UPPER BIG BLUE NRD

WATER QUALITY MANAGEMENT PLAN AND VOLUNTARY INTEGRATED MANAGEMENT PLAN

One District, Two Plans, One Water

Minutes from Stakeholder Meeting 2

August 14, 2018
7:00 p.m. - 9:00 p.m.

Upper Big Blue NRD Office
319 E. 25th St.
York, NE 68467

Attendees

See attached attendance sheet

Agenda

1. **Welcome** provided by Steve Wolf, JEO Consulting Group
2. **Water Quality**

- Overview of Water Quality Management Plans – presentation by Adam Rupe, JEO
  - A WQMP is a voluntary approach to reducing pollution that is entering waterways. Nebraska Department of Environmental Quality (NDEQ) helps take a lead on it.
  - Developing a WQMP makes groups eligible for grant funding Section 319 grant funding, provided through U.S. Environmental Protection Agency (EPA). The plan needs to be approved by NDEQ and follow a set of requirements (i.e., "9 Elements"). Update cycle is every five years. Funding is also required to have match dollars from a local source.
  - Main purpose of the plan is to encourage landowners to voluntarily install BMPs. The plan will help prioritize actions based on the science and what the public is interested in. Without public interest and willingness, the plan will not be able to be implemented.
- Surface Water Quality – presentation by Adam Rupe, JEO
  - Data collected mainly by NDEQ for surface water quality. The NRD focuses on the groundwater side. NDEQ has two main programs: Ambient Sampling and the Basin Rotation Program.
    - Ambient Sampling - NDEQ samples at 101 sites across the state throughout the year. Sampling looks at Nitrogen, *E. coli* bacteria, phosphorus, pesticides (atrazine). This plan will also look at these. There are no ambient lake sites, though they do get sampled but not on a regular basis.

- There is another program based on rotational sampling that provides a deep dive into one of the basins in the state every six years. Right now, NDEQ is in the Big Blue basin doing samplings. The same parameters plus bacteria that gets sampled.

- Data is used to find the trends in the water; identify sources of pollution to make prioritization; and evaluate projects/alternatives/BMPs proposed.
- Key takeaways from technical presentation:
  - There are only four sites in the district that have continuous data (ambient). All the other water bodies only have one or two years of sampling data. Collectively, we have an overall picture, but the limited data makes it difficult to assess what is happening on a long-term or site specific basis.
  - Atrazine is a pollutant of concern. There are multiple streams that are impaired for high levels of atrazine. There are no natural sources of atrazine—it is typically applied to corn, sorghum, and pine tree farms. Highest runoff potential is June, when most of it is being applied and there are springtime rainfalls.
  - *E. coli* is another parameter of concern. Wildlife and cattle (that aren't in regulated facilities) are major sources.

Discussion

- Have there been any cases of human *E. coli* problems that can be traced back to water quality problems?
  - Not that anyone has heard, but not all cases are known.
- How do you test for the nutrients in the river?
  - Grab samples are sent to several different labs. If wanted, can give information on the labs.
- When doing nutrient testing, is there a way to tell where N/P came from?
  - It is difficult to determine source of pollutants. The numerical water quality models help predict some of that. We have a general idea of where the sources are at, which can then go into mapping analysis.
- When looking for *E. coli* do you look for a specific strand?
  - Testing is not species specific. *E. coli* is used to indicate a general presence of fecal contamination. No specific strain is identified currently, however methods are being developed to track source of contaminant.
- For pesticides, the only one we are looking at is Atrazine?
  - Correct. The sampling does include multiple types of pesticides but for the plan, only atrazine data is analyzed.
- Is there a correlation between stream buffers/drainage ditches and atrazine levels? We see more and more fields cleaning tilled, which means it's hard to stop or slow down sediment erosion.
  - No formal data available but it has been discussed to include a review of land use over time.

