



Healthy Waters, Healthy Communities

How farmers can reduce runoff pollution

Some farms are large, some farms are small. But all farms are in a watershed.



Pennsylvania's share of the Chesapeake Bay Watershed

- Spans almost half the state
- Includes about 33,000 farms
- Is home to approximately 4 million Pennsylvanians
- Covers all or part of 43 counties
- Includes 1,000 boroughs, townships, and cities
- Contains over 49,000 miles of rivers and streams
- Includes Susquehanna River Basin and Potomac River Basin

watershed: an area of land where all the water flows toward the lowest point, usually a stream, lake, or river. The watershed then eventually drains into larger bodies of water, such as the Chesapeake Bay and Lake Erie.

IMPAIRED: Over 15,000 Miles of Streams and Rivers

Agricultural, business, and residential development have changed Pennsylvania's landscape, replacing natural areas with hard surfaces such as compacted soil, parking lots, roads, and roofs. Rainfall that would naturally soak into the ground and be absorbed by tree and vegetation roots now "runs off" these hard surfaces. This stormwater runoff carries pollutants from these surfaces into streams, rivers, and lakes.

Everyone adds to the pollutant loads our waterways are carrying:

- nutrients (nitrogen and phosphorus) from manure and other crop fertilizers
- sediment (eroded dirt)
- vehicle fluids and other toxic contaminants
- lawn fertilizers and pesticides
- road salt
- viruses and bacteria from pet waste or faulty septic systems
- cigarette butts and other litter

LIGHTEN THE LOAD: 4 Ways Farmers Can Improve Water Quality

- 1. Develop and carry out plans to manage your manure and other nutrients and erosion and sediment control!** Tip: The DEP Ag Plan Reimbursement Program can help cover your planning cost. A quick search on www.dep.pa.gov will get you there.
- 2. Talk with the County Conservation District, Natural Resources Conservation Service, Farm Service Agency, or a consultant** about ways to reduce nutrient and sediment runoff pollution that can also boost your bottom line.



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- 3. Learn how the Pennsylvania Farm Bill can provide funding** for water quality conservation projects: www.agriculture.pa.gov/pafarmbill
- 4. Contact your Chesapeake Bay Watershed Plan Countywide Action Team. Go to** www.dep.pa.gov/chesapeakebay/phase3 and click on "Get Involved." These county leaders and neighbors can tell you:
 - About sources of funding and technical help for water quality conservation practices;
 - How your efforts can be counted in the countywide plan for nutrient and sediment runoff reduction.

A healthy watershed is a highly functioning natural system:

- Provides water for drinking, farming, business, and household use.
- Helps prevent loss of land from erosion.
- Makes soil healthier and increases farm sustainability.
- Helps absorb carbon dioxide from the air.
- Offers super fishing, kayaking, boating, hiking, and more outdoor recreation.
- Reduces flooding and need for flood damage repair, as healthy soils absorb stormwater.
- Keeps water bills in check by reducing drinking water treatment plant processing
- Improves property value and local tax revenue, as people want to live near access to green space and healthy waters.

Conservation Practices: Farm benefits

It's true: Many projects and practices that reduce nutrient and sediment runoff also benefit a farm's economic bottom line in the long run. For example:

- No-till farming and cover crops increase soil health, which increases crop yield and farm sustainability.
- Managing manure and nutrients for application of the right source, at the right rate, the right time, and the right place increases soil health and economic viability.
- Streambank fencing and stream crossings keep livestock and manure out of the water, keeping the nutrients where they are most needed on the land. Livestock stay healthier when they're kept out of the streams.
- Planting trees and other vegetation on streambanks reduces erosion; filters nutrients out of water; and can produce income from nuts, berries, and other plants.

Lightening the Load: Sherman Beef Cattle, Lycoming County

Mike Sherman has developed a holistic conservation system, including: streambank fencing and vegetation, off-stream watering system, roofed heavy-use area, rotational grazing, and other measures: "Investing in conservation measures to improve the environment enables cattle to express their true genetic potential, and this has enhanced the overall profitability and sustainability of our farming operation."

The Plan: Healthier Waters in Pennsylvania's Share of the Chesapeake Bay Watershed by 2025

Over 1,000 Pennsylvanians, along with DEP and the Departments of Agriculture and Conservation and Natural Resources, have developed a state plan to lower nutrient and sediment loads in streams and rivers in the watershed.

GOALS:

- Nitrogen load reduced by 34 million pounds/year
- Phosphorus load reduced by 0.765 million pounds/year
- Sediment load reduced by 531 million pounds/year

Community leaders and partners are working on each county's part of the state plan. Learn more about your Chesapeake Bay Watershed Plan Countywide Action Team and how you can help, too:

www.dep.pa.gov/chesapeakebay/phase3



A forest riparian buffer helped restore a native trout stream on Mike Sherman's farm