



GARY TAUCHEN

State Representative • 6th Assembly District

(608) 266-3097
FAX (608) 282-3606
Toll-Free (888) 529-0006
Rep.Tauchen@legis.wi.gov

P.O. Box 8953
Madison, WI 53708-8953

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To: The Senate Committee on Agriculture, Small Business and Tourism

The Assembly Committee on Agriculture

From: Rep. Gary Tauchen

Re: 2017 Senate Bill 76 / 2017 Assembly Bill 105

Chairmen Nass and Nerison, members of the committees, thank you for holding this joint public hearing today. Senate Bill 76 and Assembly Bill 105 is a narrowly constructed bill that addresses the key issue of repair, reconstruction, or replacement of an existing high capacity well under the DNR approved parameters.

This bill does the following:

- I. **Certainty for High Cap Wells (HCW)** SB 76 / AB 105 allows the repair, reconstruction, or replacement of existing, DNR-approved high capacity wells. Owners would be allowed to replace a failing well, as long as it is within a 75 feet radius of the original HCW and substantially the same depth as the original well.
- II. **Environmental Compliance & Well Construction Standards:** All repaired and reconstructed HCWs must comply with environmental, well construction, and other standards. SB 76 / AB 105 ensures that highest well construction code standards will applied to any reconstructed, repaired and replaced wells.
- III. **Maintains DNR Authority:** SB 76 / AB 105 makes it clear that the transferred, reconstructed, repaired, or replaced HCW must comply with the original requirements set by the DNR approved permit.
- IV. **Mandates a DNR Hydrologic Study:** This bill requires the DNR to evaluate and model the hydrology of Pleasant Lake and other waterbodies within the identified "Central Sands" watersheds. DNR *must* evaluate cumulative impacts as a part of this study. DNR must make recommendations to the Legislature about any special regulatory or other measures that should be applied to groundwater withdrawals at the conclusion of the study.
- V. **Requires Water Meters in Study Areas:** SB 76 / AB 105 requires owners of any new, reconstructed, or replaced HCW that is located in a study area to install a water usage meter and provide that data on water usage to the DNR. Under current law, all high capacity well owners must annually provide DNR with their monthly water use. However, some calculate their water use based on the well's pumping capacity and the amount of electricity used. This bill will require meters on wells in the study areas.
- VI. **DNR Authority and Public Trust Doctrine:** SB 76 / AB 105 does not affect the current statutory authority granted to DNR to pursue a an order or a legal case in order to protect the state's

Members of the Senate Committee on Labor and Regulatory Reform and Members of the Assembly Agricultural Committee:

My name is George Louthain. I live on Johns Lake in Waushara County and I am here today to speak in opposition to SB76/AB105. When we bought our place it was our intention to knock down the old cabin and build a new house on our beautiful lake. There was a big mound in the backyard in the area of where we wanted to place our new home. As the builder, representative of County Zoning and I were talking about required setbacks we were all wondering what could be done with the big mound. We decided to study this further and had a representative of the Archeology Department of the State Historical Society come out to assess the mound. It was determined it WAS an Indian burial ground and we weren't able to build or disrupt the ground within five feet of this. We complied and got a variance from the County because now we couldn't meet the required setback from the center of the road.

Because we were granted the variance we were required to complete a re-vegetation project. We have 100' of lakeshore, because of the re-vegetation we were only allowed a 30' "viewing corridor". The rest needed to be re-vegetated. My point is we preserved the Indian burial ground, complied with the county and DNR in spending over \$3,000 to plant the required grasses, shrubs and trees for the re-vegetation area and are doing what we can to preserve the integrity of our beautiful lake.

I have heard of the area lakes that have lost water levels. I drove around and saw Pleasant Lake, Huron Lake, Fish Lake and Pine Lake in Hancock and Long Lake near Plainfield. I have great compassion for the homeowners on these lakes. Many of them are 10' or more below what had been the normal water level for many years. Their piers are now on dry land. There are some lakes where you aren't even able to launch a boat anymore because of the low water levels.

In Waushara County the lake front property is 3% of the taxable land, but we pay 30% of the property taxes in the county. It is important that there are controls put on the ever increasing number of high capacity wells that are each pumping 100,000 gallons per day in the Central Sands area. One of the shortcomings of this bill is that it would make high capacity well permits permanent. By permanently permitting high capacity wells the shortage of water in residential wells, lakes and rivers will continue to be depleted.

THIS IS
NOT a good bill. It does nothing to preserve our groundwater, which belongs
to ALL of us. There needs to be a bill that allows adequate water for agricultural use
but also preserves the integrity of our beautiful lakes and rivers. If the water level
continues to decrease so will property values and property taxes.

Please do not allow SB76/AB105 to come out of committee without provisions to
protect our valuable ground water.

Thank you for your time and attention.

Testimony of Tamas Houlihan – WPVGA
Senate Committee on Labor and Regulatory Reform & Assembly Committee on Agriculture
2017 Senate Bill 76 / Assembly Bill 105 – March 15, 2017

Chairman Nerison and Chairman Nass, and members of the Committees, thank you for allowing me to testify today in support of SB 76 and AB 105. My name is Tamas Houlihan and I am the executive director of the Wisconsin Potato & Vegetable Growers Association.

The WPVGA represents over 400 members. In terms of food production, Wisconsin ranks first in the nation in the production of green beans for processing, beets for canning and cabbage for kraut. We rank second in the production of carrots and peas for processing and third in the production of potatoes, sweet corn and cucumbers for pickles; and are a top-ten producer of onions. Specialty crop production and processing account for \$6.4 billion in annual economic activity and nearly 35,000 Wisconsin jobs.

I am here today to ask you to **support SB 76 / AB 105 because they will provide a clear framework** for the Wisconsin potato and vegetable industry with regard to the repair, replacement, reconstruction and transfer of already approved high capacity wells.

Background

Wisconsin's current statutory high capacity well approval process is found in section 281.34 of the Wisconsin Statutes. As you know, this statutory process was crippled by a 2011 decision by the Wisconsin Supreme Court known as the *Lake Beulah* decision and then largely restored in June of 2016 after the Wisconsin Attorney General issued an opinion implementing Act 21 with regard to high capacity wells. I won't go into the details of the decision or the opinion, but the bottom line is that we still need the legislature to act. The DNR is currently acting under an attorney general's opinion that could change depending on administrative or judicial factors. We are asking you to legislate and establish a clear process for the maintenance and repair of *existing* high capacity wells so farmers can rely on their well approvals.

Senate Bill 76 / Assembly Bill 105

SB 76 / AB 105 addresses DNR's authority related to existing high capacity wells. With the exception of the metering requirement (described later), the wells affected by this legislation are existing wells that have already been DNR-approved, but are in need of **repair or replacement**. New DNR approval of these existing and previously approved wells would be redundant.

These are not new wells with new pumping capacities. These wells do not need repair or replacement because additional water is needed. Rather, they have had mechanical or structural failures that need to be addressed. In some cases, the wells simply have reached a point of disrepair where they must be re-drilled. This is a "replacement well." It's important to note that a grower can lose a crop in 24 hours if a well fails and cannot be quickly repaired or replaced.

Under SB 76 / AB 105, these **repaired or replaced wells** would not be allowed to pump any more water than had originally been approved by the DNR. Replacement wells would have to be drilled within 75 feet of the original well, cannot be moved into a Groundwater Protection Area and the same standards and conditions that were imposed on the original well will be imposed on the repaired or replaced well. Thus, the net result of this legislation on new groundwater pumping is zero. There would be no

new wells in the ground and no pumping capacity increase allowed for the repaired or replaced wells. However, the most current building codes and well-drilling standards would be applied to the construction of a replacement well or reconstructed well.

The ability to **transfer existing wells** to the next generation of farmers, or other owners of farmland on which existing wells are located, is critical for farm planning and to protect property values and results in no additional groundwater pumping by those wells. That is, there is no new pumping of groundwater that results from a transfer of title to property that has an existing well. These are the same wells, previously approved by the DNR.

The transfer of ownership provisions in SB 76 / AB 105 are critical to protect our current investments that have been made in irrigated farmland. Wisconsin bankers and other farm credit associations have loaned money to farmers based, in part, on existing farm assets, which include existing wells. The value of this land essentially includes its value as irrigated land and without this legislation that land value is in jeopardy because we cannot rely on our approved high capacity wells as a farm asset. Restoring this is the certainty that Wisconsin farmers need.

Importantly, this legislation requires a **hydrologic study** of identified areas in Wisconsin that the authors would like DNR to evaluate to determine whether groundwater pumping is harming surface waters or groundwater levels. After the study is complete, the DNR must take the results out for public comment and then deliver a report to the legislature. We believe that these studies are critical to understanding the interaction between groundwater and surface water. We support this scientific work that will generate reliable data upon which any necessary future regulations can be developed.

Finally, as I mentioned earlier, this bill does require any well – including repaired, replaced, transferred or new wells – that is in a designated study area **to have a water meter and report water usage using that meter**. Importantly, all high capacity wells already report water usage to the DNR annually in March. These reports are submitted annually but contain monthly water usage amounts for each well. Some farmers calculate their actual water pumped using a formula based on the hourly pumping capacity of the well and the length of time the well was operated, rather than a meter that is placed directly on the well. This new requirement would require anyone in a study area to install a water meter when a well is repaired, replaced, transferred or a new well is drilled. This is expensive, but we believe that it will assist with the generation of more precise data in the study areas.

Criticisms - You may hear criticism of this legislation today, which I would like to briefly address.

Criticism #1 - This legislation gives well owners the permission to pump groundwater forever – with no limitations or periodic review. All high capacity well approvals are issued for a particular use (*i.e.*, irrigation, municipal, industrial, etc.) and do not permit any change in use. In other words, a farmer with an irrigation well cannot simply decide to bottle water or a municipal well cannot become an industrial well. Changes in use require a new DNR review and approval. Likewise, all well approvals are issued for a specific location, depth, pumping capacity and rate of flow. No high capacity well owner may change those without a DNR review and reissuance of an approval.

Establishing a review period for a high capacity well approval after 10 years or 20 years has no basis in environmental risk. It would be arbitrary and not be tied to actual or potential harm to navigable waters or groundwater that the well may be causing. Any trigger for a review of an approval issued for a HCW should be based in science and, without additional studies of how groundwater withdrawals in a certain

area of the state may be affecting surface waters or other groundwater uses, this trigger cannot be developed. In short, before a statute defining a trigger for existing well review can be written, more scientific study needs to be done.

Criticism #2 - This bill creates a study area but doesn't allow DNR to assess cumulative impacts. The legislation actually does the opposite. SB 76 / AB 105, on page 6, lines 6-9 **requires** the DNR to include "a description of the extent to which the department has determined that cumulative groundwater withdrawals in all or part of the area cause, or are expected to cause, a significant reduction of a navigable stream's or navigable lake's rate of flow or water level below its average seasonal levels." This information is required to be included in the report that DNR sends to the legislature after the conclusion of the study.

Criticism #3 - DNR may only make "recommendations" to the legislature for future legislation. There is no enforcement mechanism for the DNR to change the permit conditions for wells in the study area. Yes, this is precisely what the role of any state agency is and should be. The DNR is an administrative agency. The role of the agency is to conduct studies, engage in analysis, gather public input and present all of that information to the legislature for their review and consideration. The legislature's role is to create statutes. The legislature cannot delegate the authority to write statutes to an administrative agency and nor should they. Our system of checks and balances depends on these roles being maintained.

Criticism #4 – We don't need more studies! We disagree. The WPVGA has been very involved in working on options for implementing solutions that will restore the flow to the Little Plover River using the model that was developed for that water body. Options being considered include infiltration of storm water into adjacent uplands; land spreading wastewater and cooling water from Del Monte Foods; working with local farmers to change their field use patterns to place crops that use less water closer to the river; restoration of wetlands in the headwaters of the river; and removing sedimentation and debris while lowering the riverbed to its historical profile. One critical lesson that we learned from the LPR study was that what was *thought* would be the only solution – shutting down high capacity wells – might not be the most effective solution and certainly not the one that would work the best for the farmers, municipalities and residents of this area. As such, the science developed specifically about the LPR has been invaluable. We do need that level of information in other areas of the state, as well.

Criticism #5 – This bill weakens DNR's current authority. Actually, this bill provides a more defined framework for DNR's authority. Right now, under the implementation of the Attorney General's opinion, the DNR does not have explicit guidance from the Legislature on how to regulate the repair and maintenance of existing wells. This bill, for example, will make it clear that a replacement well must be drilled to the substantially same depth, maintain the same rate of flow and must be drilled within 75 feet of the existing well. In addition, the replacement well cannot be re-drilled such that it moves into a GPA. These are all new statutory provisions that will more clearly define DNR's actions. As farmers, we are asking you to define these situations in the statutes.

Thank You

Thank you for allowing me to testify today. I urge you to support this high capacity well bill. I am happy to answer any questions.



Testimony Regarding SB 76 & AB 105 – March 15, 2017

My name is John Holevoet, and I am the director of government affairs for the Dairy Business Association. DBA represents dairy farmers, dairy processors and allied businesses throughout Wisconsin. Our farmer membership includes dairy farms of all sizes with herds ranging from fewer than 50 to more than 10,000 cows. Through a deep commitment to advocacy, collaboration and open conversations, DBA seeks to empower our membership to lead Wisconsin's dairy community forward. We want to see success at its fullest for America's Dairyland.

I want to thank Chairman Nass and Chairman Nerison as well the other members of their respective committees for the opportunity to speak on SB 76 and AB 105. These bills represent a compromise that tries to balance two worthwhile goals: promoting economic growth and protecting our shared natural resources. This is accomplished by protecting existing high-capacity well investments, while also calling for critical research to help address issues with some surface waters in parts of the Central Sands region.

These bills would allow farmers to repair, replace or reconstruct previously approved high-capacity wells without having to wait for a new environmental review by the Department of Natural Resources. This is important for farmers who may have a very short period of time to react to a well failure in order to water their animals and crops. This legislation would also allow farmers to transfer wells easily to future generations or new owners without having to put their investment at risk.

It is important to restore predictability to the regulatory environment for existing wells. The Wisconsin Supreme Court's 2011 *Lake Beulah* decision created confusion over how high-capacity wells should be regulated. These bills would eliminate that confusion as it relates to existing, previously permitted wells.

This legislation would not eliminate DNR authority over these wells. Instead, it merely reaffirms that existing wells should be covered by the system of regulation that was put in place in 2003. This system was created in a bipartisan fashion with input from agriculture and environmental advocacy groups. It passed the Legislature with overwhelming support and was signed into law by Gov. Jim Doyle. This system was designed with environmental stewardship in mind. Reaffirming our commitment to use this system, which served us well for years, makes sense. Additionally, any repairs or newly constructed wells covered by this legislation would have to comply with the state's highest well-construction standards.

I anticipate that your committees will hear from many lakefront homeowners about water level issues they are facing. They want to protect their investments in lakefront property, just like I want to protect farmers' investments in dairies or irrigated cropland. I understand their position and I sympathize. However, it is important to note that the problems they mention are not a statewide phenomenon. Indeed, this is a localized issue even within the Central Sands.

These bills wisely seek a targeted approach to dealing with this localized problem. That is the purpose of the study referenced in Section 4 of the bills. A small group of surface waters in the Central Sands have water levels that can fluctuate dramatically. It is important to keep in mind this is a longstanding problem, which typically predates high-capacity wells near those surface waters. Still, Section 4 provides for research to help to determine what role, if any, groundwater pumping plays in these problems and it establishes framework to move toward a lasting solution. The bill also contains a provision to provide short-term relief for people with property along troubled lakes.

Finally, please do not buy into the falsehood that these bills would somehow bring Western-style water rights to Wisconsin. As I have already note, this bill only reaffirms that existing high-capacity wells should be covered by existing law in 2003. This is nothing new. Wisconsin groundwater law is governed by the concept of reasonable use. We are all supposed to have access to shared groundwater resources, provided our use is reasonable and does not interfere with another person's reasonable use. This is the bedrock principle of water law in our state, and it will remain that way if these bills become law. If a high-capacity well is negatively impacting someone else's use, that person has a well-established legal remedy. This protects farmers as much as it does any other water user. Additionally, DNR retains its statutory authority under Wisconsin Statutes section 30.03(4) to protect navigable waters from any possible negative impacts caused by groundwater withdrawals.

I would urge you all to support SB 76 and AB 105. These bills return predictability to the regulation of existing high-capacity wells by reaffirming that the regulatory system put in place in 2003 is still valid. They also put our state on the path to fully understanding and addressing the localized problems facing some surface waters in the Central Sands region. Ultimately, this legislation will benefit the entire state.

Thank you for your time and attention to this matter. I would welcome any questions you might have.

Testimony Regarding SB 76 & AB 105 – March 15, 2017

Good morning, I am Cody Heller and I am the CEO of Heller Farm Inc. in Alma Center, WI. My Grandfather started our farm in 1979 with 40 cows and 40 acres. Now my brother and I currently farm on the same site where we milk 1500 cows, crop farm nearly 6000 acres and raise 2000 pigs as well. I am here today in support of these bills.

Water is vitally important to my family for multiple reasons. Besides our animal's needs, our family has a waterski lake built in the middle of one of our cornfields. We host national and world championship events on our farm every summer. Wisconsin's tradition of waterskiing is critical to our tourism industry. I come from a family of professional water-skiers and the protection of this natural resource is very near to my heart. As a board member on USA Waterski, we hold the water supply in the highest regards.

I believe that it is important to note and understand that Wisconsin is rich in water resources. We recognize that Wisconsin is one of the most water-rich places in the nation and on the globe. It has been proven that our aquifers are stable or even rising in some instances. This is even true in the Central Sands region. Furthermore, our annual ground water recharge is plentiful where I live, and in the Central Sands.

Currently, I am in my first year as the Government Affairs Chair on the Dairy Business Association and sit on the board of directors. In almost all parts of the state, the HCWs currently in use have no negative environmental impact. Our water gives us a competitive advantage nationally and internationally in the dairy industry and we shouldn't squander it due to overregulation.

My dairy doesn't have a HCW as most dairy farms don't. Actually, I have an overabundance of water in my part of Wisconsin as we are nestled between the Black and Trempealeau rivers. This is true of many other farms in my region of the state. HCWs in my area do not and are very unlikely to ever cause a negative impact on the environment.

At 32 years, old and I have at least 30 years left to work and live in the dairy industry. Thus, sustainability is important for our dairy and all farmers. To continue to be sustainable and feed the people of the world in 2050 we will need to continue to modify our practices of farming. We will need to be more efficient with our resources, and more efficient on the production of dairy products to meet these demands. Water is vital to our ability as dairymen to maintain this.

For us as an industry, sustainability doesn't just pertain to production, it means sustaining the environment. It is important to my family and to the dairy industry to ensure that we are environmentally sustainable and stewards of the environment. To do this, we have had to evolve as an industry. Farm sizes have become bigger and more consolidated to become more economical and sustainable. This has led to many great things; we are able to efficiently produce economically affordable dairy products for you and your family, we are able to safely and effectively handle our manure waste to protect our waterways, and most importantly created a market where Wisconsin Cheese is still the most winningest cheese in the country and in the world. HCWs are an integral part of this history and of our future.

Lastly, as I look at my beautiful daughter and with a second child on the way in the next couple of weeks. I can reflect on the legacy of the dairy industry and of our family's farm. I have personally benefitted from the hard work of my parents and I deeply want my children to benefit from my work, no different than anyone in this room wanting a better life for their children.

This reason alone is why the transfer provision in the bill is so important. We are currently in a succession transition from my parents to my brother and I, and the challenges to do this are immense. At a time when we are losing farms and farmers more than ever, we don't need any more hurdles that limit the ability to effectively and affordably transfer farms from generation to generation.

I urge you all to support SB 76 and AB 105. These bills return us to the regulation of existing high-capacity wells by reaffirming the regulatory system put in place in 2003. This system not only protects the environmental stability but the economic stability of Wisconsin's dairy farms.

This is a legacy I can proudly pass down to my children.

Thank you for your time. I welcome any questions you may have.

412E = Heavy
405 SPA = VIST

Chairman Nass & Merison

Thank you!

- 1 With Dan Robert Bensten personally person
- 2 Intro - let. from LLARD Marquette County
- 3 Specifically:
3 Our lake is 1765 Acre impoundment.
Meaning it is a stream that was dammed up
in 1894 - 123 m ago to provide power for
local industry
- 4 It has evolved into a lake community representing
\$38 mil in property ^{the taxes for which} that pays for school & community
service in Westford, Marquette County, WI. We have
7240 family units which falls to our 450 voters
5 Many of our voters are residents of other cities & counties.
around 50% of owners are from Westford area
6 we are present on Internet and Social media;
7 The sub source of water to our lake is from a
stream that runs 1.75 miles through wetlands.
The sub source of water for that stream is springs
at the head water of the stream. There are no
tributaries.
8 If the ground water is dropped, the springs
are in peril. If the springs stop, the lake drops
like a stone, Power for the dam on Westford will
stop
9 The ~~stream~~ ^{Class} feeding the lake is a AA Trout stream but
there are far fewer Trout fishermen than very concerned citizens
whose property values will plummet if the water stops because
the cap wells, unregulated drops our water table.

Most No Caps are located in C.S., that throughout
the state. 2500+ wells in 9 counties. 30% of water use is Ag
in our countries are no longer there, it's because the old water is ~~gone~~ gone. ^{is} the CS countries
Michigan has a way of regulating wells called Red, yellow green
light. It should be studied to see if applicable to less control

Maintain property values of land owners for those who have wells,
It does nothing to protect property values for non well owners

Ground water is not the property of the well owner any more than
the water in the Wisconsin river is the property of any one who
wants to suck it out. Look at the result of water curfew
in California had done

San Ring hood = +

We are currently seeing dropping water tables. Cannot
allow or encourage continuation of these declines.

100 k gal/day = H.C. well cap x 2400 = 2,400,000 gal/day
Midwest City = 800,000. If every person in midw used 20 gal/day,
they would use 20 x 800,000 = 16,000,000 gal



**TESTIMONY BEFORE THE JOINT HEARING OF THE ASSEMBLY COMMITTEE
ON AGRICULTURE AND THE SENATE COMMITTEE ON LABOR AND
REGULATORY REFORM IN SUPPORT OF ASSEMBLY BILL 105 AND SENATE
BILL 76**

Chairman Nerison, Chairman Nass and Committee Members:

Thank you for the opportunity to testify today. My name is Lucas Vebber and I am the General Counsel and Director of Environmental and Energy Policy at Wisconsin Manufacturers and Commerce (WMC). WMC is the state's chamber of commerce and manufacturers' association. With approximately 3,800 members, we are the largest business trade association in Wisconsin. WMC represents members from all over Wisconsin of all sizes and in every sector of the state's economy. I am here today to testify in support of Assembly Bill 105 and Senate Bill 76.

The legislation before you deals with high capacity wells, defined by statute as a well or series of wells on the same property that has or have a total pumping capacity of 100,000 gallons or more per day.¹ That comes out to roughly 70 gallons per minute. Capacity is all that matters for permitting purposes, if you could pump 100,000 gallons or more in a day, you are required to obtain a permit from the Wisconsin Department of Natural Resources (DNR). Most people associate a high capacity well with agricultural irrigation, however they are a vital component of a variety of industries in Wisconsin beyond just agriculture, including: food manufacturing, other manufacturing, construction, mining and processing, electric power generation, and tourism.

The legislation before you today would provide clarity to the current statutes and make certain that a high capacity well owner, who has already undergone an extensive permitting process, is free to maintain and repair their well without having to jump through any new regulatory hurdles – so long as they continue to abide by their permit terms. Additionally, with proper notice to DNR, this legislation would allow a high capacity well owner to (1) replace their well; (2) reconstruct their well; and (3) transfer ownership of the well when the land on which the well is located is sold. This legislation also provides the framework for DNR to begin a comprehensive study of the hydrology in the central sands region of the state.

The diverse array of industries that rely upon high capacity wells in their everyday operations employ tens of thousands of people throughout our state and make significant contributions to our state's economy. The businesses utilizing high capacity wells are located throughout Wisconsin. While it is likely that much of the focus today will be on agricultural uses in one geographic region of the state, this is a statewide issue that impacts a variety of businesses.

These businesses need to know that when the well that they are relying upon for their business operations goes down for one reason or another that they can immediately take action to repair it,

¹ See Wis. Stat. § 281.34 (am)(3).

or, if necessary, replace or reconstruct it to avoid as much down time as possible. These are important reforms that will provide regulatory certainty to these employers in our state as well as to the general public and the DNR. I ask that you support this legislation.

There are many activists opposing this legislation, many of whom are here today, who have been talking about “perpetual permitting” and are falsely claiming that with this legislation any high capacity well owner will be able to pump as much water as they want, forever. These misleading scare tactics have been repeated over and over again to drive opposition to high capacity well owners in our state.

It is important that both the committees understand the many remedies under current law available to both the DNR and members of the public to enforce their rights. The DNR, as well as homeowners claiming harm to a lake, or private well owners who are claiming harm to their wells, all have remedies under current law to protect their rights:

- (1) DNR has the authority to investigate any “possible infringement of the public rights relating to navigable waters” and allows for the issuance of orders necessary to “fully protect the interests of the public in the navigable waters” under Wis. Stat. § 30.03 (4)(a).
- (2) Separately from DNR, any member of the public may bring an action under Wis. Stat. § 30.294 to abate a public nuisance, such as the infringement of public rights relating to navigable waters.²
- (3) Additionally, the Wisconsin Supreme Court has made clear that a private well owner who has had their well impacted by a high capacity well owner can bring an action for public nuisance against a high capacity well owner.³

These remedies are all available right now under current law and will not change as the result of the legislation before you today. Importantly, these options all provide important and appropriate due process protections for all the parties involved.

The simple but important reforms in the legislation before you will help provide needed certainty for businesses and individuals throughout our state. Despite the misinformation campaign being led by opponents of this legislation, our state’s surface and groundwater protections will not be changed in any way by this legislation. Thank you for your time, and I would be happy to answer any questions the committees may have at this time.

² See also Gillen v. City of Neenah, 219 Wis. 2d 806 (1998).

³ The Wisconsin Supreme Court laid out this cause of action in State v. Michels Pipeline Constr., Inc., 63 Wis. 2d 278, 217 N.W.2d 339 (1974).

March 15, 2017

Testimony to Senate Committee on Labor and Regulatory Reform & Assembly Agriculture Committee

Senator Nass and members of the Committees,

My name is Carol Elvery, 33 Shadow Woods Lane, Waupaca. I represent the Friends of Waupaca's Mirror Shadow Lakes and the Central Sands Water Action Coalition. I speak in opposition to SB76/AB105.

I could tell you about the damage already done to Radley Creek, a Class I Trout stream just south of Waupaca, which is about to experience more damage due to a fourth well being installed nearby. Or I could tell you about how the flow of water in Hartman Creek, which flows through the state park of the same name, has been reduced by half in the six years since volunteers have been monitoring water levels in it, compared to another creek which has not experienced a reduction. The major difference is the presence or absence of nearby high capacity wells. But let me show you how it works.

Demonstration of the effect of multiple straws drawing water down: The more straws, the faster the water is withdrawn. The last straw is a lake. Clearly, using a HCW to refill a lake as it is being withdrawn is not a solution.

Demonstration of the concentration of pollutants in drawdown water bodies: at two water levels, the same amount of pollutant, be it fertilizer, pesticide/herbicide, other chemicals or manure, will be more concentrated in the water body with less water, potentially leading to problems with drinking water.

SB76/AB105 allows uncontrolled pumping from any approved high capacity well (HCW) with no review on any occasion to determine if there has been an impact to a nearby lake or stream. It even allows the permit to continue without review if the property on which it sits is sold or transferred to a new owner. HCW need to be reviewed in a similar manner as Wisconsin Pollutant Discharge Elimination System permits, which are renewed every 5 years; though perhaps every 10 years, a periodic review could protect Wisconsin's lakes and rivers and the economic benefit they provide. Remember, in the Central Sands, tourism has the same economic benefit as agriculture.

The most troubling piece of the bill is found in Section 4.(g), "no person is entitled to administrative or judicial review of a department decision" to recommend or not to recommend an action to prevent or remedy a significant reduction of water flow. The DNR is essentially hogtied and gagged in their reviews of well permits. Even though the DNR can only recommend action to the legislature to be acted upon, no citizen can request a contested case hearing or a judicial review; a right previously afforded all citizens under Wisconsin Statutes 227.42(1) and 227.52. In this regard, the democratic process is destroyed, citizens have NO recourse! Those who drafted this bill and co-sponsored it must have known that the bill benefits a only a few and potentially jeopardizes all the rest of the citizens of Wisconsin. If it were a fair bill, balancing the need to maintain water in our lakes and streams with giving the growers water but not so much as to impair our lakes and rivers, there would be no need to prohibit contested case hearing or judicial review requests. Citizens must be able to challenge an action hurts them.

Thank you, Carol Elvery

To: Senate Committee on Labor and Regulatory Reform
Assembly Agriculture Committee
Re: Senate Bill 76 – Assembly Bill 105

My name is Stephen Laedtke, and I live in Waupaca WI, in the Town of Farmington. I have lived in this area most of my life and have swum, fished, canoed and sailed the lakes and rivers of central Wisconsin. It saddens me to see what is happening to some of these bodies of water that I have enjoyed in the past. It is imperative that you consider these bills before your committees very carefully and consider the long term impact of them on our sacred water resources.

Reasons to vote NO:

These bills would.....

- 1) Take away oversight and review of High Capacity Wells and their impact on the ground and surface water.
- 2) Take away recourse for damages to lake and stream levels, private wells and homeowners property values.
- 3) Further degrade the DNR's effectiveness as a protector of our states water resources per the Public Trust Doctrine.
- 4) Put at risk a large segment of the Central Sands economy; the Tourism Industry.
- 5) Jeopardize the ability of property owners to pass along their investment, dreams and memories to their heirs.
- 6) Increase the potential for contaminated wells leading to public health threats.
- 7) Further disenfranchise residents and property owners who don't have political 'CLOUT'.

Reason to vote YES:

Generous campaign contributions and strenuous lobbying efforts by the WPVGA and its members. They are the big gainers if these bills pass, at the expense of everyone else in the state.

The growers have a right to their chosen livelihood, but they can certainly carry on their operations without these absurdly one-sided pieces of legislation. The impact of their High Capacity Wells goes far beyond the acreage on which they grow their crops. A change in these bills or other legislation that addresses the rights of ALL the people is what is needed. The Public Trust Doctrine says that WATER BELONGS TO EVERYONE!

Testimony about SB 76 and AB 105

My name is Tom Crave. I was raised on a 40-cow dairy farm near Beloit. Today, my three brothers and several other family members run a 2,000-cow dairy and farmstead cheese plant near Waterloo in southern Dodge County. Our farm and factory make use of a high-capacity well.

I am here today to support these bills meant to protect our family's investment in our community. I want to thank all the legislators here for the opportunity to weigh in on this legislation. We employ ~~30~~¹⁵ people in addition to providing a living for 7 family members. We treat our people well and pay family-sustaining wages in an area that has lost several other major employers since we purchased our farm in 1980. Our family is civically engaged, with my brothers and I serving on several different boards and participating in local government.

Before we drilled our high-capacity well, we had to go through an application process with the DNR. The department ultimately approved our requests for a well. Since they were built, they have never adversely impacted any of neighbors' wells nor any nearby surface waters. There is absolutely no reason to think our well will ever pose a problem to anyone. Why should we have to jump through more regulatory hoops with DNR if we ever needed to repair or replace our wells? They were reviewed by the department already and they have not been an issue.

In our part of Wisconsin, this is the typical experience with high-capacity wells. They are not an issue, but they are absolutely essential to businesses like ours. There is no good reason that high-capacity wells like ours cannot be repaired or replaced without a second DNR permitting process. Similarly, one day our farm and factory and the well that goes with them will be transferred to the next generation of my family. There is no environmental reason why that transfer should require a new permit or review. The periodic review of our well, along with all the other wells that have no negative impacts, would be a waste of time and money. This is especially true when we know DNR struggles with its existing workload and the state struggles to find money to pay for other much more pressing needs.

Protecting the environment is important to my family and our farm. It has become a cliché to say that farmers are the original environmentalists, but it is true. At Crave Brothers, sustainability is more than just a word. It is engrained in our business model. We are motivated by environmental stewardship at both our farm and cheese factory. We were one of the first farms to enroll in the DNR's Green Tier Program. Our farm and factory are powered by renewable energy created by an on-site anaerobic digester. In addition to producing power for our needs, the digester also produces enough power for 120 homes.

I say all this to make the point that we want our natural resources protected just like everyone else in this room. This bill will advance the process of protecting vulnerable surface waters. The research study called for in the bill and the recommendations that could result from it, will be critical to the success of any efforts to make positive changes for these lakes and streams. Regulating without knowing more about the specific causes of the problems does not make sense. I am pleased this bill is taking the right steps: science first, then regulations — if needed.

Thank you again for allowing me to speak today. Please support these bills. Wisconsin agriculture needs them. I would be happy to answer any questions.



To: Senate Committee on Labor and Regulatory Reform
Assembly Committee on Agriculture
From: Nick George, Midwest Food Products Association
Date: March 15, 2017
RE: Support of SB 76 & AB 105, relating to high capacity well regulation

The Midwest Food Products Association strongly supports Senate Bill 76 & Assembly Bill 105, which clarify the regulatory framework for approved and existing high capacity wells and provides certainty for existing well owners, preserves property values, and maintains environmental compliance standards. These bills represent a compromise that balances the protection of our natural resources while recognizing the importance of water to Wisconsin's economy.

Water is an essential ingredient for the agriculture and food industries. Food manufacturers use it as an ingredient in some products but also to clean, peel, heat, and steam raw product, sanitize equipment and plants, and chill finished product.

Purchasing, pumping, treating and disposing of water represent a major cost to food manufacturers and therefore a great deal of time and money is spent on water conservation. Food processors operate extensive water conservation, reuse, and monitoring programs and many facilities in Wisconsin return 85 to 90 percent of the water they use back to the environment.

And of course water is an essential ingredient for the vegetable, dairy, meat, poultry, and grain industries. Our members purchase raw product from these Wisconsin producers. Without them the food industry could not thrive in Wisconsin.

Wisconsin is an average size state yet we produce and process an above average amount of food. According to new figures (2015) derived from the latest U.S. Census Bureau's annual survey of manufacturers, Wisconsin, with \$43.7 billion in shipments, ranks third for food manufacturing when measured by value of shipments, behind California and Texas. California remained the top state for food manufacturing, accounting for \$78.2 billion in shipments.

According to the annual survey, Wisconsin's food manufacturing industry is a leading employer in the state with 64,000 people employed representing 14.8 percent of manufacturing employment, and \$3.1 billion in payroll.

Dairy processing employs the largest number of workers accounting for 33.2% of all food manufacturing employment. The meat products sector came in second place with 25.7%, followed by the fruit and vegetable processing sector with 15.9% of the food manufacturing workforce.

The food manufacturing industry accounted for 24.8 percent of the total value of shipments by Wisconsin manufacturers in 2015.

Clearly we are America's dairy land but our beef, poultry and fruit and vegetable industries are also thriving. These industries add income and profits to Wisconsin's economy and add value to the agricultural commodities themselves. They transform crops and livestock into products worth more in the world marketplace, and they provide employment and income opportunities to Wisconsin residents. And they all rely on a healthy supply of water that is regulated fairly and predictably.

Members of MWFPA respectfully urge you to support SB 76 and AB 105 as a fair compromise that provides certainty for existing well owners while protecting a valuable natural resource.

Criste Greening
6451 Oak St,
Wisconsin Rapids, WI 54494

Co-Founder of Citizens Water Coalition of Wisconsin
Board member - Sustain Rural Wisconsin Network

We would first like to go on record stating our frustration with the games being played by our elected Representatives in regards to fast tracking this legislation. The Senate committee for Labor and Governmental Reform as well as the Assembly Committee on Agriculture have no business hearing a bill on High Capacity Wells. This is a bill that should be heard by members of the Natural Resources committees which has a high level of experience on high capacity wells and groundwater issues.

Additionally, combining committee hearings further limits WI citizens opportunity to show up in Madison and voice their concerns regarding this bill. You made this a one-shot chance for citizens to take time off work, sacrifice time with families, to get to Madison and be heard. This bill should be receiving the same thoughtful, careful, and intense, consideration as any other bill coming through for review - but it is not.

Citizens' Water Coalition of Wisconsin can tolerate the wording regarding restructuring and replacement of a well without DNR review however we cannot support the transfer of a well with the sale of a property without specific guidelines created within this legislation that allows for periodic review. We are not trying to keep the family farmers from passing on their legacy and property to their children. We want certainty built in to this Legislation that if small farmer or HCW owner sells their property to an entity who is planning to pump water far in excess of the well's previous pumping amounts that a review is mandated and pumping restrictions set if appropriate. This ladies and gentleman is called a compromise. Drafters of this bill should be working with BOTH Agriculture interests and CITIZEN groups to determine a workable solution.

Agriculture is just one of the many industries that bring money and revenue to our state. If our lakes, rivers, and streams are further depleted from the over-pumping of high capacity wells it will have a direct impact on the WI construction industry, home builders industry, and of course our tourism industry. Who is going to build the next lake front resort on a lake that is being depleted of its water? Who is going to build the family cabin next to a stream that can no longer support fish? As the construction & home builders industry decreases so do all the other trade industries that coincide with building a home, the plumbers, the electricians, the landscapers. All of these industries bring revenue and jobs to the state of Wisconsin as well as improving properties values that bring in a much higher property tax revenue than agriculture lands.

Citizens Water Coalition supports the family farmers, but this bill is not targeted to support them. It is bought and paid for by the Big Ag Industry which will in turn decimate and buy out the family farmers of Wisconsin. Wisconsin has a proud heritage of family farming and that heritage is being destroyed in favor of large scale industrial agriculture.

Your vote for this bill is your legacy for future generations of Wisconsin. What will your legacy be?

REQUEST YOUR SUPPORT OF HIGH CAPACITY WELL LEGISLATION
2017 AB 105 / SB 76 Hearing 15 March 2017

My name is Robert J. Guenther. I am the third generation of my family to produce Wisconsin Certified Seed Potatoes. We rely heavily on irrigation to manage the production risk of growing 250 acres of seed potatoes.

23 June 1958 was a huge day on our farm. It was the day we installed our first irrigation well. A picture of my father and I with the well later appeared in the magazine "Underground Raindrops". The fact that I have saved the magazine for 55 years tells you how important that day was and still is to me.

We are fortunate to have access to abundant water in Langlade County. We have always handled water with the greatest respect. It is the lifeblood of our farm. We are very careful about conserving water. We use E.T. rates to determine when and how much water to apply. The efficient use of irrigation water is a science. Under normal conditions, mature plants will use between 0.15" and 0.30" inches of water per day. This is called the Evapotranspiration Rate (ET). As an example let's say the ET Rate is 0.2". Our typical soil holds approximately 1.00" of water. We never apply more than the soil can hold. It would be wasted. Typically we would decide to apply 0.80" of water to this type of field. At an E.T. rate of 0.20", we would expect the irrigation water to last 4 days. The next irrigation is then scheduled by looking at the most recent E.T. rates.

This High Capacity Well Legislation uses common sense. It provides that High Capacity wells can be repaired without make a new application. It seems to me, that to require a person to make a new application to repair a well would be like asking a car owner to apply for a new Automobile Registration when he needs to repair or replace the radiator in his car.

This Legislation is just. It provides for the transfer of a High Capacity Well along with the property it is located on. To do otherwise would seem similar to telling a homeowner he could sell his house but the water well doesn't go with it.

I am just one small example of how farmers treasure water. We cherish the legitimate use of water. On that magnificent day in 1958 when our first well was installed, the water was 20 feet below the surface. In 2016, the water in this same well was 16.8 feet below the surface. After 58 years of using this well, the water level has risen over three feet.

Please pass this bill. Thank you.

water moves back through the porous ceramic tip reducing the partial vacuum in the tensiometer lowering the gauge reading.

The tensiometer reflects the suction the plant roots are exerting in taking moisture from the soil. Thus it indicates when to start and when to stop irrigating.

Readings should be checked periodically. If not, the soil may become dry and the vacuum responsible for the readings may start pulling small air bubbles from the dry soil into the ceramic tip—which reduces the vacuum and reading. The inconvenience is not in the "recharge" then necessary. It is in the possibility of relying on an untrue reading that indicates more moisture in the sub-soil than is actually present. Most tensiometers are transparent and bubbles can be detected inside the tube.

The number of tensiometers required in a field varies with the crop to be grown, the uniformity of the soil, and the uniformity of the slopes within a given length of run. Where the soil and slope are uniform, two tensiometer stations may be adequate for a field. In general, a station is required for each soil and slope change in a field. Usually two tensiometers are used at each station.

