

WATER QUALITY SUB-COMMITTEE MEETING MINUTES

December 16, 2022

9:00-11:00 a.m.

[Teams Recording link](#)

Attendees:

Brad Soncksen, Jami Thoene, Brach Johnson, Tammy Timms, Aaron Hird, Tami Nordman, Conor Ward, Andy Kahle, Sam Capps, Laura Johnson, Tara Anderson, Anthony Candelas, Taylor Benzel, Marty Stange, Tatiana Davila, Dick Ehrman, Elbert Traylor, Craig Romary, Sarah Starostka, Laura Nagengast, Zach Reid, Annette Sudebeck, Jacy Schafer. VIA Teams: Erinn Wilkins, George Cunningham, Greg Whitmore, Renee Hancock, Roric Paulman, Daniel Ross.

Welcome & Introductions

WATER QUALITY SUBCOMMITTEE

- Purpose
 - Evolution
 - Groundwater Quality
 - Nebraskans Drink Groundwater
 - Over 88% of water systems
 - Over 95% excluding Omaha MUD
 - 598 Groundwater public water systems (PWS's) in NE
 - Serving 1,582,983 people
 - 583 are small (under 10,000 residents)
 - Serving 448,682
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BRITT'S PRESENTATION

- NE Nitrate levels in Groundwater
 - Nitration & Human Health
 - Reducing Nitrate Leaching
 - Nutrient Management
 - Cover Crops
 - Irrigation Improvements
 - Grow Crops with less nitrogen needs

 - Source Water Protection Initiative
 - Dedicated Conservation funds
 - Protect community water systems
 - Geographically
 - Just under 600 wellhead protection areas (high priority)
 - Upper Niobrara White is a Water Quantity problems
 - Increased incentives for practices
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Refining Source water Protection Priorities for FY 2024

- Opportunity to update high priority areas for source water
 - STCs will work with drinking water partners to identify updates as needed for these high priority areas for source water protection and the associated potential threats (water quality or aquifer depletion).
 - **Review FY2023 high priority areas. Revise, if necessary, high priority areas for FY2024**
 - The total area of all selected high priority areas represents no more than 20 percent of total land area of the State.
 - **Review SWP practice list (must relate to water quality and quantity and protect drinking water sources while also benefitting producers). Revise, if necessary, for FY2024**
 - All states will provide source water priority practices with increased payment rates. Source water practices with increased payment rates can only be used within the high priority areas
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Q: & A:

Roraic - When you look at your numbers, how many acres are we impacting? It would be helpful to look at how many irrigated groundwater irrigated acres are there vs surface water and look at the percentages. Ultimately what we're talking about adoption. I think it would be really helpful to look at the relationship of what the acres are and what the practices are, but really the number needs to be the % of adoption.

Britt – Right on track & useful information to know.

Clarification for the wellhead protection areas is there any deadline that we need their recommendations for changes.

Brad – By early summer.

Marty - When we talk about the wellhead protection areas, especially in the Hastings area, smaller communities that are upgradient & don't have the resources to deal with this, but the county & NRD's try to do it. Some protection areas overlap, but there are gaps, have we considered having more of a regional water protection area? Might see some benefit of seeing multiple communities' bond together or working on the same problem.

Yeah, I like that idea of Marty of the just kind of the collection of being able to partner together. However, just from a groundwater modeling standpoint, the wellhead protection areas like if you know or modeled hydro geologically, so it wouldn't be a case of like changing the wall head protection areas to include bigger area. But maybe when we look at priority areas, we can set it that way, that's not necessary.

Well then the NRD does all the regional modeling. And so I mean we could get together and help you guys better understand. Where the connectivity is where you kind of have shared aquifers and stuff. So I mean, we could use our models to help you guys identify areas where there are greater connections between the different communities too.

Brad – So expand the area? Yes.

Wellhead protection areas need to be remodeled. Groundwater under the influence.

And the other thing I would mention is that you know most of our well protection areas are probably could use to be remodeled. I think most of them are 20 year climate travel and we can be 50 or now. There are also several wellhead protection areas that a stream goes through the middle and there's no reason why we shouldn't look at that for voiding system which would again enlarge those areas. Could you explain what that is, groundwater under the influence. So just thinking about West Point, for example, the Elkhorn River runs right through the middle of it, but they're not designated that's worthy. That would be an HHS program. Need to really strategically look on those areas & prioritize.

East Area is being remodeled right now we're contracting with HDR. We're gonna remodel our entire protection area. We need to update it specifically looking at the impact of the ASR project we have and how we've changed the flow of groundwater. Where we're running out of dirty water, which is a good thing, and we need to to look at to, to moving and probably build longer extraction. Well, to to get more of The Dirty water, to provide more protection. So yeah, those are those are the kinds of things when we look at that, we're looking at Junior and Kenneth selling private. I mean we're taking clear the Platte River and explain what your MSR project is.

Marty – ARS (Aquifer Storage & Restoration) project: What we're doing is to slightly different same kind of cookie, just a little different recipe. What we're doing is we're taking contaminated groundwater, treating it with RO, we're bleeding it back into with some water that's untreated that comes from the lower aquifer because we really need the calcium to make sure it's stabilized. We're injecting it with an upgrade to the City's wells. So instead of banning all those wells, we're basically just creating this mound of clean water coming in, but we're not replacing all the water we need, only replacing a portion of it because we just need to get nitrate levels down. So what we're trying to do is restore the groundwater by adding some additional clean water into the system, and then because we're extracting it, we're trying to pull the nitrates away from the city of Hastings. So it's a management plan, and so far it's working pretty good. I'm pretty happy with it, possibly another 20 year pilot study, but that's what it is.

