

How You Can Get Involved in Protecting the Pymatuning/Shenango Watershed

Contact any of the five county conservation districts represented in the Penn-Ohio watershed Association or the state environmental agencies:

- Trumbull Soil and Water Conservation District
(lead agency Penn-Ohio Watershed Association)
~~614-722-7799~~
Cortland, OH 44410
330-637-2056, ext. 111
- Ashtabula Soil and Water Conservation District
440-576-4946
- Mercer Conservation District
724-662-2242

- Crawford Conservation District
~~614-722-7799~~ 814-743-5269
- Lawrence Conservation District
724-652-4512
- Ohio EPA – NE District Office 330-963-1200
NonPoint Source Program: 614-644-2020
<http://www.epa.state.oh.us/dsw/nps/nps.html>
- Pennsylvania DEP — NW Regional Office —
Water Management — 814-332-6942
Director, Bureau Watershed Management (Harrisburg): 717-787-5267
<http://www.dep.state.pa.us/dep/deputate/enved/watershed/watershed.htm>

Getting More Information

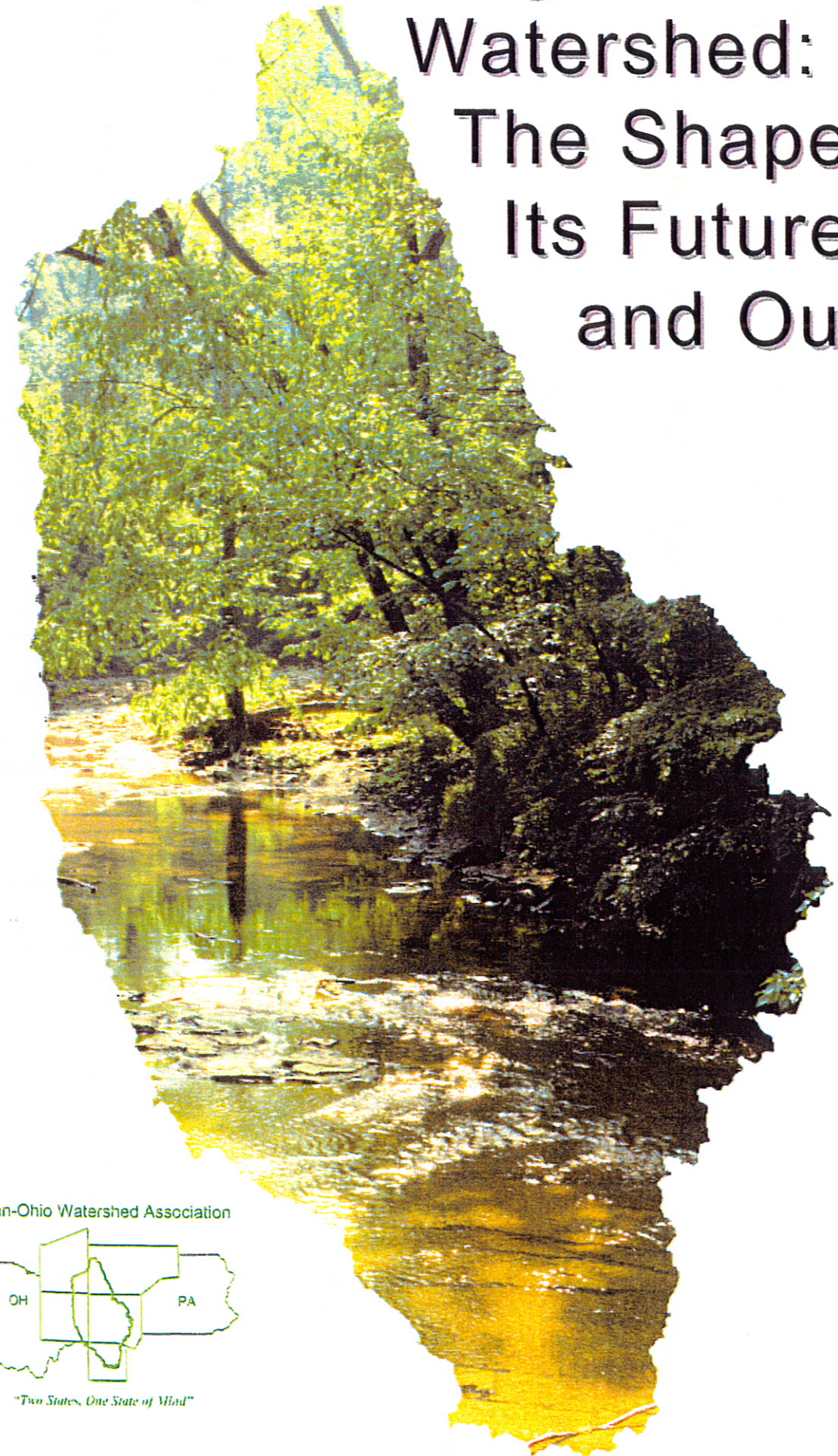
There are numerous other information sources for watershed protection. A few are listed below:

