
Bridgeton, Nockamixon, Tinicum Groundwater Management Committee (BNTGMC)

BNTGMC 2024 ANNUAL REPORT
Highlights, Activities, and Key Results

Committee, Volunteers, and Consultants

Thomas Eckhoff, Chairman (Nockamixon)
Dr. Stephen Donovan, Vice-Chairman (Nockamixon)
Karl Young, Treasurer (Bridgeton)
Dr. Riley Murphy, Secretary (Tinicum)
Dr. Carrie Manfrino, Member (Tinicum)
Todd Stone, Member (Nockamixon)

Dr. Art Baehr, Consulting Hydrologist
Bill Ballantine, Eco Bucks & Volunteer
Mary Lennon, Volunteer Field Technician

Connect with Us

The group meets monthly on the second Tuesday at 7:30pm, to discuss our results and to stay abreast of issues that impact our community. Educational programs about our water resources, reports, data presentations, and links to additional information can be found on our website. <http://bntgroundwater.org/>

Please reach out to us with your questions or news. Email: info@bntgroundwater.org

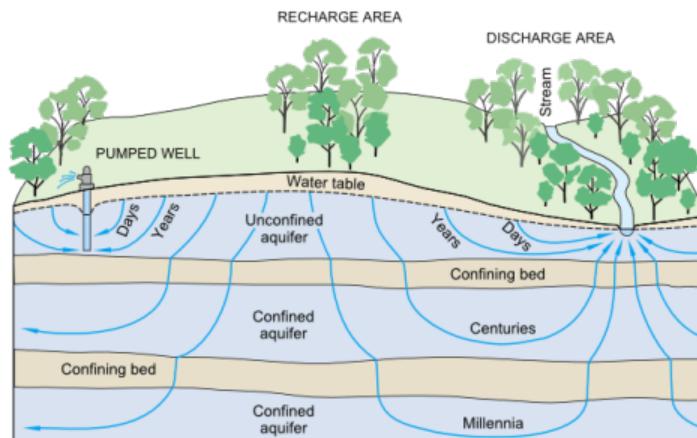


FIGURE 1. Representation of Groundwater Resources
(from the Bridgeton Township Website)

ORGANIZATION, MISSION, AND OBJECTIVES

The Mission of the BNTGMC is to monitor and report on groundwater levels across the townships to maintain a local understanding of the resource and manage a reliable safe and adequate water supply for its residents. Our activities include conducting scientific studies, regulatory review, and educational outreach.

Organization The BNTGMC is a volunteer grant funded committee with members appointed by township supervisors. The group has collected groundwater data from the three townships for over 23 years which is available via their website. This, and more information, can be found on our website: bntgroundwater.org

Objectives include

- . Sustainable management of groundwater resources
- Preservation of water quality and quantity
- Collaboration among member municipalities
- Education and outreach initiatives

2024 KEY ACTIVITIES AND STRATEGIES

BNTGMC Community Engagement

Groundwater Stewardship seminars were presented at Palisades High School (PHS) on April 8 & 22, 2024. The presentations are available on the BNTGMC website, PHS YouTube Network and the Township websites.

Monitor groundwater levels

- Collecting data to our activities includes downloading data quarterly from loggers at 8 wells and (2) collecting spring and fall measurements at 30 wells to monitor the dependence of groundwater level on current conditions.
- At the current population level, our community has a sustainable groundwater resource.
- Our data provides an early warning system for the community to access the impact of droughts.
- We continued investigating the impact of the Delaware River on an estimated 90 private wells situated in the alluvial aquifer along the river. During significant storm events, river water can reach the well and potentially alter water quality.

