated on the use of the Credit Ledger as part of the program, including the public.

³ R. Stavins, *Market-based Environmental Policies: What Can We Learn from US Experience (and Related Research)?* Resources for the Future: Washington, DC, 2003.

⁴ Juliana Corrales, et. al, *Water Quality Trading Programs Towards Solving Environmental Pollution Problems*, *Irrigation and Drainage*, 62 (Sppl. 2):72-92, 2013.

⁵ *Id.*

⁶ *Id.*

⁷ National Network on Water Quality Trading, *Building a Water Quality Trading Program: Options and Considerations*, version1.0, 2015

Numeric criteria or permit limitations must be established to facilitate trading

If trading is to be effective, there needs to be a baseline of how much pollution is allowed in a waterbody. Three pollutants proposed for trading: nitrogen, phosphorus, and total suspended solids (TSS) do not even have numeric criteria.

While there never seemed to be an effort to establish TSS criteria, the nutrient criteria development program in LDEQ has been languishing for over a decade. Even though a mutually agreed-upon nutrient criteria development plan was established between LDEQ and EPA in 2006, no numeric criteria have even been proposed. A search on LDEQ's website for 'nutrient criteria' only brings up nutrient criteria development plans for Florida and Texas. It seems that Louisiana's is not on the LDEQ public website anymore.

Numeric criteria, especially for nitrogen and phosphorus should be established. If there are no criteria, and no nitrogen or phosphorus limits in permits, why would any point source want to initiate a trade?

'Phantom Credits' should be explicitly disallowed

The Draft Guidance does not address the issue of 'phantom credits.' Phantom credits refer to the ability of a point source to generate credits for sale from excess unused portions of the permitted effluent limit.⁸ This issue has been controversial in other states. Section 3.2 of the Draft Guidance discusses Project Eligibility to Generate Credits, but is very ambiguous in regard to what types of reductions are eligible to generate credits. LDEQ is given too much discretion to grant credits.

A useful change might be to change credit eligibility to require changes or modifications to facilities or to require a "net environmental benefit."⁹ For example, the ACWA/Willamette Partnership Water Quality Trading Toolkit uses the following language to describe one type of credit generating activity: "Modification of facility operations or use of wastewater treatment technologies producing a net environmental benefit are

⁸ ACWA and Willamette Partnership, *The Water Quality Trading Toolkit*, Version 1.0, 2016.

⁹ *Id.*

eligible for point source credit generation...”¹⁰ Similar language should be considered by LDEQ in any plan.

The idea of phantom credits can render a trading program worse than useless, as it could increase pollution. Facilities should not be allowed to trade credits just because they currently discharge below their permit limit.

Trading must be in the same watershed.

For a water quality trading program to achieve tangible benefits, trading must be conducted within a single watershed. Trading across watersheds creates situations where a pollutant discharge in one watershed is not met with a corresponding pollutant reduction; rather, that reduction takes place in an independent watershed, undermining environmental benefits. The Draft Guidance explains that “Watershed Trading Frameworks” are to be considered in issuing LPDES permits for point source permittees under the trading program. However, the Draft Guidance also states “developing a watershed trading framework is not necessary to participate in Louisiana’s WQT Program.” “Where a watershed trading framework exists, a permittee’s WQT plan will incorporate the terms of the watershed trading framework.” Thus, the Draft Guidance appears to only consider watershed scales where a watershed trading framework already exists. Ideally, all permits issued to users participating in the water quality trading program must consider watershed effects.

Trading outside of single watersheds can lead to “hot spots” of pollution. In addition, consideration of watershed effects is critical for determining appropriate trading ratios between users.¹¹

LDEQ should only allow intra-watershed transfers, and either watershed trading frameworks must be designed (under the current proposal), or the trading program should at the very least incorporate consideration of watershed dynamics on its own.

¹⁰ *Id.*

¹¹ Corrales, 2013

Watershed size

The Draft Guidance does not adequately consider watershed effects—a topic covered previously in these comments. However, any addition to the plan regarding watersheds must take into account watershed size. The Draft Guidance does not address watershed size—an important consideration in the efficacy of any plan, as well as for market driver consideration. Larger watersheds create greater opportunities for trades to occur and create a potentially more heterogeneous and robust cost structure of potential participants.¹² For example, in the Susquehanna Basin, covered under the Chesapeake Bay Trading Program, there are 183 potential traders.¹³ In contrast, smaller watersheds will have fewer users, and “are more suited to bilateral trades or sole-source offsets . . .”¹⁴

While larger watershed size might create more trading opportunities, larger watersheds are necessarily composed of smaller watersheds, each with potentially different water quality standards, communities, and assimilation abilities. Thus, trading that occurs within a broadly-defined watershed, while technically intra-watershed, are actually inter-watershed when viewed on a smaller scale. Inter-watershed trades on small scales such as this creates concerns over hot-spot creation, and undermines the utility of a watershed approach.