- Pennsylvania Organization for Watersheds and Rivers (POWR) — A great information source for watershed/ water quality monitoring groups.
PO Box 765
25 North Front Street
Harrisburg, PA 17108-0765
Phone: 717-234-7910
Fax: 717-234-7929
<http://www.PaWatersheds.org>
- Pennsylvania Growing Greener
<http://www.growinggreener.org>
- U.S. EPA Office of Water, Oceans and Wetlands, watershed protection
<http://www.epa.gov/owow/watershed/>
- Ohio Watershed Network
Ohio State University Cooperative Extension
<http://www.ag.ohio-state.edu/~waternet/index.html>
Ohio NEMO (Non-point Education for Municipal Officials)
590 Woody Hayes Dr.
Columbus, OH 43210
- Phone: 614-292-6538
Fax: 614-292-9448
<http://www.ag.ohio-state.edu/~ohionemo/>
- Penn State Cooperative Extension
13400 Dunham Rd.
Meadville, Pa 16335
814/333-7460
<http://www.extension.psu.edu/>
- Natural Resources Conservation Service
Crawford County
14699 N. Main St. Ext.
Meadville, Pa 16335
814/336-2127
- Center for Watershed Protection (CWP): One of the leading watershed resource centers.
8391 Main Street
Ellicott City, MD 21043-4605
Phone: 410-461-8323
Fax: 410-461-8324,
<http://www.cwp.org> or
The Stormwater Manager's Resource Center
<http://www.stormwatercenter.net>

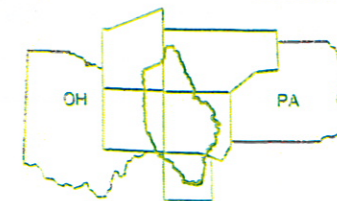
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Pymatuning/Shenango Watershed: The Shape of Its Future ... and Ours



Penn-Ohio Watershed Association



"Two States, One State of Mind"

“A Unique and Wonderful Place...”

The Pymatuning/Shenango River is a unique and wonderful place, touching the lives of many who live, work, and recreate in the 73 communities through which it flows:

- The river provides drinking water for four cities and five boroughs.
- Pymatuning Lake, the largest impounded water body in Pennsylvania, is a regional recreational resource and wildlife habitat.
- The river, tributaries, and associated wetlands provide important benefits such as irrigation, recreation (fishing, hunting, and swimming), wildlife habitat, flood control, and recharge and purification of groundwater supplies.

To Protect the Pymatuning/Shenango, We Should Protect Its Watershed

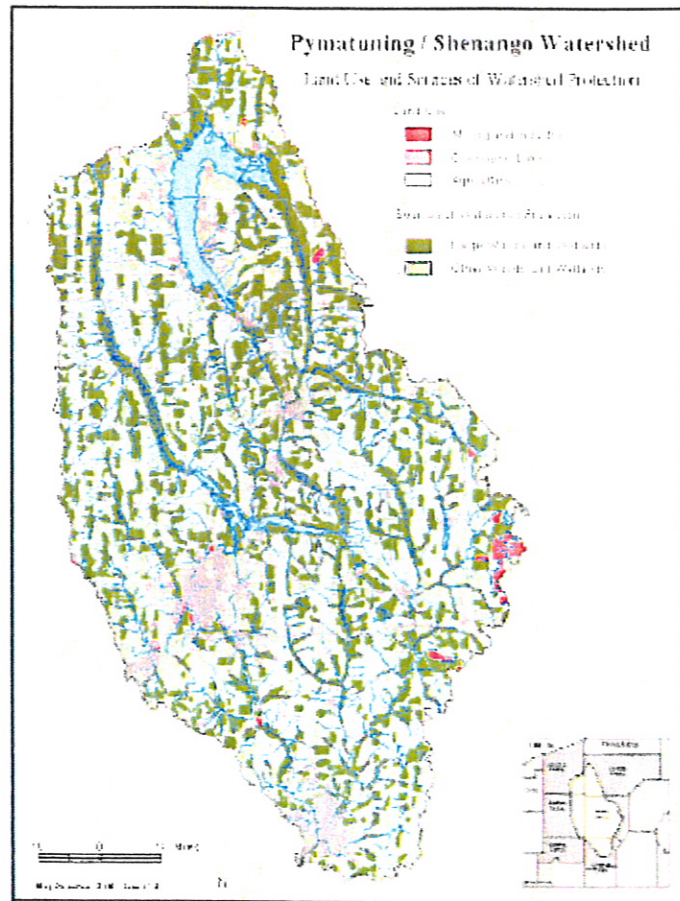
The Pymatuning and Shenango are closely linked with their drainage basin or *watershed*.