- Groundwater Quality – presentation provided Upper Big Blue NRD staff

Marie Krausnick, Water Department Manager, Upper Big Blue NRD

- Pollutants of concern are long term impacts: selenium, arsenic, and uranium.
- Nitrate is linked to health impacts and worse for young and elderly.
- Annually, the UBBNRD sample wells annually so have trends on all wells.
- Current research is still being done to determine all long-term impacts. Some preliminary data indicates that increases in nitrogen in the aquifer are triggering natural release of selenium, arsenic, and uranium from geologic material.
- Not every well is sampled every year. Based on criterion established by location, construction date, past data, etc. Single screen dedicated sampling lines. Today they sample about half of the district on an annual basis. Right now, sampling sectors 7 and 8.
- Maintain same standard operating procedures (SOPs) for taking samples to make data comparable year after year.
  - Purge wells for an hour or two before taking a sample.
  - Always check parameters.
  - Will take duplicates and blanks.
  - Current lab is Servitech in Hastings. Different lab from one had problems with a few years ago
  - Will always have at least 30 sites of data.

Discussion

- Say you miss one year of sampling at a site, will you take the average of the year prior and year after missing to fill that data point in?
  - That could be an option, yes. We are trying to get samples every year. It would be different if you need to go back a long period (10-year sample).
- On the walk-in testing, is that only for landowners?
  - No, we do irrigation wells as well (required every three years). Will test them for free, will even give farmers/landowners bottles to take samples in.

Rod DeBuhr, Assistant General Manager, Upper Big Blue NRD

- Provided an overview of existing NRD programs (i.e., buffer strips, filter strips, riparian strips) and funding information.
  - They will go out and inspect the buffer strips once have a contract. Have found errors where, rather than the farmer keeping strip between stream and crop ground, land can't go into CRP. Disqualifies them from the buffer strip cost reduction, so if they do want to put crop land into CRP they need to rollover that strip too. Otherwise will lose payment on the strip.
  - Have also seen some poorly grassed (lots of weeds) and such on strips so need to remind landowners that they need to maintain the buffer strips.

- The Upper Big Blue NRD started a variable rate irrigation pilot program that provides incentives to improve irrigation application efficiency. Not always a water savings, could be other methods. (zone patrol, speed controls, etc.). Currently limited to one line per one owner.
- Have talked to pivot producers and they said most equipment is set up for speed patrol, but most people aren't using them.
- In 2016, the Upper Big Blue started private dams program, providing financial incentives for property owners to rebuild dams that had been washed out or damaged. Also covers new dams. The NRD will fund 75% up to $50,000. 2017 had three dams, 2018 had seven dams. Average cost of Upper Big Blue cost share is $19,000.

Discussion

- A large amount of money was spent on terraces, was that due to the NRCS cracking down on?
  - It was mainly because it is one of our higher funded programs, especially in the affected counties. Have been consistent in the amount over the past few years. State funding has dropped however.

Scott Snell, Public Relations Manager, Upper Big Blue NRD

- All these plans will eventually culminate in policy. In the past NRDs have acted independently and made their own plans and policies based on annual rainfall and local geographic profiles. Because of that, everyone has different rules and regulations across the 23 NRDs. There is a traveling display with the rules from each NRD.
- Scholarships are in place. Help encourage the use and knowledge of policy in place. Fact sheets - they're not afraid to talk about themselves. This NRD also has a long and comprehensive annual report.
- Project Grow - an area where they bring components of policy to a more local level. Crop rotation, pollinators, community garden. The NRD is really trying to be open and transparent about projects and goals with the public and decisionmakers.
- Rules:
  - Can't evangelize if you antagonize. Don't want to alienate people.
  - Optimism achieves activism
  - Don't forget where you came from and why you came this way
- Involving shareholders is important with policy to get the lay of the land from people that are in the situation.
- Building bridges = engaging partnerships. You cannot build a bridge from one side to the other, instead you start from either side and move in the middle.

Discussion

- Do you take the river run (one of the public displays) to the state fair?
  - We used to. It's so large that it takes a whole room, so they have decided not to have us back due to space constraints.

