PRIVATE WATER ADVISORY COUNCIL MEETING
April 23, 2026
UWSP Schmeeckle Reserve Visitor's Center

Meeting Notes (DRAFT)

Attendees:

In-person: Marty Nessman (DNR), Bruce Walker, Rick Peterson, Terry Marshall, Dennis Crow, Ron Webster, Tim Jenks, Tim Butterfield, Bob Aune, Pete Chase (WGNHS), Jared Niewoehner (DNR), Bob Gundrum (DNR)

Online: Brian Broga

By phone: Jeff Beiriger

Welcome / Introductions

Discussion: Ron Webster was welcomed as new council member appointed by the department and representing water well drillers.

Persistent Bacteria Issues

Presenter: Andrew Jacque

Points presented:

1. Root cause analysis on bacteria issues – Colilert coliform test design & false positives
2. Fluorescence patterns used to identify biofilm issues
3. Chemical and mechanical well rehabilitation
4. Biofilm assessment relative to well characteristics – where is the water coming from in the well?
    a. Drawdown
    b. Casing depth
    c. Pump location, well production zone and potential stagnant and dead zones
    d. Biofilm occurrence in borehole, nearby aquifer, and distant aquifer
    e. Dead bottom with no water movement provides food source for bacteria
    f. A dead bottom can require 48 hours to be completely purged.
    g. Stagnant zones can lead to non-uniform corrosion caused by biofilm
    h. Pump location in deep casing with short bore hole / low production zone.
    i. Fracture flow, karst and open bedding planes can result in concentrated flow areas and dead zones in other areas of the well.
    j. Well volume, stagnancy and low turnover considerations
    k. Unregulated nutrients – higher nutrient levels will cause more well and the plumbing system problems.
    l. Investigation approach – simple bucket test done while stressing the well and assessing color over time
    m. Proper well maintenance following rehab prevents reoccurrence of biofilm issues
    n. Shock chlorination on older wells is just kicking the can down the road.

Discussion / Questions:

- Q: Have you rehabbed wells with a dead zone at the bottom and is sealing the bottom an approach that has been used?
    - This approach might be feasible on a municipal well. The upfront cost for diagnosing the issue in a residential well is prohibitive. One approach might be to lower the pump to the bottom to remove the dead zone. Another approach is teeing off above the pump and

running a line to the bottom and to the top of the well with water flowing at 1 gpm when the pump cycles on. This is an inexpensive approach to solving dead zone problems.

- Q: Is this approach code compliant?
  - As long as a check valve is installed above the tee to maintain pressure on the system.
- Q: Are the problems with these wells related to geology? What typically is the source of the problem?
  - Problems may originate in the aquifer and with usage patterns but can also stem from materials of construction. Turnover in the well is key. The driller is not the cause of contamination. Air introduces bacteria into the well when the pump cycles on. A good approach is to minimize the stagnant zone above the pump.
- Q: What type of maintenance do you recommend for private well owners?
  - Optimize pump location to minimize stagnant and dead zones.
  - Stress the well periodically to purge stagnant water. Run water for an extended period of time to turnover and purge stagnant water from the system.
  - Well volume should be in line with water usage for proper turnover in the well.
- Q: Can development techniques contribute to biofilm formation in the well?
  - Not typically with air or mud rotary drilling.
- Often municipal wells are over designed to allow for contingency. The result is stagnant zones within the well that do not produce. It is common for engineers to design redundancy into the system on municipal well supplies.
- Q: What Quanti-Tray Count value would be considered unsafe?
  - The Quanti-Tray Count doesn't really matter. It could be 2 or 200. In either case, it indicates that there is a problem there. It is not necessarily a coliform problem; it's a biofilm problem. There is no provision for a false positive. Generally speaking, if you have a low count, it is a biofilm issue.
- Q: What about new well construction when you cannot get a safe sample even after the water has been running for days?
  - It could be a dead zone above the pump or at the bottom. Something may have fallen in during the drilling process, but you can't purge it out because there is no flow.
  - With shock chlorination, the process must be completed until there is a residual. If there is no residual, the issue has not been resolved.