The other thing is we have maps and we designate areas of DNR of like your surface water, groundwater connectivity. And I think that's a really important point too. So I mean, we could add that into the analysis as well. What you can kind of do is identify where those surface water, groundwater area interconnections are in relation to, wellhead protection areas to some extent.

Brach stated most producers don't have the knowledge of how the wellhead protection areas work. We need to talk about the educational conduit through NDEE & how we can make it better. NRCS employees a better conduit to train our employees of what the deep meaning of what the wellhead protection areas are.

Fundamental to work with & help the smaller communities! Takeover the wellhead activities for them?

The whole state is a wellhead protection area. Need to figure out how to build a trust between us all to make this happen.

Boards that represent a Public Water System, get Boots on the Ground!

Have you tried a peer network and in other words try to convene a group of young producers or producers to be your champion?

Working with Central Community College & Adams Central school system.

Reached out to Farm Bureau.

Would it be also good to invite to the table consultants for crops and irrigation - those that directly work with producers?

Really need to push Carla McCullough's presentation video.

SURFACE WATER QUALITY

- Title 117
 - WQS Serve two functions
 - Regulatory
 - Goals

- Components of water quality standards
 - Designation of beneficial uses
 - Assigning criteria to protect designated uses
 - Antidegradation provisions

- Beneficial (designated) Uses – Any productive use of surface waters for which water quality is to be protected.
 - Recreation
 - Aquatic life
 - Agricultural water supply
 - Public drinking water supply
 - Industrial water supply
 - Aesthetics

- Surface water monitoring

- Water QUALITY ASSESSMENT TABLE – INTEGRATED REPORT
 - This is a page from the 2020 IR showing some streams in the Lower Platte River Basin near Lincoln.
 - Impaired waters of Nebraska map

- Surface water – Sources of Pollution
 - E.Coli Impairments in Nebraska Streams
 - T117 Standards for E.Coli
 - Recreation – 126 cfu/100 ml

- Health Impacts of E.Coli
 - E.Coli Fecal Contamination
 - Human Health Impacts

- Atrazine Impairments in Nebraska Streams
 - Impacts of Atrazine
 - Human Health Impacts
 - Environmental Impacts
 - Reducing Atrazine & E.Coli Runoff
 - Atrazine Management Practices
 - E.Coli Management Practices

 - Water Quality Management Programs
 - NDEE – Nonpoint Source Management Program (CWA Section 319)
 - NDEE – Source Water Protection Program (SWPP)
 - USDA-NRCS – National Water Quality Initiative (NWQI)

 - Groundwater-Surface water Connectivity
 - Opportunities
 - **Tough to get participation**
 - **Don't have the long term as soon as the cost share ends, they quit.**
 - **TAPs (Testing Applications Practices)**
 - **Competition for Farmers & Landowners**

 - NWQI Watersheds in NE
 - Practices applied in 2019-2021
 - Actions for FY 2024
 - Evaluate the status of NWQI watersheds and SWPA's and propose to add or withdraw them based on NWQI criteria and State priorities. (All States are required to participate in NWQI with a minimum of three watersheds (HUC12) to address impaired or threatened surface waters)
 - Request new watersheds for the FY2024 planning and implementation phases of NWQI
 - Request to withdraw current NWQI watersheds
 - Request new NWQI SWPA's for both ground and surface public water supplies for planning or implementation phase.
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Q: Aaron – Do you have any idea on the volume of manure that it would take to get a score on your testing of the water? Is it tons & tons or is it one or two cowpies?

A: Individual bacteria's. EColi without looking at a study there are a lot of things that it is coming from not just cows.

I'd like I'd like to echo that question of you as well too. We use a lot of of poultry and composted manure and now we use a product out of Kansas called Prairie Food, which is a processed manure and we we apply it with a sprayer. So I think I guess we just need to get together and have the conversation, but that intrigues me because we'll apply a couple ton of compost per acre. I guess I don't know what that means in terms of of the ability for us to contribute to that. That would be I'd, I'd like to somehow figure that out.

Q: A way or a program that landowners are directly putting discharge from their septic take from their leach field, is there a way to help them convert to a leach field?

A: Yes there is. One of our priority areas, watershed management plan. We have a component for septic system replacements. If there is a system that doesn't meet current standards as of 2000, they are eligible to replace the system. Bad part is that it is not statewide. Pay up to 60%, so cost share. Need to have maybe fliers in the designated areas.

Papio & LPN NRD's have agreed to do cost shares. Hastings & Auburn help with costshare to help abandon septic tanks & leach fields.

Just to chime in on the issue of septic systems. I believe we have >25,000 registered systems, with an assumed 3-4 times that number of unregistered systems.

Q: How do we get everyone agencies & producers wise to rally around this, as it is time for call to action?

When producers are getting the money are they being forced to bring you back #'s or show you documentation of the outcome? What is the return on their investments?

NEXT STEPS

- Who else should be on the sub-committee?
 - How frequently should the sub-committee meet?
 - Who should provide leadership of the sub-committee?
 - Next Meeting
 - When?
 - Agenda?
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