3. Stakeholder Discussion facilitated by Steve Wolf, JEO Consulting Group

- What problems and problem areas do you see that you think should be addressed?
    - Seems like it boils down to point source pollution versus nonpoint source.
    - Making sure we're looking at the different sources of point-source and nonpoint-source pollution.
    - All wells may have different test results even within the same aquifer. Most of those are from nonpoint source pollution as its coming from upgrading. There are going to be variations across a same area as all nonpoint source is really an accumulation of point sources. The sample area is so large that there will be some that are high and others that are low.
    - surface water is part of the recharge for groundwater. Protecting surface water is protecting recharge.
        - For that recharge water, where do we need to protect it? Is it in certain areas?
            - Depends on where the waterbody of concern is and where it feeds into groundwater.
    - It's all one water.
    - Are we prioritizing anything – groundwater or source water or are they all the same priority in the process?
        - Project Team response: That's a good question without a right or wrong answer. It is up to the stakeholders to say what the priorities are, and we will use data to help inform prioritization decisions.
    - Depth of the well is very important to know. A deeper well will have lower nitrates than shallow wells. That could be a factor in this variability
    - Stream degradation: at what point is there regulatory oversite if there is stream degradation? Is it the point at which communities downstream have trouble with reservoir? (Tongue Creek used as an example.)
        - Project Team response: Kansas City area does divert water from Tongue Creek for drinking water, and they do test the water for contaminants as it enters the state. In Nebraska, no one uses surface water for drinking water.
    - How far upstream does stream degradation go and where do the regulatory teeth come out? If Kansas is testing and have high test results, can they say "Nebraska, you need to stop that"?
        - Project Team response: There have been friendly discussions with Kansas. The Kansas-Nebraska Big Blue Compact is the on compact Nebraska has that incorporates water quality to water quantity. Nebraska meet with them on an annual basis and we talk about things like that. Kansas is excited that Nebraska is completing water plans here that are addressing these issues. As far as regulatory concerns, I don't know if the teeth are through that compact. Stream degradation is an issue, but it is not a regulated issue
    - Stream degradation is a problem and even if there are no teeth to regulation for it, it deserves our attention.

- As far as your mind or that you hear around, are there any perceptions or talk going on right now about groundwater?
    - I have heard we will never run out, so it is not a big deal. And that was from some very well-educated people so I'm just like, "What?" It's exactly what Kansas did. So, part of it is education.
    - I think everyone tends to look at the boundaries of their own responsibilities. We lack perception of landscape scale in terms of stream degradation. Some of these issues won't be solved until we look at the whole watershed and change the way we interact with the natural processes for the streams. A lot like the spread of trees and shrubs across the grasslands. It has major degrading effects across the plains. If we had a bigger landscape view, I think it's something that leaders need to work to understand. There are no band-aids to fix it and it makes it really challenging.
    - What's the cost of treating water? As a rural state, we have a lot of smaller communities and a lot of these communities do not have tax base to afford to treat their water. They are going to be looking at alternative ways to get water. It can be millions of dollars to get clean safe treated water to a community of say 500. They cannot withstand that sort of cost.
- What do you feel is your role or your organizations role in helping to address these issues? Some of you are farmers, some of you are organizations–what is your perspective?
    - Share your knowledge. Do not hesitate to stand in front of someone and talk to them.
    - Research for more and for better data, particularly for soil health. This is not talked about much because we do not have very good testing metrics.
    - Better nutrient management for crops.
    - It seems like over recent years there has been an economic incentive for more corn and more irrigation, more fertility to produce more crops. I think one of the solutions is crop diversity. We are all incentivized by economics, but we should argue for diversity.
    - We need to work to develop a passion for where we live. We need to get people interested in something they will be active in helping to address. Goes along with educating people to do things.
    - If we look at economics, it is a huge economic problem for small towns—and it is a challenge to address nitrates, one of the biggest problems we face. I think small towns are afraid to get the test results back high and to be asked how they are going to address it.
    - Is uranium mobile?
        - Project Team response: With nitrogen, uranium becomes mobile and thus becomes the problem
    - Is there a way to mitigate uranium?
        - Project Team response: We do not know yet. What we are trying to do is reduce the food source, the nitrates, then that could slow up the biological growth and uranium leach. But I don't know how we can change that recharge. We know nitrates are coming down from the surface and unfortunately, there's already a 120-foot profile that has