- A watershed is all the land that drains to a water body.
- A watershed is a system that includes land, soils, plants, wetlands, and people. These all affect the water flowing down through the watershed to the streams and rivers, influencing flooding, erosion, water quality, water temperature, and habitat.

What we do on land affects waters for miles downstream. If not properly managed, changes to the land anywhere in the watershed can harm the waters and increase problems such as erosion and flooding.

About the Pymatuning/Shenango Watershed

The Pymatuning/Shenango watershed is extensive and diverse, covering approximately 1,065 square miles and portions of six counties in Ohio and Pennsylvania. It includes the river and its tributaries, farmlands, woods, wetland systems, older industrial cities, and growing suburbs.



Land use and sources of watershed protection.

The Land

The rich soils and rolling landscape of this watershed are the result of its geologic history:

- The underlying rocks, shales and sandstones were formed out of mud and sand deposited in ancient seas.
- These rock layers were then carved into deep ravines by rivers and covered with till from the recent glaciers, creating a rolling landscape.

The soils formed on the extensive till deposits are often poorly or moderately drained, with a high water table. Thus, many areas are likely to support wetlands and are not well-suited for septic systems. The loamy texture of the soils makes much of the area well-suited for agriculture, especially where drained by ditches or tiles. In the river valleys, narrow bands of soils formed on river sands and gravels

are more well-drained and well-suited for septic systems and productive public wells.

People and the Land

Nearly half of the watershed (46 percent) is farmed. The five percent that is developed — and is still growing — is largely concentrated in and around the historic industrial areas of Sharon, Hubbard, and New Castle, and the Mercer County seat of Mercer. Smaller villages and resorts are scattered through the watershed. The remaining land (49 percent) is still comprised of woods and wetlands. Some of the most ecologically sensitive areas along the wetlands and river corridors are protected as recreation areas and game or wildlife refuges, including the Shenango wildlife area, Pymatuning Lake, and Shenango River Lake.

The River, Wetlands, and Wildlife

The Pymatuning system flows approximately 70 miles, beginning as Pymatuning Creek in Ashtabula County, Ohio and Shenango River in Conneaut Twp, Crawford County, Pennsylvania. These join at Shenango Reservoir, and flow south, joining again with the Mahoning River before entering the Ohio River. Pymatuning Reservoir and Shenango River Lake, impounded by the Army Corps of Engineers for flood control, today serve as major recreational and wildlife resources.

The waters and associated wetlands provide habitat for many species of wildlife and game, including warm water fisheries, songbirds, nesting hawks and owls, nesting bald eagles, and dozens of rare, threatened, and endangered species.

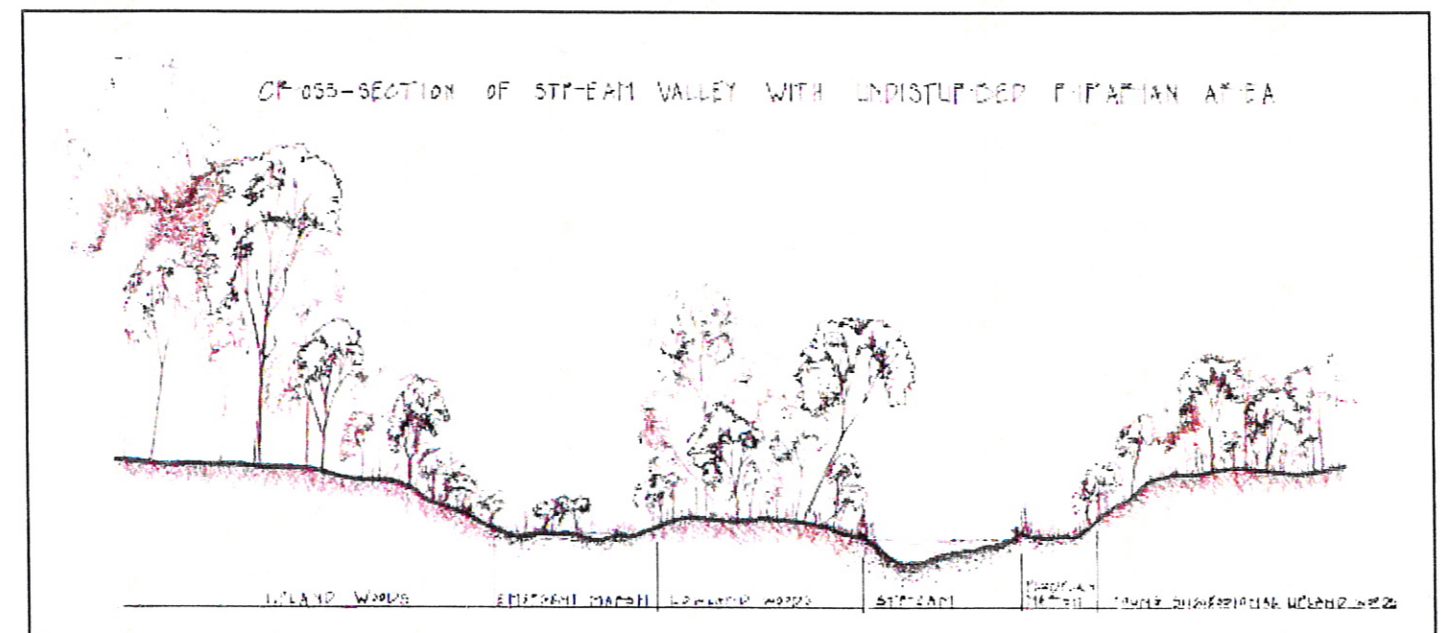
In addition to habitat, the wetlands and floodplains in the watershed perform important functions such as floodwater storage, filtering and cleansing water, and groundwater recharge. They also provide opportunities for recreation and commerce.

