

# WATER LEVEL MONITORING

February 2021



This fact sheet is the third of a series of fact sheets intended to assist project sponsors with the Commission’s groundwater project renewal process. Each fact sheet can be used and reviewed on its own, but the combination of fact sheets provide a greater understanding of the Commission’s renewal process. Please reference the *Groundwater Project Renewal Process* and the *Operational Monitoring and Operational Testing* fact sheets for additional information.

## BACKGROUND

The Susquehanna River Basin Commission (Commission) has existing regulatory requirements in Part 806 of the Code of Federal Regulations requiring approved projects to monitor and report operational data. Specifically, 18 CFR § 806.30 prescribes requirements for water level monitoring, recording, and reporting. Additionally, projects should be maintaining the collected data for the duration of the project. These monitoring requirements for the collection and reporting of groundwater elevation data to the Commission are clearly outlined in all new approvals.

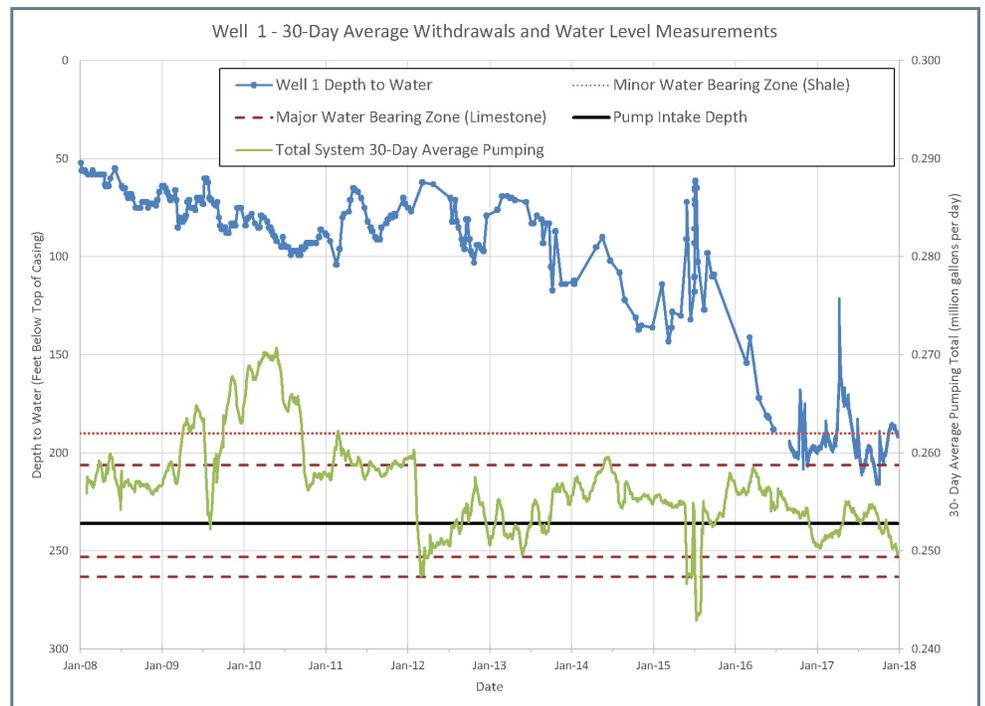
## BENEFITS

Water level measurements often can be a primary source of information about an aquifer’s characteristics and any influence posed by a groundwater withdrawal, which can be useful data to both the Commission and a project when considering long-term sustainability of a groundwater source. Collecting and maintaining a record of routine water level data during ongoing withdrawals develops a valuable resource of operational water level data. The data are beneficial to the project to provide support for a request to renew the withdrawal approval and for ongoing, near real time

evaluation of aquifer performance/ conditions (drought levels), well performance, and pump performance. The Commission uses the data primarily during renewals to evaluate ongoing influences

within the aquifer, to other users or the environment. The data can be invaluable to the Commission to investigate and evaluate claims of impact or influence from the public or other users.

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*Graphed groundwater level and withdrawal data reveal that operations could result in exposure of minor and major water bearing zones. Water bearing zone exposure can lead to decreased well yield.*

Other benefits to the project from routine review and identification of abnormal water level changes can include early detection of the following:

- Well integrity/construction issues;
- Pump efficiency decreases;
- Piping failures or leaks; and
- Influence/interference from other users

Early detection of these issues can allow diagnosing and addressing the issue before they become a significant unexpected issue or disruption to normal well operation.

## WATER LEVEL MONITORING GUIDANCE

In Policy 2020-02 *Guidance for the Preparation of a Metering Plan & a Groundwater Elevation Monitoring Plan for Water Withdrawals, Consumptive Uses, and Diversions*, the Commission provides guidance for a project sponsor's groundwater elevation monitoring plan (GWEMP) to meet the Commission's regulatory requirements under 18 CFR § 806.30(a)(4).

The Commission's guidance for a GWEMP includes recommendations for water level monitoring methodologies such as:

- Frequency of water level data collection
- Groundwater elevation calculation
- Data collection record-keeping & reporting

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  - Pump efficiency decreases;*
  - Piping failures or leaks; and*
  - Influence/interference from other users*
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Commission staff is available to assist a project sponsor with an assessment of a project's water level monitoring methods, data collection and maintenance, and water level data evaluation.

The Commission strongly encourages projects that are not currently measuring and recording groundwater levels to begin or resume monitoring. Projects, at their request, may begin reporting water level data to the Commission to ensure the data is stored and available for later use. The collection of good operational data can supplant aquifer testing data, which will significantly reduce project costs and time demands during the renewal process.

### Questions & Additional Information

If you have any questions please contact the Commission's Manager of Project Review at 717-238-0423.