nitrogen in it, and it will take years to go away. Will it mitigate if we just stop irrigating? We don't know.
        - If we mitigate it, we have to get rid of what we already have and that's very expensive. Right now, there's enough uranium in plants – PPD just shut down a plant and there's more and more plants going to be shut down. We're concerned we're not going to be able to get rid of the uranium. We put it in a mountain somewhere, we're responsible for it for forever. If it leaks in 100-200 years from now, our community is responsible for it. We don't need to take that responsibility on.
- What questions do you or your neighbors have about water quality best management practices?
    - People aren't ignorant, but the issues are scary. Adding up figures that are going to tax people to death. Something said in small communities and village water system – why deal with all this? We'll just drill a new well and add it to the system.
    - There is a landfill that takes low action radiation waste from out of state. This creates concern about it being managed properly and if it's leaching down into the groundwater system. It also prompts questions about why it is coming to our state—keep it where you made it.
    - Manure application, particularly with Costco chickens coming in. One of the silent questions is what other bacteria are we adding and spreading to the community? Are we causing antibiotic resistance?
        - People ask, "what aren't we testing for that?" The reason they do not test for things is that it is expensive.
    - Why don't we have grassed waterways? People plant every inch and then rain comes and washes out a wide path through the field. Why aren't we having those wash areas grassed? What will it take to fix that problem?
- Is there anything you feel the NRD should address? What's the best way to get that information out to the public?
    - I think the NRD does a good job. You are trying to talk to an audience who does not want to listen.
    - I think some of the education starts at the school level. create awareness of what they can do. Some of the pollution we have comes from the urban sector just as much as from the farm.
        - Expand that through 4H and FFA programs.
    - The NRD can be a very strong advocate for natural resource education. That is needed everywhere, more than what they already do. It needs to address both traditional and non-traditional school programs and methods. This is a team effort because the plate is so big. We all have something to contribute.
    - We take a lot of pride in the NRD system here in the state, but there's more that can be done.
        - Scott Snell, Upper Big Blue NRD: NRD Papio-Missouri NRD has four people on staff who do what I do. They have two people dedicated just to going to schools. I mean my kids at home had their first day of school and instead I'm here working rather than asking them how their day went. If we need to do more to engage, we need more people and budget.

        - The need is greater than our willingness to address it.
- What are the incentives to get you and your neighbors to contribute to these projects and address problems? What's the carrot and/or stick?
    - Money
        - Money for education.
        - Hastings has a rebate for soil testing, but very few farmers do come in for their rebate. They say, "it's just not worth my time."
    - Attitude differences in generations.
- Are there any other best ways to communicate and educate the public we don't have yet?
    - Upper Big Blue NRD's *Blueprint* newsletter and other publications

4. Stakeholder Research Assignment

- Hand out from Adam Rupe.

5. Stakeholder Roundtable

- Keep up with the discussion.
- We really hammered on that we need to educate. I've seen some great opportunities from NRDs north of here with two schools with science teachers have water quality programs over the summer. It's a great way to have schools help check water quality.
- Sharing knowledge is an integral part of this process
- Sometimes we get a little impatient, remember to be patient with education.
- Challenge will be how to get people interested. We can talk about education but is a high school senior interested in his groundwater or is it just if his shower tonight is going to be clean?
- Can we make it personal about concerns? Specific about e. coli or uranium.
- The NRDs (the Blues) have provided so much technical support and share knowledge. It's been a great resource. Thank you.
- Education would be great, but you can preach and preach yet it will not do anything. But start a sentence with a dollar sign, tell people that if we do not do this now, it will cost everyone one of you what it will cost to fix it. Maybe we should put these figures out here what it is costing per person in communities to get clean water. We can educate but that does not make people listen.
- Had a meeting in York about raising taxes and then everyone started coming to meetings.
- We went through questions at the end pretty fast - will there be a chance for stakeholders to add additional thoughts and comments if we didn't get to it tonight?
    - Project Team response: if you have comments please send them to us.

Next Meeting Dates

- September 10, 2018 at 7 p.m. – focus will be on water QUANTITY