WELCOME!

We are pleased you are here to learn more about and provide feedback on the proposed UBBNRD WQMP recommendations.

NOTICE: If you have COVID-19 symptoms, we ask that you not attend the public meeting. Please maintain a distance of at least 6 feet from others at the meeting. Face masks and hand sanitizers are available.

HOW TO GET THE MOST OUT OF THIS MEETING

Review each display and talk with project team members to learn more and share your ideas

Spend as much or as little time with us as you like

Complete a comment form and drop it in the box
## WQMP Overview

The Upper Big Blue NRD completed a Water Quality Management Plan (WQMP) to serve as a road map to improve water resources and water quality within the district.

- A technical advisory committee and stakeholder advisory group helped identify surface water and groundwater quality issues and selected target focus areas for implementation activities.
- Implementation efforts will address:
  - Sediment/erosion
  - Bacteria
  - Nutrients
  - Atrazine
- Implementation is based on voluntary participation by landowners and producers
- Technical and financial assistance is available to encourage adoption of best management practices (BMPs) by landowners and producers

### Timeline

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>Received funding to develop a WQMP</td>
</tr>
<tr>
<td>2018</td>
<td>Commenced stakeholder involvement to develop the WQMP and identify target and special priority areas</td>
</tr>
<tr>
<td>2019</td>
<td>Final plan approved by EPA</td>
</tr>
<tr>
<td>2020/2021</td>
<td>Stakeholder committee established to help identify and prioritize implementation practices</td>
</tr>
</tbody>
</table>

[https://www.upperbigblue.org/programs/one-district-two-plans-one-water](https://www.upperbigblue.org/programs/one-district-two-plans-one-water)
WQMP OVERVIEW

TWO TARGET AREAS WERE IDENTIFIED WITHIN THE DISTRICT

» Recharge Lake
» Beaver Creek
CURRENT RESOURCE CONCERN: ATRAZINE AT BEAVER CREEK

Beaver Creek is currently designated as impaired by the NDEE, meaning water quality standards are not being met.

» Atrazine and degraded aquatic habitat are the causes for impairment.

Atrazine facts

» Is an herbicide used before and after planting.

» Is toxic to aquatic life - it can cause hormone and reproductive defects.

» Can negatively affect drinking water and overall human health.

Reducing levels of atrazine runoff into surface water (wetlands, streams, and lakes) has been a noted concern from stakeholders.

Table 15: Summary of Atrazine Samples Collected from Lower Beaver Creek

<table>
<thead>
<tr>
<th>Month</th>
<th>Avg. Conc. (µg/l)</th>
<th># Above WQS</th>
<th># of Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>0.3</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Feb</td>
<td>0.3</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Mar</td>
<td>0.3</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Apr</td>
<td>0.3</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>May</td>
<td>0.7</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Jun</td>
<td>16.7</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>July</td>
<td>5.2</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Aug</td>
<td>2.2</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Sept</td>
<td>0.8</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Oct</td>
<td>0.3</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>Nov</td>
<td>0.3</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Dec</td>
<td>0.3</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: NDEQ, 2013
CURRENT RESOURCE CONCERN:
RECHARGE LAKE

- Recharge Lake is a 44-acre reservoir on west side of York, constructed in 1990.
- Approximately 8,550 acres of farm ground drains to the lake.
- The lake provides flood control, recharge to the groundwater, as well as recreational uses: fishing, boating, and camping.
- Fish population surveys and fish stocking have been completed regularly since 1991. A chemical renovation was completed in 2003 to help improve the fishery.
- Water quality and recreation opportunities have been degraded over the years due to: erosion, sedimentation, nutrients, algae, and common carp.
  - Largemouth Bass and Bluegill populations are low and sizes are below average
  - Channel catfish populations and sizes are average
CURRENT RESOURCE CONCERN:
WELLHEAD PROTECTION AREAS

» Wellhead Protection Area Plans allow communities to track groundwater movement over a 20 or 50-year time of travel. This is the water that will eventually become the community drinking water.

» Many communities within the UBBNRD face high nitrate levels in their drinking water.

» Communities have opportunities to partner with producers within the wellhead protection area to ensure the safety of their community’s drinking water.

» Stakeholders identified cover crops as a best management practice for Wellhead Protection Areas. Cover crop benefits include:
  - Sequester nitrogen
  - Improve soil health
  - Decrease erosion
OVERVIEW OF PRIORITY BMPS

Best Management Practices (BMPs) are structures or activities that help avoid, control, or trap pollutants; often while reducing costs, improving soil, or providing other benefits to landowners and producers.

Priority BMPs identified by stakeholders include:

**COVER CROPS:** Provide erosion control, compaction management, nutrient control, wildlife habitat, and weed suppression. Cover crops can also reduce input costs by keeping nitrogen in the root zone and can bring additional income through grazing and haying.

**BUFFER/FILTER STRIP:** Can filter agrichemicals such as fertilizers and pesticides from cropland adjacent to bodies of water. They can also reduce erosion through waterways, gullies, and other areas of concentrated runoff.

**NO TILL:** This can reduce soil erosion, increase soil health, and increases soil organic matter. Fuel and labor costs can be reduced, improving a farms bottom line.

**IRRIGATION WATER MANAGEMENT:** Includes soil moisture sensors, efficiency upgrades to current irrigation systems, variable rate irrigation systems, irrigation scheduling, flow meters, irrigation conversions to center pivot or subsurface drip.
BMP PROGRAM RECOMMENDATIONS:

COVER CROPS FOR WELLHEAD PROTECTION AREA SCENARIOS

» Stakeholders gave input on potential scenarios and incentives for increasing cover crops within wellhead protection areas.