Some states programs, such as Wisconsin, use a HUC-12 watershed as a basis of trades. Anything larger than this would almost inevitably lead to trading better water quality in one waterbody for decreased water quality in another.

Watershed size must be geographically small in order to ensure all waters are protected. Sizes beyond HUC-12 and maybe even that size may result in simply ‘moving’ pollution as opposed to improving water quality.

¹² Suzie Greenhalgh and Mindy Selman, *Comparing Water Quality Trading Programs: What Lessons Are There To Learn?* Journal of Regional Analysis & Policy, 42(2): 104-125, 2012

¹³ *Id.*

¹⁴ *Id.*

Locations of trades within a watershed

For trades to be effective, the reduction must occur upstream of the increased pollution. If the reduction occurs downstream, you risk a pollution hot-spot between the discharge and reduction. The Draft Guidance states that "Trading Areas...in general will be upstream of a point of concern." However, the "point of concern" is defined as the Gulf of Mexico. So, in essence all reductions in Louisiana, wherever they may be, are upstream of the point of concern. This is not appropriate.

It seems the definition of point of concern should be the location of increased discharge, or the pollution source that is being offset by reductions upstream.

We obviously think protecting the Gulf is vital, but it is not the only issue when it comes to pollution in Louisiana's waters.

Temporal issues with point to non-point trades.

There are some inherent temporal considerations that have to be dealt with when it comes to water quality trading. Specifically, most traditional point sources (such as sewage treatment plants and industrial facilities) discharge relatively continuously, whether it rains or not. If they do discharge intermittently, it has more to do with when they are operating, not weather. Non-point pollution is almost exclusively only discharged during weather events.

So, how do you go about increasing a continuous discharge by buying credits that are inherently episodic? If not done carefully and with a large margin of safety, this could result in pollution hot-spots at the point-source during dry weather events.

LDEQ must explicitly and scientifically justify how water quality will be protected and improved if a point source is trading with an intermittent non-point source.

Quantifying Non-Point Source Nutrient Reduction

In any water quality trading system, proper functioning depends on the ability to effectively measure nutrient and pollutant loads from both point and non-point sources. Chapter 4 of the

Draft Guidance is entitled “Quantifying Pollutant Reductions for Water Quality Credits,” but does not provide much, if any, guidance on how these quantifications will specifically be done:

“Reductions for nonpoint sources can be measured directly, or they can be estimated using models and project efficiency rates. Different quantification methods may work better for different pollutant reduction projects in different watersheds. A WQT plan’s credit quantification approach needs to be approved by LDEQ, rely on the best available science, and be accurate, repeatable, sensitive, and transparent. For all quantification methods, a WQT plan should articulate potential sources of uncertainty and how those uncertainties will be managed and mitigated.”

The Draft Guidance displays lofty goals, but does not give users any specific direction toward which quantification approaches are appropriate and effective, and which ones are not. Related sections on LPDES Permits and Initial Project Review similarly provide little concrete guidance. Without advance guidance from LDEQ about which methods will be approved, what is considered the “best available science,” and other criteria, users will be taking shots in the dark and may depend on a variety of inconsistent approaches to quantify reductions.

This is especially an issue because quantifying non-point source reduction is particularly difficult.¹⁵ Programs must identify the approach they will use to determine the non-point source nutrient losses.¹⁶

Several categories of quantification have been used in trading programs, and are available as alternatives for LDEQ to specifically endorse or to build into more concrete guidelines. However, it is important to be aware of the limitations, assumptions, and degree of uncertainty in the various modeling tools.¹⁷

General models, which are the least accurate, use “predetermined, standardized...reduction values to estimate the...benefit from implementing a practice regardless of location or other site-specific characteristics.”¹⁸ These models estimate pollution

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ Corrales, 2013

¹⁸ Greenhalgh, 2012

reduction based on literature or modeling. Some programs that use or have used these methods include the Red Cedar River Nutrient Trading Pilot Program, the South Nation Total Phosphorous Management Program, and the Virginia Water Quality Trading Program.¹⁹ The upside of this approach is that it provides certainty for non-point emitters because they know exactly how much credit they will get for making a certain change. The downside of this approach is that it “reduces the ability to capitalize on the biophysical heterogeneity within a watershed, potentially reducing trading opportunities.”²⁰ Accuracy of estimates is also a problem with these general models.