RESISTANCE BLOCKS tell when to irrigate prunes

Edited and Reprinted from
CALIFORNIA FARMER

By DON RAZEE

Lon Gerrans of Colusa took electronics in college and until 1946 he had no interest in farming. He decided a desk job was not for him and went into the prune business.

Some things that farmers just accept bothered him. Take irrigation, for example. He tried to find out when and why his neighbors irrigated a crop. All he could find out was that they generally started around May 5. The usual procedure was to wait until someone with a good reputation started to run water, then they would all follow. This wasn't good enough for Gerrans with his scientific training. He was sure there had to be a better way to determine when a crop needs irrigation.

He has found that plaster of Paris resistance blocks at least provide some interesting theories to play around with. He makes no claim about having the entire answer, or possibly even the right answer, but he believes he is establishing some guide posts that at least give him some indication as to when his orchards need water.

The resistance blocks are buried in the soil with the wires brought up next to a tree. There is a block at the one, two, three, six and nine-foot levels.

The drier the soil, the higher the resistance reading, is the way the system works. During the winter when the soil is saturated with heavy rains, the readings run around 500 ohms. When the rains stop, and the trees begin to use moisture, the readings increase. An ohm reading of 2500 indicates that half the available moisture is gone from the soil. A reading of 35,000 ohms or higher indicates that most, or all, of the available moisture is gone.

The main advantage of using plaster blocks is their ability to hold moisture compares favorably. They indicate available moisture, rather than actual moisture in the ground. This enables an accurate reading regardless of soil type.

RAINMAKERS

These irrigation systems around Wisconsin keep crops growing when Mother Nature fails

A PICTURE STORY

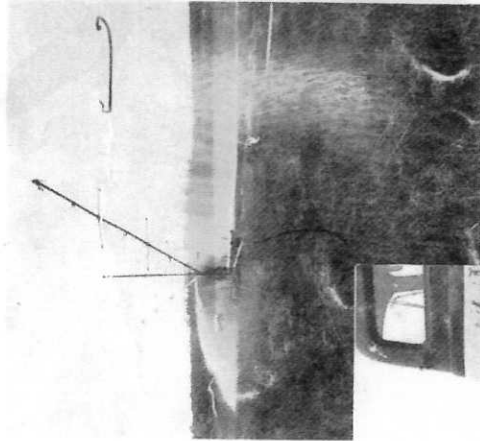
by Jim Allen

Edited and Reprinted from WISCONSIN AGRICULTURIST

We thought you'd like a look at a couple of the irrigation installations in Wisconsin.

Although most of the irrigation is for potatoes, just about any crop of high market value could take advantage of extra water.

WATER—essential to all life processes—is no longer an uncertainty for many Wisconsin farmers. They've invested heavily in irrigation equipment to take some of the chance out of growing crops—primarily potatoes.



ROTARY SPRINKLER

waters a 400-foot circle at a time. It requires 300 gallons per minute at 60 pounds of pressure.



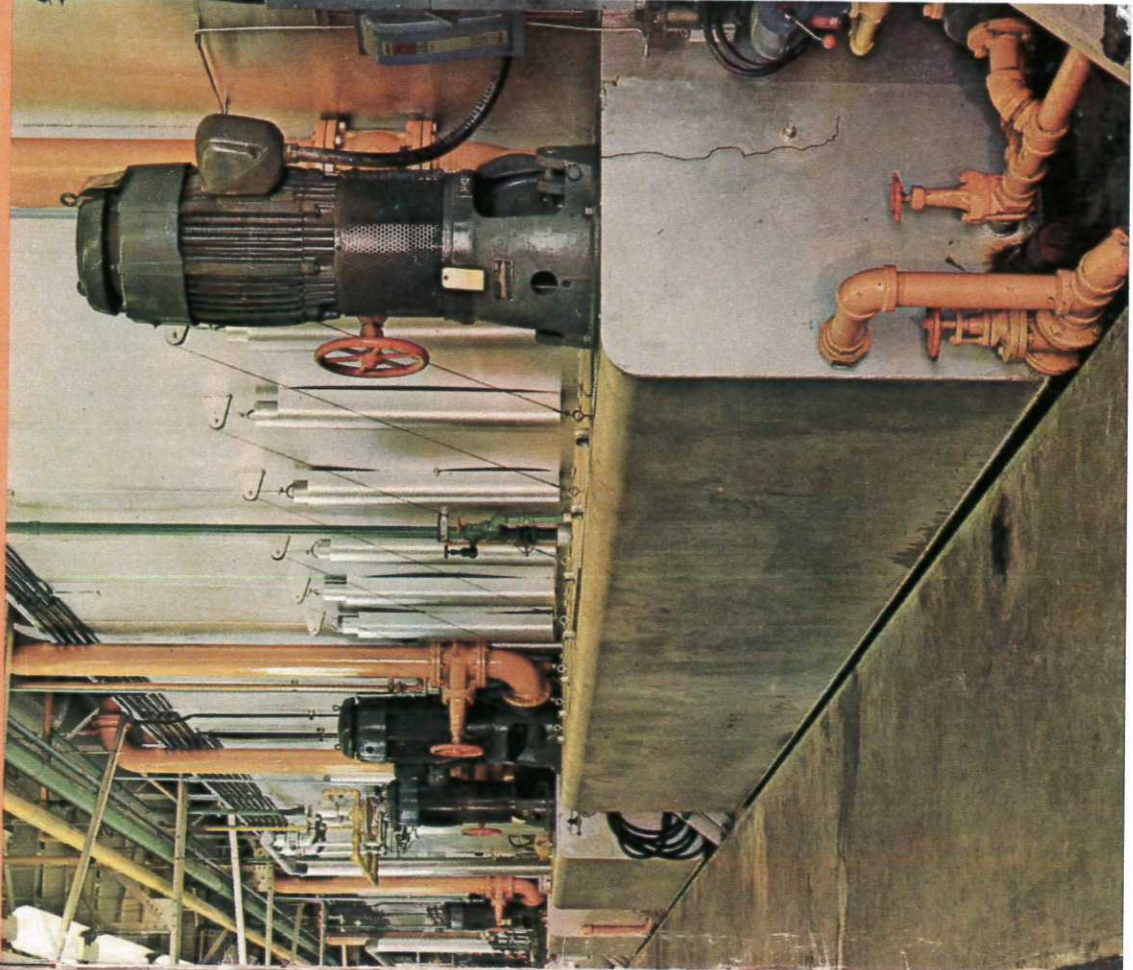
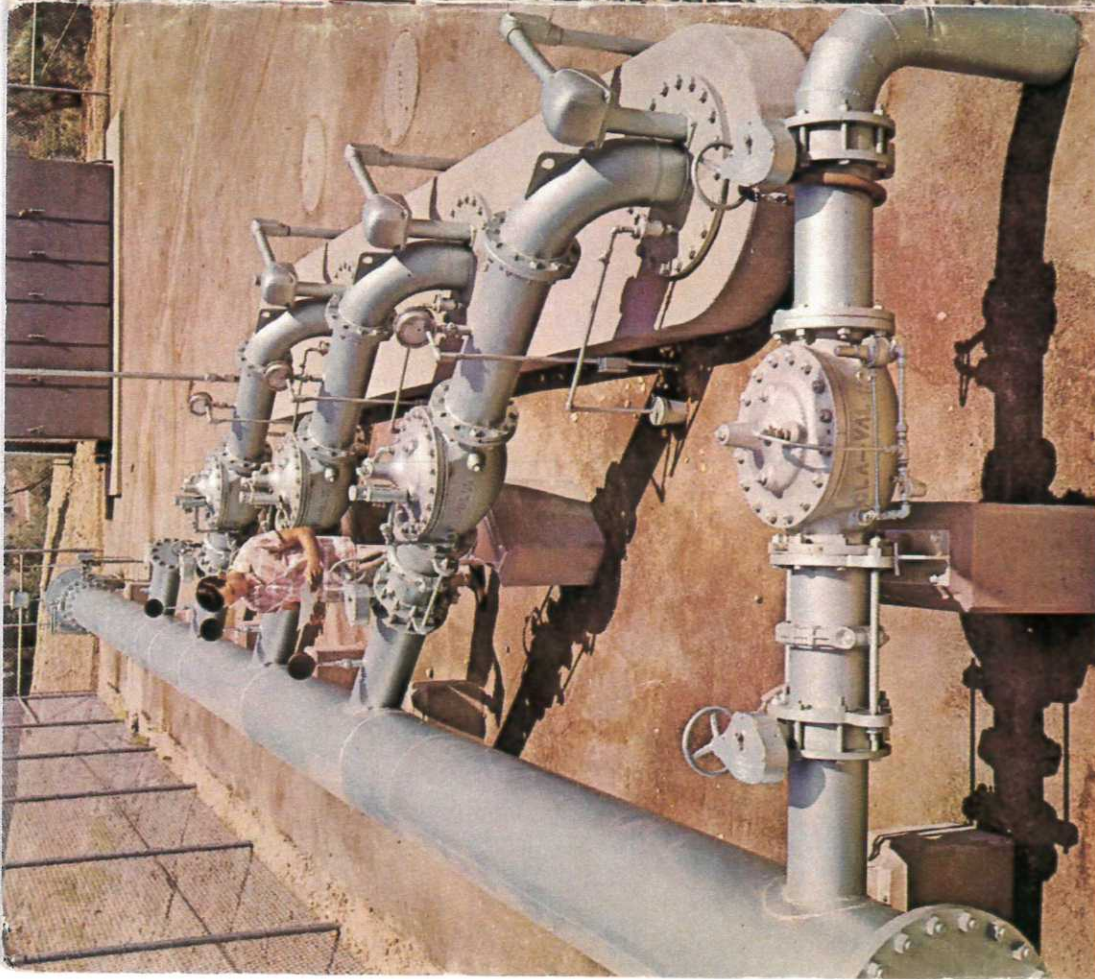
WRECKED TRUCK

powers the irrigation pump through a U.S. Helioshaft gear drive for Joe Guenther and his son, Robert, Langlade county. The pump delivers 1,000 gallons per minute at 100 pounds per square inch pressure through an eight-inch discharge. The well is 78 feet deep.

Underground Raindrops

WINTER 1962

A DIGEST OF IRRIGATION AND PUMPING NEWS



Yorba Linda County Water District utilizes three U.S. Submersible Motors with room for a fourth.

U.S. ELECTRICAL MOTORS Inc.
 Los Angeles 54, California (Box 2058) ATLANTIC PLANT: Milford, Connecticut
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| BAKERSFIELD, Calif. | DENVER, Colo. | MEMPHIS, Tenn. | ST. PAUL, Minn. |
| BIRMINGHAM, Ala. | DETROIT, Mich. | MILFORD, Conn. | SALT LAKE CITY, Utah |
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WISCONSIN LEGISLATURE

P. O. Box 7882 Madison, WI 53707-7882

TO: Senate Committee on Labor & Regulatory Reform and Assembly Committee on Agriculture
FR: Sen. Mark Miller and Rep. Cory Mason
RE: Senate Bill 76/Assembly Bill 105

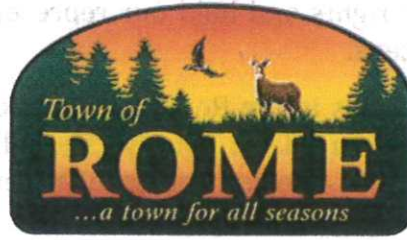
Wisconsin is blessed with an abundance of water. Water provides the basis for our economy and way of life. The Wisconsin state constitution protects the waters of Wisconsin for the benefit of all users. Under Wisconsin's public trust doctrine, everyone is entitled to our water, but no one is allowed to use the water to the detriment of others. The Wisconsin Supreme Court in the 2011 *Lake Beulah* decision confirmed that the public trust applies to all waters of the state, including underground water because ground water and surface waters are interconnected. The state is responsible for protecting this public trust.

In certain areas of Wisconsin, particularly in the Central Sands region, high capacity well operation has caused lake shorelines to recede, springs to dry up, stream flows decline and impacted drinking water supplies. The Little Plover River near Plover is the best-known example of a stream nearly disappearing due to nearby high capacity well withdrawals. This is a problem that must be addressed by the Legislature to ensure the appropriate protection of our water resources now and into the future.

Senate Bill 76/Assembly Bill 105 is not the solution. Rather, it exacerbates the problem. SB76/AB105 would grandfather existing high capacity well permits by allowing the transfer, replacement and reconstruction of wells without a new permit. This would essentially create a water rights legal environment where the waters of the state are allocated on a first-come, first serve basis. Water rights is the legal doctrine that prevails in Western States, but runs contrary to Wisconsin's public trust doctrine. New applicants could be denied well permits because existing permits allow over-use of the water resource.

Current groundwater science can determine with reasonable accuracy how much water can be withdrawn from an aquifer and still maintain water availability for all users. It can determine how much water can be withdrawn from wells in the vicinity of water bodies and still maintain normal seasonal flow and lake levels. It can determine which wells are affecting the surface waters. In short, modern ground water science provides us with the tools needed to manage our abundant water resource indefinitely and avoid the conflicts that arise due to over consumption. This should be the basis of a regulatory framework for high capacity wells such as outlined in our legislation, Senate Bill 22/Assembly Bill 50.

We ask that you oppose SB76/AB105.



**1156 Alpine Drive
Nekoosa, Wisconsin 54457
715-325-8025**

To: Wisconsin Legislature

Re: Opposition to SB76/AB105

Date: March 13, 2017

Dear Legislators:

The Town of Rome has opposed legislation like SB76 & AB 105 in the past and strongly opposes SB76 & AB 105 in their current form. The Town of Rome believes passage of this bill will result in permanent damage to our state's waters – lakes, rivers, streams, wetlands, and residential water wells. Written in its current form, this bill does not solve any problems for our state groundwater and surface water issues and only allows our current problems to continue.

Periodic review of high capacity well permits is essential to protect our waters. Unlimited permits are unprecedented in Wisconsin and pose a serious and immediate danger to our waterways and our residents. The Town of Rome is a mecca for recreation and tourism. Allowing the passage of SB76/AB105 would land a direct blow to the thriving tourism industry upon which our community depends. SB76/AB105 will guarantee the continued drawdown of many lakes, trout streams, and residential wells if passed by our current legislature.

Of greatest concern is the transfer provision in SB76/AB105 and encourages elected officials to purposefully and directly ignore the state's Public Trust Doctrine, which states the waters of Wisconsin belong to all of us. Transferring water rights with the sale of a property is in direct conflict with that doctrine outlined within our state's Constitution. Transfer wording should be deleted entirely from this bill.

As Wisconsin residents, we depend and trust our elected officials to enact legislation that will ensure our surface and groundwater will be here for our children and grandchildren to use and

enjoy. Moreover, we have property rights and hold our representatives to the expectation that they will protect the interests of citizens.

Research has shown the values the lakes in the Rome area that contribute in a large way to the \$300,000,000 annual tourism revenue in Adams County. The billion dollars in valuation of lake properties in Adams County represent a major source of revenue to commerce, schools and community services. These lakes communities must be protected.

I regret I cannot address you in person, but I urge you to do what is best for the future of our citizens, communities and state. Vote no on SB76/AB105.

In Service



Phil McLaughlin, Chairman
Town of Rome

***Rome strives to be a diverse community,
offering a variety of residential living, year around recreation
and business opportunities with an emphasis on
environmental preservation.***

www.romewi.com

Testimony on SB 76 and AB 105 related to high capacity well approvals

March 15 2017

George J. Kraft, PhD.

Director, Hydrogeologist, and Professor

Center for Watershed Science and Education

University of Wisconsin – Extension / University of Wisconsin – Stevens Point

715-346-2984

gkraft@uwsp.edu

Good Day.

I am appearing for informational purposes to discuss the needs for groundwater management in Wisconsin and to suggest some potential improvements to SB 76 and AB 105.

I am a Professor of Water Resources and the director of the Center for Watershed Science and Education with the University of Wisconsin – Extension and the University of Wisconsin – Stevens Point. We are the folks who help your constituents ensure that they have safe drinking water from their private wells, we work with shoreland owners and conservation groups on improving their lakes and streams, and we assist county conservation offices with water quality programs. I was privileged to work with Sen. Kedzie and Rep. Johnsrud when we took what was called “a first good step” toward managing groundwater in 2003, and to work with the Joint Groundwater Work Group in the 2010 legislature. I look forward to the possibility of working with you when we get to taking that “second good step.”

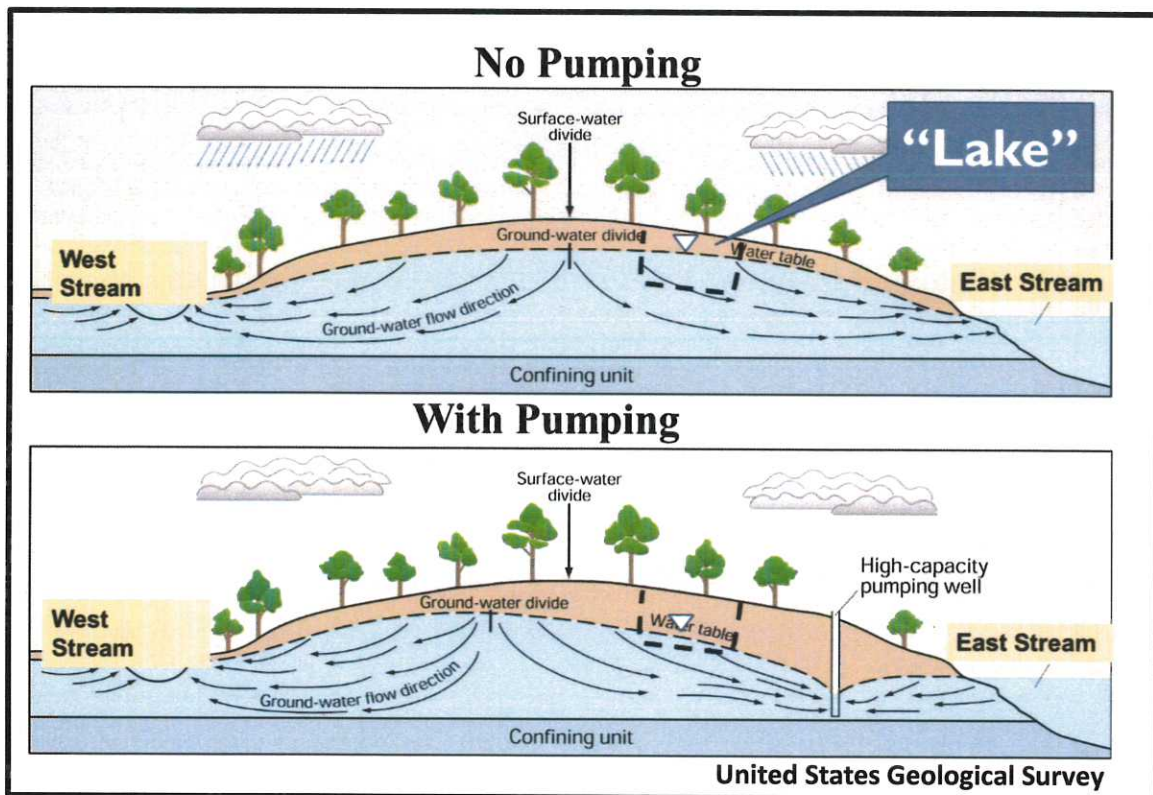
To be clear, it is my personal and professional opinion that substantial but not unlimited high capacity well pumping can be done without causing impacts that most Wisconsinites would think are significant. However, particularly when high capacity wells occur in higher densities and are pumping at high rates, serious impacts can and have occurred. More will accrue in the future if we don't manage groundwater pumping. Michigan and Minnesota are already actively managing their groundwater pumping. Perhaps we should as well.

I'd like to make three points.

- 1. Groundwater, lakes, streams, and wetlands are connected.** Groundwater pumping lowers water levels and decreases streamflows. Too much pumping can dry them.
- 2. Unmanaged pumping is already drying lakes, streams, and wetlands in parts of the state,** most notably the central sands. Alternative explanations don't add up.
- 3. This bill might be improved to better address the needs** in the central sands while taking steps to ensure that we're not creating or exacerbating more lake and stream and wetland impacts while more study goes on.

1. Groundwater, lakes, and streams are connected. Groundwater pumping affects water levels and lakes and streams. Too much pumping can dry them.

The cartoon below shows how groundwater works in a simple system that covers much of Wisconsin. More complicated systems occur especially in the eastern part of the state, but the principles are largely the same.



Some of the rain on the earth's surface percolates through the soil, fills the aquifer, and becomes groundwater. Groundwater isn't stagnant, but rather moves from place higher on the landscape usually to streams where it discharges. Groundwater may travel a few feet to a few tens of miles in the aquifer before it discharges. If groundwater encounters a depression in the earth's surface, it fills it, creating lakes or wetlands.

When we pump groundwater, we always always always lower water levels somewhere, and divert water out of streams somewhere. When we pump a little, we have a small effect, when we pump a lot we have a large effect. One thing to keep in mind when looking at this cartoon, it really doesn't matter how thick the aquifer is, whether the aquifer is 20 feet or 100 feet thick, drying up the top few feet dries lakes and streams.

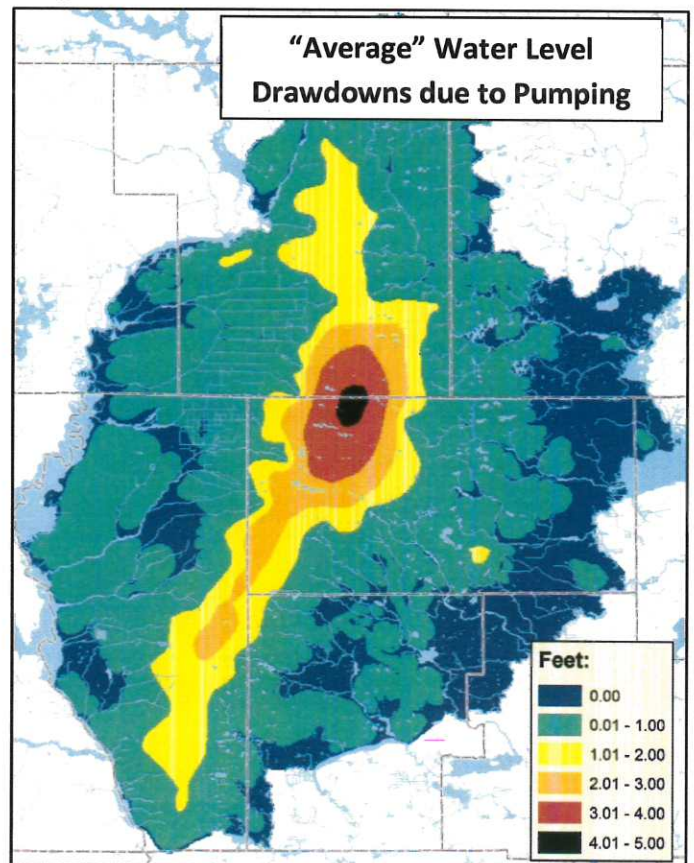
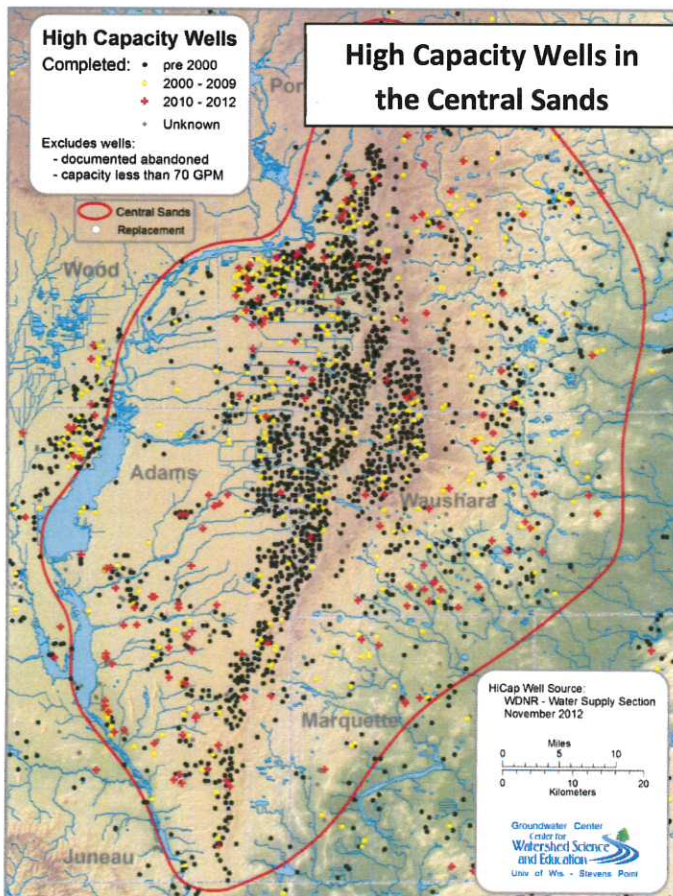
2. Unmanaged pumping is already drying lakes and streams and wetlands in Wisconsin, especially in the central sands.

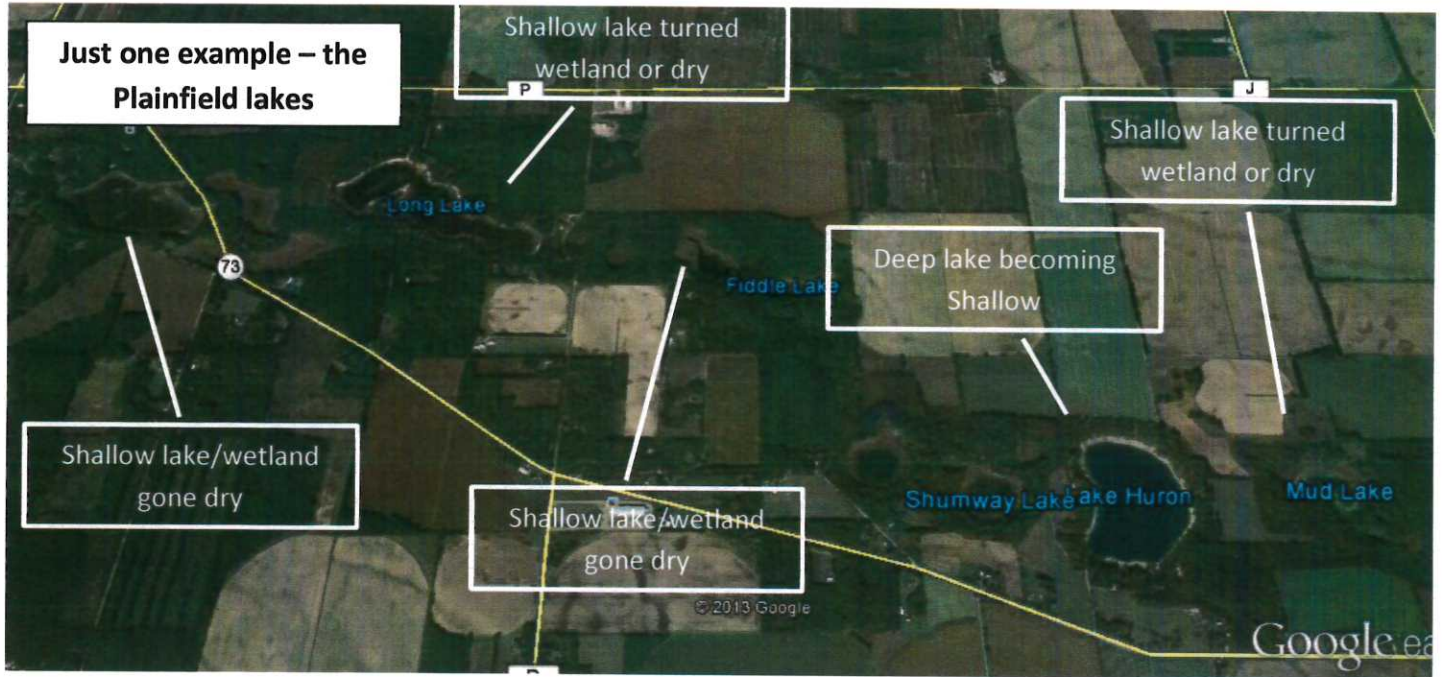
Wisconsin's high capacity well numbers are steadily increasing, and right now without regard to drying lakes and streams and wetlands.

The central sands region is the most prominent pumping affected area because (1) like much of Wisconsin, lakes, streams, and groundwater are well connected and fed by groundwater, and (2) pumping in the central sands is very large. Expect to see more central sands situations as huge new amounts of new unmanaged groundwater pumping go in around the state.

There are some 2500 high capacity wells in central Wisconsin that pump billions of gallons of water each year – probably about 70 billion on average. A third of all high capacity wells and about 30% of Wisconsin's groundwater pumping occur in the central sands. About 85% of that pumping is for irrigation with lesser amounts for municipal, industrial, and other.

This pumping has had huge drying effects. Dozens of lakes and wetlands have had their water levels go down, and dozens of headwater streams are flow impacted. Some wetlands have become dry land, shallower lakes are turning into wetlands, deeper lakes are turning into shallower lakes with losses of navigability and habitat. The county beach at Wolf Lake has been unusable for getting close to a decade. Public hunting and fishing land, paid for by the license fees of sportsmen are losing value. Boat landings on lakes sit high and dry. This is not a one or two water body thing. It is widespread and increasing.





The science of these pumping impacts is well known. Studies in the central sands going back 50 years predicted this, and more recent studies have confirmed the predictions. Other causes like killer trees, magic clay layers, climate change, and drought have been found lacking. Supposed cures like new nozzles, irrigation scheduling, and damming streams have been looked at by hydrologists and found wanting.

Groundwater quantity fundamentals in Wisconsin's central sands region

Prepared for the Wisconsin Food, Land, and Water Project Groundwater Quantity Work Group, February, 2017, revised March 13, 2017 following Work Group discussion.

By Kenneth R. Bradbury¹, George J. Kraft², James Drought³, Michael N. Fienen⁴, Randall J. Hunt⁴, David J. Hart¹

¹Wisconsin Geological and Natural History Survey, University of Wisconsin-Extension; ²Center for Watershed Science and Education, University of Wisconsin-Stevens Point and Extension; ³GZA Inc., Brookfield, WI; ⁴U.S. Geological Survey, Wisconsin Water Science Center, Middleton, WI

Purpose

This brief summary was requested by the Wisconsin Food, Land, and Water Project Groundwater Quantity Work Group during a meeting on November 10, 2016. The intent of this document is to summarize key concepts related to groundwater, high-capacity wells, and groundwater-surface water relationships in the central sands region of Wisconsin. The authors of this document are technical experts in hydrogeology with experience working in the central sands region of Wisconsin. This document is not meant to outline policy or specific solutions, but rather to summarize the state of the science on groundwater issues in the Central Sands.

This soon-to-be-released white paper, penned by some of Wisconsin's most prominent hydrologists for *Wisconsin Food Land and Water*, summarizes the science of pumping impacts on Central Sands lakes and streams and wetlands and finds no basis for other purported causes of observed drying.

3. Improving SB 76 and AB 105

Over 50 years of science has predicted or documented that unmanaged groundwater pumping was going to or has dried lakes and streams in the central sands.

Groundwater management in Wisconsin has two large challenges:

- How do we keep from creating more significantly impacted areas?
- How do we fix areas that are already significantly impacted by high capacity well pumping?

Avoid creating more problem areas that will need repair in the future while doing more studies.

New high capacity wells are going in without any review for impacts. That means while we wait for studies, more wells will be going in to exacerbate problems where we already have them, while creating problems in new areas. Restoring the review process that prevailed at DNR from the *Beulah* and *Pleasant Lake* until June 2016 would be a simple way to ensure Wisconsin won't have way more problem to deal with in the future.

Make the study areas more relevant.

The boundaries currently in SB 76 / AB 105 do not contain much of the highly pumping impacted area. Further, they don't make good hydrologic sense. (See last page.)

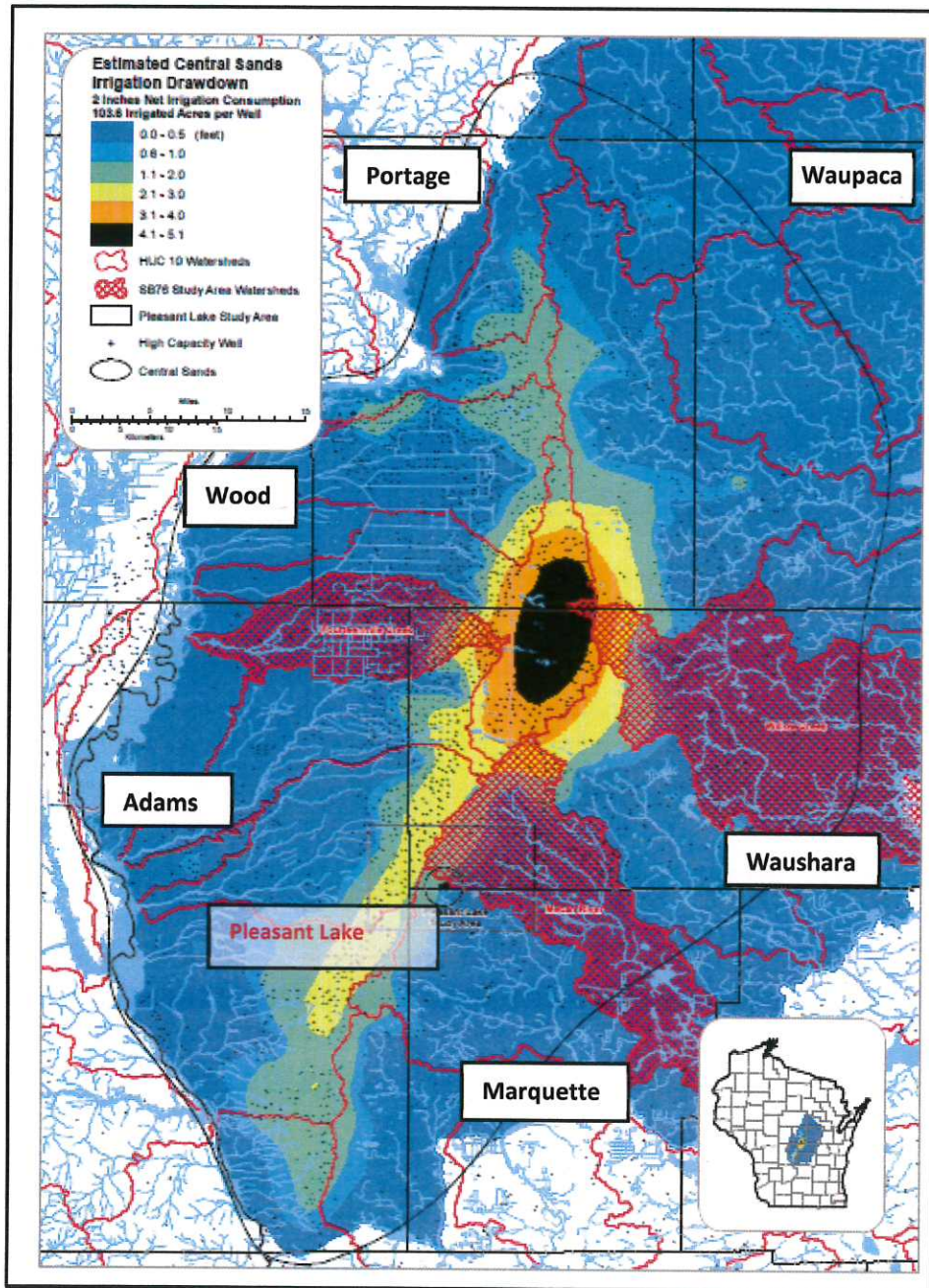
- It makes much more hydrologic sense to study all of the central sands at once.
- Consider adding the Little Plover River where significant study languishes as a priority for developing management.

The provision for installing wells to fill lakes is not helpful.

Lakes in the central sands, in deed most of Wisconsin are like sieves. Water flows in and out with where the groundwater level is. Attempting to fill a lake from a high capacity well is pointless – the water will simply leak out. As the composition of water pumped into the lake may differ from its natural groundwater seepage, the lake may be damaged by a change in chemistry that has harmful effects, such as releasing phosphorus that will feed algae blooms.

Be careful about unwittingly be giving ownership of public water to private parties.

The permanent approval process with ability to sell approvals with land may be giving de facto ownership of groundwater (and with it water in lakes and streams and wetlands) to high capacity well owners. This might be repaired by having well approvals come up for occasional review, say at 10 year intervals.



SB 76 study watersheds (red cross-hatch) plus Pleasant Lake. Areas of study do not include the major impacted parts of the central sands. The already-studied Little Plover is also excluded.

Good morning. My name is Tom Kwak and I am the Chief Operations Officer for Doane Farms and Chippewa Valley Bean Company. I am here today to ask for your vote and support of AB 105 / SB 76.

The Doane Farm operations are located just southeast of Menomonie, WI on the original Doane family farm which was homesteaded in 1858. The 6th generation of the Doane family still owns and runs the farming operation and Chippewa Valley Bean Company. The 7th generation of the Doane family are active employees. They are intent on keeping the farm and the family business in the family for a long time to come.

Chippewa Valley Bean, the storage elevator, cleaning, and processing side of the Doane family farm, is the world's largest cleaner and milling processor of dark red kidney beans. We store, clean, and mill approximately 35-40% of the United States total kidney bean acreage for use primarily by canners in the US and worldwide. We export a considerable amount of our product to over 30 countries around the world. Our kidney bean operation provides our Wisconsin and upper Midwestern growers a value-added crop option that provides diversity in their crop rotations and a cash crop that is less susceptible to market conditions caused by over production worldwide. Between Chippewa Valley Bean and Doane Farms, we employ 40 full time rurally based employees. The total economic activity of our Wisconsin based kidney bean operation, from our growers to the end user canners is in excess of \$50 million.

On the Doane Farm, we own and actively crop approximately 4000 acres of primarily sandy soil land in Dunn and Pepin Counties. Our primary crop is kidney beans which is rotated with corn and other crops to maintain our soil tilth. On our farmland, we are currently operating 20 high capacity wells feeding 33 center pivot irrigation systems. Over the years, the Doane's have invested in excess of \$6,000,000 into these wells and irrigation systems in order for the farm to be profitable and remain in operation. Having these high capacity wells is integral to our operation. Being able to maintain, repair, or replace these wells for continued operation is a matter of long term farm survival. As an example, last year, in a year that was reasonably adequate with rainfall in our area, our dry non-irrigated farmland, which is primarily the non-irrigated field corners of our center pivot systems, yielded only 120-140-bushel corn/acre compared to 220-

240 bushels per acre under irrigations. Kidney beans on our dry land produce ½ a crop. If we have a high capacity well go down, we need to be able to repair or reconstruct it. At 120-bushel corn per non-irrigated acre, or ½ a kidney bean crop, the Doane Farm will cease to exist. In today's farm economy, the operation cannot survive on the income from ½ a crop. Without wells and irrigation, these acres will not be productive for kidney beans, or any other specialty vegetable crops in Wisconsin.

As I stated we are also in the process of bringing the 7th generation into the farming operations. Being able to transfer the land through estate planning, with usable high capacity wells, is very important. We want to be able to keep the farm land, and the family business in the family for much longer than our lifetimes. We need this legislation in place to ensure that we can continue farming, by using our wells that are already in place, and then pass this operation onto the next generations so they can continue to be productive farmers and agricultural business operators for years to come.

Thank you for your support.



To: Members, Assembly Agriculture Committee and Senate Labor and Regulatory Reform Committee

From: Paul G. Kent (on behalf of the Wisconsin REALTORS® Association)

Re: AB 105 – High capacity wells

The Wisconsin REALTORS® Association (WRA) supports the intent of AB 105 which, among other things, is to allow for the maintenance of high capacity wells (HCWs) and transfer of ownership of property serviced by a HCW without having to go through the DNR permitting process again. However, we have taken no position on AB 105 and are here today to testify for information only on the bill.

Background

In the past legislative session, the WRA was actively involved in discussions with other groups on revisions to Wisconsin's groundwater law. Our primary interest has been to develop a framework that would provide better certainty in the permitting process for HCW users and protect the interests of private property owners – particularly waterfront property owners and other property owners who live adjacent to properties serviced by HCWs. Several of the more comprehensive bills introduced last session would have addressed both of those issues.

Protections for Neighboring Property Owners

The current bill is more limited in scope and offers none of the protections we had hoped would be included for property owners. There are two items of particular concern to highlight today.

First, it is not clear from the text of the bill whether a replaced or reconstructed well would be limited to the capacity of the existing well. Most DNR approvals reference the design capacity of the well, but it is not clear whether the permitted capacity is a limit on a replaced or reconstructed well. Without such a clarification, a HCW just over the regulatory threshold of 100,000 gpd could be expanded to several million gallons per day with no DNR oversight. This could significantly increase the risk of harm to nearby property owners.

