Water Quality Monitoring in Lebanon County

Lebanon County is home to an extensive stream network that covers an astonishing 558 miles. Residents rely on clean water for drinking, crop and livestock irrigation, fishing, and recreation.

Sadly, around 64.3% of these streams, equivalent to 359 miles, are now impaired due to a variety of reasons, including excess sedimentation and nutrient pollution.



mpaired= a stream doesn't meet standards set for aquatic life, recreation, fish consumption, or drinking water supply

Two crucial indicators of pollution are Nitrogen and Phosphorus. These two elements are found in common sources of pollution such as fertilizers, animal waste, and human sewage.

Current Conditions

Lebanon County is one of 34 counties in Pennsylvania's Chesapeake Bay Watershed that have developed Countywide Action Plans. Current loading rates are 5.4M lbs of nitrogen and 250K bas of phosphorus annually. By 2025 Lebanon County needs to reduce 2.17M lbs of nitrogen and 99K lbs. of phosphorus.



Planning Target (Ibs): 3,223,000 Planning Target (Ibs): 155,000 Reduction Goal (Ibs): 2,172,000 Reduction Goal (Ibs): 99,000

What is in our Streams!?

The main contributors of nutrients and sediment to Lebanon County streams are agricultural sources, which are responsible for about 74% of the total load. Other significant sources of contamination include urban areas(13%) and wastewater (6%). Controlling these factors will reduce pollution in our wateways. TacklingWater Quality Begins with Land Use

Water Quality is Strongly Tied to Land Use





The key to restoring our streams is 24-hour real-time water quality data

In order to effectively restore our waterways, it is crucial to utilize accurate and relevant water quality monitoring data. One method to achieve 24/7 real-time data is through the use of a super gage water quality monitor. By employing this technology, we are able to monitor stream conditions and focus conservation efforts accordingly.



What is a super gage?

Super gages are an important tool providing real-time, continuous water-quality data at stream gages or groundwater wells. They are designed to address specific water-resource threats such as water-related human health issues, including harmful algal blooms, floods, droughts, and hazardous substance spills. In addition, super gages improve our understanding of the effects land-use practices have on critical water

resources.

Data collection is crucial to accurately determine water quality. It helps document real-time weather events and track progress in improving water quality rather than relying solely on computer modeling.

How is this data used?

There are many diverse applications and uses of real-time water-quality data. Real-time and continuous data may be used to:

 Improve our understanding of hydrology and water quality and can lead to more effective resource management
Notify regulatory agencies and the public with information for drinking water treatment and for recreation

 Notify water suppliers of changes so they can more efficiently treat drinking water using stream flow data in addition to many in-stream water quality measurements like, water temperature, specific conductance, turbidity, and pH Location of Lebanon County's super gage (In partnership with USGS and NRCS)



Real time data can be accessed by scanning QR code with phone camera:



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