New Business – PFAS Legislation

Presenter: Marty Nessman

Discussion Points:

1. This is a preliminary reporting – not all details are in.
2. $35 million has been added to the well compensation fund to address PFAS.
3. One position has been added in Financial Assistance and another in DG to administer grants.
4. There is no income limit and no expiration date for when the money has to be used.
5. Existing requirements for the statutory well comp grant program remain unchanged.
6. The current DHS recommended standard, or the federal standard will be used.
7. Being staffed and ready to receive applications is anticipated for July.
8. Grant limits set in legislation (for private wells):
   a. $30,000 for well construction
   b. $16,000 for connection to alternative private water supply
   c. $30,000 for connection to a public water system
   d. $10,000 for installation of a treatment system
   e. $16,000 for well abandonment
9. Reimbursement percentage is set based on county median household income
   a. 100% of eligible costs if family income is < 100 % of county median household income
   b. 80% if 100-199% of median
   c. 60% if 200-299% of median
   d. 25 % if > 300% of median

10. More details remain to be worked out before this takes effect
    a. New forms
    b. Potentially, money will be available for municipal water systems, other than municipal water systems, non-transient/non- community and school wells. Reimbursement levels will vary.
    c. Money will be available for communities that would like to test for PFAS.
11. Staffing
    a. A second hydrogeologist has been hired. Announcement is pending
        i. Will work with Aaron Kent doing approvals.
    b. A third hydrogeologist will be hired to work on well comp.
    c. As of the first week of June, Sara Fry accepted a position with Environmental Enforcement Program and is departing Private Water.
        i. An LTE will be hired to take on some of Sara's duties.

Discussion:

- A question was raised as to whether new PFAS related claims would be reimbursed only through the new PFAS program, or if money would first be drawn from the $2 million statutory program and then from the new $35 million program? Does this make more money available for nitrate contaminated wells?
    - Exactly how appropriations will be handled has not yet been made clear.
    - Jeff Beiriger requested clarification on this point when the details are available.

New Business – Delegating Initial Well Samples

Presenter: Bruce Walker

Discussion:

1. In the past, the DNR has not allowed the well driller to delegate sampling to the pump installer, if the pump installer and driller are employed by the same company.
2. NR 812.46(9) specifies cases where multiple uses of test results are not allowed.
3. NR 812.46(9) does not prohibit the driller from designating the pump installer as his agent.
4. Two separate samples are required on a new well.
5. Bacteria and nitrate testing is required for the driller and only bacteria testing is required for the sample taken after installation of the pump unless it is the same company.
6. The driller can delegate the second sample. Two forms are then required.
    a. The first form is for the sample delegated to the pump installer which requires nitrate and bacteria testing
    b. The second form is for the sample required after pump installation which is tested for bacteria.
7. Why can't one sample be taken and used for the delegated sample and post pump installation sample?
    a. It is needed to track who is responsible for each sample taken and that one of the samples was delegated by the driller to the pump installer.
8. There was some confusion at the WWWA conference regarding the case where the driller and the pump installer are the same person. It was thought that in that case, you have 60 days after well constriction to submit the sample. The question raised is whether in that case it is 60 days or 30 days?
    a. The requirement for the initial sample is 30 days from well completion date and 30 days from pump installation for the pump installer's sample. There is a gray area here if the driller is also the pump installer (same person responsible for both samples). If the report indicates that the pump installer will take the driller's sample, the 30-day period is taken from when the pump is installed. If pump installation is delayed, a note should be made on the well construction report that the initial sample will be late and that the pump will be installed and well construction sample will be taken after the required 30 days from well completion.
    b. There are cases where the initial sample is taken well after 30 days from well completion and the department is flexible with this if notice is given on the well construction report

regarding late initial sample. The report may be revised to make provision for these circumstances.

c. Some drillers are including a note saying "sample may be delayed" on every well construction report. This likely adds processing time for the DNR as it is treated as a variance for every well construction report.
d. Details were noted and consideration will be given by the department to make provision for cases where the initial sample is expected to be submitted beyond the 30-day requirement.