Second, under current law, if a high capacity well owner unreasonably harms a homeowner's private well by drawing down the groundwater, the homeowner may file a nuisance action seeking damages from the HCW user. See *State v. Michels Pipeline Construction, Inc.*, 63 Wis.2d 278, 302-03 (1974). To prevail in the lawsuit, the homeowner generally must prove that the unreasonable harm was caused by the HCW user, rather than some other cause. *Id.* With no DNR analysis of cumulative impacts and no monitoring requirements demonstrating such an impact poses a very high burden. The groundwater bills discussed last session attempted to lessen that burden by providing property owners with a clearer pathway to receive

compensation if their well was adversely impacted by a new HCW. No such relief is provided here.

We appreciate the opportunity to share with you our perspective on AB 105. If you have questions, please contact Tom Larson (tlarson@wra.org) at (608) 241-2047.



***Wisconsin Wetlands Association Testimony on SB 76/AB 105
Submitted by Brian Vigue, March 15, 2017***

The Wisconsin Wetlands Association (WWA) is a statewide, non-partisan, non-profit wetland conservation organization. We envision a state where wetlands are healthy, plentiful, and support ecological and societal needs, and where citizens care for, appreciate, and interact with these natural resources.

The WWA is concerned about an omission in Section 4 of AB 76 and AB 105. Section 4 of these bills requires the Wisconsin Department of Natural Resources (DNR) to undertake studies to evaluate and model the hydrology of designated areas. If, as a result of the studies, the DNR determines that existing and potential groundwater withdrawals have caused, or may potentially cause, a significant reduction of a navigable stream's or navigable lake's rate of flow or water level below its average seasonal levels, the DNR must decide whether to recommend that the Legislature adopt a law requiring special measures to be taken relating to groundwater withdrawal in all or part of the areas.

Our concern is with the omission of wetlands associated with these navigable streams and lakes in the legislation authorizing the studies. To ensure we have a complete picture of the impacts of pumping on navigable waters and potential management solutions, it is essential that the proposed groundwater studies evaluate impacts to lakes, streams, *and associated wetlands*.

Including wetlands in these evaluations is important for several reasons:

1. Groundwater, lakes, streams, and wetlands are all connected.
2. Wetlands help keep water on the landscape where it is needed. They interact with groundwater in many important ways, including receiving groundwater when the water table is high, slowly releasing groundwater to help maintain base flow and water temperatures in lakes and streams during the summer months, and replenishing groundwater by supporting retention and infiltration of surface waters.
3. While the proposed studies may be designed to inform regulatory policy and decision-making, done right, the findings should also help to inform a broad array of non-regulatory solutions. Both regulatory and non-regulatory actions are needed to address the impacts of pumping on our waters.
4. We cannot craft cost-effective solutions unless we have a complete understanding of how the entire water budget works, including: the impacts of pumping on wetlands associated with

navigable waters, and how strategic restoration actions can support our groundwater management goals.

We believe that studies that omit any consideration of the impacts on associated wetlands by groundwater withdrawal will not allow policymakers, communities and landowners to formulate the best possible remedies to address these complex issues. We recommend the studies include the impacts of groundwater withdrawals on wetlands associated with navigable streams and lakes.

Contact: Brian Vigue

Policy Liaison

brian.vigue@wisconsinwetlands.org

Office: (608) 250-9971

Mobile: (608) 843-6355



TESTIMONY AGAINST SB 76/AB 105

by

Jeff Spitzer-Resnick

Chair, Goose Lake Watershed District

www.gooselakewi.org

608-206-7164

March 15, 2017

As Chair of the Goose Lake Watershed District (GLWD), I submit this testimony against SB 76/AB 105. Goose Lake is a pristine lake located in the Town of Jackson in Adams County. The watershed contains abundant wetlands, which support both aquatic and land based wildlife. The aquifer produces water so clean and delicious that a number of years ago, Perrier wanted to bottle it. Fortunately, local government, at the urging of the citizens of the area acted to protect the aquifer, and despite DNR approval, Perrier was forced to look elsewhere for its bottled water. Nobody in Adams County regrets the successful battle to keep Perrier from depleting our most precious asset-clean water. Rather, those of us who enjoy plentiful, clean drinking water every day are glad that Perrier is gone.

Now, however, the bills before you today threaten our drinking water once again. Simply put, high capacity well permits should never be permanent. No other entity in the state is granted a permanent permit or license for anything. High capacity wells should not be treated any differently. They should be periodically reviewed to ensure that our precious water is clean, healthy and plentiful for all to enjoy. The reasons for rejecting these bills are clear:

- SB 76/AB105 do not solve the growing water crisis in the state. Rather, they will exacerbate the problem by depleting our precious clean water. Depletion of our precious clean water is a road to environmental disaster.
- While there is merit with the replace or repair options in these bills, (with periodic review in place) the transfer element needs to be removed from these bills. The Public Trust Doctrine says that the waters of the State belong to all of us. Transferring water rights with the sale of property is diametrically opposed to that doctrine.
- By threatening Wisconsin's plentiful clean water, SB 76/AB 105 also threaten land values, tourism, and tax revenue for local municipalities and counties. The economic benefit from water-related tourism for Central Sands region (Adams, Marquette, Portage, Waupaca, Waushara & Wood counties) for 2014 is estimated at \$1.5 billion.
- The Designated Study Areas in these bills do not include the areas that have the greatest impact to surface waters. A study of the entire Central Sands region which includes Goose Lake in Adams County is a better option and more cost effective. Goose Lake has already been designated as a sensitive habitat for the myriad of wildlife it supports. The GLWD urges the legislature not to pass

these bills, which would harm our precious aquifer, which supports our watershed.

- As an attorney, it stuns me that the legislature is even considering the provisions of SB 76/AB105, which remove the right to contest a DNR decision under Wis. Statutes 227.42(1) and 227.52. This means that regardless of how bad the DNR's decision is, if this bill passes, **no person may request a Contested Case Hearing or a Judicial Review** of a DNR decision regarding a high capacity well or an "average seasonal " water level on a lake.

If the legislature passes these bills, thereby permanently permitting high capacity wells, instead of protecting Wisconsin's most precious resource, it will ensure:

- more dry and/or contaminated private and municipal wells;
- continued decline of surface water (lakes, rivers, streams, ponds, wetlands);
- continued decline of groundwater (wells will have to be drilled deeper and deeper);
- continued decline of lake property values;
- continued decline of lake property taxes; and
- continued decline of tax money for schools and roads.

Simply put, there are no good reasons for the legislature to pass SB 76/AB 105 and many good reasons to vote against these bills. On behalf of the Goose Lake Watershed District, as its Chair, I urge you to vote against these bills.

Thank you for your attention to this important matter. I will be glad to answer any questions which you may have.



Sustain Rural Wisconsin Network

March 14, 2017

Representative Lee Nerison and
Representative Todd Novak, Co-chairpersons
Assembly Committee on Agriculture
State Capitol
Madison, Wisconsin 53702

Dear Representative Nerison and Representative Novak:

As President of the Sustain Rural Wisconsin Network (SRWN), I'd like to register our opposition to Assembly Bill 105. We believe this bill will cause irreparable damage to our existing lakes, rivers, wetlands, and streams. In addition, we believe it will intensify existing conditions in sensitive resource areas that have been critically damaged due to the over pumping of high capacity wells. Finally, we believe this legislation is an attack on the Public Trust Doctrine, which declares that the waters of Wisconsin are held in trust by the Department of Natural Resources for citizens. The Public Trust Doctrine states that **"the public interest, once primarily interpreted to protect public rights to transportation on navigable waters, has been broadened to include protected public rights to water quality and quantity, recreational activities, and scenic beauty."**

Not only do members of SRWN find it alarming that these bills are not being sent through the appropriate Legislative committees within our Legislature but we find it inexcusable that the dual hearing planned will further limit citizen participation on these crucial bills that will affect thousands of residents and waterways across the state.

Our biggest areas of concern are:

- Existing high capacity wells in the Central Sands and around the state would be given permission to pump without any limitations or review indefinitely.
- No additional approval is needed for the owner of a high capacity well when a transfer of the well occurs with the sale of property. DNR does not have periodic review to assess or condition the well further in the future even if its use has changed from a minimal pumping well to high level pumping.
- The transfer provision allows elected officials to purposefully and directly ignore the state's Public Trust Doctrine. The transfer provision allows elected officials to purposefully and directly ignore the state's Public Trust Doctrine, which requires the state to protect citizen's rights to the waters of Wisconsin. Transferring water rights with the sale of a property is in direct conflict with that doctrine outlined within our state's Constitution. Transfer wording should be removed from this bill.



Sustain Rural Wisconsin Network

- The bill creates a designated study area, but still does not allow the DNR to assess the cumulative impacts of well withdrawals when issuing or conditioning well permits.
- The sensitive resource study area designated in this bill is studying areas of the Central Sands that are currently showing minimal impact due to high capacity wells and ignoring areas already showing extreme drawdown of water resources. (See attached map)
- Undue industry influence in the drafting and fast-tracking of AB 105. The Wisconsin Democracy Campaign states, "Large potato and vegetable growers doled out about \$152,000 in individual and corporate campaign contributions to all legislative and statewide officeholders and candidates in 2016." Between 2012 and 2016, current members of the Assembly Committee on Agriculture received \$184,798 from agricultural interests (individual and PAC). Respectively, Representatives Ripp, Novak, Brooks and Tranel received nearly 60% of those contributions.

As Wisconsin residents, we demand that our elected officials enact legislation that will ensure our surface and groundwater will be here for generations to come. We expect them to uphold the Wisconsin State Constitution and oppose any legislation that endangers the Public Trust Doctrine.

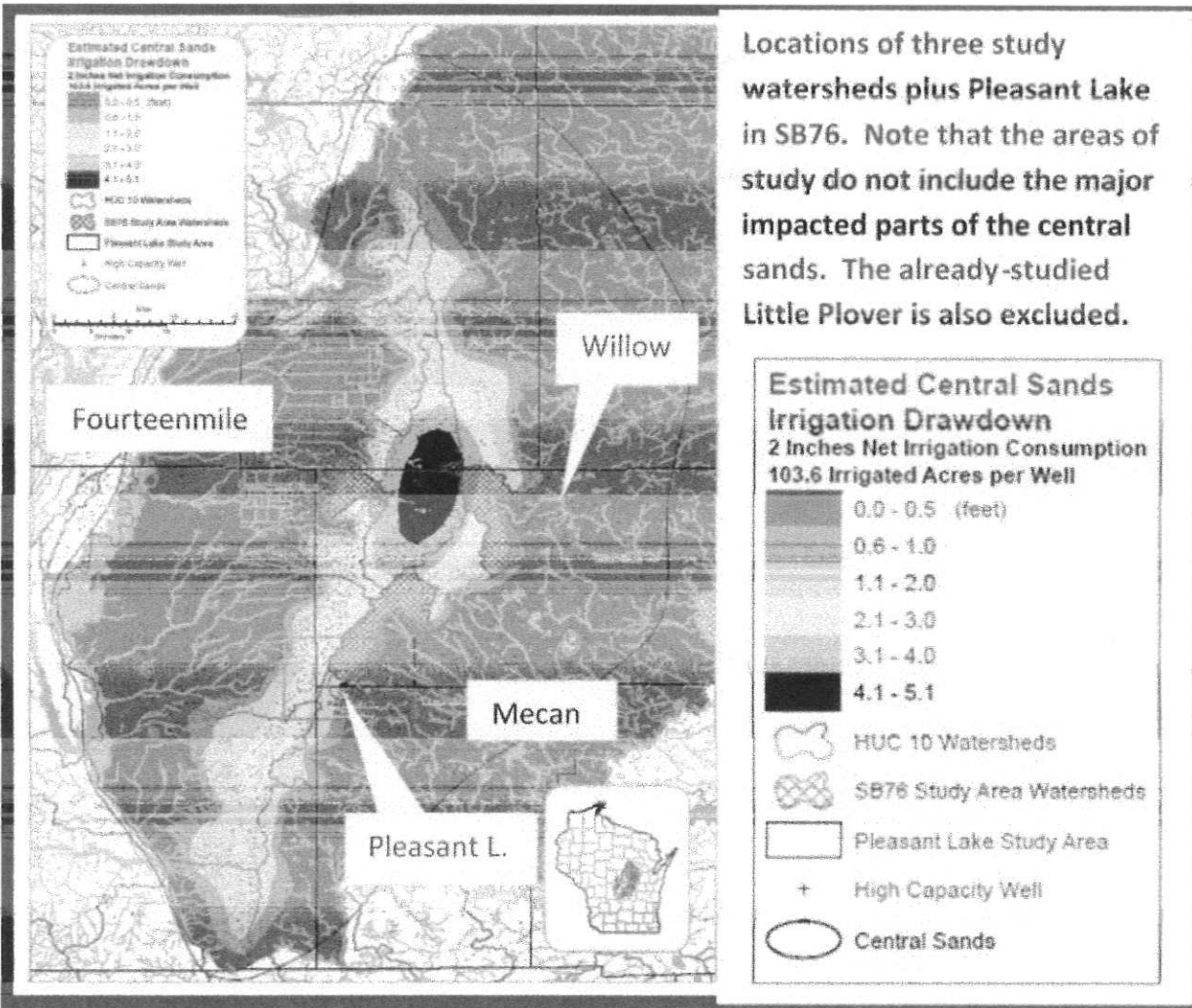
We expect our representatives will protect citizen interests over big industry donors who are attempting to buy preferential legislation.

Thank you,

Mary Dougherty, President
Sustain Rural Wisconsin Network

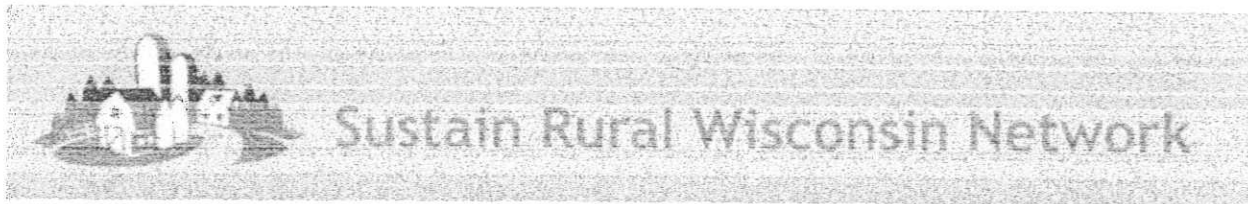


Sustain Rural Wisconsin Network



Locations of three study watersheds plus Pleasant Lake in SB76. Note that the areas of study do not include the major impacted parts of the central sands. The already-studied Little Plover is also excluded.

SB76/AB105 Sensitive resource areas of study are not addressing areas of impact already identified from high capacity wells and thus allows for the exponential damage to those regions to continue unchecked with this legislation. Map courtesy of wiswaterguy.com



March 14, 2017

Senator Stephen Nass and
Senator Van Wanggaard, Co-chairpersons
Senate Committee on Labor and Regulatory Reform
State Capitol
Madison, Wisconsin 53702

Dear Senator Nass and Senator Wanggaard:

As President of the Sustain Rural Wisconsin Network (SRWN), I'd like to register our opposition to Senate Bill 76. We believe this bill will cause irreparable damage to our existing lakes, rivers, wetlands, and streams. In addition, we believe it will intensify existing conditions in sensitive resource areas that have been critically damaged due to the over pumping of high capacity wells. Finally, we believe this legislation is an attack on the Public Trust Doctrine, which declares that the waters of Wisconsin are held in trust by the Department of Natural Resources for citizens. The Public Trust Doctrine states that **"the public interest, once primarily interpreted to protect public rights to transportation on navigable waters, has been broadened to include protected public rights to water quality and quantity, recreational activities, and scenic beauty."**

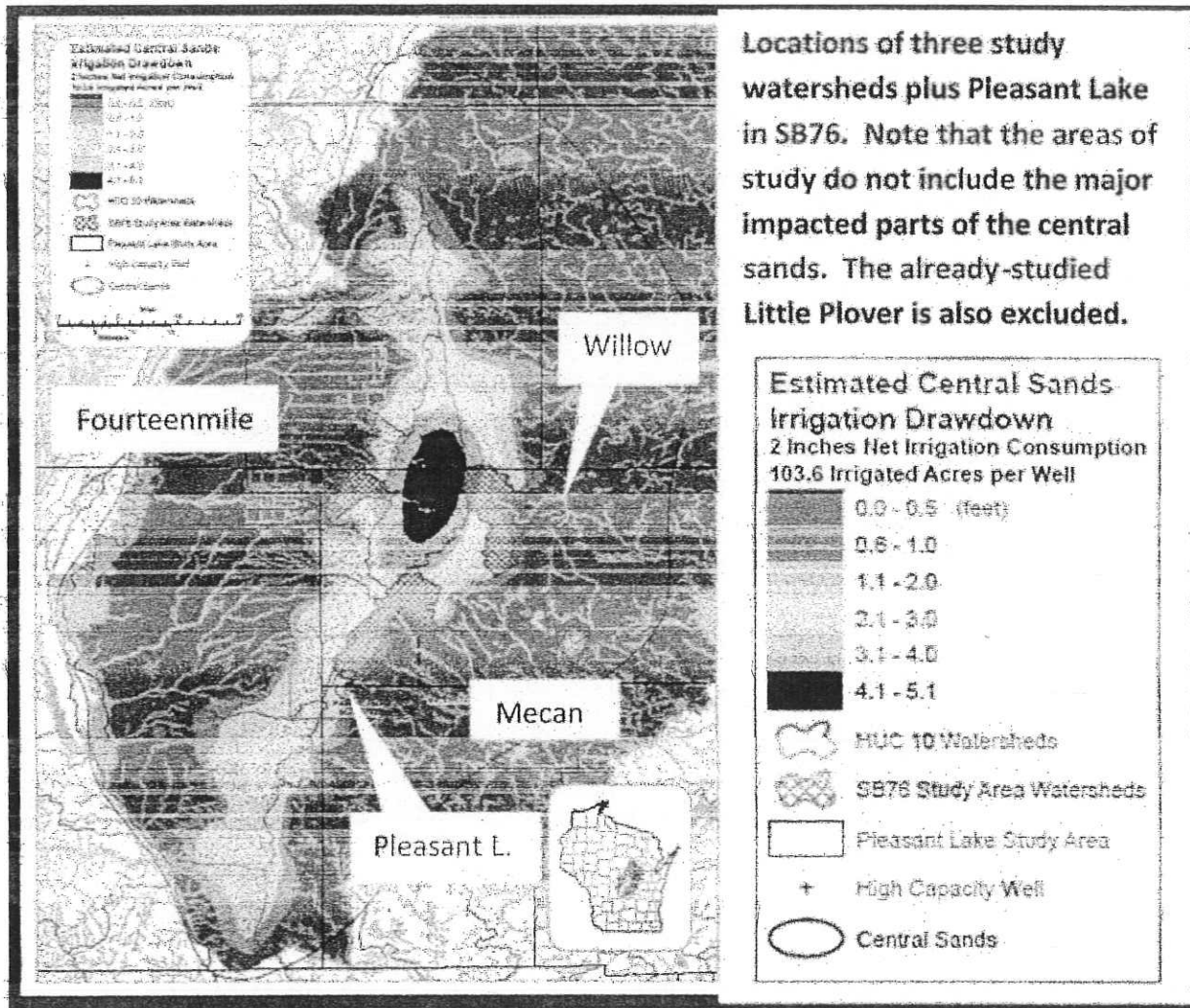
Not only do members of SRWN find it alarming that these bills are not being sent through the appropriate Legislative committees within our Legislature but we find it inexcusable that the dual hearing planned will further limit citizen participation on these crucial bills that will affect thousands of residents and waterways across the state.

Our biggest areas of concern are:

- Existing high capacity wells in the Central Sands and around the state would be given permission to pump without any limitations or review indefinitely.
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Sustain Rural Wisconsin Network



Locations of three study watersheds plus Pleasant Lake in SB76. Note that the areas of study do not include the major impacted parts of the central sands. The already-studied Little Plover is also excluded.

SB76/AB105 Sensitive resource areas of study are not addressing areas of impact already identified from high capacity wells and thus allows for the exponential damage to those regions to continue unchecked with this legislation. Map courtesy of wiswateryguy.com



Wisconsin Corn Program
W226N5956 Lynwood Drive
Lisbon, WI 53089
262-372-3289

Testimony on Senate Bill 76

March 15, 2017

Chairmen and Members of the Committees,

My name is Zeb Zuehls. I am here today representing the Wisconsin Corn Growers Association. I am a member of their board.

I am a 4th generation farmer and my family and I farm near Montello in Marquette County – we raise corn, food grade soybeans, alfalfa, and small grains. Being a fairly young farmer, I made the investment in irrigation and 2 high cap wells to carry our family farm into the next generation about 8 years ago. They are vital to our operation.

As with any business you want a return on investment. Each year we plant the crops, we hope for a bountiful one to support our farm. Irrigation has eliminated one of those negative factors on our subpar soils by allowing me to water when I need it.

I know lots of groups have concerns with this bill. I value water just as much as anybody. We water only when we need to. It costs money every time you turn that switch on. I have been asked “why are you watering when the forecast is rain?” Well I don’t know the last time there was a good forecast on actual rainfall. Most of the time I am putting on a minimal amount and using fertigation which means I am applying small amounts of fertilizer feeding my crops. This helps us use fewer nutrients to grow a crop and keeps our streams and lakes cleaner.

This bill is very important to my family but also to every farm in the state that contains a high capacity well. Our farm operation is absolutely dependent on having the irrigation systems that we have in order to raise productive crops on our sandy ground. If for some reason, a bureaucrat in Madison is able to prevent us from using these wells or even placing any significant limitation on the usage – well many years our crops would wither and die and our farm would be out of business.

Currently, there has not been any proposal to allow the government to just come in and shut our wells down. However, without this bill, it *has* been possible for the DNR to not issue a permit if we need to repair or replace a well that for some reason has failed. The results of having that permit denied would be just as catastrophic as if the government just came and seized our farm outright.

The same goes if someday I want to pass our farm on to my 4 girls – if that transfer of a well permit can be denied, well...you get it.

It is impossible for me to overstate how important the passage of this bill is to my family’s livelihood and to the continuation of Wisconsin’s strong Agricultural Heritage.

Please vote to support SB 76. Thank you!



Wisconsin Corn Program
W226N5956 Lynwood Drive
Lisbon, WI 53089
262-372-3289

Testimony on Senate Bill 76

March 15, 2017

Chairmen, Senators, Representatives,

Good afternoon. My name is Jim Emmert. I am here today representing myself and the Wisconsin Corn Growers Association.

My brother and I are 3rd generation farmers from Baldwin in Northwestern Wisconsin. We farm over 6000 acres of corn, beans and other crops in St. Croix and Polk Counties. 33% of the cropland we farm there is under irrigation.

We also are involved in a farm partnership with Beskar Farms just north of Menomonie. There we raise corn and vegetables on over 9000 acres with over 8000 of those acres irrigated. The soil there is very sandy and without irrigation – nothing really would grow at all.

As it is, with water available, our farms are some of the most productive in the world – and that is not an exaggeration.

So we are good stewards of that water resource. And pumping water is expensive. So we have invested in many high tech advances in order to reduce water flow and put only just the right amount of water on any field, or even part of a field, and only at just the right time.

We are a long way from the Central Sands region where there has been a lot of talk and a lot of controversy. Our water table tends to be anywhere from 30 to 60 feet below the surface and hasn't really shown any change in the last 50 years

Yet those who would oppose this bill don't really make any distinction between our farm and those hundreds of miles away in central Wisconsin.

SB 76 is very important for our farm and for all farms in Wisconsin. It prevents a bureaucrat or some activist judge from interfering if I need to replace or repair one of our wells. If that well goes down, so does my farm. Period.

And our farms not only support our family, but we employ.....other folks who depend on us for their livelihood. The economic impact of our operation also supports suppliers, other farms, truckers, our local ethanol plants and many others in the community.

My oldest nephew Gavin has a real passion for farming, he and my brother's other kids will probably be taking over our farm someday and they will need to have those well permits transferred. Without that, they wouldn't be able to farm and all that food and all that economic impact would come crashing down.

Please support Wisconsin Agriculture. Please Support SB 76.

Thank you.

Friends of the Little Plover River

1100 Main Street Suite 150
Stevens Point, WI 54481
www.friendsofthelittleploverriver.org



March 15, 2017

Dear Senator/Representative

We oppose SB 76 and AB 105.

We are long term residents of Portage County having lived in the same home, which we built on the shore of the Little Plover River, since 1976. Barb owned three retail businesses in downtown Stevens Point until her retirement. Jim taught at UW Stevens Point for 32 years and has served on the Portage County Board for 24 years.

Rather than granting permanent well approval, we support a compromise that would require periodic review of all high capacity wells every ten years or when land is sold, whichever comes sooner. We believe that ten years is a pretty fair degree of certainty that some are asking for.

As we can see in the six counties of the Central Sands, there is already a severe problem with declining ground water levels impacting lakes and streams. By making well permits permanent, SB76 and AB 105 ensure all high capacity wells a "forever" water usage protection regardless of negative impacts on our lakes, streams, wetlands and the "water rights" of all Wisconsin citizens as stated in the Wisconsin Public Rights Doctrine. Without such review we will have:

- Continued decline of surface water (lakes, rivers, streams, ponds, wetlands).
- Continued decline of groundwater (wells will have to be drilled deeper and deeper)
- Continued decline of lake and stream property values and property taxes
- Continued decline of tax money for schools
- More dry and/or contaminated private and municipal wells (over-pumping from high capacity wells affects the leaching of contaminants)

We who live here in the Central Sands (comprised of six counties) have many concerns. Those of us who live in Portage County (where we reside) are faced with some truly daunting realities. In the Central Sands Area there are over 3000 High Capacity Wells (HCW.)

In Portage County alone:

- 1) Portage County has over 1100 HCW . . . that is 1/3 of all the HCW in the Central Sands;
- 2) Portage County is Number 1 in the state in HCW groundwater withdrawals;
- 3) Portage County is one of the State's TOP COUNTIES where NITRATE contamination is trending 30% to 40% higher.

- 4) Portage County has municipalities currently looking for other HCW for drinking water for its citizens, but they are finding the task daunting for most potential sites explored are already at significantly higher nitrate contamination levels;
- 5) Portage County is losing its once vibrant rivers and lakes due to the lowering of the very groundwater that gives them life for all Wisconsin citizens to enjoy;
- 6) Portage County has another significant hurdle to address in the near future—the cost of additional treatment plants that will be needed to remove contaminants such as nitrates in order to ensure safe, clean drinking water for its citizens. A question might soon be asked “how are we to pay for these treatment plants which are necessary for contamination removal?”

We request that all new HCW have automatic flow meters which would support the accuracy of the science. Currently all HCW users do their best to estimate the amount of water pumped, but please note that all municipal wells are metered.

We also request that you support the use of the well-established science regarding our most valuable resource—water. Please do not continue to deny the use of "cumulative impact."

Time is running out for Wisconsin citizens and the water we use for life and recreation.

There are certain issues which demand that a legislator needs to look beyond the interests of a select group and consider the impact of their decisions on the welfare of all the citizens of Wisconsin. We believe this is one such issue.

Please consider all the citizens of Wisconsin and future generations and vote NO on any groundwater legislation that might be introduced this session so that we have the time, in the next session, to consider thoughtfully what needs to be done to fairly meet the water needs of everyone.

Friends of the Little Plover River
Barbara Gifford, President
2421 Rainbow Drive
Plover, WI 54467

Email: barbaragifford@charter.net

SB 76

All waters in Wisconsin are connected-lakes, streams, and aquifers. Over-pumping of ground water threatens access to water and allows one person's actions to harm his or her neighbors.

We can't allow SB76 to proceed. Allowing more almost automatic approvals of high capacity wells and effectively making them permanent while doing more studies does not bode well for our ground water, lakes, streams, and wetlands.

We need to restore the ability of the DNR to protect our water resources. We also need to push Corporate Agriculture toward more sustainable practices. They farm land in the Central Sands where, without large inputs of irrigation, fertilizers, and pesticides there would be no such farms. This is a major contributor to our contaminated and depleted ground water. It is pretty difficult if not impossible to repair contaminated ground water so as in health, "an ounce of prevention is worth a pound of cure".

Senator Fitzgerald's latest high capacity well bill could perpetuate existing problems and cause problems for our drinking water supply. Clean water is critical for our recreation and economy but even more importantly to our health and safety. We need legislation that addresses the current water concerns and protects Wisconsin's water for future generations.

Denise Brennecke
6849 Pleasant Dr
Almond, WI 54909



PORTAGE

COUNTY **O**FFICE OF THE

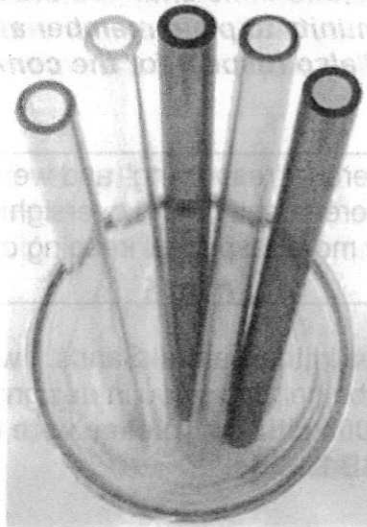
EXECUTIVE

Patty Dreier

County Executive

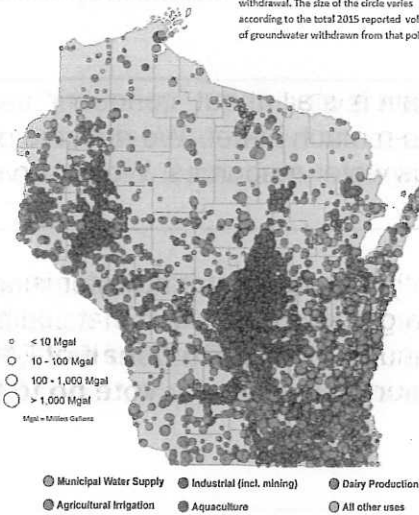
March 14, 2017

Vote "no" to AB 105. We urge you to convince your colleagues to vote "no" to SB 76, too. Please.....



2015 Groundwater Annual Withdrawals

Each circle represents a single 2015 point of withdrawal. The size of the circle varies according to the total 2015 reported volume of groundwater withdrawn from that point.



How much is too much water to pump out of hi-cap wells for all competing water wants and needs today, as well as for an unknown future?

We are proud of our agricultural heritage and achievements here in the Central Sands. Farmers need to be able to repair and replace their existing wells. However, allowing them to pump all the water they want forever and transfer to anyone else who may also pump all the water they want forever is an irresponsible policy.

What's to prevent other interests (including foreign interests?) from coming in to buy up the land and then pump all the water they want (year round—not just for a growing season) and then ship that water elsewhere, putting our water resources further at risk? It wouldn't be good for agriculture or other local businesses. It wouldn't be good for our tax base of rural dwellers dependent on private wells. What about our lakes, streams or tourism.....?

(MORE)

AB 105 does not provide a better policy in a complicated world of competing interests and greater demands on water resources.

- More studies where good science is ignored or which don't lead to meaningful actions are wastes of tax dollars and time.
- Refilling lakes with hi-cap wells pumping from the same aquifer is ridiculous—like pumping water from the bottom of a bathtub to fill that same bathtub.

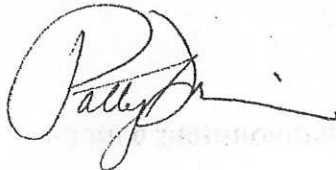
There are many issues with AB 105—too many to mention in a single letter. Please enact policies with our SHARED water future in mind and with a sensible application of ecological principles—starting with “EVERYTHING IS RELATED TO EVERYTHING ELSE.” **YES, CUMULATIVE IMPACTS DO MATTER** and to pretend otherwise is a grave mistake.

To quote one of Wisconsin's own, Aldo Leopold: ***“A land ethic changes the role of Homo sapiens from conqueror of the land-community to plain member and citizen of it. It implies respect for his fellow-members, and also respect for the community as such.”***

This proposed legislation is all about “conquering” versus “respecting” and we, the community, deserve so much better. We deserve more foresight and oversight of our community's precious water resources. We deserve more respectful keeping of our public trust and water legacy.

I am happy to talk with you about groundwater issues in the Central Sands. I would be honored to arrange a groundwater tour if that could be helpful to you in designing policies that work for today and tomorrow. **On behalf of 71,000 citizens, please vote NO to AB 105! Please urge your colleagues to vote no to SB 76, too.**

Sincerely,



Patty Dreier

March 15, 2017

Committee on Labor and Regulatory Reform

Senator Nass-Chairman

Comments on Senate Bill 76

Mr. Chairman and members of the committee, I am Bill Vance, representing Friends of the Central Sands (FOCS). FOCS is a member of Sustain Rural Wisconsin Network and of Central Sands Water Action Coalition. I will be presenting comments in opposition to SB76. Given time constraints, I will be commenting on a few, but not all, of the issues we have with the bill.

This bill "grandfather's in" all existing wells, and, in our view, all the environmental problems that go with them. We already know that the proliferation of high capacity wells in the Central Sands has caused significant damage. In the contested case hearing filed by FOCS against the WDNR and Richfield Dairy, after weeks of expert testimony, the Administrative Law Judge ruled that the cumulative impact of all wells in an area must be considered when reviewing a well permit. This valid consideration is not even mentioned in the bill.

Further, SB76 allows for the transfer of wells with land sales with no oversight, effectively creating "water rights ownership", which runs contrary to the Public Trust Doctrine, which declares that the water of the state belongs to all citizens.

The "designated study areas" created in the bill represent only a small fraction of the areas proven by research to be impacted by high-capacity wells. Indeed, those areas proven to be most affected by pumping are not included in the study areas designated.

The study of these areas could take up to three years, and, during their completion, other provisions of the bill would allow unabated proliferation of high-capacity wells in the Central Sands and other regions that are already suffering depletion of ground and surface water. This would exacerbate problems already proven to exist.

We believe that the most glaring weakness in the proposed studies, is that they come with no guarantees. The DNR may make a recommendation for change based the findings of said studies, or they might not. If the DNR did recommend changes, the legislature would have to pass a bill to effect those changes. Given that the legislature, the DNR and the Attorney General have already used Act 21 to nullify a ruling of an Administrative Law Judge, we have little confidence that such action would be taken.

Of course, the entire discussion of studies would be moot, if the legislature decided not to fund the proposed studies.

In summary, the proposal for “designated study areas” included in the bill does little to incentivize any credible environmental group, or the average citizen for that matter, to support the proliferation of high-capacity wells. SB76 reduces the permitting process to a paperwork formality, further reducing the already weakened oversight that was put in place to protect the water that belongs to us all. Therefore, we submit that this bill should not be passed, because it benefits a few at the cost of many, including future generations.

In the copies of my comments that I have provided, I have included pictures that will show some illustration of damage already done by excessive pumping.

Thank You. Bill Vance/ Friends of the Central Sands Board of Directors



Above, despite several attempts to lengthen the pier, these folks couldn't keep up with receding water levels. Long Lake, Plainfield, WI.

On the next page are pictures of the Little Plover River, before and after the proliferation of high-capacity wells over 40 years.



2017 SB 76 / AB 105 Comments

- My name is Patrick Rindfleisch (14 Canvasback Cir, Madison WI 53717) and my family owns a cottage on Witter Lake in Waushara County
- I appreciate you looking at the issue of hi-cap wells, but I am opposed to SB76 / AB105 because it does not provide protections for landowners, specifically the lack of periodic review and the inclusion of the transfer provision are most troubling
- I purchased our cottage in 2006, although it has been in our family since my grandfather built it in 1968. I note that when he built the cottage there were a couple hundred hi-cap wells in the Central Sands and there are now over 3,000
- Over the past several years we have seen large areas of forested land near our lake clear cut and turned into farmland with numerous high capacity irrigation wells.
- During this same period of time we have seen the water levels in our lake drop 2 ½ to 3 feet during the growing season...precipitation levels from rain and snow have been average during this time which leads me to believe that the new high cap wells are having an impact on the lake levels. Interestingly there is a monitoring well in Hancock with continuous data going back to the 1950's that shows a steady decline in water levels as the number of wells increased and precipitation levels were average
- I recognize that irrigation is critical for the yields from the farm fields but my hope would be that as a state we would strike a balance between irrigating crops and protecting the surface waters that are so valuable to the sportsmen, tourists and families that enjoy them
- I often hear the argument that farmers need certainty as it relates to their wells. I would ask, what about the certainty for waterfront property owners? Farmers made investments but so did my family. Since purchasing our cottage in 2006, we have made over \$100k of improvements using local contractors and suppliers, directly benefiting the local economy. If lake levels continue to drop, how much future investment will there be in ours and other lake properties?
- There are risks in all industries and farming should be no different, if a farmer wants to buy land near a lake or stream, clear cut the trees and install a high cap well then they should do so knowing that if the water levels in the lake decline below a certain level they may have to share in the solution
 - HOWEVER, THESE BILLS ENSURE THAT NO WELL NEGATIVELY IMPACTING GROUND OR SURFACE WATER WILL HAVE TO PARTICIPATE IN HELPING TO FIX THE PROBLEM
 - PLEASE CONSIDER ADDING PERIODIC REVIEWS OF EXISTING WELLS TO THESE BILLS
 - PLEASE REMOVE THE TRANSFER PROVISION...THE SALE OF WATER RIGHTS IS DIAMETRICALLY OPPOSED TO THE PUBLIC TRUST DOCTRINE
- In closing, I often look around our lake on summer weekends and see the 50 or 60 cottages full of families and kids enjoying the water and think about the fact that the same scene is being played out on hundreds of other lakes in the area...it would be a tragic mistake not to protect these waters for future generations and I ask you to consider the rights of all citizens as it relates to ground and surface waters in our state and oppose these bills in favor of a balanced solution



March 15, 2017

Chairman Stephen Nass
Senate Committee on Labor and Regulatory Reform
Wisconsin State Capitol
Madison, WI 53703

Chairman Lee Nerison
Assembly Committee on Agriculture
Wisconsin State Capitol
Madison, WI 53703

Dear Chairmen Nass and Nerison:

I am writing to you and your committees on behalf of Milk Source to ask you to support Senate Bill 76 and Assembly Bill 105. Milk Source was founded by three friends and UW-Madison classmates. Our Kaukauna-based company has grown over the years and currently operates four dairy farms in Wisconsin and two others in Michigan. In addition, Milk Source has a Wisconsin calf farm and a heifer-raising facility. Between our Wisconsin headquarters and various farms, we directly employ over 575 people and contribute millions of dollars to local businesses.

At Milk Source, we rely on high capacity wells for our farms. Without them, we would not have the water necessary to provide for our cows. Our company has had projects delayed and spent a significant amount of money on legal fees because of the uncertainty in high capacity well permitting created by the Wisconsin Supreme Court's 2011 *Lake Beulah* decision. We have been involved in two contested case proceedings over high capacity well permits since 2011. The first involved our farm, New Chester Dairy, which is in southern Adams County. The second involved a proposed farm in northern Adams County. As a company, we can speak firsthand to how this uncertainty has interfered with and discouraged our plans to invest in Wisconsin. Our decision to expand into Michigan was made as these contested cases continued to drag on.

For our state to remain an appealing place to build or expand a dairy farm, it is essential that predictability be restored to the high capacity well permitting process. These bills are a step in the right direction. However, they fall short by not addressing the permitting of new wells.

Our company has been repeatedly recognized as a sustainability leader. For example, Milk Source received the national Innovative Dairy Farmer of the Year award in 2014 and was named Wisconsin Manufacturers & Commerce's 2014 Business Friend of the Environment. We also received the Wisconsin Family Business Council's 2015 "Innovation & Sustainability" Award, and we were one of three finalists for the 2014 and 2015 Wisconsin Leopold Conservation Awards.

Chairman Nass & Chairman Nerison

March 15, 2017

Page 2

These bills will help to encourage the growth of the dairy community in Wisconsin. They will eliminate legal confusion and restore a functioning high capacity well permitting system for at least some wells. Wisconsin has already missed out on the opportunity for more investment because of the uncertainty over permitting. With the sixth anniversary of *Lake Beulah* approaching, it is well beyond the time to act. Please support Senate Bill 76 and Assembly Bill 105 today.

Thank you,

MILK SOURCE, LLC

By: _____

James Ostrom, Partner



Wisconsin Farmers Union Seeks Middle Ground on High Capacity Well Legislation

Madison- SB76/AB105 would make it easier for farmers to repair, replace, or reconstruct their high capacity wells. It would also give farmers a measure of certainty in property values by allowing the well permit to transfer with the sale of property. Wisconsin Farmers Union supports both these provisions in the bill, but urges legislators not to sign on as co-sponsors unless the bill is amended to include a periodic review of all high capacity well withdrawals.