Site-specific type models are moderately accurate, and take into account site-specific variables such as soil type, slope, and fertilizer application rate to estimate pollution reductions from various practices.²¹ Site-specific methods have been used in programs such as the Pennsylvania Nutrient Credit Trading Program, the Great Miami River Watershed Water Quality Credit Trading Program, the Lake Taupo (NZ) Nitrogen Trading Program, and the Michigan Water Quality Trading Rules.²² Site-specific models offer more accuracy than general models, but while they are generally cheaper than direct monitoring, they are less accurate.

Direct Monitoring is the most accurate and the most expensive approach. Several trading programs in Colorado, including the Chatfield Reservoir Program, require regulated point sources to directly monitor the nutrient output from the non-point sources with which they are trading.²³

Having clearly defined quantification methods for non-point sources is critical in order to provide tangible environmental benefits. Non-point users and point source users alike must be able to effectively determine the reductions they must make, or the additional pollutants they must charge. For example, how many acres of land change equates to 1,000 lbs of nitrogen? LDEQ should give more explicit guidance regarding which methods of quantification are acceptable.

¹⁹ *Id.*

²⁰ *Id.*

²¹ *Id.*

²² *Id.*

²³ Greenhalgh, 2012

Environmental justice and equity must be substantively addressed

The Draft Guidance's entire statement on justice and equality is one sentence long:

To alleviate environmental justice concerns, LDEQ's goal is that no segment of the population, regardless of race, color, national origin, or income, as a result of LDEQ policies, programs, or activities, suffers disproportionately from adverse human health or environmental effects.

This is simply inadequate. Any trading program must explicitly state *how* the above statement will be accomplished. There were concerns at the stakeholder meeting about how this could impact under-represented or at risk communities.

Dispute Resolution

The Draft Guidance does not explain how disputes between agencies or governmental entities regarding pollution trading would be handled. The draft states:

"Trading in Louisiana is authorized through a permit and/or agreement; in cases of nonpoint to point source trading, *a written agreement between LDEQ and the appropriate governmental entity with jurisdiction over the nonpoint source is required*. Written agreement may also be required between the permitted point source and the nonpoint source(s)."

Differences in opinion are bound to occur between project developers, program administrators, and/or regulatory agencies. Often, several governmental entities may have some sort of jurisdiction over point and non-point sources, including the Department of Agriculture and Forestry, the Department of Wildlife and Fisheries, parish governments, and local governments. The Draft Guidance should include a method for resolving disputes between governmental entities and private parties.

Public participation and information access

Instituting a trading program introduces complexity into the permitting process. When a discharger trades with a landowner, how much information will be shared with the public?

According to *Building a Water Quality Trading Program*, “[S]tates should be clear as to when and where formal public review and comment are or are not provided.”²⁴ The LDEQ Draft Guidance states only that

Decisions regarding water quality trades will be made on a case-by-case basis and will be guided by the CWA and applicable federal regulations and state laws, taking into account comments and information presented at that time by interested persons regarding the appropriateness of applying these recommendations to the particular situation.

The Draft Guidance does not mention public comment at any other juncture. LDEQ should identify exactly how public comment is conducted.

Moving forward

GRN feels that there is a long way for LDEQ to go to establish a water quality trading program. Going back to the first comment, we don’t think that LDEQ has even justified the need for a trading program. We would argue the establishment of numeric water quality criteria for pollutants, such as nitrogen and phosphorus would be more worthwhile and could help determine if a trading program is needed.

We encourage LDEQ to determine the real need for such a program. Then, if the need exists, establish multiple meetings to cover topics including the credit market, banking credits, watershed size, temporal issues, quantifying pollution reductions, incentivizing reductions, public access and participation, pollution hot-spots, etc.

We look forward to working with LDEQ on this.

²⁴ National Network on Water Quality Trading, *Building a Water Quality Trading Program: Options and Considerations*, version1.0, 2015

Respectfully submitted,



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