New Business – Data Centers / Water Use

Presenter: Marty Nessman

Discussion:

1. Data centers are already in operation in Wisconsin.
2. The department is maintaining a web site to provide information on the Port Washington data center: Port Washington Data Center Proposal | | Wisconsin DNR.
3. There is a new data center under construction in Beaver Dam
4. Others are proposed for southern and western WI
5. Most Wisconsin data centers are proposing the use of municipal water supplies.
6. The largest water use demand is during the construction phase and for cooling water.
7. Cooling water is reused many times.
    a. The biggest concern has been the continuous cooling and the amount of water required for that.
    b. Water use required for cooling is dependent on design.
    c. In Wisconsin, data centers use municipal water and have not relied on high-cap wells for cooling.
    d. There have been complaints regarding wells affected by the data center under construction in Beaver Dam.
        i. There is a large quarry to the west of this data center that is supplying a lot of material for the construction of the data center. The DNR's Water Use Program thinks the wells may have been affected by quarry operations. Wash water and changes in topography may be contributors although it is surface water that is being used by the quarry. There have been reports of two dry wells, but no one has contacted the DNR directly regarding this.
        ii. The municipal water supply at Beaver Dam is currently only at 40% of capacity.
    e. Many private wells have been abandoned for the Port Washington data center.
        i. Some wells have remained active for use during construction.
        ii. Information is very limited on the amount of water that is being used during construction.
    f. Generally, well water is only used during the construction phase, and all water use is transitioned to a municipal supply once the data center goes into operation.
8. A driller commented that the Water Use Program has placed restrictions on water use in some areas of the state for high cap wells and irrigation. Cumulative effect of pre-existing wells in the area limit significantly the amount of water use that is allowed for new wells.
9. A comment was made that water use concerns expressed by the public stem more from other concerns like noise and land use.
10. There may be an increase in water use from power plants, increasing output to meet demand caused by data centers.

New Business: DSPS Requirements for Fire Protection

Presenter: Tim Butterfield

Discussion:

1. The need for fire suppression systems has increased with development in townships.
2. DSPS is seeing an increase in wells used for fire suppression.

3. NFPA 13 is the code that applies to high-cap wells for fire suppression.
4. A request is made to the Water Use Program for the high-cap fire suppression well to be classified as a potable water supply.
5. These wells are intended for fire suppression, not potable water use.
6. According to the DSPS fire suppression code, the high-cap well must supply (or provide back-up to) domestic water supply demand.
7. It can be considered a fire suppression well and not use a fire rated pump. There are no fire rated submersible pumps currently available. No one makes them anymore.
8. Requests are submitted to the Water Use Program to approve the high-capacity fire suppression well as back up to and plumbed into the low-capacity potable well.
9. For a recent application, the new well was not approved because an existing 6" well was not tied to the high-cap well. The plans omitted this detail and so the application was denied.
10. A question were raised as to how to handle a fire suppression well that is converted to a well for potable water use? From a DNR perspective, it is not approved as a high-capacity potable well. What discussions are being held between DSPS and the DNR to resolve this?
11. From a DNR perspective, you are not approving a high-capacity potable well.
    a. An excerpt from a fire suppression code related document was quoted:
        i. Question: "*Is a well considered an acceptable water supply for an automatic fire suppression system*?"
        ii. Answer: "*The water supply shall be connected to a reliable system capable of providing the required flow and pressure. If meeting those requirements, a high-capacity well can be used for a fire suppression system if the well is also supplying the domestic demand*."
    b. Nessman: This needs to be addressed through DSPS and the DNR Water Use Program. There are two issues:
        i. How do we regulate the well?
        ii. How does DSPS regulate the plumbing?
    c. The issue is that you cannot have a non-potable fire suppression well connected to a potable water supply system.
    d. DSPS requires the fire suppression well to feed into the domestic potable supply system. It can't be a well that is dedicated only to fire suppression. That is the main problem.
    e. Nessman: This may be something that needs to be addressed through legislation, not so much through a rule change.