Without periodic review, two classes of water users will be created under this bill. Those who have permits will continue to have access to as much water as they were originally permitted for while those without permits will be left to fight amongst themselves for whatever remains. This de-incentivizes innovation among farmers by eliminating motivation to use water more efficiently through investment in new irrigation technology. Deterring innovation is a drag on economic growth. New farmers to the area will be put at a distinct disadvantage by having to compete with farmers whose water usage is already guaranteed.

A periodic review of high capacity wells would also provide farmers with information allowing them to make smarter investments. If water resources started to become scarce in an area, they would have some advance warning and could plan accordingly.

Periodic review treats all current and future farmers equally and ensures water is being withdrawn at a sustainable rate. It will help balance the needs of the agriculture and tourism industries and is the middle ground that has been lacking in recent discussions about groundwater and high capacity wells. This review is not uncommon as other upper-Midwestern states have implemented systems that allow for a review of water withdrawals if water resources are significantly depleted.

WFU appreciates Senator Fitzgerald's willingness to take on this difficult issue, and urges state legislators to support a periodic review of all high capacity well permits. WFU cannot support the bill in its current form, but looks forward to discussion as to how the bill can be improved.

Wisconsin Farmers Union is a member-driven organization committed to enhancing the quality of life for family farmers, rural communities and all citizens through educational opportunities, cooperative endeavors and civic engagement. Learn more at www.wisconsinfarmersunion.com.

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Testimony on SB 76 and AB ~~150~~ 105

My name is Rhonda Carrell. I live and run a lifelong business in the Town of Saratoga. Today I'm speaking as a business owner that needs water. Although it may only be 40 gallons per day (give or take a little), I cannot run my business without clean pure water. I must have that guarantee. I have lived in a home in the Central Sands that our private well and pond went dry because of high capacity well pumping. I am a licensed professional that must renew licensing every two years along with continuing education required by the state. I just completed the renewals for all credentialing. This is a way of having check and balance with the industry I work in. I am thankful for the oversight of the Department of Regulation and Licensing, as it ensures quality professionals that are knowledgeable and updated periodically as to laws and protocol for the industry.

Just as I need water, so do other industries. Let's find a fair way to share the water! Periodic review is the only way to have a system that works for all that need water including businesses, homeowners drawing from private wells, lakes and streams and the revenue paid by the taxpayers whose homes and businesses rely on the water. Giving out a high capacity well permit (as the AG Shimel opinion states the DNR must) should not be without the checks and balances of review. It's my understanding that when a high capacity well is going down, there are indicators that this will/may occur and many times emergency replacements can be avoided. If a well goes dry during growing season, I believe it should be replaced. A grower cannot afford to lose an entire field. That should not happen!

A periodic review of a high capacity well's impacts is imperative. What is wrong with protecting and preserving the water for the majority of the taxpayers? We must all share the water and you cannot buy and sell the state's water. I have no problem with a family being able to pass on their farm to the next generation. This was done in the last four generations of my husband's family. What cannot be done is guaranteeing water without review to anyone that applies for a high capacity well, pays the fee, drills the well and turns around and sells the land. We have experienced straw buyer, Scott Kotlowski, purchasing land, attaining the high capacity well and turning it over to the Wysocki Companies for manure dumping. I fear this bill in its current form would allow/promote this practice.

I ask that you, our legislators, take action in the Little Plover River that has been studied extensively. Please study the entire of the Central Sands, not just three silly arbitrary areas. To be fair to the majority, overrule the Schimel decision so high capacity wells can go in where there is little problem rather than where we already have substantial issues.

A little analogy on high capacity wells: You are at a party holding a giant margarita (the aquifer) thinking you can enjoy this perfect drink for a long time, when suddenly everyone at the party sticks their straw (high cap wells) in your glass and it is empty before you know it. Think about this.

Rhonda Carrell
2320 Evergreen Ave.
Wisconsin Rapids, WI 54494
715-325-2467



**Testimony of Amber Meyer Smith, Director of Government Relations
SB 76/AB 105
Assembly Committee Agriculture/ Senate Committee on Labor and Regulatory Reform
March 15, 2017**

Clean Wisconsin is a non-profit environmental advocacy group focused on clean water, clean air and clean energy issues. We were founded forty-seven years ago as Wisconsin's Environmental Decade and have thousands of members around the state.

I am speaking today in opposition to SB 76/AB 105 because it takes us in the wrong direction in terms of protecting our water resources. It is a sad fact that there are areas in Wisconsin where rivers, lakes and streams are drying up and current law does not provide adequate protection. Once waterfront properties are now mud front properties and neighbors are now pitted against each other for the use of scarce water resources. SB 76 and AB 105 will make it even more difficult to deal with the bigger problems of groundwater drawdowns and guarantee that these problems will only continue to get worse in the future.

The problem is most notable in the Central Sands, where sandy soils require a lot of water to grow crops. One third of the 288 billion gallons of groundwater withdrawn annually in Wisconsin comes from the central sands – which covers just 5% of the state's area. The Little Plover River was named one of the country's "Most Endangered Rivers" in 2013. You will hear from many citizens here today that live in this area, and have been dealing for years with problems caused by over-pumping of groundwater without many answers aside from pooling their own resources and making their cases in court.



wells to get reviewed and modified in the future.

In 2004, the Groundwater Protection Act (Act 310) took an important step forward for protecting groundwater. But it was widely acknowledged that additional legislation would be necessary to adequately protect water supplies. It is now over ten years since the passage of Act 310, and the problems continue to grow, yet there has been no forward movement. When you consider that there has been an explosion of high capacity well permit applications in the last few years, the need for a solution is more urgent. SB 76/AB 105 is not that solution, and will in fact remove the only real opportunity for

The science is clear, and gets clearer every day. In 2016, the results of a state-funded study conducted by the Wisconsin Geological and Natural History Survey and the U.S. Geological Survey showed that irrigation has the biggest impact on the Little Plover River. The study authors produced the Groundwater Flow Model for the River, which lays out ways to restore the River to sustainable levels. The authors of the study noted that the next step in using this science would be to scale up their model for the whole Central Sands, with a price tag of about \$750,000. It is sad that SB 76/AB 105 ignores that advice and is not studying the whole Central Sands, not providing money for a study, and not providing any guidance or authority for DNR to implement the tools the model provides to achieve sustainable groundwater use for everyone.

We understand the intention of SB 76/AB 105 is to be limited in scope, but unfortunately its impacts will be vast. Allowing a high capacity well to be repaired, reconstructed, replaced or transferred without a review by DNR could have a big impact in areas like the Central Sands. Until Attorney General Schimel's opinion in 2016, when an applicant applied to repair, reconstruct, replace or transfer their well, DNR had the ability to review the permit and make sure it was not adding to the cumulative impact stressing water resources in an area. This review was the only real opportunity to address wells that might be contributing to the problem because there is no other expiration date for high capacity well permits, and thus no other natural point of review. In fact, Clean Wisconsin is currently challenging high capacity well permits issued since this opinion because we believe the state is no longer meeting its constitutional duties under the Public Trust Doctrine. In short, we are fighting to have this review authority restored.



Furthermore, it creates access to water that runs with the property - the first person to stick their straw in the glass is essentially assured that level of pumping forever. There is a solution: set a timeframe for the expiration of high capacity well permits. If there is a periodic review of these permits that comes upon expiration, then we would have no problem with ending the review that happens when a well is transferred, repaired, replaced or reconstructed. Most other permits have an expiration timeframe around 5-10 years. In fact, 2017 SB 22/AB50 suggest 10 years. Permit certainty should not mean "forever," and no other industry in Wisconsin has that expectation, and can still operate with enough permit certainty.

We have heard proponents of the bill argue that DNR still has the ability to tackle problems with water drawdowns through Wisconsin Ch. 30.03 and Ch. 281.34. Unfortunately, neither offer real solutions for reviewing permits and making the needed adjustments to prevent problems.

Ch 30.03(4)(1): While it is an authority that exists within the statutes, it has never been employed by DNR as a tool to address problems caused by high capacity wells because it is unrealistic and administratively burdensome. To launch a Ch. 30 action DNR would have to name all high capacity well owners in an area as jointly liable for the cumulative impacts of their wells on a waterway. Then there would be an entire contested case process around that liability. Only when a hearing examiner issues "an order directing the responsible parties to perform or refrain from performing acts...to fully protect the interests of the public in the navigable waters" would anything be accomplished. In addition, Ch. 30.03 only applies to damage to a navigable water, thereby leaving damage to private wells or wetlands without recourse or review options.

Ch. 281.34(7): This is an authority that DNR can only utilize to modify or rescind a permit because there is a permit violation. It is not permit violations that are causing problems in the Central Sands, but rather lack of adequate limitations in the permits. That is why taking away the only periodic review that currently exists will compound problems in the Central Sands and remove an important tool for managing groundwater resources.

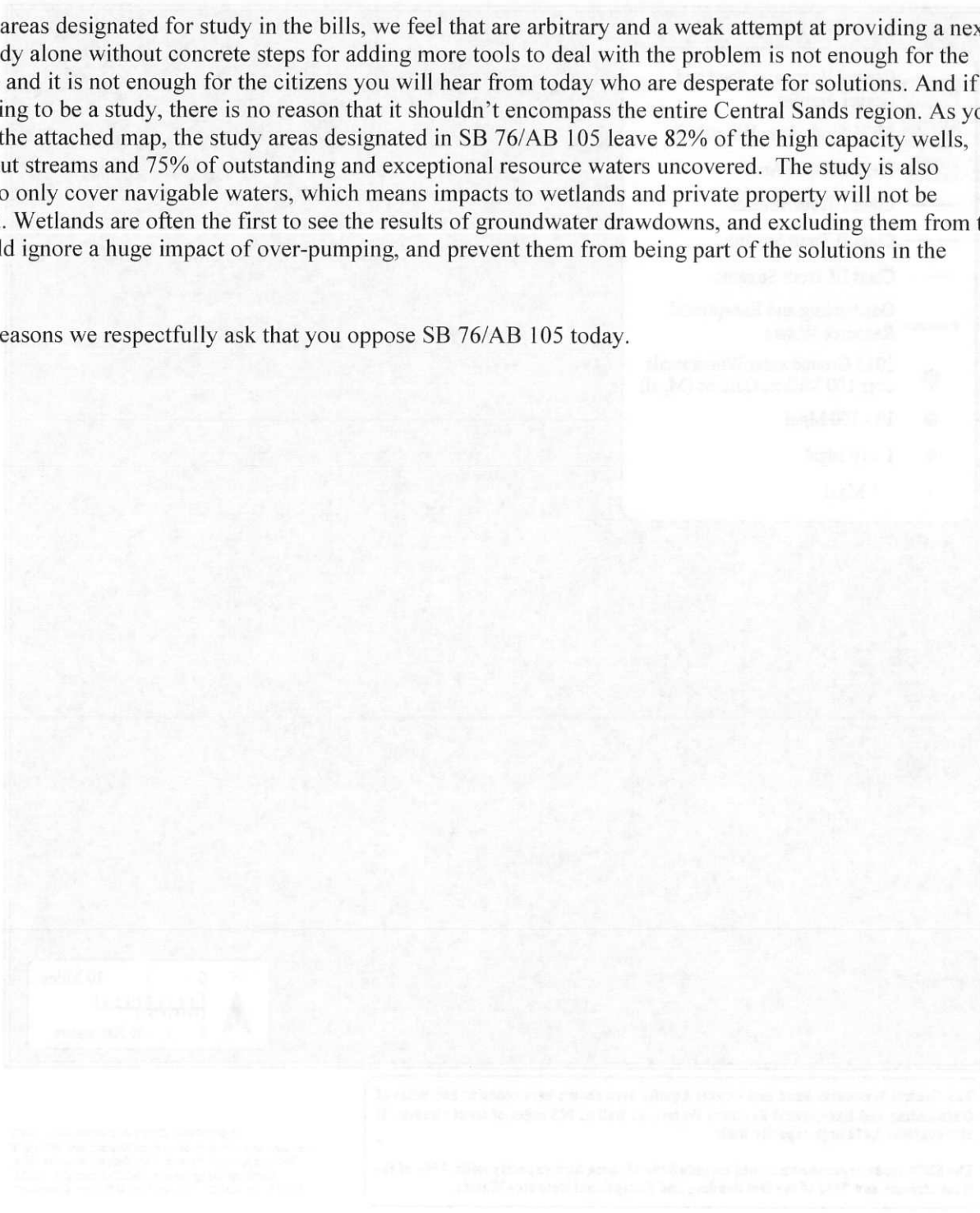
Options that can only be employed AFTER damage has already been caused are not solutions. We need to prevent damage from occurring in the first place and put in place sustainable groundwater management guidelines, not just rely on ways to address problems after the fact. The investments that farmers make in their



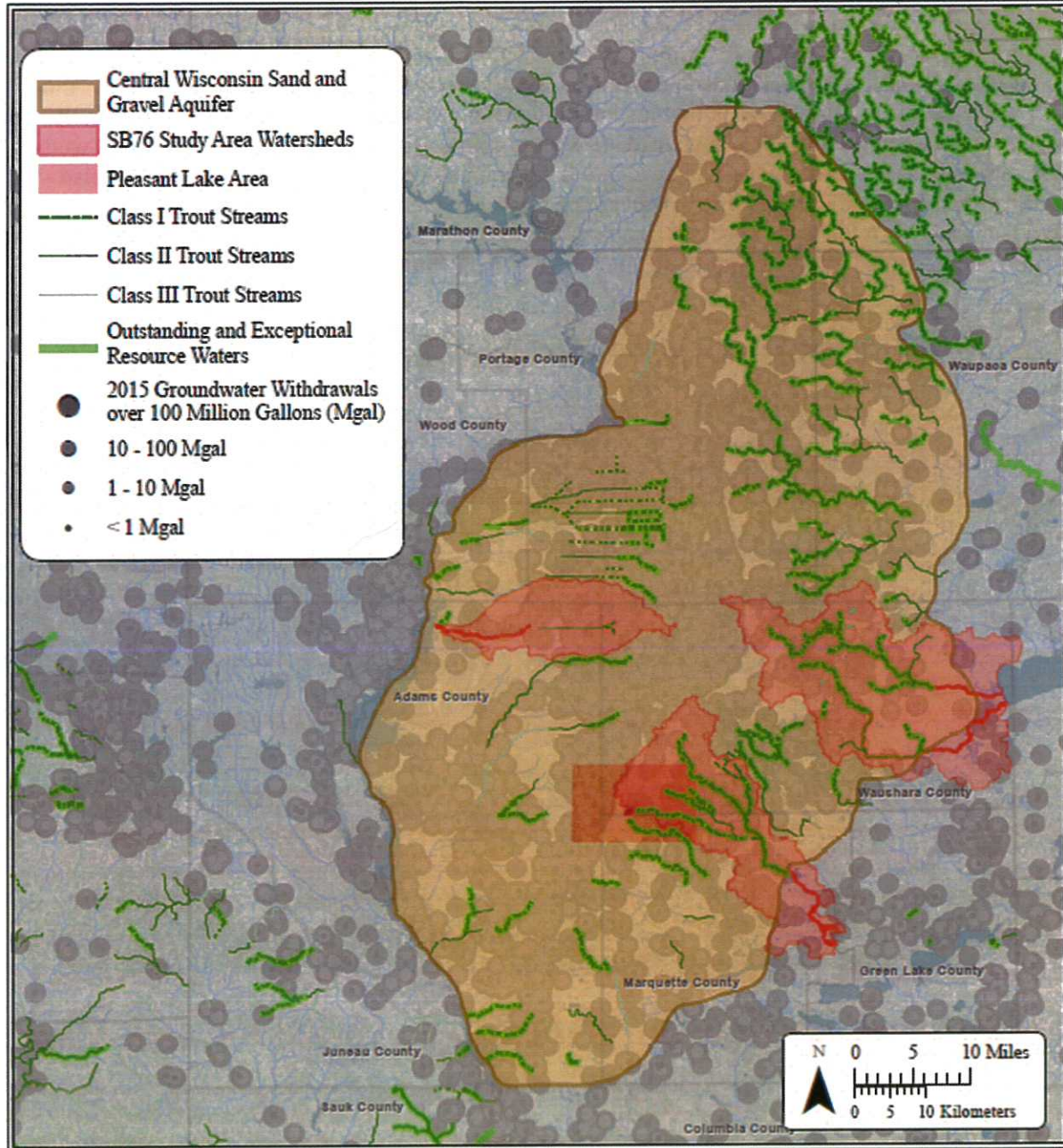
property and wells should be protected. But that protection needs to be balanced with the equally important need to protect the investments homeowners make in their properties, the public's right to use and enjoy our state's waterways and the investments our state makes in protecting our natural resources. Without a balanced approach to resource management, this bill will pick winners in the fight for groundwater resources, and will guarantee the losers are homeowners, tourism, and local tax base.

As for the areas designated for study in the bills, we feel that are arbitrary and a weak attempt at providing a next step. A study alone without concrete steps for adding more tools to deal with the problem is not enough for the waterways and it is not enough for the citizens you will hear from today who are desperate for solutions. And if there is going to be a study, there is no reason that it shouldn't encompass the entire Central Sands region. As you can see in the attached map, the study areas designated in SB 76/AB 105 leave 82% of the high capacity wells, 79% of trout streams and 75% of outstanding and exceptional resource waters uncovered. The study is also proposed to only cover navigable waters, which means impacts to wetlands and private property will not be considered. Wetlands are often the first to see the results of groundwater drawdowns, and excluding them from this study would ignore a huge impact of over-pumping, and prevent them from being part of the solutions in the future.

For these reasons we respectfully ask that you oppose SB 76/AB 105 today.



2017 Wisconsin SB76 Potential Study Area: Central Sands

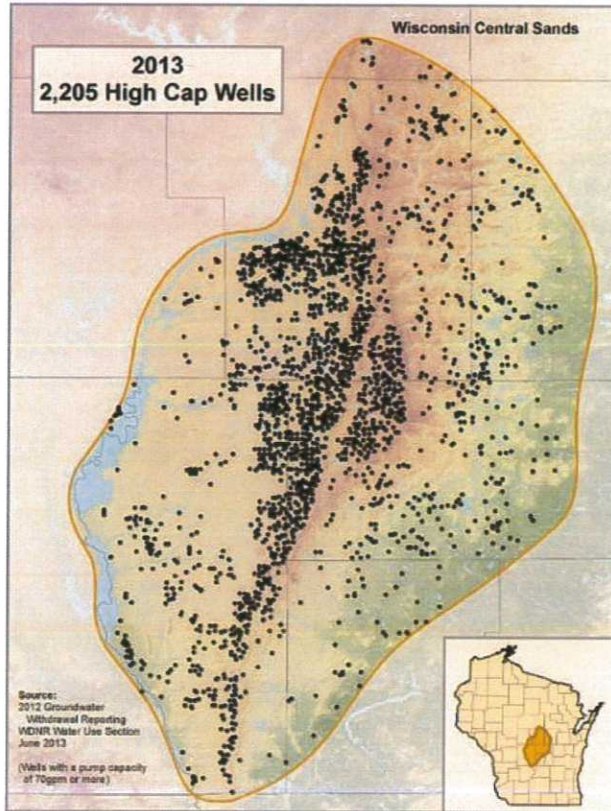


The Central Wisconsin Sand and Gravel Aquifer area shown here contains 565 miles of Outstanding and Exceptional Resource Waters, as well as 908 miles of trout streams. It also contains 3,474 high capacity wells.

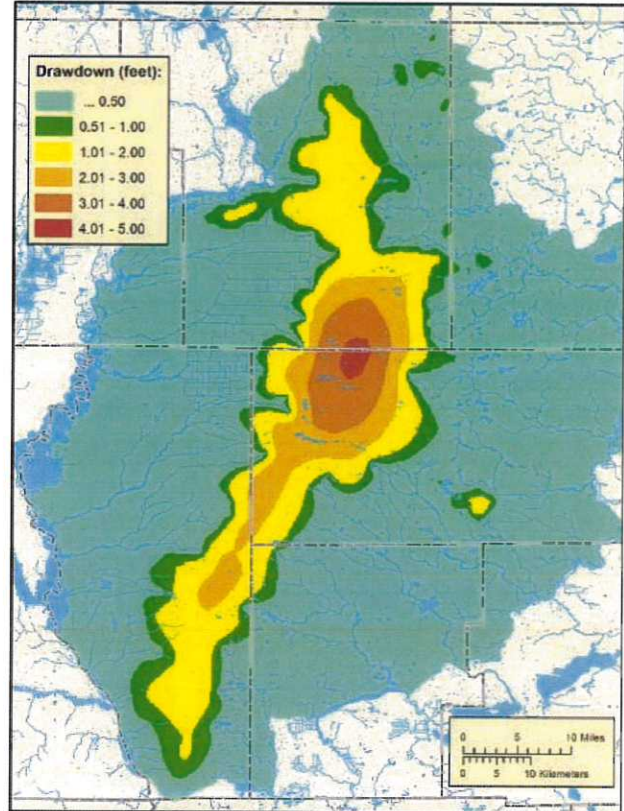
The SB76 study areas shown would exclude 82% of those high capacity wells, 79% of the trout streams and 75% of the Outstanding and Exceptional Resource Waters.

Tyson Cook, Clean Wisconsin (Feb. 2017)
Service Layer Credits: Wisconsin Department of Natural Resources, Other Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Central Sands Hi Cap Wells



Central Sands Drawdowns



Kraft et al. 2012; Bradbury et al. in press

**TO: Members of the Senate Committee on Labor and Regulatory Reform
Members of the Assembly Agriculture Committee**

**FROM: Jim Holte
President of the Wisconsin Farm Bureau Federation**

DATE: March 15, 2017

RE: Support SB 76 & AB 105 – High Capacity Well Legislation

The Wisconsin Farm Bureau Federation (WFBF) respectfully requests your support for Senate Bill 76 and Assembly Bill 105, relating to the replacement, reconstruction and transfer of ownership of existing high capacity well permits.

Current law requires a person to obtain approval from the Department of Natural Resources (DNR) before constructing a high capacity well. A high capacity well is defined as a well and all other wells on the same property that together have the capacity to withdraw more than 100,000 gallons of water per day.

In the 2011 State Supreme Court decision in *Lake Beulah Management District vs State*, the Supreme Court ruled that DNR had the authority to require the environmental review process for all high capacity well permit applications, including those for replacement, reconstruction and transfer of ownership of existing high capacity well permits. Prior to the Court's decision, DNR used the environmental review process for new high capacity well permit applications that met one of the following conditions: 1) may impact the water supply of a public water utility; 2) may impact an outstanding resource water body or an exception resource water body; 3) is to be used to withdraw water for bottling purposes and; 4) may impact larger scale springs.

In 2016, the Wisconsin Attorney General issued an opinion clarifying DNR's authority regarding the issuance of high capacity well permits based upon 2011 Wisconsin Act 21, which was not considered by the courts in the *Lake Beulah* case.

SB 76 & AB 105 clarify state law by directing DNR to restore certainty to previously issued high capacity well permits. SB 76 & AB 105 state that no additional approval is needed for an existing high capacity well to repair or maintain the well, to construct a replacement high capacity well of substantially the same depth within a 75-foot radius of the existing high capacity well, to reconstruct the existing high capacity well, or to transfer the approval of a high capacity well for the same use as part of the sale of land where the well is located.

It should be noted that in these instances no new water withdrawals are being approved; but rather, existing wells are either being repaired for continued use, replaced for continued use or being owned by a different person for the same use. It is important for farmers with existing high capacity wells to have financial and regulatory certainty that they will be able to water their livestock and irrigate their crops as previously approved by the DNR.

Again, WFBF requests your support for SB 76 & AB 105. Thank you for your time and consideration. If you wish to discuss this issue further, please contact me at 608-828-5701.

Testimony before the Joint Hearing of the Wisconsin Senate Committee on Labor and Regulatory Reform and the Assembly Committee on Agriculture. March 15, 2017.

My name is John Witte. For 12 years I have owned a small home on Hidden Springs Lake at W6358 Hidden Springs Drive, Neshkoro, WI. Our lake is in the middle of the Central Sands Country that is under discussion for the dramatic increase in high-capacity wells. There are 155 families on the lake, which was manmade in the mid-1970s. There are dozens of such lakes in the immediate area. Our lake has approximately 33% permanent residents, with over 100 who use their homes primarily as cottages. The home prices are generally between \$125,000 and \$175,000; low in part because it is a no-wake lake (as also are many lakes in the area). Thus we are not wealthy second-home owners.

I come before you today to ask that the legislature delay a vote on this high-capacity well bill at least for another year. My argument is of course self-serving, but I believe it is much more than that. In this part of Wisconsin, which I know very well for such towns as Wautoma, Wild Rose, Princeton, Berlin and Plainfield, there is unfortunately very little industry left. The economy relies primarily on services to permanent residents and tourists like myself and my extended family.

Both segments of that population depend heavily on the lakes that surround these towns. If the lakes were to go dry or become extremely shallow, hundreds of homes would go up for sale on each lake. And there would be few buyers because service and government jobs in education and health, would decline as we move away and other potential buyers look elsewhere. Populations are already declining in these counties, but if the lakes were to disappear, Sand Country would be gone and central Wisconsin would not recover.

Are a few large potato and vegetable farms that important in contrast to health of the broader economy? Please give us a year or more to study the situation further and to make our case to the broader populations that would be affected if these wells have the adverse effects many believe they have had and will have in the future.

Thank you for allowing me this time.

Respectfully,

John F. Witte
witte@lafollette.wisc.edu
608-445-5026

CWAS



100 East Main St. Phone: 715-896-2569
P.O. Box 87 Email: Orders@cwagservices.com
Alma Center, WI 54611 www.cwagservices.com

Thank you for the opportunity to address this body today, and special thanks to Chairman Nass and Chairman Nerison, as well as the members of their respective committees. My name is John Borzillo and I am a managing partner at Central Wisconsin Ag. Services, where I lead our veterinary service team. In addition to veterinary care, our company offers a diverse set of services including: milk quality, hoof care, animal nutrition, agronomy, nutrient management, and product sales to dairy farmers.

As a Doctor of Veterinary Medicine and one who has dedicated myself to the care and welfare of dairy cattle specifically, I engage dairy farmers on an ever-expanding range of interests; a particular challenge within an profession in which we must navigate a an rapidly changing regulatory environment

I know we are discussing high capacity wells today, but any discussion of water is inherently bound to animal welfare, so in the time provided today, I would proffer a perspective you may have yet to consider – specifically the impact of water availability on animal welfare.

Proper animal welfare rests solidly on three main pillars: proper nutrition, veterinary care and comfortable housing. Of these three pillars, one may clearly recognize that water serves a vital role in proper nutrition. But a lesser known, yet perhaps equally important consideration, has to do with the need for water as it relates to the third pillar; comfortable housing.

In addition to requiring 20-40 gallons of water for drinking each day, water plays a growing role in the welfare of dairy cattle beyond nutrition. Science has taught us that cows thrive within a relatively narrow temperature range and begin to experience heat stress at 70°F. As a result, modern dairy farms have worked tirelessly to develop ideal housing conditions for cattle. As a result, many facilities are now including heat abatement measures, such as sprinklers or misters, in addition to enhanced ventilation to insure animals remain comfortable during the summer months. By focusing on comfort, farms are able to promote healthier, more vitalized lives for their cows.

Dairy farming has changed in the last century, in terms of both the size and scope of farms, but in many ways appearances can be deceiving. One might assume because a farm is large or that because it has volumetrically large



water requirement, it must be bad for the environment around it. Yet neither case is true nor do such assumptions do justice to how much dairy farmers have done to conserve resources.

To make sense of this by comparison, at the end of February 1957, the national dairy herd was composed of 21,970,000 cows and produced 9.6B pounds of milk. For that same period this year, the national dairy herd was home to 9,300,000 cows and produced 18.1B pounds of milk.

These figures demonstrate that farmers produced almost twice the milk with nearly 13 million fewer cows, meaning for every pound of milk produced, farmers used fewer resource. Farmers are able to achieve this because they are more educated, more efficient, equipped with the tools and technology to make it possible, yet remain guided by a firm and unchanging commitment to wise resource management.

Indeed, in spite of all the advances agriculture has made, the value farmers place on the resources under their care has not. But that value must not be derived at the expense of animal care and must find balance with the value and pride farmers also place on caring for cows.

I support SB76 and AB105, because I believe these measures have found that balance. They protect the environment under the 2003 legislation, but do not broadly limit, deny or revoke access to water through regulatory process. Water must remain readily available for the all the animals we in agriculture care for. It is our responsibility as humans. For these reasons, ask you all to support the legislation.

Thank you for your time.

March 15, 2017

My name is Bill Seybold and I reside at 2421 Golden Rd., Plover, WI. I want you to know that I and many of my neighbors are very concern about the Little Plover River, that we live adjacent to. Since 2005 the Little Plover River has dried up many times and all the creditable science points to over pumping of ground water as the cause. I am worried about all the residents who live along the river and depend on it for recreation, fishing, canoeing, tourism related income and our property values.

SB 76/AB 105 is an attack on the property rights of Wisconsin residents and threatens our land values, tourisms, and tax revenues for our village and county. The economic benefits from our water related tourism for the Central Sands region which includes Portage County where I live, was estimated at \$1.5 billion. This all means less tax money for our children's schools.

I am writing you today to ask you to oppose SB 76/AB 105. This bill not only does not solve our problems with the states groundwater but allows them to continue, locking in the system that has caused the problems. By permanently permitting high capacity wells, it would ensure more dry and contaminated wells, continued decline in lakes, rivers, streams, and other wetlands, decline in property values and tax revenue for schools, roads, and other needed projects!

Minimally, periodic review of high capacity wells by DNR needs to be added to the bill and transferring the well permit at the time of property transfer without DNR review needs to be deleted. The DNR must be able to assess cumulative impacts of well withdrawals when issuing or conditioning well permits, this would creat fair and balanced groundwater legislation for all users!

William R. Seybold
2421 Golden Rd.
Plover, WI 54467
7153443373
wrseybold@aol.com



1 South Pinckney Street, Suite 810, Madison, WI 53703-2869
608.258.4400 fax 608.258.4407

145 University Avenue West, Suite 450, St. Paul, MN 55103-2044
651.228.0213 fax 651.228.1184

www.cooperativenetwork.coop

**Senate Committee on Labor and Regulatory Reform &
Assembly Committee on Agriculture
Hearing on SB 76/Assembly Bill 105
Wednesday, March 15, 2017**

Good day Chairman Nass, Chairman Nerison and members of the committees. I am John Manske, Senior Government Affairs Director at Cooperative Network. Cooperative Network is committed to protecting and promoting Wisconsin's and Minnesota's cooperative businesses and their shared cooperative principles. I am here today to speak in favor of SB 76 and AB 105. We thank Senator Fitzgerald and Representative Tauchen for their leadership on the legislation. Thank you also to the chairmen for their scheduling of the timely hearing on this important matter.

Cooperative Network members approved language for a resolution on groundwater at our annual meeting that advocates for "permitting certainty for high capacity wells." This is a subject important to our farm credit, credit union, dairy and farm supply cooperative members.

Among our members in Wisconsin are four Farm Credit Associations: AgStar Financial Services, Badgerland Financial, GreenStone Farm Credit Services and United FCS. AgStar serves members in northwestern Wisconsin, Badgerland serves members in 33 counties in the southern half of Wisconsin, GreenStone serves members in northeastern Wisconsin and United serves members in northcentral Wisconsin.

The four Farm Credit Associations are part of the Farm Credit System. The System is exclusively dedicated to supporting agriculture and rural communities. Associations continue to lend during good times and bad, and are reliable partners to borrowers. In Wisconsin, the four associations serve around 25,000 customers and provide financing of about \$6 billion within the state. Farm Credit Associations are the predominant lender to farmers throughout most of the state.

Our farm credit members are focused on providing credit and financial services to their members with the goal of helping to achieve the producers' success in their farming operations. It is for that reason that they view Senate Bill 76 and Assembly Bill 105 in a favorable light, as the access to water is essential for long-term positive farming outcomes. That is the case no matter whether the farm is focused on crops, livestock, or both. In fact, appraisals of farm property in central Wisconsin show that land with access to permitted groundwater has twice the appraised value of land that does not have access to that water. That value can be a key not only for the farm operations success but for the decision by a lender to provide financing to the producer for essential operating or mortgage loans.

At the end of the day, producers with high-cap well permits are careful and conscientious caretakers of our water resources. It is plainly in their interests to do so.

Completely depleting water resources would effectively put them out of business, so that is a powerful and practical incentive to be mindful about water use. In addition, their stewardship ethic is plain to see given that producers in this country are responsible for a massive but largely unknown productivity increase. Our producers generate two and a half times more products today while only using the same amount of inputs as they did in the 1930s. That's not just a productivity story; it's a remarkable conservation and sustainability story. Producers are in it for the long-haul and should be trusted to continue their safe and sound conservation practices.

The regulatory relief aspect of these bills is focused on approved high capacity wells throughout Wisconsin. In addition, the further DNR research on certain central Wisconsin watersheds that the bill calls for could result in important findings and outcomes for this area that contains a greater density of permitted high capacity wells than the rest of the state. We believe that these provisions will both help sustain a vital part of Wisconsin's 88 billion dollar agriculture industry while also pursuing more groundwater withdrawal research in the designated study area in central Wisconsin.

Cooperative Network encourages the committees to take positive executive action on SB 76 and AB 105. Thank you for listening to my testimony and I welcome your questions.



Senator Nass and Representative Nerison
Chairs, Senate Committee on Labor and Regulatory Reform and Assembly Committee on Agriculture
412 East
State Capitol

March 15, 2017

RE: Senate Bill 76 and Assembly Bill 105

Good morning Senator Nass, Representative Nerison and members of the Committees,

Thank you for this opportunity to discuss your work to manage Wisconsin's groundwater resources. It is no easy challenge and I applaud your commitment to finding practical solutions that respect all water users.

The River Alliance of Wisconsin is a nonprofit water advocacy organization with thousands of members from all corners of the state. They are property owners, anglers, small business owners and working people who find enjoyment and sustenance from our lakes and streams. They work tirelessly in their communities to restore river banks, hunt down aquatic invasive species, speak out about public policy, and work to make water clean and accessible to everyone. Each share a common passion to protect and restore Wisconsin waters.

Since 2000—the year Perrier proposed a massive industrial bottling project—River Alliance has engaged local leaders and policy makers to ensure Wisconsin springs and surface waters remain available for Wisconsin citizens and businesses. We believe in common sense, science-based solutions to manage ground- and surface water resources. And we work with partners with a range of interests—from the Potato and Vegetable Growers to local lake associations. We were among the many stakeholders that won passage of the Groundwater Protection Act of 2004 and remain committed to collaboration that protects Wisconsin waters.

Our state's water policy is rooted in the public trust doctrine, which presumes that ALL water users are created equal. The bills before you reject this bedrock principle and establish that some water users have more rights to our shared water resources than others. The interests of lake and stream-bank property owners, especially in the Central Sands, are largely ignored. Meanwhile these bills prioritize the interests of industries that use Wisconsin water to sell products far beyond our borders for profits that are certainly not shared with Wisconsin communities.

Today you have and will continue to hear citizens from the Central Sands and throughout Wisconsin explain how they have been impacted by lakes and streams drying up. There is a very clear cause – unchecked high-capacity wells. Roughly 3,000 hi-cap wells can pump up to 100,000 every day in the Central Sands. Nearly a thousand were added since Perrier abandoned its industrial bottling plans.

As guardians of this great state's most precious resource – our water – we ask simply that you treat permits for groundwater pumping as you treat other permits relating to use of water in the state. Just as holders of pollution permits must have those permits reviewed periodically, so should holders of high-capacity well permits. You have an opportunity and responsibility to protect water resources *and* the people who rely on them. SB 76 and AB 105 do not meet that challenge without ensuring all water users are accountable for their impact through periodic hi-cap well permit review.

Groundwater pumping permits are forever permits and the only opportunity to review them is if a permittee needs to rebuild, move or transfer a permit to a new permit holder. SB 76 and AB 105 would remove even this small window of review. If there was a timeline for review of pumping permits or renewal period – a process familiar to almost any other permit to use public water -- then the bills before us today would raise few concerns. These windows for review would be vital in the most extreme cases where there is a water shortage. SB 76 and AB 105 would eliminate needed tools to manage drought conditions so as to minimize the worst impacts on growers and communities.

When a business applies for a permit to discharge wastewater into our waters – called a WPDES permit – that permit is granted on a five year basis – it must be renewed every 5 years. The major industries that depend on these permits being issued – like the paper industry, energy utilities, and food processors – have thrived while they protect the resource. Even permits to build a dam on our waters have conditions and periods of review: those dams need to be inspected every 5 to 10 years and DNR may require repairs to keep them safe or operational changes to minimize impacts to surface waters.

So why is one group of users—big agriculture--worthy of special treatment? Are we really to believe that periodic reviews of hi-cap well permits will critically wound an industry that makes up one-sixth of the state's economy?

We oppose SB 76 and AB 105 as they stand. Without provisions to periodically review hi-cap wells, these bills take Wisconsin backward on fair and responsible groundwater management. As the committees move forward we urge the authors of SB 76 and AB 105 to incorporate common-sense periodic review of high capacity well permits. Our waters are far too valuable to far too many to be left unprotected.

Testimony Regarding High Capacity Wells (SB 76 & AB 105)
March 15, 2017

Thank you for the opportunity to speak with you regarding this important legislation. My name is Cindy Leitner. Together with my husband, Joe, we run LDS -Leading Dairy Solutions in Chilton. LDS is the largest North American dealer for BouMatic - a Madison based company and one of the top 3 Dairy Equipment suppliers in the world. We employ 42 people to help deliver, install and service our products. Our business' success is directly tied to the success of Wisconsin's dairy farms. I am asking you all to support this bill.

We do not need a high-capacity well for our business, but many of our client farms do have that type of well. It is important to the future of Wisconsin's dairy economy that their well investments be protected. The use of high-capacity wells on dairy farms is likely to grow as the size of our dairy farms increases. This legislation does not specifically address these future wells, but it does give the Legislature the opportunity to at least protect the wells that farmers are already relying on today.

The dairy community matters to Wisconsin, and that is not just because of our shared history or license plates. Dairy is an economic powerhouse for our state. It is one of the few things that Wisconsin is known for globally as a world leader. It generates nearly \$44 billion dollars for our state economy each year. For comparison, that is more than twice the economic impact of tourism, which we would all acknowledge is an important part of our state's economy. All of agriculture, including dairy, has an economic impact more than four times greater than tourism. This is one of the reasons why the commitment this legislation makes to farmers makes sense, without even considering the many other industries that utilize high-capacity wells.

In addition to my connection to dairy farmers, I am also a lakefront homeowner and the president of our lake association. Our home is on Cedar Lake in Manitowoc County. I understand people's deep connections to their property and their lakes. Section 4 of this legislation includes a study component designed to ultimately help protect and preserve people's lakes and lakefront property values.

Also in Section 4, there is an option for short-term relief for lakes struggling with highly variable or low water levels. That allows lake associations to make use of groundwater pumping to stabilize lake levels. Since the research study called for in the bill will take some time to complete, it is good that this streamlined option has been made available for lake associations.

This may seem counterintuitive, but there are a few lakes that already use wells to ensure stable lake levels. Cedar Lake, where my home is, drilled a high capacity well in 1972, and has successfully maintained lake levels since that time.

Again, I want to thank you for the chance to share my thoughts with you as you consider this legislation. I will attempt to answer any questions you might have.



We Speak for Lakes!

TESTIMONY TO SENATE COMMITTEE ON LABOR AND REGULATORY REFORM AND
ASSEMBLY COMMITTEE ON AGRICULTURE ON 2017 SB76/AB105

Presented by Michael Engleson, Executive Director
March 15, 2017

Thank you for the opportunity to testify today on behalf of Wisconsin Lakes in opposition to SB76/AB105. Wisconsin Lakes is a non-profit conservation organization whose membership is primarily waterfront property owners, as well as lake associations and districts who in turn represent over 100,000 citizens and property owners, all of who care deeply about lake health and the environmental, economic, and cultural benefits they bring to Wisconsin.

Though opposed to this bill as currently written, we are not here to contest the validity of the arguments as to why agricultural and other interests would benefit from a lack of review of high capacity well permits upon repair, reconstruction, replacement, or transfer of the well. Our issue with the bill is simply that with no other instance when review of a well's permit in place, prohibiting such review at these points in time would create a virtual right to continue to withdraw the permitted amount of water into perpetuity. A better option, in our opinion, would be to create a periodic review of these permits while at the same time granting relief from review during times of maintenance and transfer.