Drought Highlight: Early Warning System

- The impact of the current drought is being closely monitored.
- Shown below is the NWS Buck County 90-Day Total Precipitation plot through Jan 29, 2025.
- The current level is improving but is still in the (yellow) drought warning stage.
- This level is below where total precipitation was in 2024.
- Precipitation through April, 2025 will determine the recovery of future groundwater level

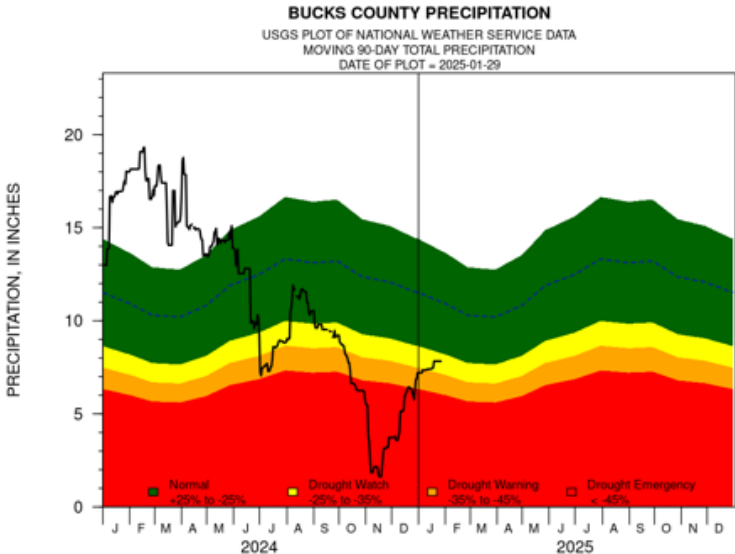
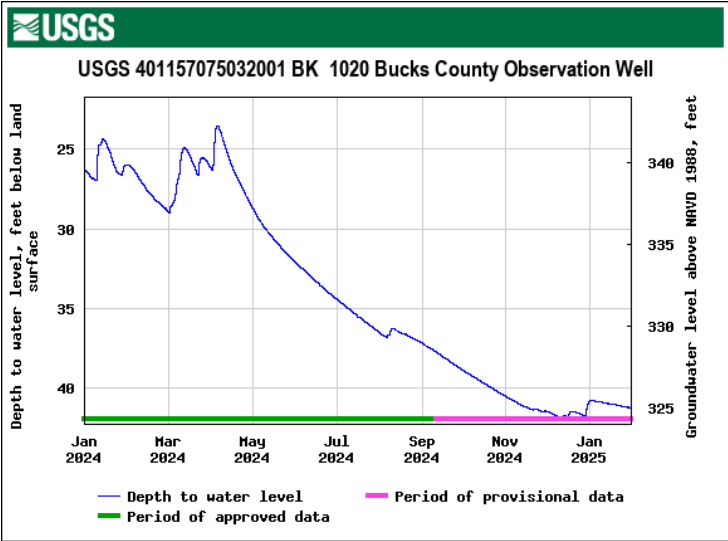


FIGURE 2. Buck County
Precipitation
(NWS/USGS Plot)

FIGURE 3. Depth to Water
Level (ft below land)
Warminster, PA
USGS Plot



2025 INITIATIVES

Water Quality Testing and Awareness

In 2024, our consulting hydrologist, Dr. Art Baehr, compiled existing groundwater quality data available from the USGS, Bucks County Department of Health (BCDH), Penn State University Extension Lab, and individual well owner. His analysis resulted in a comprehensive report establishing a strong need for water quality testing.

- Naturally occurring arsenic is a concern as some wells exceed the health limit of 10 ppb. Combining all data sources, for groundwater samples from 144 wells, 26.4% exceeded the EPA drinking water standard of 10 µg/L (ppb)
- Coliform bacteria can exceed the health limit of 0 indicating a source of well contamination – you won't know unless you test. PSU studies in the BNT zip codes reported that 25% of wells had coliforms.
- Nitrate can exceed the health limit of 10 mg/l – posing a health risk to infants. PSU studies indicated that 8% of wells had elevated nitrate levels.

Groundwater Ordinance Update

The Nockamixon Twp. Board of Supervisors approved an update to their Groundwater Ordinance which can be found on their website and in the BNTGMC 2024 Annual Report.

Meeting with BNTGMC and the Tinicum Planning Committee is planned.

CONCLUSION

BNTGMC is committed to monitoring and reporting the state of our groundwater resources.

Raising awareness about regularly testing water quality is important toward maintaining the groundwater resource.

Updating the Groundwater Ordinance is fundamental to maintaining our water resource.