



HOWARD MARKLEIN

STATE SENATOR • 17TH SENATE DISTRICT

Capitol Update

By Senator Howard Marklein

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Phosphorus: Regulating Ourselves into the Poorhouse

In 2008, the federal government initiated the Gulf Hypoxia Action Plan (Action Plan) to improve the conditions of the Mississippi River Basin and the Northern Gulf of Mexico by addressing excess nitrogen and phosphorus loads. There are 30 states, including Wisconsin, that were approached with this plan because of our relationship with the Mississippi River.

In order to broadly manage the amount of phosphorus and nitrogen reaching the Gulf, the federal Environmental Protection Agency (EPA) initiated guidelines and recommendations to states including encouragement to adopt numeric criteria for maximum phosphorus and nitrogen levels.

In 2010, the Wisconsin Natural Resources Board, the governing board of the Department Natural Resources (DNR), *voluntarily* signed up to participate in the Action Plan and set arbitrary numeric standards for phosphorus limits in our state's waterways. The board did not sign up to monitor nitrogen. The DNR Board set the phosphorus discharge standard at .075 parts per million (ppm) or mg/liter. This threshold was not based on any science or cost/benefit analysis. The standard is the lowest in the country.

While the intent of this action was pragmatic, the real-world application of arbitrary numeric limitations has placed significant strain on communities throughout the state, including many in the 17th Senate District. The point sources of phosphorus are primarily wastewater treatment facilities. These are the only source that can be easily regulated by government. **As such, a very large problem is on the shoulders of a small part of the cause.**

As a result of the wide presence of phosphorus, this nutrient enters our waterways from natural, nonpoint and point sources. Natural sources include lake-bottom sediment and other natural decomposition. Nonpoint sources include general run-off, farm fields, feedlots, streets and parking lots. Point sources include municipal and industrial wastewater treatment plants that release liquid effluent to lakes and rivers or spread sludge on fields.

In analyzing the three sources of phosphorus, it is clear to see that the only sources that are easily monitored, measured and regulated are point sources. This is where phosphorus regulation becomes a burden for many residents of the 17th Senate District and throughout the state.

The point sources in our communities are our municipal wastewater treatment facilities. These facilities are funded by ratepayers.

Municipal wastewater facilities are issued five-year permits by the DNR. Since 2011, new permits include new phosphorus requirements and a timeline to reach specific levels of phosphorus in order for our state to comply with the federal Clean Water Act, which we *volunteered* to do in 2010.

As the first round of permits comes to a close, many of our municipalities are facing significant challenges to meet their requirements. The Village of Plain and the Village of Benton are at the point where they are adding a chemical - ferric chloride – to meet their goals. Plain is spending \$20,000 per year on the chemical fix while the Village of Benton is spending \$100,000 per year!

The Village of Plain has an interim limit of 3.6 ppm until 2020 and then they will need to meet the .075 ppm standard. According to Nick Ruhland, the Village's Director of Public Works, the village would have to significantly upgrade and renovate their wastewater treatment plant in order to accomplish this standard. The cost for this, according to Ruhland, would be astronomical and the burden on ratepayers would be unreasonable. Plain is a village of only 782 people.

Sewer rates in Plain have already increased 10% per year since they signed their last permit in 2012. The minimum service charge for Village customers is currently \$35.75 for up to 5000 gallons per quarter and \$143.00 for non-Village customers per quarter. Adding a major renovation to the plant would multiply these rates significantly.

The Village of Benton is facing similar issues. Ryan Carver, the Benton Director of Public Works, said that user rates are likely to double in order for the village to comply with phosphorus standards on their current permit. The average household in Benton currently pays approximately \$40.04 per month for sewer fees.

The cheapest option for Benton to meet their standard is the chemical additive method of water treatment, at the 20 year cost of \$1.97 million. Annually, the Village will spend \$98,688 to remove only 800 lbs of phosphorus per year. The chemical option will raise the average fee for ratepayers to at least \$75.05 per month.

Looking ahead, in order to reach the .075 ppm standard, the Village estimates that they will also have to invest \$950,000 to upgrade their wastewater treatment facility in order to apply the chemical fix. Carver, and village leaders, would rather not raise fees and add a chemical to their water in order to meet standards that they feel are unreasonable, and frankly, not their fault. The village feels that there are a lot of other contributing factors to the phosphorus they are trying to mitigate.

The Village of Benton is the first point source on the Galena/Fever River. There are 72 miles of watershed above the point source where the village discharges their water. The Village measures their discharge at less than 800 lbs of phosphorus annually. The DNR estimates that there are 116,000 lbs of phosphorus in the river.

The expense in Benton is shared by the 973 residents who live there. This unreasonable burden is nearly impossible for their small village to bear. But they are not alone.

The 17th Senate District includes 94 industrial and municipal wastewater discharges. According to the DNR, 85 of these facilities have potentially restrictive phosphorus limits that may warrant a facility upgrade; 9 facilities do not have restrictive phosphorus limitations or are already complying with their limits.

As much as we would like to, we cannot go back to 2010 and un-volunteer for these phosphorus standards. Non-compliance would impact significant federal dollars to our state and de-delegate Wisconsin so that the EPA would once again enforce regulations within our state. We don't want to do that.

In response to this terrible burden, the Wisconsin legislature recently passed legislation that enabled the DNR to seek approval from the EPA to offer multi-discharger and individual variances to the numeric standards for individual municipalities. The state is currently waiting to see if the EPA will grant this request.

Current water treatment technology to achieve the very low, arbitrary standards we *voluntarily* set in 2010 is very expensive and unproven. By allowing our municipalities time to meet the standards, the EPA will enable Wisconsin to take advantage of new technology, study untested techniques and seek lower-cost alternatives.

The variances would also allow a permittee to undertake some activity to reduce phosphorus contributions from other sources in their watershed. They may be able to do this through water trading or adaptive management practices.

Water quality trading provides point sources with the flexibility to purchase pollutant reductions from other sources in their watershed to offset their point source load so that they will comply with their own permit requirements.

Adaptive management practices allows point and nonpoint sources (e.g. agricultural producers, storm water utilities, developers) to work together to improve water quality in those waters not meeting phosphorus standards. This option is time and people intensive and requires cooperation among a wide variety of entities.

While some villages, like Plain, would prefer to do water trading in order to meet their standards, other villages, like Benton, would prefer to pursue adaptive management. Either way, municipalities throughout the 17th Senate District, would greatly benefit from the ability to seek a variance on the stringent standards our state *volunteered* to adopt several years ago.

Like most municipalities in Wisconsin, both Benton and Plain recognize their role in protecting water quality, but they also know that the responsibility is much broader than the small shoulders of their village wastewater treatment plant. It is my hope that the EPA will approve the DNR's request so that our state can offer municipalities the time, technology and flexibility to meet standards while working with their nonpoint neighbors to improve phosphorus levels overall.

For more information and to connect with me, visit my website <http://legis.wisconsin.gov/senate/17/marklein> and subscribe to my weekly E-Update by sending an email to Sen.Marklein@legis.wisconsin.gov. Do not hesitate to call 800-978-8008 if you have input, ideas or need assistance with any state-related matters.

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