The expressed reason for the prohibition on review is for "certainty." And while this bill might provide short-term "certainty" to a single user to, for example, qualify for a loan, its ability to provide for certainty in the long run for all users of our groundwater, and for its ability to protect our connected surface waters, is highly suspect. For instance, the owner of a well, call it "Well #1", would have "certainty" under the bill. But my members - waterfront property owners and taxpayers in Wisconsin - would have no certainty that their lake would not suffer at some future point in time because Well #1 could keep right on pumping even if it impacted their lake's level or water quality. Similarly, a trout fisher would have no certainty that Well #1 would not do something to his or her stream, if the well's groundwater source is connected to that stream. In fact, even the owner of what I'll call "Well #2", another agricultural interest benefitting from the "certainty" of this bill, will have no certainty that Well #1 might not impact his ability to take his full withdrawal, and the same can be said of Well #2's potential to impact Well #1.

What seems certain then, is that this bill will perpetuate conflicts between water users, inevitably leading to costly lawsuits, pushes for yet more studies, and yet more legislation, all while the resource itself continues to suffer harm.

And the members of Wisconsin Lakes want certainty as well. Certainty that their own wells will provide clean and plentiful water to drink. Certainty that they won't have to mortgage their property to pay for lawsuits to protect their rights. Certainty that their property won't lose value because its lake disappears. Certainty that their grandkids will be able to enjoy the lake, fish in the nearby streams, and do all the things we Wisconsinites cherish as pillars of our culture.

Of course the best strategy would be for Wisconsin to deal with this problem before it gets any worse, and pass a comprehensive, reasonable groundwater management strategy that balances the impacts and needs of all users of groundwater, and protects the connected surface waters of the state as well. But even short of that, a way exists to give individual high capacity well users the short term certainty they are asking for in this bill, while still providing a chance to review a well's impact.

Simply putting a time limit on high capacity well permits - of even fifteen or twenty years - would, in the opinion of Wisconsin Lakes, solve the essential problem of this bill. We urge you to consider this option to add periodic review to high capacity well permits.

In addition, we believe the Central Sands region of the state has been studied to death, and question whether yet more study is needed. The problem exists, now, and needs action. Still, if a study similar to the one in the bill is to be undertaken, it must ensure that it is looking at all areas being impacted, that it takes into account not just impacts on navigable waters, but also wetlands (key players in flood control and helping to maintain water quality in many navigable waterbodies), and that it is adequately funded. As written we do not believe the study in the bill meets those qualifications.

SB76/AB105 may provide certainty for individual well owners in the short term. But it actually makes Wisconsin's water future even less certain, by ignoring the wider impacts of pumping as a whole, by relying on lawsuits and future legislatures to resolve disputes and solve problems that could be dealt with proactively, and by moving us farther away from the comprehensive groundwater management strategy we all know Wisconsin needs.

We ask for you to either add periodic review of high capacity well permits to the bill, or reject it outright.

I oppose SB76/AB105 in their current form.

My name is Rick Georgeson, I live in Adams County. The population of Adams County grew by an enormous amount in the decade of the 90's. The Department of Workforce Development has informed me that the average growth of counties across the state for that same period, 1990 – 2000 was 8%. During that same decade, Adams County grew by a rate of 28%, it was off the charts. Yes, that is correct, the population of Adams County grew by 28% while the average county grew by 8%. What was so significant to be the cause of this growth? Why did Adams County grow so much faster than other counties during the 90's? What brought the majority of these people to Adams County? It has been determined that the attraction to this area is our water. To live near or on the water is a desire these people have. This population of retired individuals who have made Adams County their home has become a significant segment of the population.

This regional economist from the Department of Workforce Development that I spoke with said early in our conversation that Adams County is recognized as a destination for many retirees.

To ignore the main attraction that brought these citizens to Adams County would be wrong. We need to protect these lake levels, not take the chance of interfering with their level by over pumping, like has occurred in many small lakes east of Rome. Some lakes have totally disappeared, they don't even exist today as a result of over pumping. This would be a heavy price to pay in addition to ignoring those who have chosen to live near and on these lakes. Science has connected the dots. We know there is a direct connection to pumping and lake and stream levels. It would be wrong to ignore that science

Today we are concerned with a different kind of hazard that lurks in our environment, a potential hazard we ourselves have introduced into our world as our modern way of life has evolved. We are smarter than to let this happen. We need to make prudent decisions on how we use our limited water resource. We need to keep in mind that our lakes need preserving. To not do so is almost an attack on those who moved into the county to live on/near these lakes. We need to strike a balance on water use. . Balance is the key, striking a balance is the answer. We are smart enough to strike that balance. We do know how.

There needs to be a limit, we know better than to ignore the beauty of lakes and streams and just hope they will be there tomorrow. We know their value, the value of lakes and streams to citizens is high, very high. Lakes and streams need to be included in the equation as policy is made. Lakes and streams have a place in the equation, a very important place.

I oppose SB76/AB105 in their current form.

March 15, 2017

Dear Legislators:

Thank you for the opportunity to speak with you today regarding SB76/AB105. I ask you to vote "No" and will give you plenty of reasons for my request. There are many problems with giving industry unlimited water with no constraints. As a contractor who builds and remodels homes in the Three Lakes area, my son has found out first-hand how important our current water wars are in the state of Wisconsin. He recently met with a couple who would like their lake cabin remodeled, but they are unsure about what may happen to the water levels and want to wait until fall to see how things go during the summer months. In the meantime, my son must obtain estimates from necessary sub-contractors. This means working with plumbers, electricians, heating and cooling people, masons, cabinetmakers, and landscapers. If there are no fish in the lake, this couple will NOT be doing their remodeling project, affecting the bottom line of all Wisconsin tradesmen involved in the potential project! The building industry pays well and supports families, which is certainly not the case with the agricultural industry. The state of Wisconsin pulls in several times more tax base dollars from tourism than it does from agriculture where the citizens are paying tax subsidies.

My dad built a beautiful lakefront home where we had a one-room cabin. We spent every weekend swimming, boating, fishing, and enjoying the water. He entertained his business associates at our lake home. A few years later the lake dried up and there was no more water fun, no more entertaining, and the value of the home plummeted. There is currently a dock that goes out into the grassy swamp, but no water and no boat.

SB76/AB105 does not solve the growing water crisis in our state, but only locks down the system that has led to the problem in the first place. The transfer element needs to be removed from these bills. Transferring water rights with the sale of property is in direct opposition to the Public Trust Doctrine stating the water of the state belongs to all of us. This bill represents an attack on property rights of Wisconsin residents and threatens land values, tourism, and tax revenue for local municipalities and counties. The economic benefit from water-related tourism for the Central Sands region (Adams, Marquette, Portage, Waupaca, Waushara, and Wood Counties) is estimated at \$1.5 billion for 2014.

The language in this bill "permanently" permitting high capacity wells ensures more dry and/or contaminated private and municipal wells, continued decline of surface water (lakes, rivers, streams, ponds, wetlands), continued decline in groundwater (wells will have to be drilled deeper and deeper), continued decline of lake property values, continued decline of lake property taxes, and continued decline of tax money for schools and roads.

Water quality and quantity affect many areas of Wisconsin. Without good water our entire state, many different industries, and our citizens suffer. There is a domino effect. Tourism is big money in Wisconsin and our lawmakers should NOT do something that will turn people away from coming here to spend their money.

You were elected to represent the people – please make sure you do so rather than bowing to the agricultural lobbyists who are throwing money at you. Wisconsin can do much better than that – we have a beautiful state that brings in a lot of dollars through tourism – it MUST be protected for further enjoyment. Please vote "NO" on SB76/AB105.

Sincerely,



Sue Savage
12137 Hollywood Road
Nekoosa, WI 54457-7563



March 15, 2017

To whom it may concern:

On behalf of Crawford Stewardship Project based in SW Wisconsin, I'm speaking to our opposition of SB76/AB105.

We need water management throughout Wisconsin, as each area of the state is unique. This makes our state such a wonderful place to live and to visit. It also makes "one size fits all" land and water use legislation inappropriate.

For example, we have karst geology in many parts of the state, which allows pollutants to travel to groundwater by way of the cracks in the bedrock. But the issues in karstic areas aren't all the same. The NE karst situation is very different from what we have here in SW Wisconsin. Crawford Stewardship Project has been working with scientists to study the karst features of our County, as we recognize that we need to know the science of our area to properly address the water issues.

We do not know all the issues that may arise through the permitting of use of high capacity wells, which is why we strongly suggest using the precautionary principle over high capacity wells essentially being approved forever with the transfer of the approval of the wells from landowner to landowner. SB76/AB105 would grant present high capacity well permits into perpetuity. These permits are granted with no assessment of cumulative water impacts. There can be no water management if we give away water to certain entities, while lakes and other's wells dry up. Periodic review is necessary to ensure balanced water use and recharge.

We understand that the current DNR process for permitting and review of permits is far from ideal and can come at difficult times for some water users, especially farmers, and we appreciate the intention to address this issue. That said, if we eliminate the current review process we must have some sort of periodic review by agency hydrologists, which is completely lacking in this bill.

This bill creates a water study area, but, again, without assessing cumulative water use, there's no ability to manage. In addition, Central Sands is not the only area with water shortages and high numbers of high capacity wells. Further study is fine, but with over 50 years of scientific study of water hydrology and the connection between surface and groundwater in the area, the time has come for real protective actions. Yet this legislation only allows the DNR to look at navigable surface water, not groundwater. Further, there's no mechanism for more than making recommendations, which the legislature can accept or not. And no enforcement is addressed in this bill.

Lastly, there is a clause that does not allow citizens to file a contested case hearing on the DNR's recommendations under the study. This is another way to keep citizens from being part of protecting a resource that belongs to all of us.

We ask that you as legislators work closely and seriously with hydrogeologists on water use and management legislation.

Thank you,

Eddie Ehlert, President

P.O. Box 284
Gays Mills WI 54631
608-735-4277
csp.county@gmail.com

www.CrawfordStewardship.org

SB76 & AB105 Public Hearing
3-15-17

Thank you Mr. Chairman! My name is Bill Leichtnam.

I'll be speaking to you this _____ as a Wood Co. Supervisor from Dist. # 19 which is in the Central Sands.

The question before us today is whether last year's "Bad" Gudex bill is, IN IT'S PRESENT REINCARNATION, any better.

I'd say No! because it does not adequately protect Wisconsin's GW resources.

w / o a process for review of HCW in specific watersheds

w / o granting the DNR or DATCP statutory authority to mitigate unforeseen excessive drawdowns

w/ o subsidizing the Wis. small farmer who can't afford HCWs, 76-105 is bad legislation!

Telling HCW owners they can "reconstruct and transfer HCW " in perpetuity" is a mistake--granting carte blanche is never a good idea.

Lets assume for a moment that we supervisors in Wood Co. have a residential well problem related to a HCW near a lake, what do we do when people no longer want to build cabins on dried up, stinking mud holes?

What do we do when we face "Dust Bowl" outmigration because deforestation has left row crops exposed to wind erosion near rural subdivisions?

In Wood Co., what do we do for tax revenue when properties are left vacant?

What do we do when recreational travel-trailer businesses & boat marinas start CLOSING because Lakes Sherwood, Camelot, & Arrowhead have lost 50% of their volume?

What do we do when the State Water Ski Show, the Nationals, & the International Ski Show can't be held at Lake Wazeecha because the water level is so low that stumps are exposed?

Will people frequent restaurants on the shores of the Salt Flats of Central Wis.?

Will the 4 new European-style golf courses being built in northern Adams Co--called SAND VALLEY--be a national destination or a recreational area dried up & abandoned?

The # of HCWs in Wis. has increased 10-fold since 1960; 76 / 105 is TOURISM, RECREATIONAL, & ECONOMIC suicide for CW.

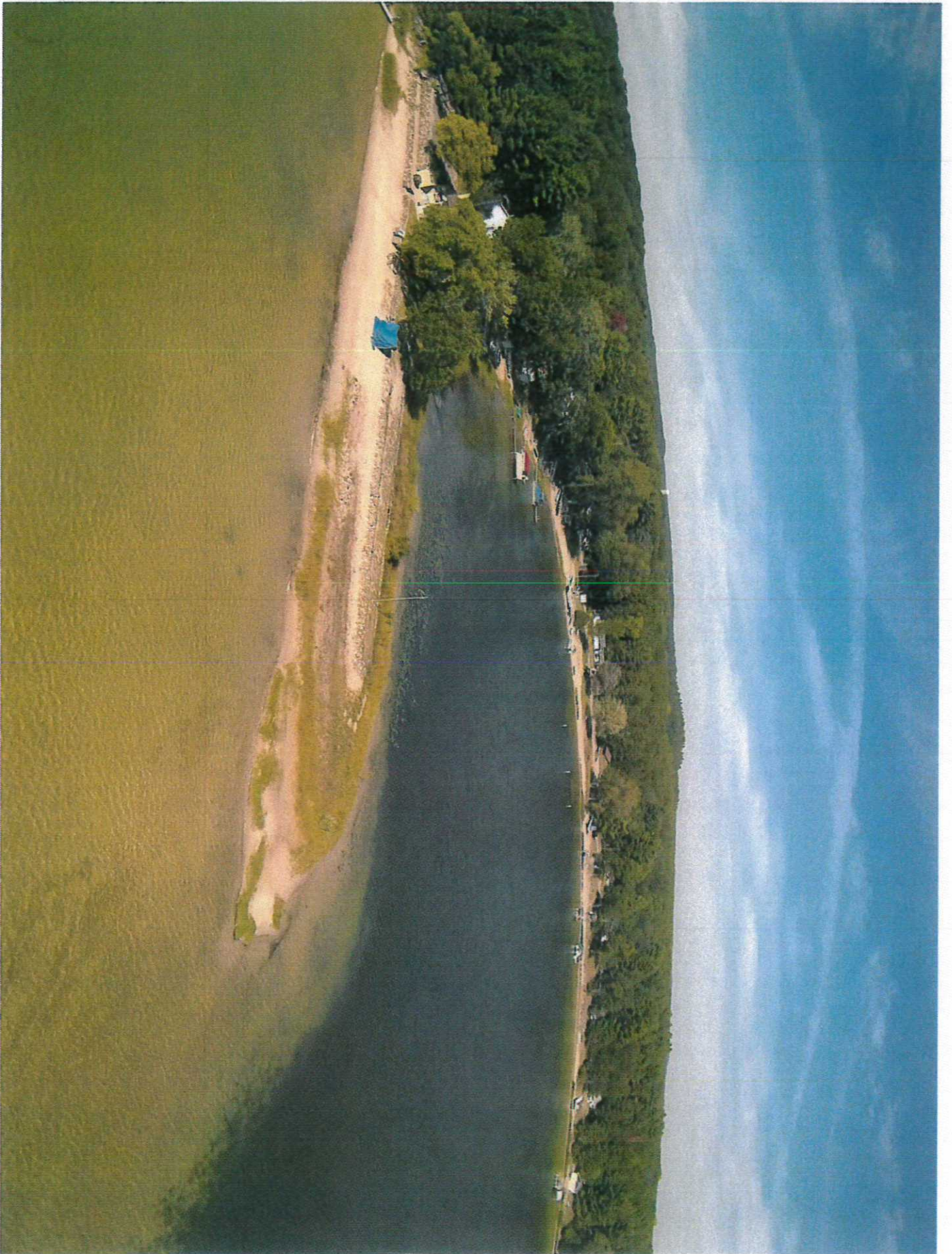
Years from now in the long annals of Wis. water law, 76 / 105, IF PASSED, may be thought of as showing a lack of forethought, a lack of vision, a lack of planning. THIS BILL NEEDS TO DIE IN COMMITTEE!

Thank You!

PLEASANT LAKE - CORONA - 1996



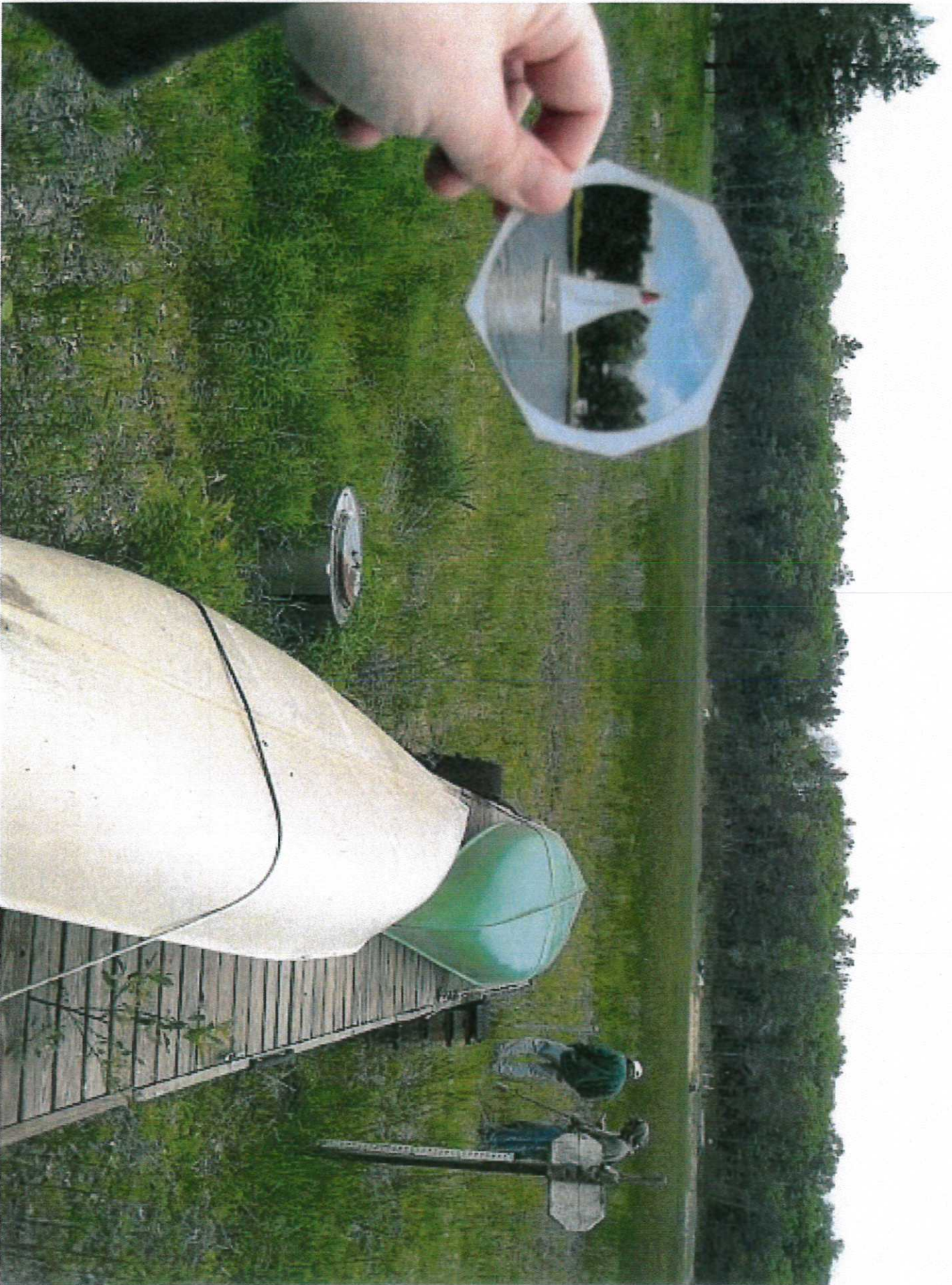
PLEASANT LAKE - COLTMA - 2013



PINE LAKE - HAWCOCK - 2013



LOV6 LAKE - PLAINFIELD - 2011



PATRICK LAKE - ADAMS COUNTY - 2010



HULON LAKE - PLAINFIELD - 2010



Skip Hansen

From: Skip Hansen
Sent: Thursday, October 22, 2015 7:48 AM
To: Skip Hansen
Subject: economic talking points

ECONOMIC Talking Points

From: <http://industry.travelwisconsin.com/research/economic-impact>

Economic benefit from water-related tourism for Central Sands region (Adams, Marquette, Portage, Waupaca, Waushara & Wood counties) for 2014

Direct Visitor Dollars	\$577.7 million
Business sales	\$877.0 million
Employment	9067 people
Labor income	\$189.1 million
State & local taxes	\$ 60.9 million (not including property taxes)
Total income for Central Wisconsin from tourism equals \$1.5 billion	

From: <http://wp.aae.wisc.edu/wpf/wp-content/uploads/sites/5/2014/09/Impact-of-Agriculture-2012-Final.pdf>

Total income for Central Wisconsin from all agriculture related industry equals \$1.5 billion

From: Dept. of Natural Resources – “A Statewide Strategic Plan for Invasive Species, Priority Objectives 2013-2016”
2011 Tourism data shows \$16 billion economic impact, 181,000 jobs, \$1.3 billion in State and local taxes and \$950 million in Federal taxes generated

Forestry had \$28 billion economic impact and 66,000 jobs

Reduced groundwater stresses tree roots making them more vulnerable to diseases and insect attack

Natural re-growth of sugar maples, our State tree, is being impacted by invasives and groundwater decline

From: UW Stevens Points, College of Natural Resources, Center for Land Use Education – “Wisconsin Land Use Megatrends, Summer, 2014

1/3 of all wells tested statewide contain nitrates, pesticides, pesticide metabolite and Atrazine. Wells in heavy ag areas have higher frequencies

1 million anglers spend 20,000 days fishing and generate \$1.4 billion in annual trip and equipment expenditures to Wisconsin economy

Active outdoor recreation generates \$9.7 billion to State economy, 129,000 jobs, \$570 million in State tax revenue, \$7.5 billion in retail sales and services

Each year 2.1 million people go boating, 1.9 million visit a beach, 1.7 million fresh water fish, there are 600,000 boat registrations and 48,000 duck hunters


From: WcHydroPoly.shp, Waushara County GIS, 9/28/2013 & ParcelsandTaxData.shp, Waushara County GIS, 8/29/2013 & WI_County_Bnds.shp, WI DNR, 2/13/2012 – Waushara County Property Tax Study

Properties adjacent to lakes in Waushara County account for 3% of total acreage and generated 30% of the property taxes in the County. Properties adjacent to lake front properties account for 7% of the acreage and generated 7% of the property taxes in the County. All other properties account for 89% of the acreage and paid 63% of the property taxes

From Inquisitr, January, 3, 2015


2014 Havard study, published in “Bulletin of Insectology” states that Neonicotinoids - the dominant ingredient found in many popular insecticides which treat much of the corn in the US – are to blame for the honeybee colony collapse

disorder. Honeybees provide pollination for 70 percent of the food we grow to eat. Honeybees don't pollinate corn but the pollen drifts elsewhere, where it makes contact with bees.

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100 N. Corporate Drive, Suite 100
Brookfield, WI 53045

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Wisconsin Water Use

2014 Withdrawal Summary

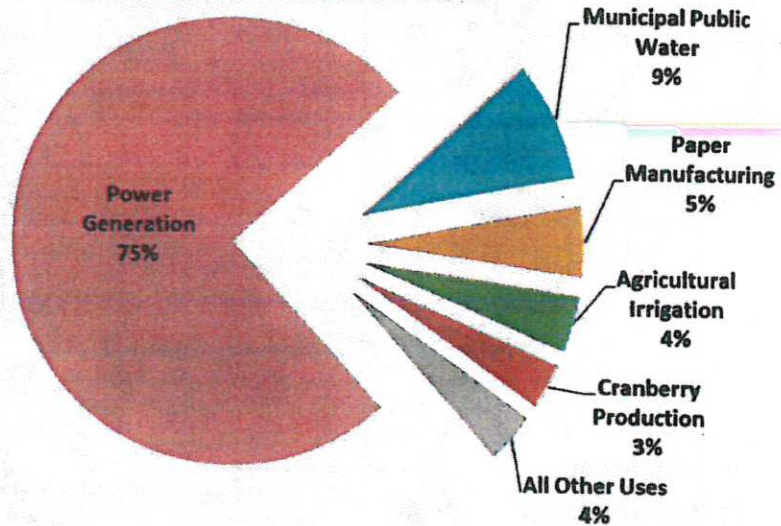
Water supply systems in Wisconsin capable of withdrawing 100,000 gallons per day are required to register and report withdrawals. In 2014, total statewide withdrawals exceeded 1.95 trillion gallons of water from over 12,000 active sources. These sources include wells, ponds, streams, rivers and lakes. This amount is roughly equal to 3 times the volume of water in Lake Winnebago or enough water to cover the surface area of Wisconsin in nearly 1.7 inches of water. Total 2014 withdrawals were down 7.8% from 2013.

How and when water is withdrawn varies seasonally. Withdrawal volumes typically vary throughout the year with seasonal temperature and precipitation patterns. A cool summer and high precipitation in 2014 led to decreased withdrawals for most uses compared to 2013.

- Municipal water demand and cooling water demand for power and paper production typically increases with the heat of summer.
- Agricultural irrigation peak withdrawals were down 16% from 38 billion gallons in August 2013 to 32 billion gallons in July 2014.
- Overall, Municipal withdrawals were down 3.4% from 2013 despite a 7.4% increase in January to March due to broken pipe losses and frozen pipe prevention during the harsh winter of 2013-2014.

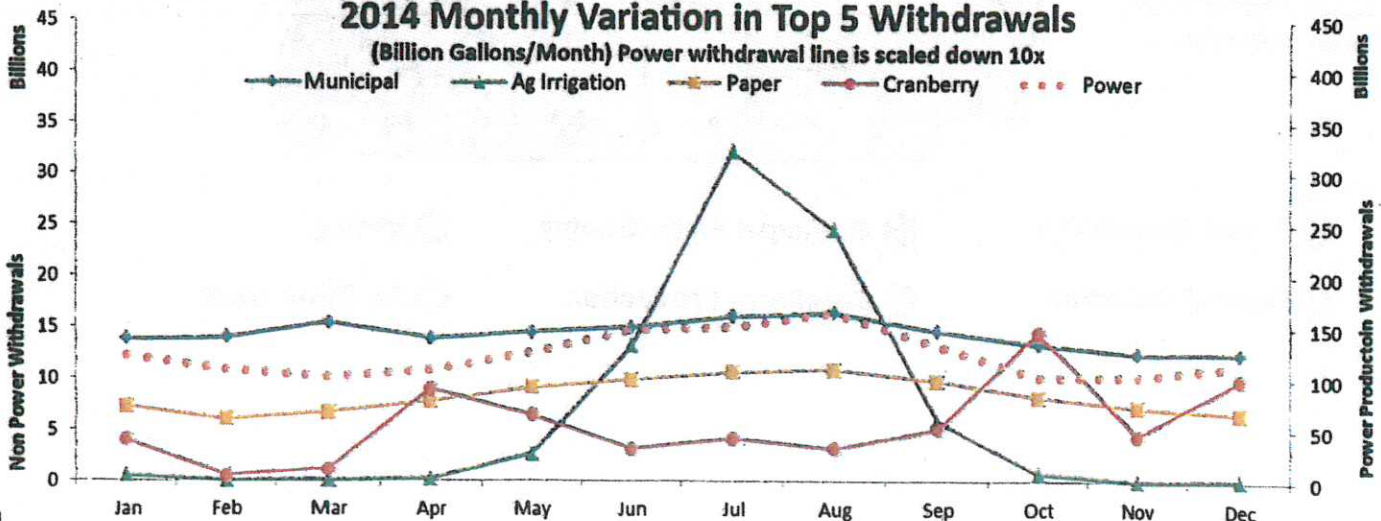
2014 Withdrawals by Use

Total Withdrawals = 1.952 Trillion Gallons



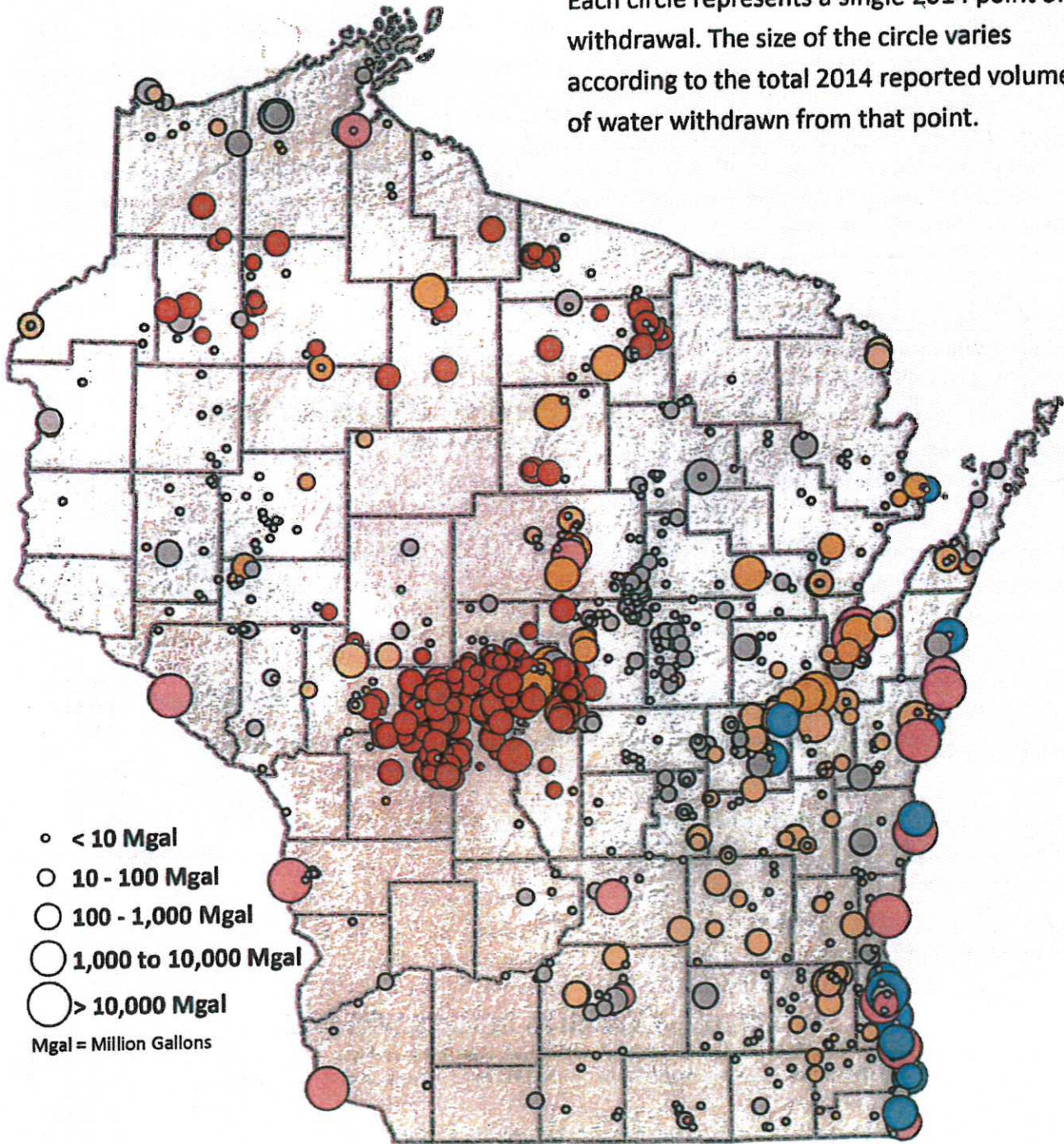
2014 Monthly Variation in Top 5 Withdrawals

(Billion Gallons/Month) Power withdrawal line is scaled down 10x



2014 Surface Water Annual Withdrawals

Each circle represents a single 2014 point of withdrawal. The size of the circle varies according to the total 2014 reported volume of water withdrawn from that point.

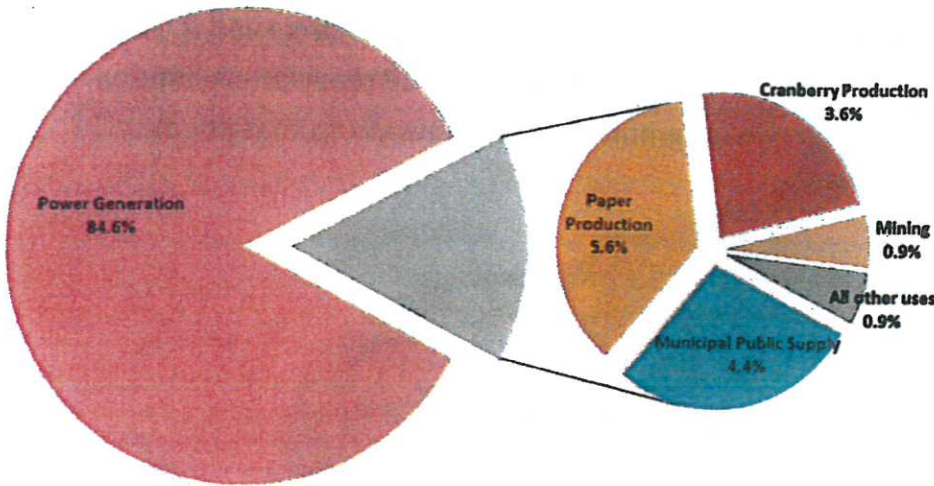


- < 10 Mgal
 - 10 - 100 Mgal
 - 100 - 1,000 Mgal
 - 1,000 to 10,000 Mgal
 - > 10,000 Mgal
- Mgal = Million Gallons

- | | | |
|------------------|------------------------|----------------|
| Power Generation | Municipal Water Supply | Mining |
| Paper Production | Cranberry Production | All Other Uses |

2014 Total Surface Water Withdrawals by Water Use

1.73 trillion gallons statewide

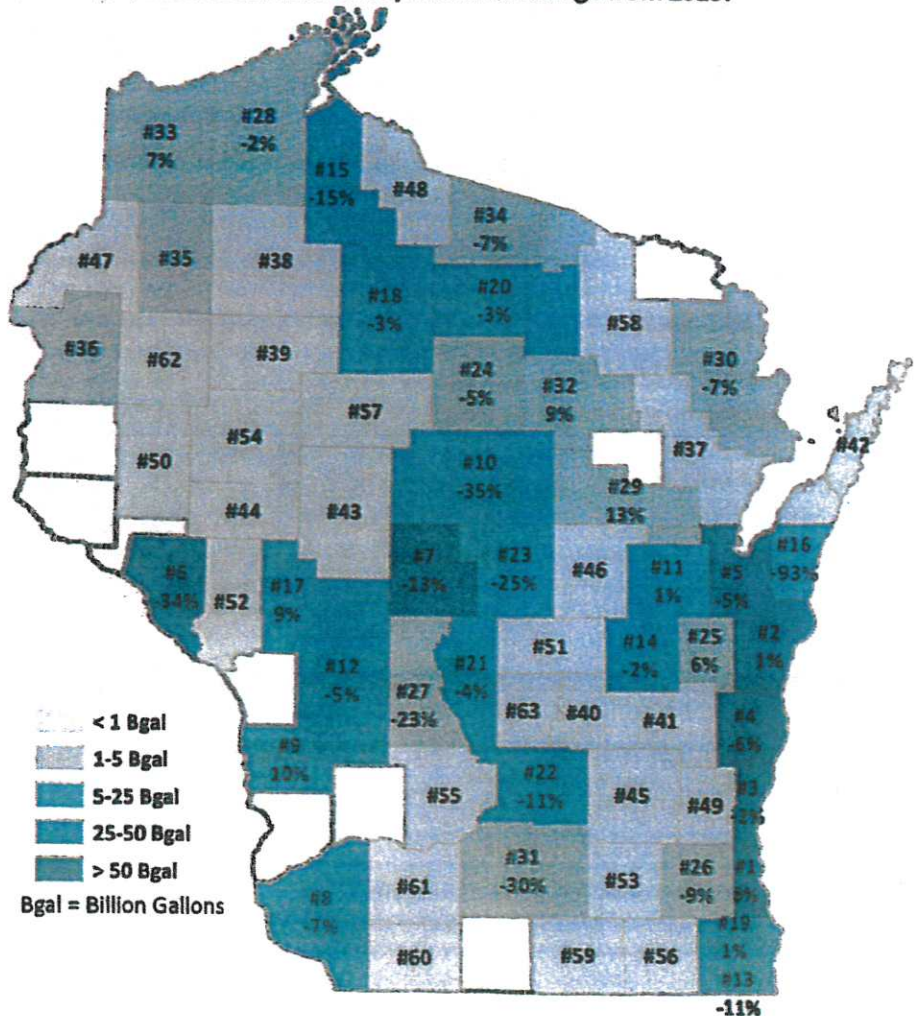


- Many surface water withdrawals are used and discharged near their point of withdrawal. This results in little water lost from the original source relative to the size of the withdrawal.
- 88% of all statewide withdrawals were from surface water. These totaled 1.73 trillion gallons from 769 sources active in 2014.
- The largest volume of water withdrawn in the state (1.47 trillion gallons) was used by power production facilities. These facilities are concentrated along Lake Michigan and the Wisconsin and Mississippi Rivers.

2014 Total Surface Water Withdrawals by County

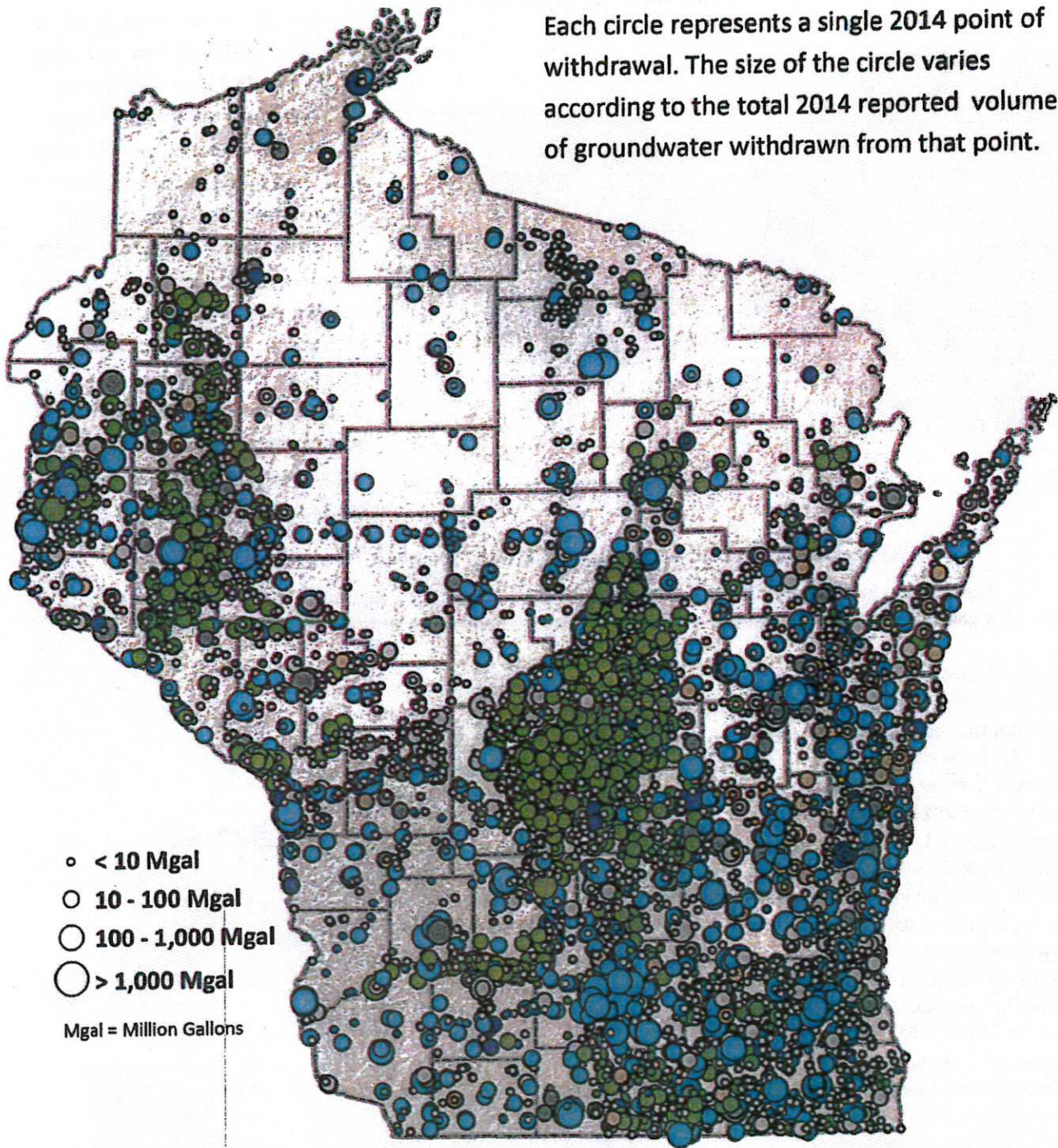
Top number indicates ranking of total withdrawal by county (#1 = highest, #72 = lowest).
For counties with withdrawals > 1 Bgal, the bottom number represents % change from 2013.