New Business: Public Water and High-Cap Requirements and Response Times

Presenter: Terry Marshall

Discussion: Testing out of high nitrate for a low-cap well on high-cap property

1. Related to public water supply: Question was raised as to why "testing-out" of high nitrate results is no longer available. Specifically, when a high nitrate sample occurs with a low-capacity well on high-cap camp ground property. The initial sample taken for the well was 2.2 ppm for nitrate. Three months later, the sample result for nitrate was 14 ppm. The problem was discussed with Dave Johnson. This is a sandstone well. Packer tests were done for upper and lower borehole below the casing. Tests were run at 20 gpm and 60 gpm, from 120 to 180. Also, packer tested at 140 and again without a packer. All samples came back at <2 ppm nitrate.
2. The source of nitrate in the high nitrate sample could not be located.
3. Public Water will not allow them to "test out" of the high nitrate sample. This is in the code.
4. A question was raised as to whether a confirmation sample was taken after the high nitrate result was found. Was there another sample taken and it confirm the earlier14 ppm result?
5. Another sample was taken before "corrective action" was initiated. The directive was to find and alternate source, treat, or do something with the well.
6. The problem with the well could not be located, so nothing could be done to correct the issue with the well. If you continue to test the well and you do not see a high nitrate sample come back, why would they be required to abandon the well when there is not a problem with it. Whatever the source of the nitrate was on the high sample, that source is no longer there.

7. Nessman: The system owner would need to work with Public Water Program and go from there. They need to communicate with the regional rep.
8. The question is how the DNR can require another well to be drilled when all samples are coming back <10 ppm nitrate. The response from the DNR has been that you have been put on the corrective action list and you will do something with the well. This is creating confusion for this low-cap well on this high-cap property. This is required under the new rule, and you can no longer "test out".
9. Niewoehner: This may be related to the nitrate sunsetting stuff. The public rep can be of more help. This may be related to EPA requirements. Go to the Public Rep supervisor for assistance.
10. Nessman: It's not really a change in the rule. It is more a change in how the rule is implemented.

Discussion: Approval time for low-cap well on high-cap property

1. Drillers report that application approval times are much too long and that the situation is getting worse.
2. The department is aware that this is a problem. It is related to limited staff available to process high-cap applications. The current queue of applications is resulting in review times in excess of 6 months.
3. The department suggests contacting upper management and continue calling "up the chain". This is all that can be done. Legislation is needed to obtain approval needed for new hires.
4. Drillers feel that this is unacceptable. "When you're doing business, this is wrong". There are instances when applicants are in queue for as much as a year.
5. A comment directed to Jeff Beiriger stating that this is something that has to be addressed.
6. The issue must receive enough attention from upper management to cause it to be part of the next budget. It may already exist in the budget request from the agency, but it is not making its way through the legislative process. The outcome of November elections and the state budget will be factors.
7. Nessman added that he will make mention of this discussion to upper management.
8. Drillers comment that a low-cap well on high-cap property does not have that much of an effect. The low-cap approval process just adds to the département's queue, requires more paper work, and causes unnecessary delays.

Discussion: Not all landfills are on the Well Driller Viewer

1. It was mentioned at the conference in January that not all landfills are on the Well Driller Viewer and that drillers should be on alert for that.
2. The department commented that the Well Driller Viewer should be considered the bible. There may be landfills from decades ago that the department is not aware of and that are not indicated on the Well Driller Viewer. Drillers will only be regulated by what is on the Well Driller Viewer.

WGNHS Updates

Presenter: Pete Chase

Discussion:

1. Groundwater monitoring – Pigeon Lake Field Study / Southern Bayfield County
    a. Groundwater flooding has occurred in recent years (starting 2018). There have been 2 years with substantial rainfalls including 10" rainfall events in the Lake Superior basin. This has resulted in some lake levels rising as much as 18 feet and submerging some lakefront properties 3 to 4 years. Groundwater is at the same level as lake levels. Groundwater modeling was used to conduct a study to understand for the significant increase in lake levels. The intent is to predict susceptibility to future flood events.
2. Pigeon Lake is a seepage lake with no streams flowing in or out of it. Lake levels rise and fall with long term precipitation rates. Lake levels were reconstructed from aerial photos and estimated on an annual basis going back to1930. Wells were installed around the lake.
    a. Bedrock is shallow to the south of the lake. It is a metamorphic sandstone with low porosity causing precipitation to runoff rather than infiltrate.

b. Heavy glacial sand deposits were left in southern Bayfield county. A series of slides was presented showing the progression of glaciers over the area from 18,000 years ago and on. In some areas, 300 ft of unconsolidated sand was left.
c. The groundwater model can be used to predict what the Pigeon Lake water level would be with 5%,10%, 15%, and 20% more precipitation. The model can be used to predict which roads are going to flood and how long the flood will persist.