» The scenario with the most stakeholder support provides progressive payments to plant cover crops in fields within wellhead protection areas.
  — Year 1 - 50% cost share for seed and planting
  — Year 2 - 75% cost share for seed and planting
  — Year 3 - 100% cost share for seed and planting

COVER CROP BENEFITS:

» Protect drinking water by capturing nitrogen and other nutrients in the root zone before they leach into groundwater

» Provide cover to reduce soil erosion

» Improve soil moisture by providing cover and increasing infiltration

» Improve soil health by improving soil structure and providing a living crop throughout more of the year

Interseeding cover crops using a high-boy planter
BMP PROGRAM RECOMMENDATIONS:

INCREASED INSTALLATION OF BUFFERSTRIPS, GRASSED WATERWAYS, TERRACES, AND COVER CROPS WITHIN TARGET AREAS

- Stakeholders gave input on three potential scenarios for increasing adoption or installation of multiple BMPs within the Beaver Creek and Recharge Lake Watersheds.
  1. Increase incentives of the existing NRD Land Treatment Program
  2. Whole field approach using multiple funding programs
  3. Increased incentives based on predicted benefits
     - Review current land conditions or risks
     - Estimate reductions in erosion, nutrient leaching, or other benefits

- **Scenario #3** received the most stakeholder support.

- Below are possible cost-share payment scenarios, based on the location of BMPs and estimated benefits.

<table>
<thead>
<tr>
<th>Area</th>
<th>Cost Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High Impact Areas</td>
<td>95%</td>
</tr>
<tr>
<td>Special Priority Areas</td>
<td>95%</td>
</tr>
<tr>
<td>High Impact Areas</td>
<td>85%</td>
</tr>
<tr>
<td>Target Areas</td>
<td>80%</td>
</tr>
</tbody>
</table>

- Additionally, there was interest in increasing the maximum project funding limit, currently found in the existing NRD Land Treatment Program.

  - 75% Cost Share
  - Maximum $7,500 per year
  - One per landowner per year
STAKEHOLDER PROCESS

To initiate the WQMP implementation phase, the Upper Big Blue NRD assembled a target area stakeholder group comprised of landowners, producers, and other interested parties.

This stakeholder group met three times prior to the open house and was tasked with identifying and prioritizing BMP implementation practices or programs that would be supported by landowners or producers.

REOCURRING THEMES FROM THE STAKEHOLDER MEETINGS WERE:

» Outreach/Education
» Water Quality Data and/or Research
» Information Needs
» Equipment Needs
» Private Sector Involvement
» Cost Share Program Administration & Requirements

http://upperbigblue.org/wqmp
SUMMARY OF STAKEHOLDER INPUT

OUTREACH/EDUCATION
Stakeholders identified education as one of the most important aspects of BMP adoption and implementation. They noted that how education and outreach are conducted, and by whom, is key. Local neighbors or trusted connections leading outreach efforts will make a more positive impact than strangers with clipboards or state officials. Someone with the trust of producers and landowners implementing BMPs will ease the process; they can be the go-between for producers and agencies.

Groups to Contact and Educate:
- Problematic or highest risk fields
- Landowners, farmers, and producers
- Crop scouts/consultants, agronomists, COOPs, FSA, NRDs, NRCS, and private sector groups can help sign up producers for specific programs, like cost-shares, and encourage BMPs

Recommended Types of Outreach:
- Stakeholders recommended personalized outreach strategies like local visits, targeted mailings, newspaper articles, local radio spots or TV appearances, and websites that are easy to access and use
- Crucially, outreach and education attempts should be done face to face, and outside of the planting and harvest season

REGULATIONS
Stakeholders expressed varying views on regulations in general, with two primary opinions. Mainly, stakeholders felt that some level of regulation or minimum BMP standards might be necessary to achieve full-scale implementation. However, some indicated concern about adding any new regulations, and no new regulations were suggested.

WATER QUALITY DATA AND/OR RESEARCH/INFORMATION NEEDS
Local-level data make it easier for producers to see how impactful their conservation efforts are. What’s more, producers want to know if the BMPs they implement actually work. Stakeholders suggest that sharing the costs and benefits of BMPs for individual farms is necessary.

EQUIPMENT NEEDS AND PRIVATE SECTOR INVOLVEMENT
Stakeholders emphasized the need for groups and entities besides the producers to cover the costs of implementing BMPs. Carbon credit programs, 319 funding, NRDs or NRD-identified grants, private investments or discounted rates through local COOPs were raised as possibilities.

BMP COST SHARE/PROGRAM ADMINISTRATION & REQUIREMENTS
Several ideas were offered to manage a BMP implementation program and cost share.
- For example, the cost-share payment could be tied to the value of the land being taken out of production, or alternatively, could be based on the average yield of those acres being used for conservation.
- Some suggested that reducing the paperwork burden associated with BMP implementation would help farmers and producers—anything to help make BMP low hassle.
- Finally, funding assistance could provide “forgone income payments” to producers that temporarily take ground out of production while wait for BMPs to be installed during growing season. This would increase the amount of time that conservation work could be done during the year.

PRIORITY BMPS
Depending on the type of crop rotations that producers and farmers use, BMP implementation won’t be a one-size-fits-all practice. To address this, consider two approaches:
- Identify an “anchor practice” that outreach efforts are focused on that can increase the interest of farmers
  - Cover Crops
  - Buffer Strips/Filter strips
  - No-till farming
- Share the following BMPs that stakeholders were most interested in:
  - Cover Crops
  - Buffer Strips/Filter strips
  - No-till farming