- The number of active surface water sources increased from 682 in 2013 to 769 in 2014 but the total withdrawal was down 7.4% from 2013.
 - ♦ Withdrawals in several sectors decreased from 2013 including Municipal Supply (-11%), Cranberry Production (-20%), and Power (-8%).
 - ♦ An increase was seen in Non-Metallic Mining (+24%) due mostly to increased dewatering.
- Power plants represented the majority of withdrawals in the four top ranked counties of Milwaukee (#1), Manitowoc (#2), Ozaukee (#3), Sheboygan (#4).
 - ♦ Withdrawals decreased steeply from 2013 in Kewaunee (#16) with the closure of the Kewaunee Nuclear Power Station.
- Surface water is key to producing some of Wisconsin's top products:
 - ♦ Paper in Brown (#5), Wood (#7), Marathon (#10) and Outagamie (#11) counties.
 - ♦ Cranberry in Wood (#7), Monroe (#12), and Jackson (#17).
- Counties without ranking have no registered surface water withdrawals.



2014 Groundwater Annual Withdrawals

Each circle represents a single 2014 point of withdrawal. The size of the circle varies according to the total 2014 reported volume of groundwater withdrawn from that point.

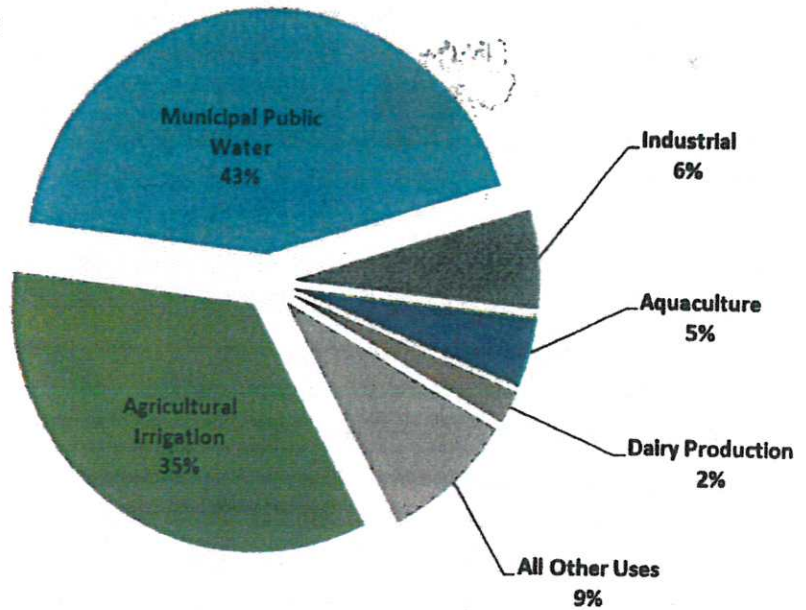


- | | | |
|---------------------------|-----------------------------|--------------------|
| ● Municipal Water Supply | ● Industrial (incl. mining) | ● Dairy Production |
| ● Agricultural Irrigation | ● Aquaculture | ● All other uses |

2014 Total Groundwater Withdrawals by Water Use

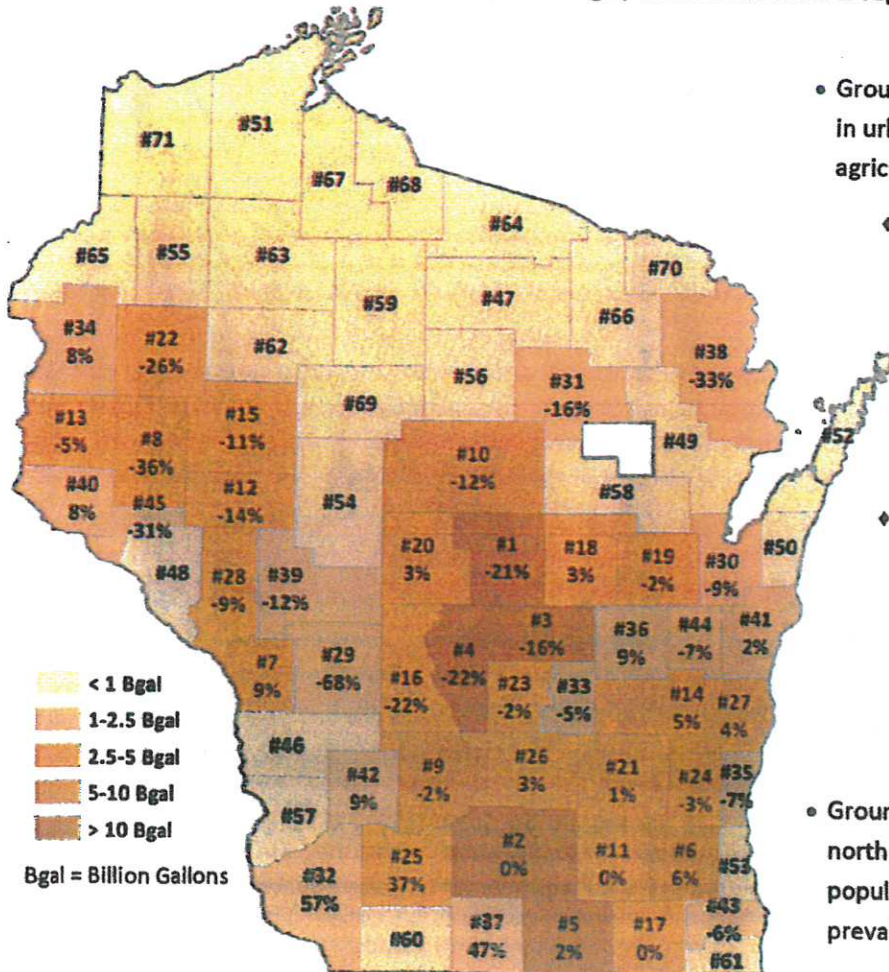
224 billion gallons statewide

- 12% of all statewide withdrawals were from groundwater. These totaled 224 billion gallons from over 11,000 high capacity wells active in 2014.
- Municipal Public Water Supplies regained the top spot as largest withdrawer of groundwater. These are typically owned by cities and deliver water for residential, commercial, institutional and industrial uses. Municipal suppliers withdrew 98 billion gallons, up 6% from 92 billion in 2013 mostly due to winter freeze losses.
- Agricultural irrigation dropped to the second largest withdrawer of groundwater in the state. Total irrigation withdrawals decreased 24% from 101 billion gallons in 2013 to 77 billion gallons in 2014. Irrigation demand decreased with more rain and cooler temperatures than in 2013.



2014 Total Groundwater Withdrawals by County

Top number indicates ranking of total withdrawal by county (#1 = highest, #71 = lowest).
For counties with withdrawals > 1 Bgal, the bottom number represents % change from 2013.



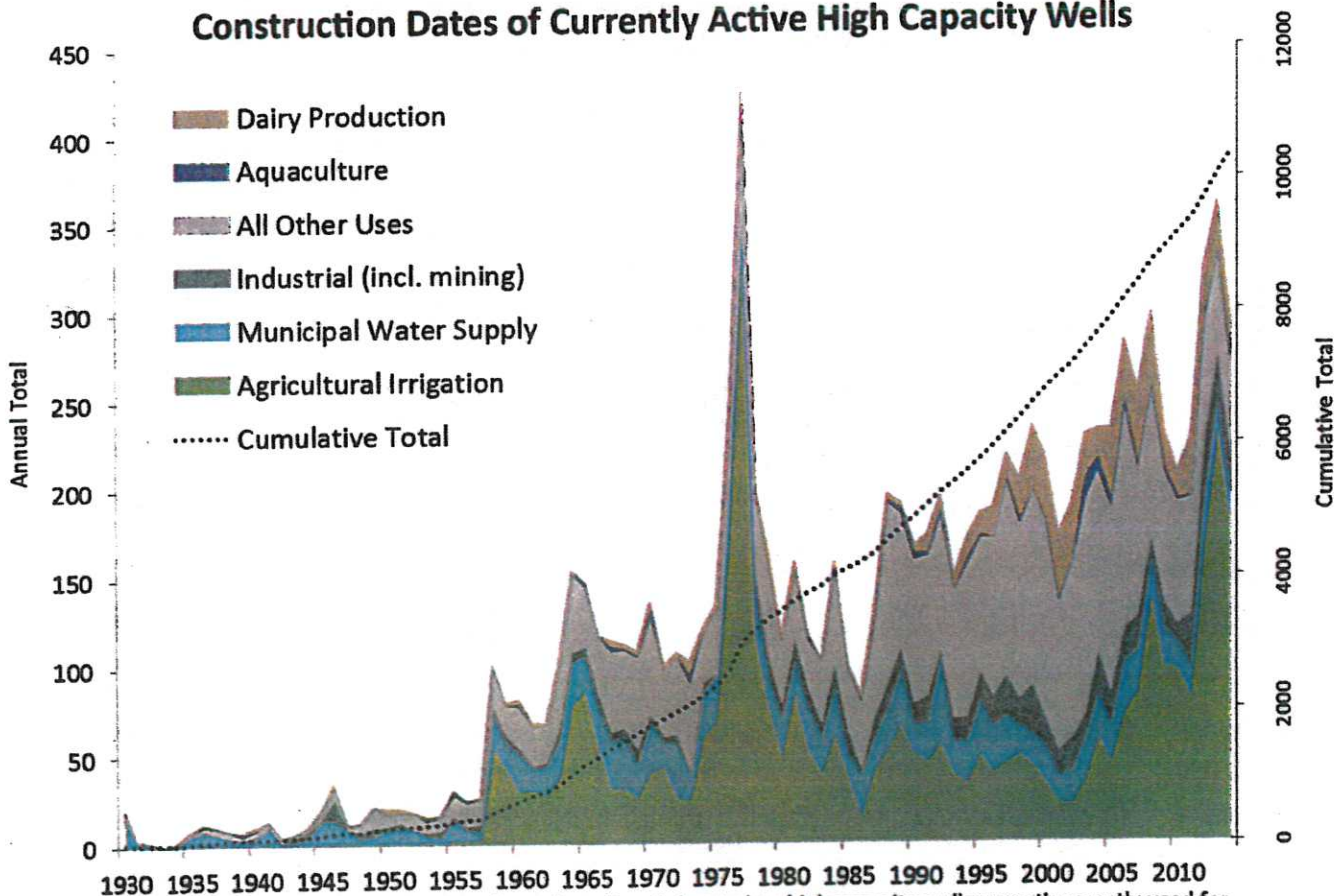
- Groundwater withdrawals are most concentrated in urban areas not supplied by surface water and agricultural areas with high irrigation demand.
 - ♦ Portage (#1), Waushara (#3), and Adams (#4) comprise much of the central sands area of the state. This area is a globally significant vegetable and potato producing region. Withdrawals decreased for a second straight year in each of these counties.
 - ♦ Dane (#2), Rock (#5), and Waukesha (#6) have large urban/suburban populations that rely on groundwater to meet their needs residential, commercial and industrial water needs. Withdrawals increased slightly or remained steady in each of these counties.
- Groundwater withdrawals are smallest in the far north where land use is more forest based, populations are lower, and agriculture is less prevalent.

High Capacity Well Trends

According to Wisconsin law, a high capacity well is any well located on a property on which all wells together have the collective capacity to withdraw 100,000 gallons per day or more. This is about 70 gallons per minute (gpm). For instance, a high capacity property could be composed of a single 70 gpm well, two 35 gpm wells or any combination of wells that together can withdraw 70 gpm or more. Many municipal wells are greater than 1500 gpm, most irrigation wells are about 1000 gpm, industrial wells average about 300 gpm and dairy wells average about 70 gpm.

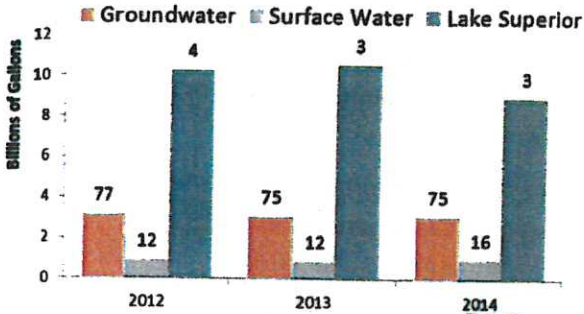
- Wisconsin began regulating construction of high capacity wells in 1945.
- Wisconsin maintains an inventory of high capacity wells dating back to the early 20th century.
- About 1/3 of the high capacity wells in Wisconsin are used for agricultural irrigation.
- Widespread use of wells for irrigation began in the late 1950s when a very severe drought coincided with the arrival of new irrigation and well drilling technology.
- The largest spikes in well construction coincide with drought as seen in 1976-77 and in 2012.
- Municipal well construction has declined in the last few years. This is due in part to new water efficient appliances, fixtures and technologies that reduce municipal customer demand.
- Low capacity private wells owners are not required to register wells or report water use. These are mostly residential and farm wells that use an estimated 50 to 75 billion gallons per year.

Construction Dates of Currently Active High Capacity Wells



* Does not include approximately 3,950 registered small wells located on high capacity well properties mostly used for domestic purposes. Includes only currently active wells. Wells constructed and subsequently abandoned are not counted.

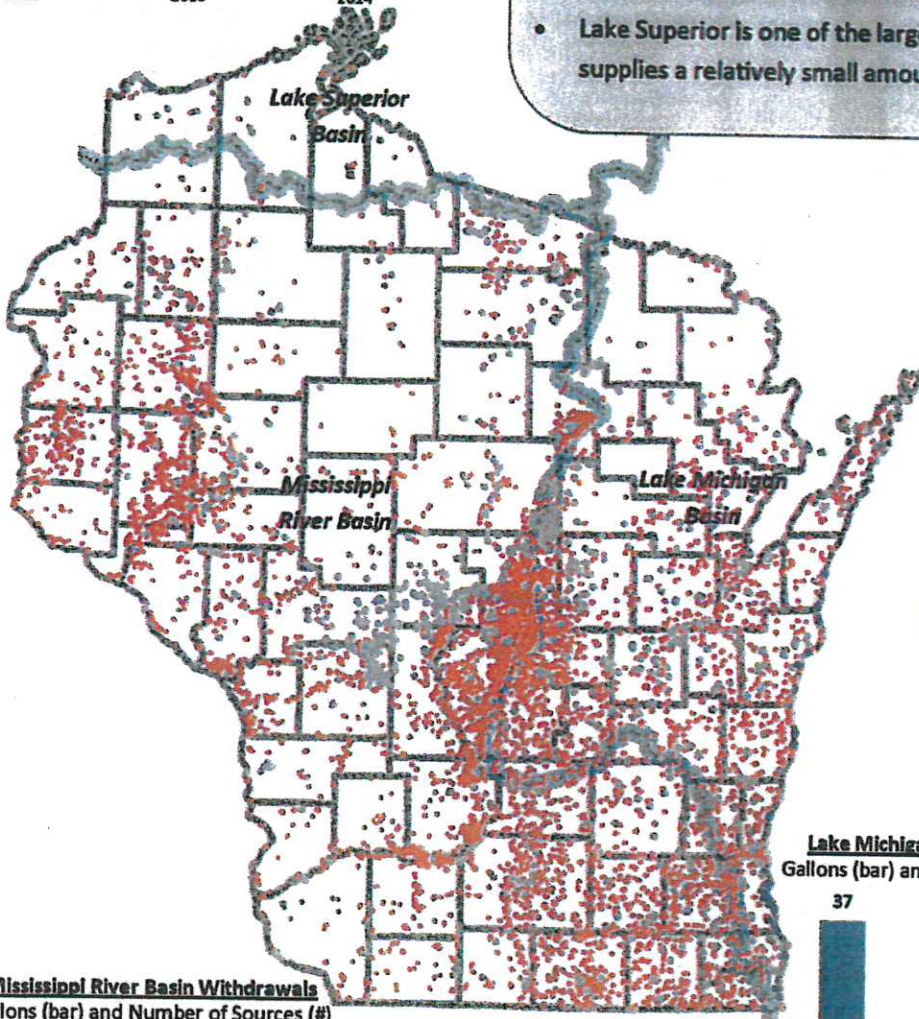
Lake Superior Basin Withdrawals
Gallons (bar) and Number of Sources (#)



Withdrawal Variation through Time and Location

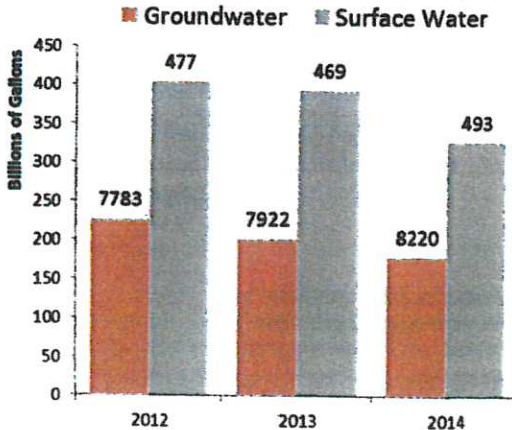
The density and intensity of withdrawals in Wisconsin depends largely on the nature of the source water and the water use.

- Lake Michigan is the single largest water source in Wisconsin supplying over 1.2 trillion gallons to only 36 sources.
- Although the total number of wells increased in the Mississippi River Basin between 2012 and 2014, the total amount of water withdrawn decreased.
- Lake Superior is one of the largest lakes in the world, but supplies a relatively small amount of withdrawals.

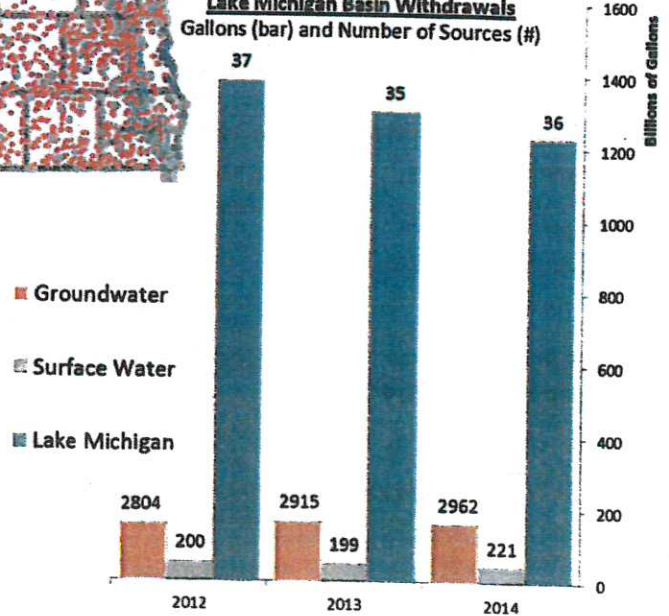


- Great Lakes Withdrawal
- Surface Water Withdrawal
- Groundwater Withdrawal
- Great Lake Basin Boundaries

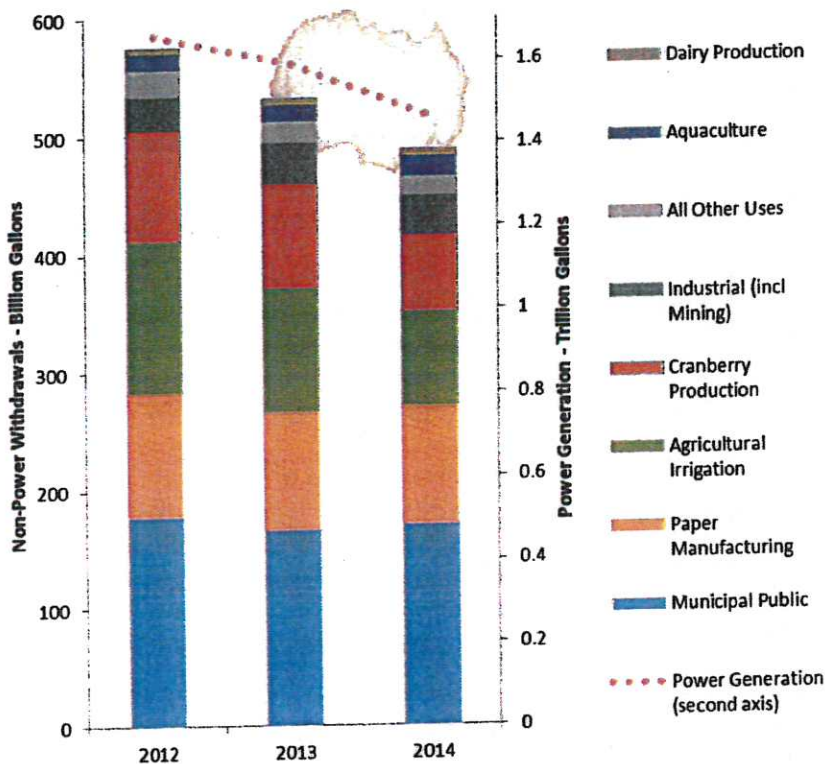
Mississippi River Basin Withdrawals
Gallons (bar) and Number of Sources (#)



Lake Michigan Basin Withdrawals
Gallons (bar) and Number of Sources (#)



Annual Withdrawals by Category 2012 to 2014



- Total withdrawals in Wisconsin decreased two years in a row from a high in 2012.
- Power plant withdrawals decreased due in part to cool summers in 2013 and 2014 compared to 2012.
- Withdrawals for agricultural irrigation and cranberry production decreased two years in a row. This was due mostly to the cooler, wetter growing seasons.
- Dairy production (+8%) and industrial (+19%) withdrawers were two sectors with a net withdrawal increase from 2012 to 2014.
- Paper production and municipal public withdrawals have remained relatively steady in since 2012

2014 Wisconsin Withdrawal Reporting Facts

- High capacity sources are any wells or surface water intakes on a property with the capacity to withdraw at least 100,000 gallons per day or 70 gallons per minute.
- For 2014, there were 14,797 registered high capacity withdrawal sources in the state: 13,758 wells and 1,039 surface water sources.
- Owners reported 16% of the registered sources were unused in 2014.
- Owners supplied reports for 97.6% of the state's registered sources.

Water Use	Total Active Sources	Total 2014 Withdrawal (Bgal)	Active Ground Water Sources	2014 Ground Water Withdrawal (Bgal)	Active Surface Water Sources	2014 Surface Water Withdrawal (Bgal)
Agricultural Irrigation	3,785	79.7	3,645	77.8	140	2.0
All Other Uses	2,339	7.2	2,302	5.9	37	1.4
Non-Municipal Public	1,660	4.2	1,660	4.2		
Municipal Public	1,659	171.9	1,635	97.2	24	74.6
Dairy Production	679	4.7	679	4.7		
Industrial (no mining)	491	347.0	465	11.2	26	335.8
Golf Course Irrigation	418	3.8	364	3.4	54	0.4
Cranberry Production	413	65.1	139	3.3	274	61.8
Non-Metallic Mining	301	18.6	176	3.2	125	15.4
Aquaculture	160	17.5	142	10.3	18	7.2
Power Generation	68	1,132.7	38	1.0	30	1,131.7
Paper Manufacturing	53	99.4	12	2.2	41	97.3

Bgal = Billion Gallons

For more information regarding the Water Use Reporting program or to request more specific information on withdrawals, please visit our website or contact Water Use Program staff:

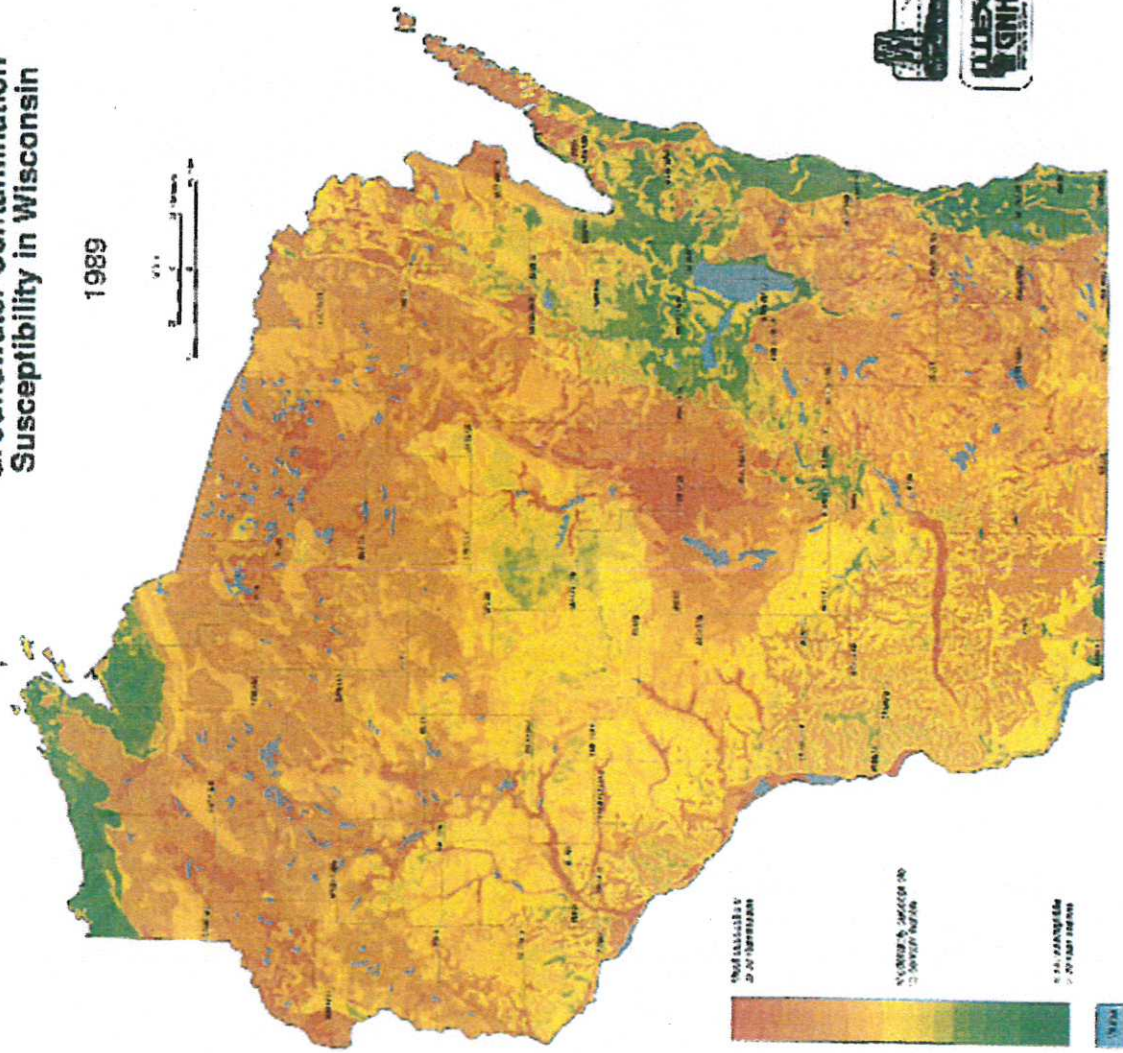
dnr.wi.gov keyword "Water Use"

DNRWaterUseRegistration@Wisconsin.gov 606.266.2299

Groundwater Contamination Susceptibility

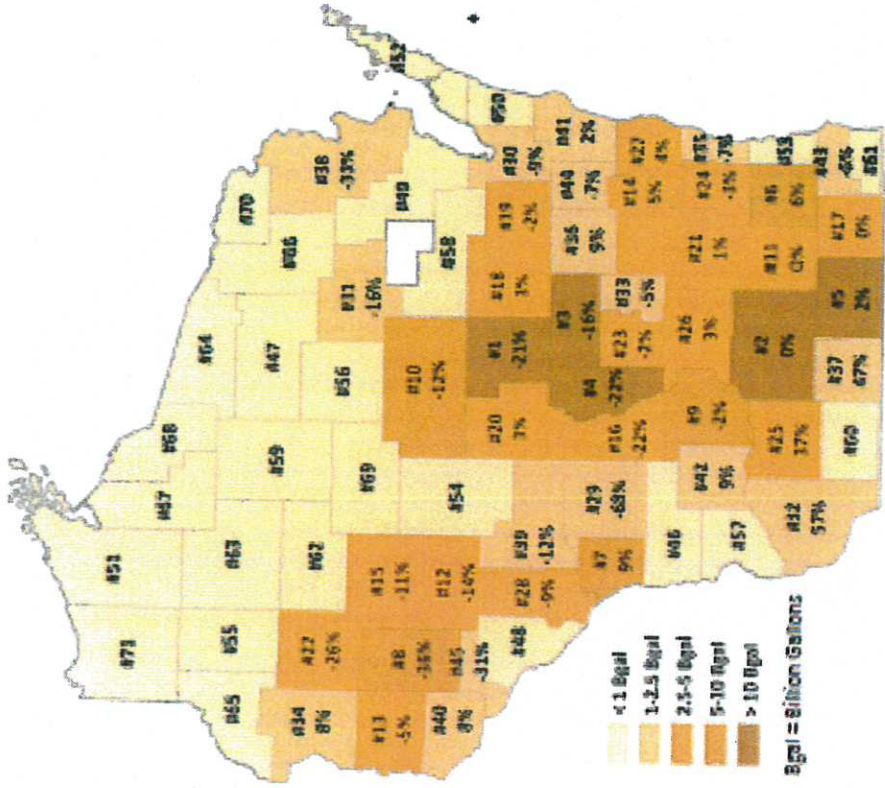
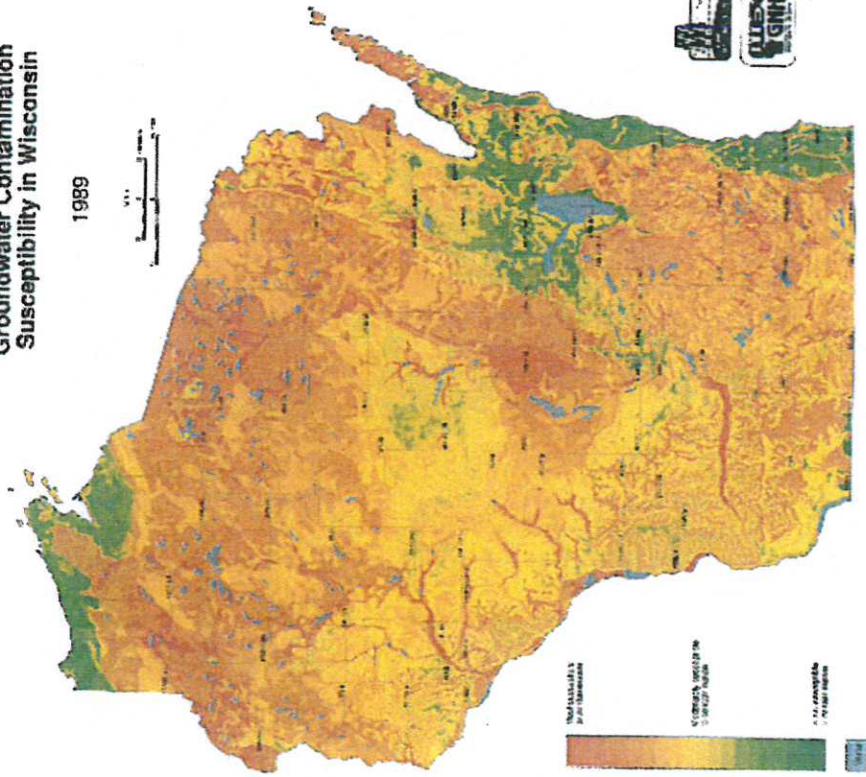
Groundwater Contamination Susceptibility in Wisconsin

1989



It is All Connected

Groundwater Contamination Susceptibility in Wisconsin



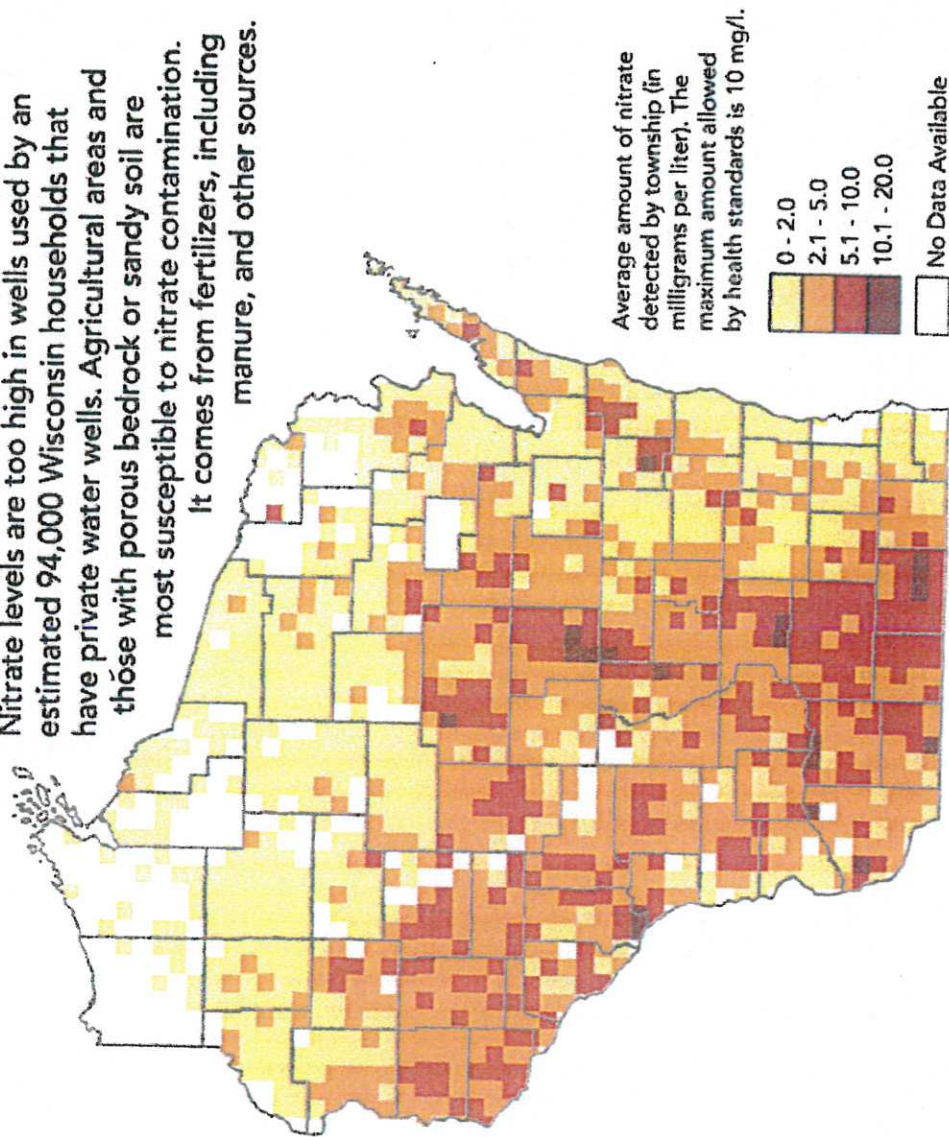
Groundwater Contamination Susceptibility

Groundwater Withdrawals by County

Drinking Water Contamination

Nitrate in drinking water around Wisconsin

Nitrate levels are too high in wells used by an estimated 94,000 Wisconsin households that have private water wells. Agricultural areas and those with porous bedrock or sandy soil are most susceptible to nitrate contamination. It comes from fertilizers, including manure, and other sources.



CREDIT: Katie Kowalsky/Wisconsin Center for Investigative Journalism

SOURCE: Well Water Quality Viewer, University of Wisconsin-Stevens Point's Center for Watershed Science and Education, Private Drinking Water Quality in Rural Wisconsin, Journal of Environmental Health, 2013.

**Wisconsin Groundwater
Coordinating Council**

**Executive Summary:
Fiscal Year 2016**

**REPORT TO THE
LEGISLATURE**



2016 GROUNDWATER COORDINATING COUNCIL MEMBERS

Department of Natural Resources – **Patrick Stevens, Chair**
Department of Agriculture, Trade & Consumer Protection – **John Petty**
Department of Safety & Professional Services – **Awaiting appointment**
Department of Health Services - **Jonathan Meiman, MD**
Department of Transportation - **Dan Scudder**
Geological and Natural History Survey (State Geologist) – **Kenneth Bradbury**
Governor's Representative – **Steve Diercks**
University of Wisconsin System – **James Hurley**

SUBCOMMITTEES

Research & Monitoring

Geological and Natural History Survey - **Ken Bradbury (Co-Chair) ***, **Madeline Gotkowitz***, and **Bill Bristoll**
Department of Natural Resources –**Bill Phelps*(Co-Chair)**, and **Shaili Pfeiffer**
Department of Agriculture, Trade and Consumer Protection - **Jeff Postle*** and **Rick Graham***
Department of Safety and Professional Services – **Ross Fugill*** and **Jon Heberer***
Department of Health Services - **Robert Thiboldeaux***and **Ryan Wozniak***
University of Wisconsin System - **Paul McGinley***, **Maureen Muldoon***, **Tim Grundl***, and **Trina McMahon***
U. S. Geological Survey - **Randy Hunt***, **Mike Fienen***, and **Cheryl Buchwald**
Center for Watershed Science and Education - **George Kraft*** and **Dave Mechenich**
Natural Resources Conservation Service - **Tim Weissbrod***

* Member of Standing Joint Solicitation Work Group

Outreach & Partnership

Center for Watershed Science and Education - **Kevin Masarik (Co-Chair)**
Department of Natural Resources – **Mary Ellen Vollbrecht (Co-Chair)**
University of Wisconsin System –**Moira Harrington**
Department of Agriculture, Trade and Consumer Protection –**Steve Martin**
Department of Safety and Professional Services - **Thomas Braun**
Department of Health Services – **Anke Hildebrandt**
Geological and Natural History Survey - **Dave Hart** and **Carol McCartney**
Department of Transportation - **Bob Pearson**
State Laboratory of Hygiene –**Jeremy Olstad**
U. S. Geological Survey – **Marie Pepler**
Natural Resources Conservation Service - **Tim Weissbrod**
Association of Wisconsin Regional Planning Commissions – **Eric Fowle**
Wisconsin Rural Water Association – **Andrew Aslesen**
Wisconsin Water Association - **Nancy Quirk**
Wisconsin Water Well Association – **Cindy Denman**



State of Wisconsin \ GROUNDWATER COORDINATING COUNCIL

Scott Walker, Governor

101 South Webster Street
Box 7921
Madison, Wisconsin 53707

Patrick Stevens,
Council Chair
DNR

August 30, 2016

To: The Citizens of Wisconsin

The Honorable Governor Scott Walker

Senate Chief Clerk

Assembly Chief Clerk

Secretary Mark Gottlieb - Department of Transportation

Secretary Dave Ross - Department of Safety and Professional Services

Secretary Ben Brancel - Department of Agriculture, Trade & Consumer Protection

Secretary Linda Seemeyer - Department of Health Services

Secretary Cathy Stepp - Department of Natural Resources

President Ray Cross - University of Wisconsin System

State Geologist Kenneth Bradbury - Geological and Natural History Survey

Kenneth Bradbury
WGNHS

John Petty
DATCP

Jonathan Meiman, MD
DHS

James Hurley
UWS

Dan Scudder
DOT

Steve Diercks
Governor's Rep.

The Groundwater Coordinating Council (GCC) is pleased to provide its 2016 Report to the Legislature. The GCC was formed in 1984 to help state agencies coordinate non-regulatory activities and exchange information for efficient management of groundwater. For over 30 years, the GCC has been a model for interagency coordination and collaboration among state agencies, local and federal government, and the university. It is one of very few examples of effective statewide coordination of groundwater efforts from an advisory position.

The level of coordinating effort and investment in groundwater is particularly appropriate as Wisconsin depends so heavily on groundwater for its drinking water. Wisconsin also relies on groundwater to irrigate crops, water cattle, and process a wide variety of foods, as well as feed trout streams and spring-fed lakes - all of which are vital to our state economy. New challenges and new ideas continue to warrant the GCC's collaborative approach.

This [on-line report](#) summarizes and links to information on the GCC and agency activities related to groundwater protection and management in FY16 (July 1, 2015 to June 30, 2016). Search "GCC" on dnr.wi.gov to find the full report. Click on the rotating cover graphics to see indicators of the condition of Wisconsin groundwater, our current uses and the state of our groundwater information. Click on the picture tabs for chapters of the report, beginning with the GCC's recommendations titled *Directions for Future Groundwater Protection*. The Executive Summary is attached.

We hope you will find this report to be a useful reference in protecting Wisconsin's priceless groundwater supply.