DNR Updates - ARPA Well Compensation

Presenter: Marty Nessman

Discussion:

1. $2.6 million remains to be paid out by the end of the year. That is for approximately 150 projects that remain to be completed. Some are still in process while others are completed, and we are awaiting payment claims to come in.
2. ARPA will be completed and closed and PFAS bill money coming in and there likely will not be much more to be done with nitrates.
3. A question was raised regarding the date that claims must be submitted to the department.
    a. July 31, 2026 – All construction/installation completed
    b. August 31, 2026 – Payment requests to DNR
    c. December 31, 2026 – All payments made
4. ARPA Cycle B- Payment
    a. Try to complete work by July 30, 2026
    b. Need WCR and WAR as soon as possible
    c. Let Field Rep know when done
    d. Can't be paid after Dec. 31

DNR Updates – Field and Enforcement

Presenter: Jared Niewoehner

Discussion:

1. The hiring process will begin soon to fill Tom Puchalski's vacancy in southwest region. It will likely be several months before position is filled.
2. Notifications are on pace with years prior.
3. Three active enforcement cases are in progress related to alleged fraudulent sample submittals and engaging in regulated activities without the required license.

Agenda Item: DNR Updates – Licensing

Presenter: Bob Gundrum

Discussion:

1. License span data (the number of years an individual has held a license) was presented to council members.
    a. Histograms displayed active licenses held by calendar year broken into 5-year license span increments.
    b. The number of licenses held for 0 to 5 years, 5 to 10 years, 10 to 15 years, and so on, was shown.
    c. Data was compiled for 2002, 2005, and then forward in 5-year increments to 2025.
2. The number of new license entries has declined while the number of individuals approaching retirement has increased.
3. The data suggests that 1/3 of the water well driller license group is approaching retirement while the number of new entries has declined from 32% of the total workforce in 2005 to 17% of the total workforce in 2025. The number of new entries into the licensed driller workforce is not keeping pace with the number of drillers who are approaching retirement.
4. Another graph charted the number driller license expirations each year from 2002 to 2025. The average license span (or length of time a license was held before expiration) was plotted by

calendar year. The trendline showed a 75% increase in average license span from 2005 to 2025. Average license span at expiration has roughly remained within the 35-year range since 2020 2023 was an exception. The average license span of 47.6 years for 2023 was seen as an outlier.

5. It was suggested that this investigation be taken further using actual licensed individual age-related data. The intent would be to build confidence in data that suggests a significant reduction in the number of Wisconsin licensed water well drillers will occur within the next 10 to 15 years.

DNR Updates – Code Implementation

Presenter: Marty Nessman

Discussion:

1. Forms and fact sheets are being revised and posted online. Check the DNR website periodically for updates. A listing of revised forms will be provided with links by GovDelivery or NewsBits.
    a. The property transfer well inspection form has been updated.
    b. Nonpressure Storage Vessel application has been updated.
    c. On form 221, there are provisions for providing information on the pump and the well. Page 2 of the form will allow check boxes for what is not complying and allow more space to enter information on why it is not complying. The form is now two pages.
2. Updates to exams and study guides is nearing completion. First exams to be offered with code revision updates will be offered in late May.
3. Web content has been updated and made to comply with new accessibility requirements.
4. Notice will be provided as remaining updates become available.
5. A question was raised as to when work will begin on the next revision to NR 812. Nessman commented that it is up to council members to decide on what needs to be worked on next. When there is enough on the list to justify another revision, we can move forward with the next revision and work will begin.

Old Business – None

January meeting minutes were approved.

Future meeting date:

1. Will target a date in the first 2 weeks of November
2. Food + Farm Exploration Center near Plover will be considered.

Adjourn