Sincerely,

Patrick Stevens, Chair
Groundwater Coordinating Council

Wisconsin Groundwater Coordinating Council Fiscal Year 2016 Report to the Legislature
EXECUTIVE SUMMARY

PURPOSE OF THE GCC AND ANNUAL REPORT

In 1984, the Legislature enacted Wisconsin's Comprehensive Groundwater Protection Act, to improve the management of the state's groundwater. The Groundwater Coordinating Council (GCC) was created and is directed by s. 160.50, Wis. Stats., to "serve as a means of increasing the efficiency and facilitating the effective functioning of state agencies in activities related to groundwater management. The Groundwater Coordinating Council shall advise and assist state agencies in the coordination of non-regulatory programs and the exchange of information related to groundwater, including, but not limited to, agency budgets for groundwater programs, groundwater monitoring, data management, public information and education, laboratory analysis and facilities, research activities and the appropriation and allocation of state funds for research."

The GCC is required by s. 15.347, Wis. Stats., to prepare a report which "summarizes the operations and activities of the council..., describes the state of the groundwater resource and its management and sets forth the recommendations of the council. The annual report shall include a description of the current groundwater quality of the state, an assessment of groundwater management programs, information on the implementation of ch. 160, Wis. Stats., and a list and description of current and anticipated groundwater problems." This report is due each August. The purpose of this report is to fulfill this requirement for fiscal year 2016 (FY16). The report is an interactive web-page with links to extensive supporting information.

The GCC's role in facilitating inter-agency coordination includes the exchange of information regarding Wisconsin's Comprehensive Groundwater Protection (Act 1983 Wisconsin Act 410), Wisconsin's Groundwater Protection Act (2003 Wisconsin Act 310), the Great Lakes Compact (2007 Wisconsin Act 227), the federal Safe Drinking Water Act's Wellhead and Source Water Protection provisions, and many other programs.

GROUNDWATER COORDINATION ACTIVITIES

In addition to the council of agency leaders, the GCC is authorized to create subcommittees on "the subjects within the scope of its general duties...and other subjects deemed appropriate by the Council." See a list of GCC members and subcommittees on the inside cover of this executive summary.

The GCC and its subcommittees regularly bring together staff from over 15 different agencies, institutions and organizations to communicate and work together on a variety of research, monitoring and data management, educational, and planning issues. A strong network among GCC and subcommittee members leads to coordination across agency lines on a variety of groundwater-related issues. These activities regularly avoid duplication, create efficiencies, and provide numerous benefits to Wisconsin's taxpayers.

Coordination of Groundwater Research and Monitoring Program

The GCC is directed to "advise the Secretary of Administration on the allocation of funds appropriated to the Board of Regents of the University of Wisconsin under s. 20.285(1)(a) for groundwater research." Since 1992, a joint solicitation process has facilitated selection and funding of sound scientific research and monitoring to answer state priority needs.

The GCC, the UWS, DNR and the Groundwater Research Advisory Council (GRAC) again collaborated on the annual solicitation for groundwater research and monitoring proposals as specified in the Memorandum of Understanding. After a multi-agency effort spearheaded by the UW Water Resources Institute, the GCC

Wisconsin Groundwater Coordinating Council Fiscal Year 2016 Report to the Legislature
EXECUTIVE SUMMARY

approved selected projects for the annual program of research to answer current groundwater management questions.

A comprehensive review process including the GRAC, the GCC's Monitoring & Research Subcommittee, and outside technical experts resulted in recommendations that were used by the UWS and DNR in deciding which groundwater-related proposals to fund. From 16 proposals, nine new projects were selected for funding in FY17, three by UWS and six by DNR. The GCC approved the proposed UWS groundwater research plan as required by s. 160.50(1m), Wis. Stats., and a letter to this effect was sent to the UWS President and the Department of Administration. [*Current groundwater research and monitoring projects*](#), are listed in the report as well as all Wisconsin Joint Solicitation groundwater research and monitoring projects (<http://dnr.wi.gov/topic/groundwater/documents/GCC/MonitoringResearch/AllProjects.pdf>)

The UW Water Resources Institute (WRI) provides access to [*summaries and reports*](#) of GCC-facilitated groundwater research, as well as cataloging all WRI research reports into WorldCat and MadCat, two library indexing tools that provide both worldwide and statewide access to this research. The Water Resources Library has partnered with UW Libraries' Digital Collections Center to digitize and post UWS and DNR final project reports. As a result of this partnership, full-text reports are also available through the [*UW Ecology and Natural Resources Digital Collection*](#). Progress continues in making older final reports and summaries accessible on-line.

Information and Outreach Activities

For the 16th year in a row, groundwater workshops for teachers were taught jointly by GCC Outreach and Partnership Subcommittee members from the DNR, WGNHS and the Center for Watershed Science and Education (CWSE) at Stevens Point. Teacher applications to participate continue to fill all available workshop space and equipment. The workshop leaders instructed teachers on using a groundwater sand-tank model and provided additional resources to incorporate groundwater concepts into their classroom. Educators who attended the workshops received a free model. With funding from a U.S. Environmental Protection Agency (EPA) wellhead protection grant, over 275 groundwater models have been given to schools and nature centers since 2001 and over 550 educators have received hands-on training in using the model effectively. Educators are regularly surveyed to promote continued use and evaluate educational benefits.

At the direction of the GCC, the Outreach and Planning Subcommittee inventoried all ongoing agency outreach efforts and developed recommendations for improved on-line support to well owners as a precursor to outreach efforts to health service providers.

Other Coordination Activities

The GCC continued to promote communication, coordination, and cooperation between the state agencies through its quarterly meetings. In addition to identifying collaboration opportunities, making decisions about research, and guiding report development, the GCC received briefings and discussed a variety of current topics at its FY16 meetings:

- US Geological Survey monitoring and analysis available on the USGS national data portal
- DOT use of the winter severity index to reduce salt use and allocate funds among county contractors
- Data and analyses available on the DHS Environmental Public Health Tracking portal
- WI Potato and Vegetable Growers Association efforts related to Central Sands groundwater issues
- Research results from UWS on chemical indicators for waste stream identification
- Research results from UWS on barriers to private well testing

Wisconsin Groundwater Coordinating Council Fiscal Year 2016 Report to the Legislature
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More information on these topics and the coordinating efforts of the GCC can be found in the FY16 GCC meeting minutes. Through these activities, the GCC plays an important role in ensuring agency coordination, increasing efficiency, avoiding duplication, and facilitating the effective functioning of state agencies in activities related to groundwater protection and management. As a result, groundwater is better protected, which benefits public health, sustains our economy, and preserves Wisconsin's natural resources for future generations.

SUMMARY OF AGENCY GROUNDWATER ACTIVITIES

State agencies and the University of Wisconsin System addressed numerous issues related to groundwater protection and management in FY16. Detailed discussions of the groundwater activities of each agency can be found at the agency activities tab in the [on-line report](#).

CONDITION OF THE RESOURCE: Groundwater Quality

Major groundwater quality concerns in Wisconsin are summarized below and detailed in the [on-line report](#).

Nitrate

Nitrate is Wisconsin's most widespread groundwater contaminant and is increasing in extent and severity. Nitrate levels in groundwater above 2 milligrams per liter (mg/L) indicate a source of contamination such as agricultural or turf fertilizers, animal waste, septic systems, and wastewater. While nitrate in agricultural use has benefits such as larger crop yields, high concentrations in groundwater lead to public health concerns. Approximately 90% of total nitrate inputs into our groundwater originate from agricultural sources.

Up slightly from the previous year, 57 public water supply systems exceeded the nitrate drinking water standard of 10 mg/L in 2014 requiring them to post notices, provide bottled water, replace wells, install treatment, or take other corrective actions. Concentrations of nitrate in private water wells have also been found to exceed the standard. A 2007 DATCP survey estimated that 9 % of private wells exceeded the 10 mg/L enforcement standard for nitrate. GCC member agencies are working on multiple initiatives related to reducing the risk of high nitrate levels in groundwater and drinking water.

Bacteria, viruses and other pathogens

Bacteria, viruses, and other pathogens often occur in areas where the depth to groundwater is shallow, in areas where soils are thin, or in areas of fractured bedrock. These agents can cause acute illness and result in life-threatening conditions for young children, the elderly, and those with chronic illnesses. In one assessment (Warzecha et.al., 1994), approximately 23% of private well water samples statewide tested positive for total coliform bacteria, an indicator species of other biological agents. Approximately 3% of these wells tested positive for *E. coli*, an indicator of water borne disease that originates in the mammalian intestinal tract.

Viruses in groundwater are increasingly a concern as new analytical techniques have detected viral material in private wells and public water supplies. Research conducted at the Marshfield Clinic indicates that 4-12% of private wells contain detectable viruses. Other studies showed virus presence in four La Crosse municipal wells, in the municipal wells in Madison, and in five shallow municipal wells serving smaller communities.

Public and private water samples are not regularly analyzed for viruses due to the high cost of the tests. The presence of coliform bacteria has historically been used to indicate the water supply is not safe for human consumption. However, recent findings show that coliform bacteria do not always correlate with the presence

Wisconsin Groundwater Coordinating Council Fiscal Year 2016 Report to the Legislature
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of enteric viruses. GCC member agencies are involved with research and risk reduction measures as well as emergency response on this issue.

Pesticides

Pesticide contamination in groundwater results from field applications, pesticide spills, misuse, or improper storage and disposal. Pesticide metabolites are related chemical compounds that form when the parent pesticide compounds break down in the soil and groundwater. The most commonly detected pesticide compounds in Wisconsin groundwater are atrazine and metabolites of atrazine, alachlor, and metolachlor.

In 2011, DATCP reported on the results of its [*2010 Survey of Weed Management Practices in Wisconsin's Atrazine Prohibition Areas \(PA\)*](#). The main purpose of this survey was to identify differences in herbicide use and other weed control practices inside and outside of Wisconsin's atrazine prohibition areas. Survey results suggest that although many corn growers would like the option to use atrazine in a prohibition area, they have adapted to growing corn without it. Half of the respondents indicated that they do not find it more difficult to control weeds in a PA without atrazine.

The DATCP pesticide database contains test results from nearly 13,000 wells tested with the immunoassay screen for atrazine and over 5,500 wells tested by the full gas chromatography method. In 2013, DATCP produced a map showing locations and atrazine levels of private drinking water wells tested for atrazine in the state. The immunoassay screen results showed that about 40 percent of private wells tested have atrazine detections, while about 1 percent of wells contained atrazine over the groundwater enforcement standard of 3 µg/L. The approximately 5,500 wells tested by full gas chromatography showed detectable levels of atrazine in about 38% of the wells and levels over the enforcement standard in about 8% of the wells. The enforcement standard for atrazine includes atrazine and three of its metabolites.

Arsenic

Naturally occurring arsenic has been detected in wells throughout Wisconsin. DNR historical data show that about 4,000 public wells and over 3,000 private wells have detectable levels of arsenic. About 10% of these wells exceed the federal drinking water standard of 10 µg/L. Although arsenic has been detected in well water samples in every county in Wisconsin, the problem is especially prevalent in northeastern Wisconsin where increased water use has likely released arsenic from rocks and unconsolidated material into the groundwater. GCC member agencies and partners continue to proactively address arsenic concerns through well drilling advisories, health studies, well testing campaigns, and studies aimed at improving geological understanding and developing practical treatment technologies.

Volatile Organic Compounds (VOCs)

Sources of VOCs in Wisconsin's groundwater include landfills, underground storage tanks, and hazardous substance spills. Thousands of wells have been sampled for VOCs and about 60 different VOCs have been found in Wisconsin groundwater. Trichloroethylene is the VOC found most often in Wisconsin's groundwater.

Radionuclides

Naturally-occurring radionuclides, including uranium, radium, and radon, are an increasing concern for groundwater quality, particularly in the Cambrian-Ordovician aquifer system in eastern Wisconsin. The water produced from this aquifer often contains combined radium activity in excess of 5 pCi/L and in some cases in excess of 30 pCi/L. Historically, about 80 public water systems exceeded a radionuclide drinking water standard, causing these communities to search for alternative water supplies or treatment options. The vast majority of these systems are now serving water that meets the radium standard. The DNR continues to work with the remaining water systems to ensure that they develop a compliance strategy and take corrective actions.

Wisconsin Groundwater Coordinating Council Fiscal Year 2016 Report to the Legislature
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CONDITION OF THE RESOURCE: Groundwater Quantity

Groundwater quantity conditions are summarized below and detailed in the [on-line report](#).

Groundwater is available in sufficient amounts throughout most of Wisconsin to provide adequate water supplies for most municipal, industrial, agricultural, and domestic uses. What is frequently missed is that groundwater pumping lowers water levels in aquifers and connected lakes, wetlands, and streams; and diverts flow to surface waters where groundwater would have discharged naturally. The amount of water level lowering and flow diversion is a matter of degree. At certain amounts of pumping in an area, streams, lakes, and wetlands can dry up and aquifers can be perilously lowered.

Groundwater pumping shows a continued long term increase. Numbers of high capacity wells, especially in the Central Sands region of the state (parts of Portage, Waushara, Waupaca, Adams, and Marquette Counties), indicates pumping amounts will continue to expand.

Groundwater pumping issues have arisen in multiple regions of Wisconsin. Large scale drawdowns of the confined aquifer have been documented in the Lower Fox River Valley and southeastern Wisconsin. Surface water impacts have been well-documented in the Wisconsin Central Sands and Dane County. These impacts have included the drying of lakes and streams.

BENEFITS OF MONITORING AND RESEARCH PROJECTS

The GCC provides consistency and coordination among state agencies in funding Wisconsin's Groundwater Research and Monitoring Program to meet state agency needs. Approximately \$17 million has been spent over 23 years by DNR, UWS, DATCP, and Commerce more than 400 different projects selected to answer essential management questions and advance understanding of groundwater in Wisconsin.

Projects funded have helped evaluate existing programs, increased the knowledge of the movement of contaminants in the subsurface, and developed new methods for groundwater protection. While the application of the results is broad, a few examples where the results of state-funded groundwater research and monitoring projects are successfully applied to groundwater problems in Wisconsin include:

- Detection and characterization of sources of microbial pathogens
- Extent of arsenic in Northeastern Wisconsin
- Evaluation of drawdown in Eastern Wisconsin
- Best practices for minimizing risk of groundwater contamination
- Methods for diagnosing causes of bacterial contamination in public water systems
- Understanding barriers to private well testing
- Statewide inventory and database of springs

See the "Progress Portfolio" tab in the [on-line report](#) for more information on how agency collaboration and project results are used to improve management of the state's groundwater resources.

RECOMMENDATIONS: DIRECTIONS FOR FUTURE GROUNDWATER PROTECTION

The GCC is directed by statute to include in its annual report a "list and description of current and anticipated groundwater problems" and to "set forth the recommendations of the Council" (s. 15.347(13)(g), Wis. Stats.). In this section, the GCC identifies its recommendations for future groundwater protection and management. These recommendations include top priorities of immediate concern, on-going efforts that require continued support, and emerging issues that will need to be addressed in the near future.

Priority Recommendations

Evaluate the occurrence of viruses and other pathogens in groundwater and groundwater-sourced water supplies, and develop appropriate response tools. Viruses and other microbial pathogens have been found in municipal and domestic wells, challenging previous assumptions about their persistence and transport. Monitoring and assessment should focus on refining our understanding of pathogens in groundwater, in particular where and when they pose threats to human health. Agencies should also work with partners to increase awareness of waste disposal choices, their risks and costs.

Implement practices that protect groundwater from nitrate and other agricultural contaminants (microbial agents, pesticides and their degradates). Nitrate that approaches and exceeds unsafe levels in drinking water is one of the top drinking water contaminants in Wisconsin, posing an acute risk to infants and women who are pregnant, a possible risk to the developing fetus during very early stages of pregnancy, and a chronic risk of serious disease in adults. In addition, pesticides are estimated to be present in one-third of private drinking water wells in Wisconsin. Areas of the state with a higher intensity of agriculture generally have higher frequencies of detections of pesticides and nitrate. Agencies should develop and evaluate a strategy to promote practices that lead to efficient use of nitrogen and careful or reduced use of pesticides in order to protect drinking water sources. Implementation of these practices should be supported with appropriate technical tools and incentives.

Support the sustainable management of groundwater quantity and quality in the state to ensure that water is available to be used, which will protect and improve our health, economy, and environment now and into the future. This includes:

- Supporting an inventory of information on the location, quantity, and uses of the state's groundwater
- Supporting targeted monitoring and modeling of the impact of groundwater withdrawals on other waters of the state
- Supporting identification and evaluation of options for areas with limited groundwater resources

Ongoing Recommendations

Without ongoing attention to the following needs, Wisconsin cannot address the priority recommendations (see above) or begin to understand emerging issues (see below).

Support implementation of the Statewide Groundwater Monitoring Strategy. Chapter 160 of the Wisconsin Statutes requires the DNR to work with other agencies and the GCC to develop and operate a system for monitoring and sampling groundwater to determine whether harmful substances are present (s. 160.27, Wis. Stats.). The strategy has been incorporated into the DNR Water Monitoring Strategy, but needs are constantly evolving as new problems emerge. For example, food processors, homeowners, municipalities, and well drilling contractors need more information about the origin and extent of naturally occurring contaminants such as arsenic, other heavy metals, acidic conditions, sulfate, total dissolved solids, radium, and uranium. Wisconsin

EXECUTIVE SUMMARY

should improve the accessibility of current data and continue to encourage research efforts that will provide information for addressing these issues. State agencies, the university, and federal and local partners should continue to implement and modify this strategy to efficiently meet monitoring objectives.

Continue to catalog Wisconsin's groundwater resources. Management and protection of Wisconsin's groundwater resources requires publically-accessible and up-to-date data in order to foster informed decisions, not only on state policy matters but also for sound business decisions on siting or technology investments. State agencies and the University should continue to collect, catalog, share, and interpret new data about Wisconsin's groundwater so that it can be used by health care providers and people seeking business locations, as well as homeowners and local governments.

Continue to support applied groundwater research. Focus on investments to identify and test cost-effective groundwater protection strategies that can prevent groundwater problems before they need to be remediated at a much greater cost. State agencies should work to maximize collaboration to answer the key groundwater questions facing Wisconsin water suppliers. To maintain adequate levels of support, agencies should seek leveraging partnerships for applied analysis and innovation.

Emerging Issues

Industrial sand mining. Since 2010, unprecedented growth of industrial sand mining and processing has occurred in West-Central Wisconsin and is expected to continue growing for another decade. The potential impact of this industry on groundwater resources has not been comprehensively evaluated, which would be the first step to avoid problems and plan for restoration. Wisconsin should support data analysis and field investigations to understand how this industry might impact groundwater. Agencies should partner with industry and local governments to develop and adapt site analysis and best-management practices for this industry.

Livestock industry expansion. Since 2010, many animal feeding operations that house thousands of animals have been sited or proposed in Wisconsin. These operations require large quantities of groundwater for both animals and animal food crops, and must also dispose of large amounts of animal waste. Wisconsin agencies should develop efficient and effective ways for measuring groundwater quality and quantity conditions in and around these operations. Agencies, industry and local governments should partner to develop policies and innovations that allow for effective siting and efficient operation of these facilities, while still protecting groundwater quality and quantity.

Effects of extreme weather. More prolonged drought or heat waves can increase groundwater demand at the same time as reducing supply. Groundwater quality may be affected by large fluctuations in water table elevation that can occur with extreme weather. More severe flooding can affect groundwater quality, wells and water system operations. Public drinking water supplies as well as water-dependent industries need reliable estimates of these effects in order to develop practical emergency response and adaptation strategies. To understand and predict the impact of these changes on the state's groundwater, agencies should develop the data and provide analyses of likely scenarios for quantity and quality of Wisconsin's groundwater supply.

Metallic mining. Lead, zinc, iron and copper deposits exist around Wisconsin. These deposits may be mined in the future and are located in sparsely-populated regions where background information on groundwater resources is often incomplete. The state should support background data collection and groundwater assessments so that future decisions about potential mining operations can be made most efficiently.

Debbie Hagedorn
Wisconsin Rapids, WI 54494
Wood County

With its great heritage of environmental leaders, I grew up believing the natural resources that make Wisconsin great would always be here, for all of us. I sit here now and I am saddened by the fact that I must speak up for the waters of Wisconsin or they may indeed go away.

My family and I use the waters of Wisconsin for swimming, kayaking, and otherwise disconnecting from this busy world. My son, who is 12, is an extraordinary and avid fisherman twelve months out of every year. He is planning to use the waters of Wisconsin for years to come in his quest to become a professional fisherman. As his mom, I will be at the water supporting him with every opportunity I have.

While I realize the \$3000 - \$4000 we spend on an annual basis in our outdoor water adventures is not considered a large sum of money, when you multiply them by the thousands of families, both from Wisconsin and from other states, that enjoy similar habits to ours, the numbers become substantial. All of these families add to the economy because of the water resources here in Wisconsin.

If Wisconsin's streams, lakes, and/or rivers are depleted to a point where they are no longer viable and healthy for all of those activities I just mentioned, it is a CERTAINTY that we will take our dollars to some location outside of Wisconsin where we can continue to enjoy life in and on the water.

There is a water crisis in our state. Senate Bill 76/Assembly Bill 105 isn't going to solve this crisis. The system of high capacity wells that has led to this crisis in the first place must not be made permanent. There must be no less than periodic reviews of these wells.

The Public Trust Doctrine says the waters of the state belong to all of us, and with that we must retain the right to periodically review these high capacity wells. We must also be able to contest any decisions we believe to be contrary to what is good for our water.

We need to do what is right. Industry and tourism must be allowed to coexist for everyone's benefit. Please vote NO on SB 76/AB 105.

Thank you.

Managing Groundwater: What can the state do?

Give the DNR funding, legislative guidance and rulemaking authority to regulate the cumulative impacts of high-capacity wells.

The experience of states such as Michigan and Minnesota demonstrate that it is possible to regulate the cumulative impacts of high-capacity wells without stifling agriculture or other industrial development. A sound framework for managing groundwater is necessary to ensure economic growth. Prohibiting the DNR from taking cumulative impacts into account is short-sighted and harmful to farmers and industry in the long run.

Key components of a cumulative impacts framework include: establishing baseflow allocations for maintenance of surface waters, development of a model (either regional or statewide) that predicts how a proposed well would impact surface waters and existing wells, and creation of procedures to ensure that all water users can exercise their right of reasonable use in the case of conflicts.

Include periodic review of all well permits in any high-capacity well bill.

Senate Bill 76, authored this session by Senator Fitzgerald, would make it easier for farmers to repair, replace, or transfer high-capacity wells without review by the DNR. Wisconsin Farmers Union supports this general concept, but is concerned that the bill as written would lock in perpetual water rights for existing well owners, at the expense of new farmers or other businesses seeking to access to water in the future. Wisconsin Farmers Union calls upon the legislature to amend SB 76, or any other high-capacity well bill, to provide for periodic review of all high-capacity wells. Periodic review is a typical practice for all other DNR permits. Water withdrawal permits should be no different.

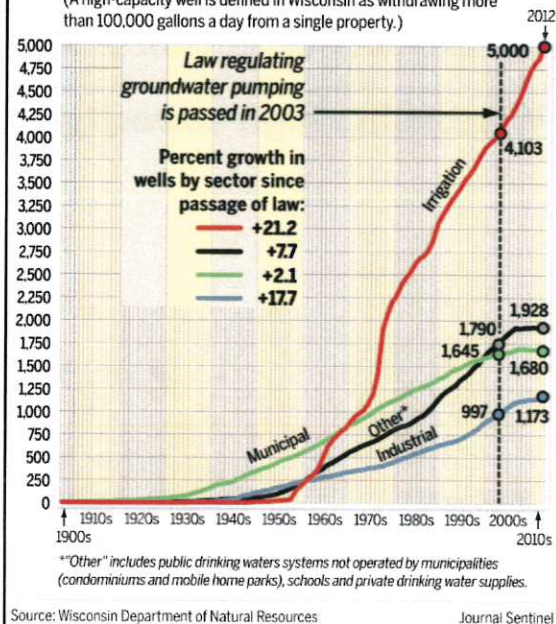
Wisconsin Farmers Union is a member-driven farm organization committed to enhancing the quality of life for family farmers, rural communities and all people through educational opportunities, cooperative endeavors and civic engagement. Learn more at www.wisconsinfarmersunion.com.

High-capacity well use on the rise

The number of high-capacity wells used for irrigation far outpaces other uses in Wisconsin.

Number of high capacity state wells

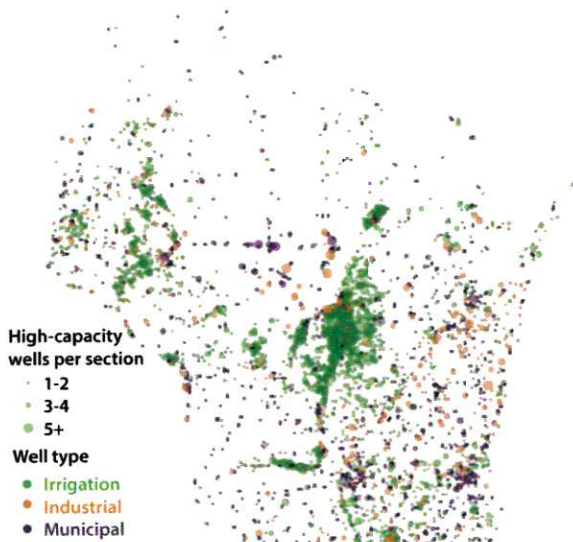
(A high-capacity well is defined in Wisconsin as withdrawing more than 100,000 gallons a day from a single property.)



Protecting Groundwater for Future Generations

Groundwater supply is a growing concern in Wisconsin. Luckily, Wisconsin is not yet facing a water crisis of the magnitude that many western states are facing. If we take smart action now, we can manage our groundwater to ensure that adequate supplies are available for future generations. On the other hand, if Wisconsin fails to take action to limit the cumulative impacts of high-capacity wells, the prospects for future generations of farmers and the outlook for the state's \$88 billion agricultural industry will be in jeopardy.

Wisconsin's high-capacity wells

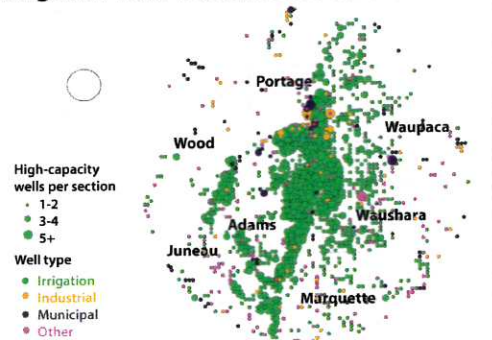


Data: Wisconsin Department of Natural Resources
Credit: Kate Prengaman/Wisconsin Center for Investigative Journalism

This fact sheet is brought to you by:



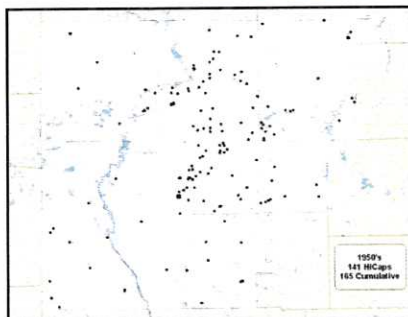
Irrigation wells dominate the Central Sands



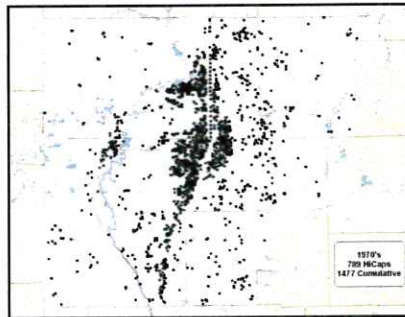
Data: Wisconsin Department of Natural Resources Credit: Kate Prengaman/Wisconsin Center for Investigative Journalism

There are currently 8,402 permitted high capacity wells in Wisconsin, defined as wells with the capacity to pump over 70 gallons per minute or 100,000 gallons per day. In 2013, over 2,200 of those were located in the Central Sands region of Wisconsin, and there are even more today. The Central Sands consists of six counties: Wood, Portage, Waupaca, Adams, Waushara, and Marquette. Most wells in the Central Sands are not operating at their full permitted capacity, and yet water levels in the region are still declining enough that some farmers have had to drill newer, deeper wells (at significant expense) as groundwater levels drop.

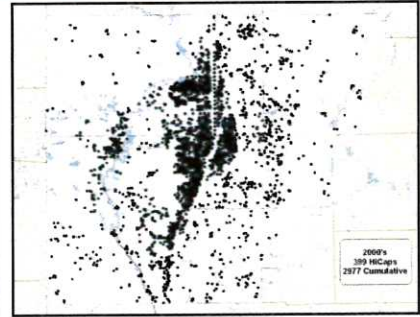
The Growth of High Capacity Wells in Wisconsin



1950s



1970s



2000s

AREA OF DISCUSSION

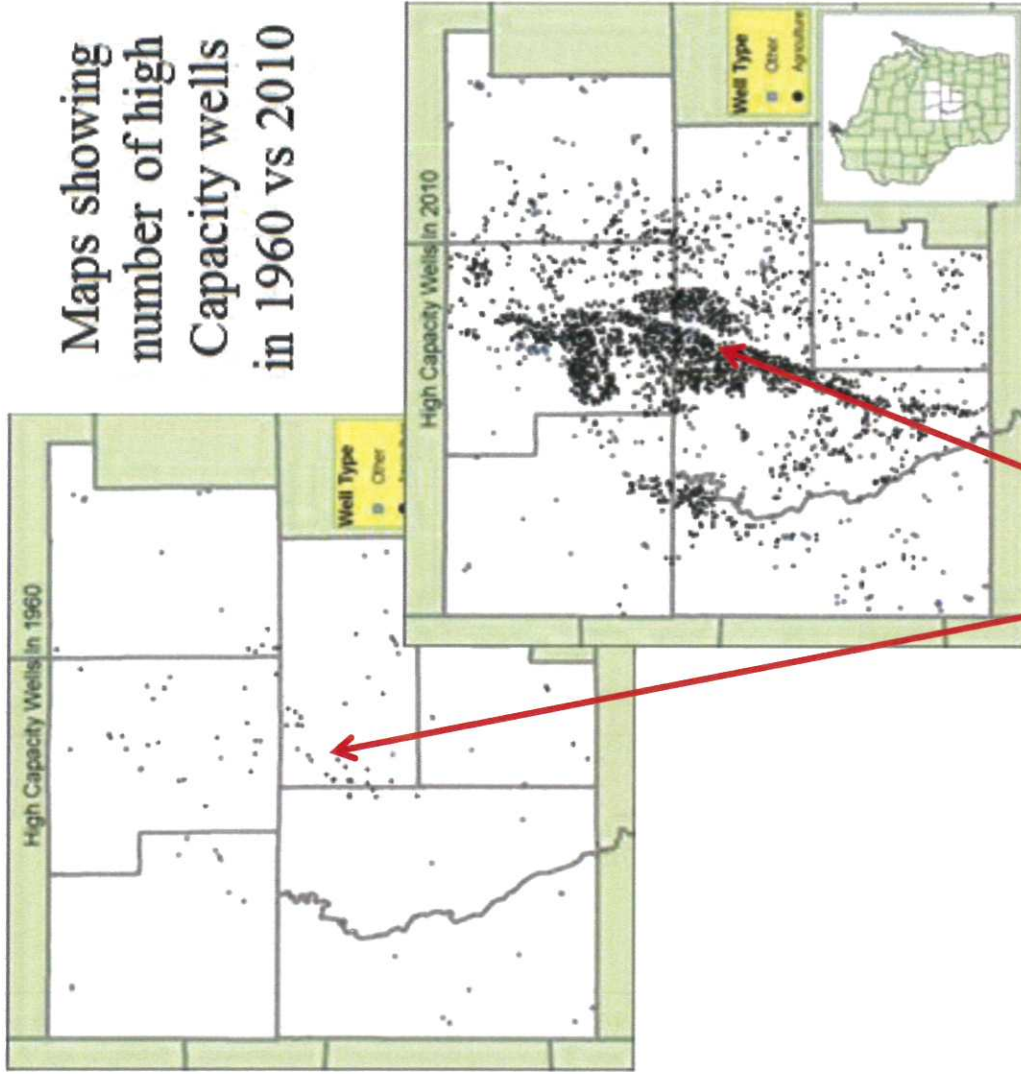


Fish Lake

Forty Acres

Long Lake

Maps showing number of high Capacity wells in 1960 vs 2010



Area of Discussion

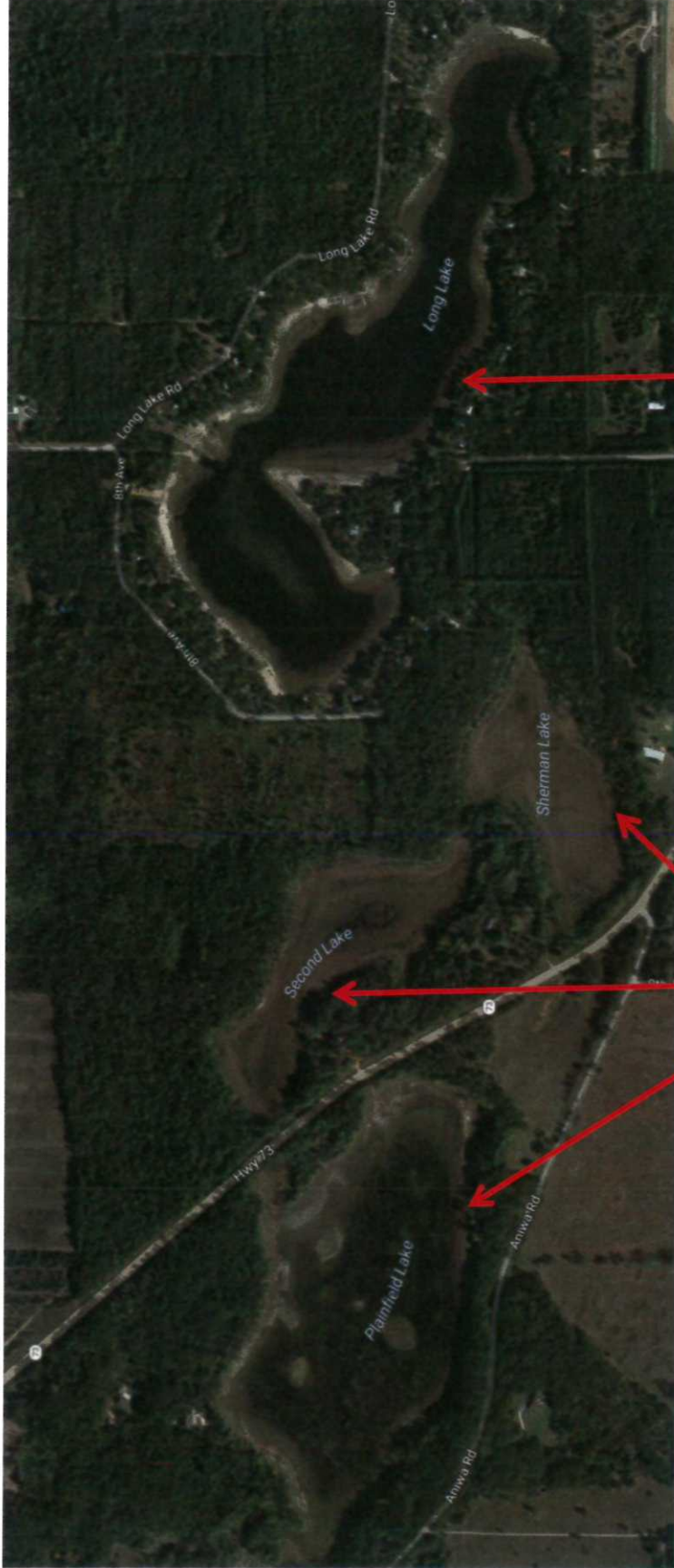
FORTY ACRES NEAR HANCOCK



5' Deep Pond in Mid 70's

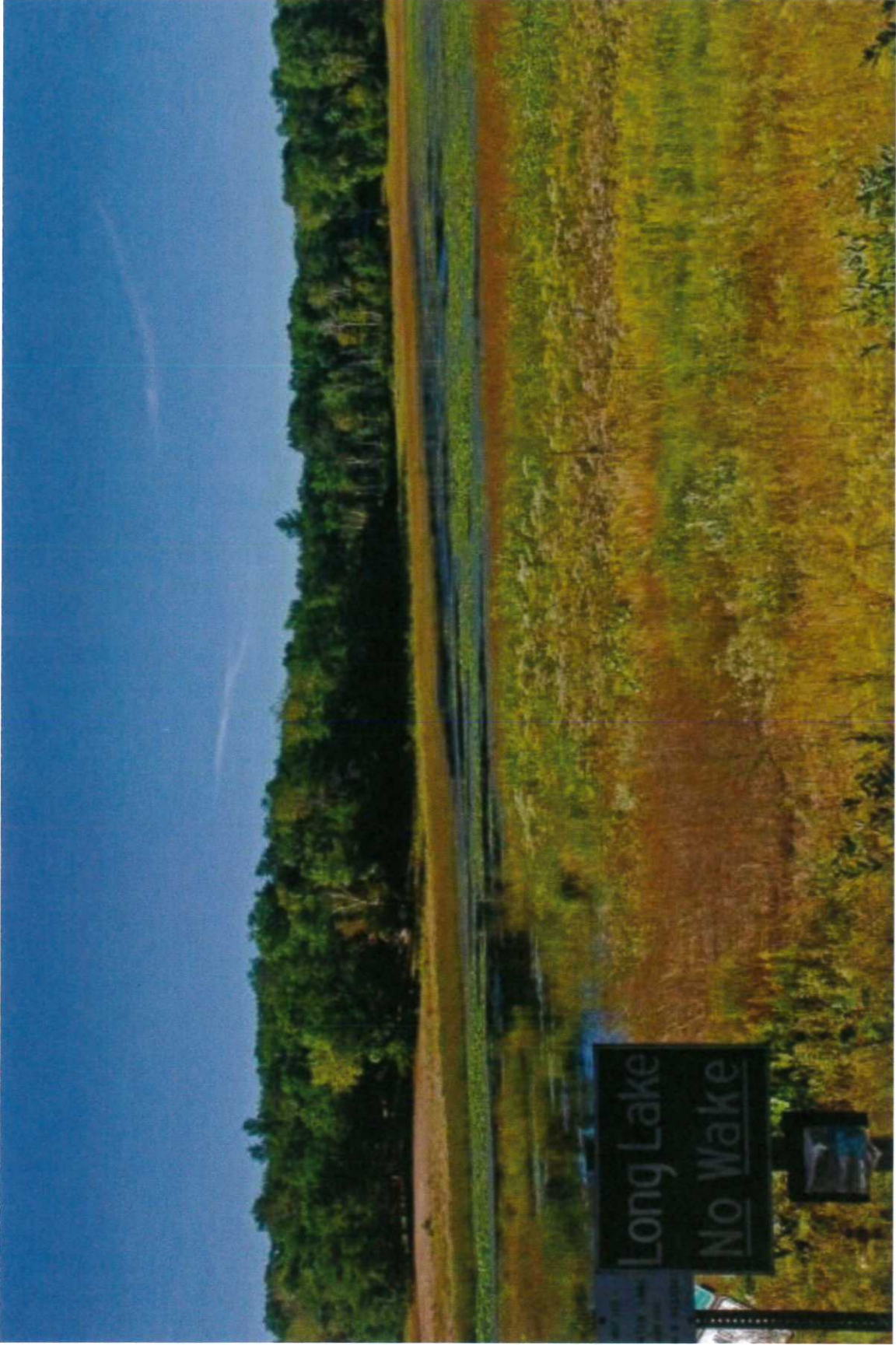
3' Deep Pond in Mid 70's

LONG LAKE AREA



Long Lake

Other Dried Up Lakes



FISH LAKE

Piers Moved Several Times



Navigation Difficult Between Lake Sections

My name is Arnie Wilke and I live at N877 Spring Lake Estates Drive, Town of Marion in Waushara county. I have been fishing and camping in the northwest part of Waushara County for fifty years and watched the lakes in this area begin to disappear about twenty-five years ago. My brother and I bought forty acres of land in that same area in the mid 70's that had two nice ponds that attracted plenty of wildlife, including wood ducks nesting in the bird houses a neighbor put up for us.

Those ponds survived the worst single year of drought in Wisconsin's history in the late 70's. About twenty years ago we noticed they were receding even with above average precipitation. About the same time, we noticed the family farms around us disappeared, literally. They were bought out to make industrial sized farms. Wood lots disappeared, hills were flattened, buildings torn down, and then what looked like giant lawn sprinklers appeared all around us. Fifteen years ago those ponds became intermittent. About ten years ago, they dried up completely.

On the first page of this document, you can see the strip of land with forest and natural vegetation where our forty acres and the lakes on pages 4-6 are located. This strip of land was once full of shallow lakes and wetlands that have been pumped dry. The water has been taken by the surrounding high-capacity wells. Page 3 shows the exponential growth of high-capacity wells in the area. There is an obvious connection between the amount of irrigated agriculture in the area and current surface water levels which have been confirmed by over fifty years of scientific studies of the central sands area. No other explanation is viable.

We should have done something about it twenty years ago. The longer we wait, the more difficult and painful the solutions will be. Since the state has crippled the DNR and taken away what little money they have to enforce the lax regulations we now have, there is little hope that I will ever see those ponds again. No one should be given a permanent right to steal our water.

*
Senator Nass Representative Nevison
and Committee Members:

My name is Judy Harris, and I chose to move to Wisconsin. In 2001, our 3 adult children were all living in WI. On our trips to visit one near Poy Sippi and two in Madison, we were awed by the beauty and abundance of pines and lakes near Wautoma. In 2002, we purchased lake property in Waushara County planning to use it as a week-end vacation spot. Two years later, when I retired, we knew that we wanted to move to the lake permanently. And we did. We now have two Grandsons who live in WI as well. We love our home, the lake, and the beauty of the area.

I soon joined the water quality committee on our lake and begin studying and learning about river and lake water, high capacity wells, CAFOs, and tourism in WI. To my dismay, Pine Breeze Dairy was built within 3 miles of the little hobby farm where our grandsons live. Having read about other CAFOs and the resulting polluted wells, I worry about our grandsons' water quality. Last summer we joined about 25 others concerned about water quality and quantity to see first hand the results of high capacity wells on some of the lakes in Waushara and neighboring counties. We left the tour wondering what would happen to our property value and enjoyment if we had purchased property on that lake where the actual water is far beyond any possible dock access to launch a boat or swim or enjoy the water? Or where the water is from our well were contaminated?

I have learned that agriculture and tourism are Waushara and other sand county's primary sources of income for individual businesses and for the tax dollars they produce, tax dollars that I contribute to. Crops like potatoes grow in sand IF they have water to do so. Tourism flourishes in Wisconsin IF the rivers and lakes remain attractive and clean. Both industries are needed in Waushara and other sand counties and across Wisconsin. The two bills that you are considering sacrifice tourism's need for both water quantity and quality for unfettered use of water for agriculture. Yes, agriculture needs water for irrigation, but it must be monitored by periodic reviews. SB 76 and AB 105 eliminate these safeguards. Our water supply is limited—we all know it and we are now seeing it. ~~know it~~. Agriculture and tourism or lake property ownership in my case can exist together, both can thrive IF you as elected officials honor the importance of both and honor Wisconsin's obligation in the Public Land Trust to protect our water for all Wisconsin's citizens and vote against SB 76 and AB 105. Thank you.

Judy Harris
11203 E. Cedar Springs Dr.
Neshkoro, WI 54960

SB 76 / AB 105 Proposed Groundwater Bill – Joint Public Hearing - 3/15/17
Senate Committee on Labor & Regulatory Reform and Assembly Committee on Agriculture

My husband & I have spent 40+ years of married life enjoying the wonderful rivers and lakes in the Central Sands Region (CS). We worked hard, put some savings aside and dreamed of one day having a home on a healthy lake in the central sands. 15 years ago we made our dream a reality and bought a 2nd home on Spring Lake in Waushara County. 3 years ago when we retired, we moved from Wauwatosa to live full-time on Spring Lake because the quality of life and the bountiful wildlife, fishing, & natural resources gives us something unmeasurable that can only be experienced around life on a lake. Do you understand what being able to enjoy and share living and recreating around Wisconsin's water resources gives back to citizens and why we treasure and value what groundwater/surface water resources contribute to the well-being and positive gift nature provides that helps all of us keep working hard, be good citizens, and raise our families to care for and value our water resources that are now being irreparably harmed?

We personally have volunteered to engage in projects, leadership roles around our lake, through our county's organization of 30 water groups and in activities within our community because our water resources are critical to all of us and the local municipalities that need the \$1.5 billion /year of tourism/recreational revenues generated that provide support to our local businesses, public schools, and our local infrastructure. Do you know that Waushara Co is one of the lowest - possibly *the* lowest county in the state for level of earned income by its citizens? Agriculture is equally important and our neighboring family farms contribute to our communities, but BOTH sources of revenue – tourism/recreational AND agricultural are needed (and actually bring in equal yearly revenues in the CS).

We are witnessing dramatic losses of surface water in the lakes, rivers and wetlands around us – in our county - Pine Lake, Hancock Lake, Fish Lake, Long Lake, Huron Lake are some of the water bodies that have significant decreases in water levels. Even during our recently wet years, the historical and cyclical variations in climate did not cause the even lower levels that exist and have not regained stable water levels as in the past. We are LOSING our lakes, wetlands, and along with them, property values, municipal property tax revenues are dropping, drinking water wells have had to be re-drilled when they've dried up, and we are also seeing contamination levels of nitrogen, arsenic, zinc from agricultural practices – CAFOs spreading liquid manure onto cropland that seeps into our groundwater aquifers, deeper high-cap wells placed that disturb minerals stored deeper in the aquifer which are released and then returned into our lakes, rivers and drinking water. We are at a critical point and expect our legislators to enact better protections of our groundwater. We ALL need adequate, safe water resources to survive.

SB76/AB105 is a bad bill as written. **Vote against this bill** for the following reasons:

- Periodic review **MUST** be included in groundwater legislation, and does **NOT** need to be attached to repair/replace/transfer of hi-cap wells. An appropriately timed review period will allow DNR staff to assess the impacts of hi-cap well usage and should also provide the authority to make changes in usage that best sustain groundwater resources in a fair, equitable science-based method that allows agriculture, municipalities, businesses to thrive and lakes/rivers to maintain healthy water levels.
- Remove transfer which gives permanent water rights to the owner – it directly disregards the Public Trust Doctrine that states the waters of the state are for all the public & must be protected.
- The areas designated to be studied are not adequate to provide meaningful data since some SRAs identified are not in threatened areas. Rather, the entire central sands region should be studied.
- This bill directly attacks & removes the individual property rights for individuals to request a judicial review of a DNR decision and for an individual to request a contested case hearing. This is against Wis. Statutes 227.42(1) and 227.52 protections.

 **Mr. & Mrs. Arno Witke**
N877 Spring Lake Estates Drive
Neshkoro, WI 54960-6412

Wisconsin Trout Unlimited comments on SB 76 / AB 105 regarding high capacity well permits

March 15, 2017

Members of the Senate Committee on Labor and Regulatory Reform and the Assembly Committee on Agriculture, thank you for taking the time today to hear our comments on SB 76 and AB 105 regarding high capacity well permits.

My name is Mike Kuhr, and aside from being a stay at home father and a small business owner, I'm currently volunteering as the Vice Chair for the Wisconsin State Council of Trout Unlimited. Trout Unlimited is the nation's leading coldwater conservation organization, and here in Wisconsin, we have over 5,000 members working to ensure that future generations have access to cold, clean, fishable water. Last year, our members volunteered over 48,000 hours of their time working on 82 conservation projects, 97 education events, and running 3 veteran services programs at the VA hospitals in Milwaukee, Madison, and Green Bay.

Our members value the recreational opportunities that the woods and waters of Wisconsin offer. We also recognize the economic impacts that trout fishing in particular, and angling in general, provide to our state. A 2013 study by the American Sportfishing Association (the "ASA") found that Wisconsin was the 3rd highest ranked state in the number of non-resident anglers. We know the fishing's good here, and apparently so does the rest of the country. According to the ASA report, angling results in over \$1.4 BILLION of retail sales each year in our state. All told, recreational angling creates over \$2.2 BILLION in annual economic impact for Wisconsin's economy.

We agree with our partners in the agriculture and real estate industries - the current permitting system for high capacity wells introduces an unnecessarily high level of uncertainty, since existing permits essentially expire when the wells fail, and no one knows when that will be. This well intentioned bill seeking to address that uncertainty is missing one vital piece. It fails to designate a date in the future when the permits will need to be renewed. I can tell you in that in 6 years, I'll need to renew my driver's license, but should this current version of the bill become law, no one will know how long their high capacity well permit is valid for?

Wisconsin Trout Unlimited wants to be a part of the solution. We would like to work with this legislature, our partners in the agricultural community, and water resource managers of the state to develop a periodic review system that would establish renewal dates for high capacity well permits. Periodic reviews at specific renewal dates would provide the certainty that the business community desires, and would allow for adjustments over time as technology, water use, and the understanding of our groundwater resources change.

As an organization that prides itself on setting policy based on science, we welcome the proposed study of our groundwater resources. Our members recognize the Mekan and Pine Rivers as fine trout streams, and we welcome the opportunity to learn more about what makes them both special places. Having performed stream restoration work all over our state, we know how different our watersheds can be – even from one valley to the next. We would hope to see an expansion of the study areas – perhaps even a region wide study of the Central Sands area in the future. Wisconsin Trout Unlimited understands that high quality wetlands contribute greatly to both groundwater recharge and surface water quality. We urge you to consider the impacts on these “associated wetlands” in addition to the “navigable streams and navigable lakes” located in the designated study areas.

We look forward to working with you to address these shortcomings of an otherwise well intentioned bill. Periodic review, and appropriate permit adjustments when needed, will ensure that all economies are protected, and that no one’s crop is lost.

Thank you for your time and for your commitment to public service.

Mike Kuhr
Wisconsin Trout Unlimited
Council Vice-Chair
mikek.trout@yahoo.com
(414) 588-4281

The American Sportfishing Association’s report entitled “Sportfishing in America” dated January 2013 can be viewed here:

http://asafishing.org/wp-content/uploads/Sportfishing_in_America_January_2013.pdf

Page 5 of the report shows Wisconsin Ranked 3rd in the number of Non-Resident Anglers, behind only Florida and Michigan.

Trout Unlimited is a private, non-profit organization with 150,000 members dedicated to conserving, protecting, and restoring North America’s coldwater fisheries and their watersheds.

www.tu.org

March 15, 2017

REGARDING SB 76/AB 105

Thank you Mr. Chairman,

My name is Mary Wright, a landowner in the Town of Saratoga and a member of Protect Wood County and Its Neighbors.

I was most alarmed when I first read SB 76. Our aquifer here in the Town of Saratoga is the common source of water for all 5,200 residents in our town. Why should anyone with a High Capacity Well have a monopoly on a large portion of that water into perpetuity? This is similar to Western Water Rights which is a concept never embraced east of the Mississippi, and certainly not in Wisconsin.

If the free-for-all for High Capacity Wells is allowed to continue here in Saratoga, the water table will undoubtedly be lowered significantly. As a homeowner, we would have to drill our well deeper and draw water from lower down in the aquifer. Most likely that water would not have nearly the quality that we are currently enjoying. Our property values will be devalued as the water quality degrades. Undoubtedly nitrates will infiltrate the aquifer.

One section of this bill addresses a hydrological study of certain water sheds in the Central Sands. It is not at all clear from the wording in the bill if the 10 Mile Watershed is included or not. Whether it is or is not included, provides us with little or no protection. The study is supposed to start within one year of the bill's signing and it can go on for another three years. After that the DNR will submit a report to the legislature on its recommendations, if any, to regulate High Capacity wells in the study areas. Then the Legislature may or may not propose various statutes regarding the DNR's recommendations.

During this four year window, the High Capacity Well free-for-all will be allowed to continue. The damage will have already been done.

The nitrate level in our home well, which supplies all our drinking water, was last tested at 0.01-ppm nitrates and we want to keep it that way.

SB 76/ AB 105.

1. We must all abide by the Public Trust Doctrine. No one should ever surrender their RIGHT to clean and abundant water.
2. Cumulative effects need to be considered: Only in the land of alternative facts can you keep pumping water and still keep lakes, streams and ground water at their best functioning levels.
3. Do we need for more studies? Of two things one: Either we do or we don't. If we have enough to act, then act. If we do NOT, then put a moratorium on any new HCW until you know what you are doing.
4. What is causing our great fear and anguish is that we are getting no solid numbers on the many HC wells because they are not monitored. We see green algae pollution and lower water levels. This represents a grave danger to our pets and our children and the value of our properties. Our legislators have "listening sessions", but are they hearing us?
5. Compliance with Nutrient Management Plans has to be enforced 100%, and this measure needs to have teeth.
6. A meter needs to be installed on *every* HCW, not just the new ones. Proper points of inflection exist along the life of a well: Installing or, or a well gets repaired or reconstructed. Water testing whenever land changes hands is important also because it protects the buyer and the seller.
7. Water at the pivot should be tested once a year, like in July or August, when the numbers could be at their worst for nitrates and the numbers published to reassure neighbors. If the HCW was checked from year to year, and we saw nitrate numbers start to rise, Industrial farmers could better manage their fields, do a different rotation, perhaps Industrial hemp if it gets approved. Industrial Hemp needs less water and fertilizer than corn or potatoes. The numbers would go down again rather than wait until the aquifer is compromised and all hell breaks loose. [Businesses get tax credits to offset the costs].
8. Best farming practices must be followed: mow the corners once in the fall: Do not apply manure in a rainstorm which causes illegal pooling; Plant cover crops so as not to cause soil erosion like the dust bowl effect we endured just the other day: Do not spray blossoms or you will kill pollinators.
9. If you are going to spray, you should notify your contiguous neighbors of what you are spraying and when.
10. Industrial farmers should set up a reasonable escrow account to fix damages they may cause. No public monies should go to fix damage caused by a private party. (remediation).

March 15, 2017

To the Senate Committee on Labor and Regulatory Reform and the Assembly Committee on Agriculture:

I am here in opposition to AB105 / SB76. What we are talking about here is a gross disrespect of the public good, a law that tips the balance in favor of industry over our Wisconsin water.

My grandfather was a farmer. My great grandmother was a Sunday school teacher who was a tireless advocate for women and children in need. My family understood the need for industry but would never give up its commitment to quality of life. I am here to remind you that there are things in life that are of equal importance to industry.

Our laws should not favor industry over public good but seek to provide a balance. AB105/SB76 does not provide for periodic review of high capacity wells, and goes a step further to prohibit the state from periodically reviewing well permits, thereby creating unlimited permits to pump water without oversight. Allowing a well permit with no limits does not make sense to anyone except a business owner trying to make money at the expense of the public good. Environmental impacts of industry change over time. The cigarette industry comes to mind; this industry was allowed to pollute our air unconditionally until studies showed the impact of second hand smoke on our health. Our understanding of issues changes as we study them and as new information comes to light.

Any information that is gained by studying the effect of high capacity wells on watersheds would be useless if the state is prevented from reviewing a permit. As studies are done and new information about the effects of industry on the environment is brought forward, we must have laws that are flexible enough to allow for these changes. A law that makes it harder for us to hold industry accountable for deleterious effects on the environment is irresponsible. This bill is very obviously in favor of industry. Where is the balance between industry and public good?

According to the Attorney General, the DNR does not have the legal authority to consider the cumulative impact the wells have on surface and groundwater in a given area when it considers a permit request. That does not make sense to me. Who better to review the impact of industry on the environment than the very agency tasked with *"providing a healthy, sustainable environment ... to ensure the right of all people to use and enjoy these resources in their work and leisure."* (<http://dnr.wi.gov/about/mission.html>) Let us ensure that our laws are written in a way that allows the DNR to do its job. AB105, as it is written by the lawmakers who vote in favor of industry without limits, will continue to tie the hands of the DNR, preventing it from carrying out its mission. *"To ensure the right of all people to use and enjoy these resources in their work and leisure."* Work and leisure. Both are important. I am not here to tell you not to build a high capacity well if one is needed. I am asking you to do the right thing and allow for periodic reviews of such wells and to remove wording allowing unlimited permits through ownership transfers.

You cannot quantify the beauty of a Wisconsin lake, the joy of standing in a trout stream next to your son or daughter, fishing poles flashing in the sun, or the peace of a summer afternoon by your neighborhood swimming hole. You cannot put a price on these things. We all know that industry is necessary for economic growth. We also know that high capacity wells drain water from our lakes and streams and private wells. These are not disputable facts. So let us act with wisdom and sense. Let us allow for there to be oversight of high capacity wells, those who drain our natural resources for their own gain. I am asking you, our law makers, to be vigilant stewards of our water. This is NOT asking too much. We deserve laws that work for ALL water users.

Tanja Birke
Viroqua, Wisconsin

Groundwater quantity fundamentals in Wisconsin's central sands region

Prepared for the Wisconsin Food, Land, and Water Project Groundwater Quantity Work Group, February, 2017, revised March 13, 2017 following Work Group discussion.

By Kenneth R. Bradbury¹, George J. Kraft², James Drought³, Michael N. Fienen⁴, Randall J. Hunt⁴, David J. Hart¹

¹Wisconsin Geological and Natural History Survey, University of Wisconsin-Extension; ²Center for Watershed Science and Education, University of Wisconsin-Stevens Point and Extension; ³GZA Inc., Brookfield, WI; ⁴U.S. Geological Survey, Wisconsin Water Science Center, Middleton, WI

Purpose

This brief summary was requested by the Wisconsin Food, Land, and Water Project Groundwater Quantity Work Group during a meeting on November 10, 2016. The intent of this document is to summarize key concepts related to groundwater, high-capacity wells, and groundwater-surface water relationships in the central sands region of Wisconsin. The authors of this document are technical experts in hydrogeology with experience working in the central sands region of Wisconsin. This document is not meant to outline policy or specific solutions, but rather to summarize the state of the science on groundwater issues in the Central Sands.

Approach

This document presents fundamental concepts related to central Wisconsin's water resources. For each concept a brief explanation is provided along with a description of its relevance to water resources decision making. The intent is to break down the issues into individual parts to facilitate clear understanding. In the end, these components are all parts of a whole and are tied together. The organization is as follows: We start with a review of the hydrogeology of the Central Sands (1, 2); then review the behavior of groundwater wells, regardless of their purpose (3,4,5); connect the use of wells to irrigation (6); review the importance of changes over time (transience: 7); summarize observations of stream and lake responses in areas with higher numbers of irrigation wells (8,9); discuss the use of groundwater flow modeling to tie all these parts together (10); summarize details of evapotranspiration (11); and finally discuss possible explanations for streamflow and lake level declines other than pumping (12).

Fundamental concepts and their implications

1. Concept: A single groundwater flow system occurs throughout the central sands

Details: The central sands groundwater flow system occurs mainly in a single, interconnected sand-and-gravel aquifer that underlies virtually all of the region. It is highly permeable and ranges from very thin to nearly 200 feet thick. In places the sand and gravel aquifer is underlain by a sandstone aquifer, and in other places the sand and gravel is interrupted by a clayey layer

called the New Rome Formation. With the exception of some very small isolated locations, groundwater in the central sands flows through a connected large system that receives recharge from local precipitation. Groundwater naturally flows to streams where it discharges and leaves the watershed.

Why relevant: The groundwater flow system is well connected, wide-ranging, and the aquifer stores and transmits water to surface water and to wells.

2. Concept: Groundwater and surface water are directly connected throughout the central sands.

Details: Surface waters (lakes, streams, wetlands) in the region occur at places where the water table intersects the land surface. Streams in central Wisconsin are supplied by groundwater discharge. Lakes and wetlands, depending on their location in the landscape, can be groundwater discharge points or flow-through features.

Why relevant: Groundwater and surface water are well connected and should be thought of as a single resource. Groundwater discharge is the source of baseflow in streams. Groundwater controls lake levels. Changes to the groundwater system affect surface water and changes to surface water affect groundwater.

3. Concept: Pumping wells affect groundwater levels

Details: A basic principle of well hydraulics is that removing water from a well always reduces total hydraulic pressure, or head, in the aquifer near the well. This pressure change results in a lowering of groundwater levels near the well, known as drawdown. The amount of drawdown is directly related to the pumping rate, aquifer transmissivity, aquifer storativity, and distance from the well and can be predicted by well-established equations. The three-dimensional extent of drawdown is generally cone-shaped and is called the cone of depression; this cone grows larger the longer a well is pumped. A typical cone of depression for a high-capacity well in the central sands is measurable for a half a mile or more around a well. While a distinct cone of depression comes and goes as a well cycles on and off, it is important to realize there is always less water in the aquifer, and thus lower water levels, for a short period after a well is pumped. The complete recovery of the water table can take months or longer.

Why relevant: The effect of each well pumping is a reduction in groundwater levels. The distance, timing, and magnitude of the reduction depends on the properties of the aquifer and the amount, duration, and location of pumping.

4. Concept: Pumping wells divert water from streams

Details: Streams in the central sands are natural areas of groundwater discharge, and this groundwater discharge sustains streamflow throughout the year. By removing groundwater from the aquifer, well pumping modifies and interrupts natural groundwater flow and thus reduces the volume of groundwater discharge to streams. This reduction is called "diversion," because water that would have discharged to a stream under natural conditions is diverted away from the stream. If a well is close enough to a stream or lake, it can also induce water directly from that surface-water feature. The amount of diversion caused by a well depends on the pumping rate, pumping period, distance from a stream, and local geology.

Why relevant: Each pumping well in the Central Sands impacts streams by diverting groundwater discharge and reducing streamflows. Even wells outside the surface-water basin of a particular stream can divert water away from the stream.

5. Concept: Cumulative impacts matter.

Details: Whenever a well is pumped, discharge is diverted from streams and water levels in an aquifer, lakes, and wetlands are lowered. Cumulative impacts refer to the additive effects as impacts from numerous wells in the same area overlap. When many wells in a region are being pumped, water level declines and streamflow diversions add to each other. So even though a single well may cause only a small decline or diversion, the additive effects of many wells can significantly impact lakes and streams.

Why relevant: Unless located immediately adjacent to a surface water feature or another well, any single well typically has modest impacts on water levels or streamflow. However, when many wells are located in the same area the cumulative impacts of all these wells can become significant.

6. Concept: When crops are irrigated using groundwater, there is a net loss to the groundwater system.

Details: Irrigation replenishes soil moisture to maximize plant growth. Ideally, irrigation amounts would exactly match plant consumption (defined as water incorporated into the plant biomass, transpired through the plant, directly evaporated from plant surfaces and the ground or a small amount that evaporates while the water is sprayed through the air). In practice this is difficult to achieve. An estimated 70-90% of irrigation water is removed from the aquifer, while 10-30% may return to the aquifer, and this returned water is called irrigation return flow. The absolute amount of return flow varies from field to field, from crop to crop, and from year to year, and depends on many variables including soil type, crop type, crop maturity, irrigation rate, antecedent soil moisture, and weather patterns. Every current method for estimating return flow in the central sands contains significant uncertainty.

Why relevant: Understanding where the irrigation water goes is important for understanding the water balance of the central sands region. Averaged over the irrigated region, between 70% and 90% of the applied irrigation water is removed from the aquifer—lost from the groundwater system either by being released to the atmosphere through evapotranspiration or incorporated into the crops—while between 10% and 30% is returned to the groundwater system. Improving estimates of consumptive use is a recommended topic for continued research.

7. Concept: Groundwater, surface water, evapotranspiration, and high-capacity well use in the central sands have important transient components, meaning that conditions continually vary through time.

Details: The dynamics of the groundwater-surface water system vary seasonally. Natural groundwater recharge usually occurs mostly in the spring and fall, with little recharge in the summer or winter. Surface-water features respond to this pattern, with highest streamflows in the spring and fall and lowest streamflows during the dry summer months and into the fall. Native vegetation typically follows a similar pattern with higher evapotranspiration taking place

in the spring and fall when more water is available. Irrigation pumping follows an opposite pattern, with almost no irrigation during the spring, fall, or winter and maximum irrigation during the dry summer months. In addition, there are often significant time lags on the order of months or years between pumping and the effects of pumping on lakes and streams. This lag time depends primarily on the distance from the pumping well.

Why relevant: The lack of synchronization between recharge, pumping, and streamflow means that annual averages, such as annual water budgets or annual pumping volumes, can be misleading and should be used with caution. A water budget that nearly balances at the end of a calendar year can be seriously out of balance during July through October, when the streams are most stressed and require sufficient groundwater inflow to support the fishery.

8. Concept: Groundwater levels have declined in parts of the central sands where a higher density of high-capacity wells occurs.

Details: Over the past several decades, groundwater levels have consistently declined in parts of central Wisconsin where larger numbers of high capacity wells occur, but these declines are subtle and are difficult to document without considering long water-level records and statistical analyses. In places where monitoring has occurred, long-term records document these water-level reductions. Groundwater levels measured by the USGS at a site (PT-23/08E/26-1464 and two previous wells at the same location) near Plover, for instance, with nearly 70 years of record, have declined below historical record lows previously only associated with extreme drought.

Why relevant: Groundwater levels in the central sands typically fluctuate by two to three feet annually in response to seasonal weather and pumping patterns. Accordingly, evaluation of possible long-term trends requires long-term water-level records. Evaluations of these records show declines in water levels near areas of multiple irrigation wells.

9. Concept: Streamflow and lake levels have declined in parts of the central sands where a higher density of high-capacity wells occurs.

Details: Streamflows and lake levels have declined in parts of central Wisconsin where large numbers of high capacity wells occur. For instance, recent flows in the early 2000s in the Little Plover River were below its 1959-1987 historic low, a period that contained some of the driest years on record. Lakes in the vicinity of large numbers of high-capacity wells are anomalously low. In places where water level or flow data do not exist, visual observations reveal declining water levels. For instance, for some lakes, beaches are wider than the historic norm and boat landings no longer reach the water even during modestly dry to wet years. Conversely, streamflows and lake levels have remained steady or have even increased in areas of the central sands having less groundwater pumping.

Why relevant: Stream baseflow is a key measure of groundwater discharge, and reductions in stream baseflow indicate that the basin's groundwater budget has changed. Likewise, lakes in the central sands reflect groundwater levels, and long-term lake-level declines are a symptom of lower groundwater levels. Observations that water bodies outside the more heavily irrigated

areas oscillate over time but do not trend downward are consistent with the conclusion that pumping has caused stressed water conditions.

10. Concept: Results of numerical groundwater flow models are consistent with observations of declines in streamflow and groundwater levels in areas of numerous high-capacity wells.

Details: Groundwater-flow models combine the equations describing groundwater movement and well hydraulics with geology and boundary conditions to simulate groundwater movement and groundwater-surface water exchange in complex settings under both steady-state and transient conditions. Output of such models includes simulated groundwater levels, stream baseflows, lake levels, and a water budget that accounts for how groundwater moves through the system. Multiple recent independent models for the Little Plover River area suggest that high-capacity well pumping has reduced local groundwater levels by up to 5 feet and reduced Little Plover baseflow by up to 4.5 cubic feet per second.

Why relevant: Numerical groundwater modeling is the accepted state of professional practice for addressing complex groundwater problems. The ability to reproduce field observations with calculations based on fundamental hydraulic and hydrogeologic principles is a key test of the validity of hypotheses and a predictive tool that helps use past observations to predict future conditions.

11. Concept: Evapotranspiration is related to land cover and influences water levels and streamflows.

Details: Evapotranspiration refers to evaporation off plants, open water, bare ground and transpiration from plants. In the Central Sands transpiration is larger than evaporation. Plants remove water from the soil using their roots and pass it as vapor through stomata into the atmosphere; this flux can be appreciable on the basin scale. The amount of water transpired by plants is a function of the type, density, and size of the vegetation as well as amount of water available in the root zone and time of year. Native plants and trees typically transpire for more of the season than shallow rooted plants and irrigated crops. Evapotranspiration rates are related to plant type, where some wetland plants have appreciably higher rates than upland plants. Regardless of plant type, the highest rates of evapotranspiration occur during the summer months. Peer-reviewed research as well as empirical observations indicate that evapotranspiration is greatest under irrigated land cover, with differences among the various irrigated crops, followed by forest, non-irrigated agriculture, and grassland. Groundwater recharge follows an opposite continuum. Understanding the relative transpiration of native vegetation and irrigated crops is an active area of interest to stakeholders and thus merits greater study.

Why relevant: All landscapes lose water to evapotranspiration. The effect of adding irrigation to a landscape increases evapotranspiration relative to the pre-existing land cover.

12. Concept: Proposed causes other than groundwater pumping have been unable to fully explain observed patterns of normal and depressed water levels and streamflows.

Details: Consideration has been (and should continue to be) given to other proposed causes of stressed groundwater and surface water conditions in the central sands. Common potential causes include drought, climate change, forestation, and the construction of drainage ditches. When examined, each of these potential causes has failed to fully explain observed conditions. For instance, weather has become wetter, not drier, in recent times, areas with more forest frequently have higher, not lower, water levels, and drainage ditches were in place for many years before currently-observed hydrologic stresses.

Why relevant: No mechanism other than groundwater pumping has been shown to align well with the locations, magnitude, and timing of observed changes in groundwater levels and surface-water flows.

Key references

Among the numerous peer-reviewed scientific and technical papers that address various aspects of central sands water issues we recommend the following, and references therein, for accessible and understandable discussions of the region's water resources.

- Barlow, P.M., and Leake, S.A., 2012, Streamflow depletion by wells—Understanding and managing the effects of groundwater pumping on streamflow: U.S. Geological Survey Circular 1376, 84 p. (A summary of how groundwater wells interact with streams; available here: <https://pubs.usgs.gov/circ/1376/>).
- Bredehoeft, J.D., 2002, The water budget myth revisited: Why hydrogeologists model: Ground Water, v. 40, no. 4, p. 340-345. (Discussion of the need to use models that consider full accounting of the water budget to calculate the interaction of wells with streams).
- Bradbury, K.R., Fienen, M.N., Kniffin, Maribeth, Krause, Jacob, Westenbroek, S.M., Leaf, A.T., and Barlow, P.M., in press, Groundwater flow model for the Little Plover River basin in Wisconsin's Central Sand Plain: Wisconsin Geological and Natural History Survey Bulletin. (Recently-completed groundwater flow model focused on the Little Plover River area).
- Hunt, Randy. 2003. A water science primer. Wisconsin Academy of Sciences Transactions, Volume 90. P 11-21. (A succinct summary of groundwater and surface water in Wisconsin, pointing out common misconceptions and misunderstandings; available here: http://wi.water.usgs.gov/gwcomp/learn/hunt_water%20primer_was_transactions_90.pdf
- Kniffin, M., K. Potter, A.J. Bussan, J. Colquhoun, and K. Bradbury, 2014, Sustaining central sands water resources: State of the science 2014: UW-Extension, publication # G4058, 102 p. (As stated on the UWEX web site, this publication "...provides a common framework and language for scientists to communicate within and across disciplines regarding water resource management in the Central Sands region of Wisconsin.").
- Kraft, G. J., Clancy, K., Mechenich, D. J., and Haucke, J., 2012, Irrigation Effects in the Northern Lake States: Wisconsin Central Sands Revisited: Ground Water, v. 50, no. 2, p. 308-318. (Journal publication documenting impacts from irrigation pumping in the central sands).
- Weeks, E. P., Ericson, D. W., and Holt, C. L. R. J., 1965, Hydrology of the Little Plover River basin, Portage County, Wisconsin, and the Effects of Water Resource development: U.S. Geological Survey,

Water-Supply paper 1811, 78 p. (USGS report on the Little Plover River and potential impacts of irrigation pumping. A movie was produced illustrating field experiments from this work and can be viewed online at <https://youtu.be/GW9cYdIT8iM>).

Weeks, E. P., and Stangland, H. G., 1971, Effects of irrigation on streamflow in the central sand plain of Wisconsin: U S Geological Survey, Open-File Report 1970-362, 113 p., 4 plates. (USGS study focused on impacts of irrigation on central sands' streamflows in the 1960s-70s).



John Muir Chapter

Sierra Club - John Muir Chapter
754 Williamson St., Madison, Wisconsin 53703-3546
Telephone: (608) 256-0565
E-mail: john.muir.chapter@sierraclub.org Website: sierraclub.org/Wisconsin

Statement of the Sierra Club's John Muir Chapter in Opposition to SB 76/AB 105 March 15, 2017

Chairman Nass, Chairman Nerison and members of the committees, my name is Bill Davis. I would like to thank you for the opportunity to provide comments in opposition to Senate Bill 76/AB105 on behalf of the John Muir Chapter of the Sierra Club. The John Muir Chapter represents over 15,000 members living throughout the state. We work to provide opportunities for Wisconsinites to enjoy nature and advocate for the fair and rational management of our common resources so that all Wisconsin residents have access to the clean air, water, land, and healthy ecosystems they need for their health, safety and well-being as well as to move our economy forward.

Having assured access to sufficient quantities of clean water is necessary for Wisconsinites to live and raise their children without fear, and creates the bedrock of our economy. SB 76/AB 105 could threaten people's access to water and allows one person's actions to harm his or her neighbors.

The waters in Wisconsin - lakes, streams, and aquifers - are connected. Because of this withdrawing water in one area can reduce the water available in another area. This is demonstrated clearly in areas of the state such as the Central Sands where the proliferation of withdrawals from high capacity wells has caused the Little Plover River in Portage County to run dry or Long Lake in Waushara County virtually disappear. But, this can occur elsewhere as well; for example, the Jorgenson Dairy's well running dry in Monroe County.

For these reasons water use must be monitored and reviewed periodically, with necessary adjustments related to rainfall, groundwater recharge or water use patterns in the area near the well. Section 3 of SB 76 violates this precept by removing several points where the Department of Natural Resources (DNR) could review water use in a particular area and make adjustments if necessary.

The replacement, reconstruction or transfer of a well are all logical points at which the current water use patterns in an area can and should be reviewed. The bill essentially grants high capacity well owners the right to pump in perpetuity which is an affront to our current system of water law of reasonable use by creating a potentially permanent use of a public resource. Dramatic changes in Wisconsin's water resources such as drought or cumulative over pumping in an area would not change the ability of a high-cap well owner to continue drawing down water resources to the detriment of others. There needs to be assurance that a proposed change to a well will not result in harm to lakes, streams, and other water resources in the area, or diminish the ability of neighbors to enjoy their property. However, the bill as drafted strips the ability of the DNR to ensure this protection by removing the ability of the DNR to approve the replacement, reconstruction or transfer of a well. This, in effect, inappropriately takes away the rights of neighbors and the public in favor of high capacity well owners. Removing the ability of the DNR to review and adjust as necessary means the state will not be able to prevent direct harm to our

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water resources. High capacity wells should be routinely reviewed, with the opportunity to amend or revoke the permit, to ensure proper management of our shared water resources.

This bill would also put the burden of challenging the actions of a well owner on those who are harmed. The burden should be on those who control and benefit from the well to show that it will not cause harm to neighbors or our natural resources. If this is not changed, lengthy and expensive litigation would be forced on those who will have to suffer from the damage done by the well-owners actions.

Finally, SB 76/AB 105 has study provisions that do not actually protect those harmed by high capacity wells for several reasons. The specified study areas do not cover all of the areas already affected by high capacity wells. The study area should at least be expanded to the entire Central Sands. The studies will take time and then the legislature must adopt special legislation to regulate groundwater. This could take years. During which an already bad problem will get worse and more people will be harmed. To that end there should be a moratoria on permitting new high capacity wells in the study area until the studies and any subsequence action on the studies is completed.

For these reasons, we urge you to oppose SB 76/AB 105. Thank you again for the opportunity to testify on this important issue.



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851 Racine Street
Suite B
Menasha, WI 54952
920.725.1040
920.722.9389 Fax

March 15, 2017

To: The Senate Committee on Agriculture, Small Business and Tourism
From: Eric Hjortness, CPA
RE: Senate Bill 76

Mr. Chairman, members of the committee, thank you for holding this hearing today.

I'm a CPA. I follow the money, and look at the bottom-line. You will hear a lot of content today from people far more knowledgeable than me. What I'd like to talk about is process.

Planning:

I've reviewed the testimony of Bill 239. Many of those testifying agreed on one point. We have no plan. A year and a half later, we still have no plan. That is a major problem. The smaller problem is what to do about high-capacity wells, largely due to the harm these types of wells have already caused. The real problem is how are we going to decide how to allocate the water.

Years ago these resources were plentiful, but the laws of economics have caught up to us. In the last ten years the number of high capacity wells has grown from 2000 to 10000, and now we have a scarce resource. When resources become limited, you have competition. Competition occurs when people strive to meet the criteria that are being used to determine who gets what. Today we are here to talk about what that criteria will be.

Economics:

Who are the competition? There are seven primary stakeholders. Manufacturing, Large Agriculture, Tourism, Construction, Landowners, Small agriculture, and the general public seeking quality of life. They debate issues, give money to campaigns, and vote Democrat and Republican. This is not a partisan issue.

As a CPA, I can tell you that the laws of economics are simple, and any chamber of commerce president can tell them to you. If Wisconsin wants to make money, they need to bring money in from the outside. When the small farmer, contractors, tourism owners, and other local businesses take their profits and spread them throughout the community, Wisconsin's economy grows.

Mega-farms, on the other hand, hurt the economy. It is similar to the impact Wal-mart has on the local economy – it takes all the profits away from the local economy and sends the dollars to the investors, where Wisconsin never sees it again. They also create a major manure problem. They simply can't get rid of it.

Decision making process.

What we have here is a situation where no plan exists. In the year and a half since the last hearing on this bill, how far have we come in developing one? The biggest danger here is passing a piece-meal law that ties our hands. When we do put a plan together, and we must, the planners will have one hand tied behind their back, and one less solution available to them, all because despite everyone agreeing that a plan was needed no one put a committee together to develop one.

This entire meeting is truly focused on one stakeholder – the Wal-mart Mega-farmers. This is a zero-sum game. Giving the Mega-farms full access to this water means not giving it to tourism, manufacturers, contractors, small farmers, or the general public. Mega-farms win and the other 6 stakeholders all lose. Not only will Wisconsin's economy stagnate, but so will our way of life. If Bill Gates were on your committee, would he give all that power away?

RE: fair and balanced groundwater bill that protects both homeowners and agriculture's access to a sustainable water supply

Chairpeople,
Senators & Representatives,

Andrea Loppnow 2014
My husband & I bought a rustic cottage on a supage lake in the southern area of the Central Sands. I am now ^{more} aware of water issues in the Central Sands.

Thank you for this opportunity to speak to you today.

But, nonetheless, I & my husband have engaged previously to understand this complex problem.

My baby book says that I took my first boat ride at 3 weeks old. My last boat ride was 4 months ago. As a lifelong water enthusiast and recent Central Sands lake property owner, I am a huge proponent of protecting Wisconsin's natural resources...specifically our lakes. I want my children, your children and our grandchildren to thrive in our beautiful state.

I am also a mechanical engineer and an executive at an agricultural equipment manufacturer working in the heart of Wisconsin. I believe in less regulation and more citizen responsibility. I see the importance of creating sustainable jobs through manufacturing, agriculture and recreation. I know that we can apply sound science and emerging technologies to ensure that our children will have well-paying jobs AND a thriving natural environment.

That is why I am here today to express my opposition to SB76/AB105. Now is a crucial time in our state's history. In particular, the Central Sands Region needs my help protecting its groundwater.

This is a scientific problem: What we should all be doing is protecting our shared natural resource...our groundwater...in its natural state...allowing manipulation of this water supply up to but not beyond the point where it adversely affects the surface water in the region. That requires us all to understand the science behind this scientific problem today and into the future.

I ^{know} trust you have all seen the groundwater / high capacity well map created by the Center for Watershed Science and Education. I also ^{know} trust that you have seen the findings of the Little Plover River groundwater modeling. These two comprehensive studies are only the most recent surveys showing the strong correlation of irrigation using high capacity wells and its effect on groundwater, lakes and streams in the Central Sands. I have read studies dating back to 1971 that support and even predict the conditions that we are seeing today.

How did we get to this point? We are here because we allowed too many and/or poorly located wells to punch holes in our shared aquifer without due consideration to the net effect on surface water in the region. We ignored the science. As responsible Wisconsin citizens, we must work together to create a shared solution.

What do we do today? Take a breathe. Fund ^{the} an expansion of the groundwater model to include the entire Central Sands Region. Engage scientists, water property owners, municipalities, and farmers to come together to truly understand the collective environmental and socio/economic challenges of this region. Utilize every resource we have from engineering solutions to sustainable agricultural practices **driving only the most impactful regulatory policies actually fixing our shared ground and surface water problems.**

Members of these committees, this Wisconsin citizen respectfully requests for you to kill these Bills. ^{in their current state.}

SB76/AB105 are hurried reactions handling only a sliver of the concerns, not a comprehensive solution. Higher densities of hi cap wells and/or less oversight of their use is not prudent science and is irresponsible public policy.

Thank you for your consideration in this matter.

- Delay this Bill until we know ^{enough} ~~more~~.
- Do not allow transfer of well permitting
- Expand the study throughout entire Central Sands region
-