The Importance of Riparian Corridors

The riparian corridors of the watershed are the terrestrial lands adjacent to the rivers and streams. These linear corridors are probably the most important areas to protect, because they contain great concentrations of natural resources and play a key role in protecting water quality.

Within the riparian corridors are found:

- Extensive wetland and floodplain systems that are linked with the rivers;
- Concentrations of rare, threatened, or endangered species;
- Food, cover, habitat, and transportation corridors for fish, game, and other wildlife;
- Steep slopes and erodible soils, presenting great risks of erosion where soils are disturbed;
- Public surface and groundwater supplies, which are vulnerable to pollution; and



Riparian cross section.

- Recreational opportunities, including lakes, fishing areas, hunting, and passive recreation such as hiking.

Undisturbed riparian corridors protect water by:

- Filtering pollutants that wash off roads and farm fields.
- Maintaining cool stream temperatures necessary for native fish and wildlife.
- Adding to the aesthetics, quality of life, and economic well-being of our communities, increasing property values and providing opportunities for green-space and recreation.

Threats to the River in the Watershed

Many portions of the Pymatuning/Shenango River have been degraded by pollution and alteration:

- In Pymatuning and Shenango lakes, high levels of nutrients (phosphorus and nitrogen) from sources such as fertilizers, animal and human waste, contribute to nuisance algae growth (eutrophication).
- The main stem of Shenango River and several creeks and smaller tributaries have been identified by state and federal agencies as having "impaired" water quality, as shown in Table 1 below.
- The lowest reaches of the Shenango are so filled with metals and PCBs that people are advised against eating fish from those waters.

What is Harming the Pymatuning/Shenango?

Human changes to the landscape are degrading water quality and habitat and increasing erosion and flooding.

- Practices such as channelizing and altering stream

Table 1: Pymatuning/Shenango Impaired Waters and Sources of Impairment

Water Body	Pollutants or Parameters of Concern	Potential Sources in Watershed
Little Deer Creek	Organic enrichment/low dissolved oxygen, flow/habitat alteration	unknown
Neshannock Creek tributaries, Cool Spring Creek tributary, Crooked Creek, Sugar Creek	Siltation	Agricultural practices, unbuffered riparian (river and stream) corridors
Pymatuning Creek, Little Shenango tributary, Otter Creek & tributary, Bobby Run, Sugar Creek	Nutrients, primarily; also flow/habitat alteration, pathogens	Agricultural practices
Fox Run, Mill Creek & tributary, Yellow Creek and tributary, Neshannock Creek tributary	Metals	Abandoned mine drainage
Middle Shenango River & tributaries, Margargee Run tributary near Shenango Lake, Otter Creek	Nutrients, unionization	Package treatment plants/sewage treatment plants
Little Yankee Run, Mud Run, Yankee Run, Little Neshannock Creek tributary, Pine Run, Bobby Run and tributary, Cool Spring Creek tributary, middle and lower reaches of the Shenango River	Metals, chlorine, nutrients, flow alteration, habitat alteration, sediment	Municipal point sources, urban runoff/storm sewers, hydromodification (channelizing)
Crooked Creek	Organic enrichment/low dissolved oxygen, siltation	Hydromodification (impoundments)
Lower Shenango	Severely degraded. Metals, PCBs	Industrial sources, upstream pollutants

beds, clearing vegetation, and exposing soil on steep slopes can increase flooding and erosion, reduce the watershed's natural ability to filter pollutants from stormwater, and degrade habitat.

- Development, which increases impervious surfaces like pavement, and certain agricultural practices can result in soil erosion, increased stormwater runoff, and flooding.
- Nonpoint sources of pollution, such as failing septic systems and runoff from paved areas and farmland, can contaminate waterways with sediment, nutrients, harmful organisms, and toxic materials.

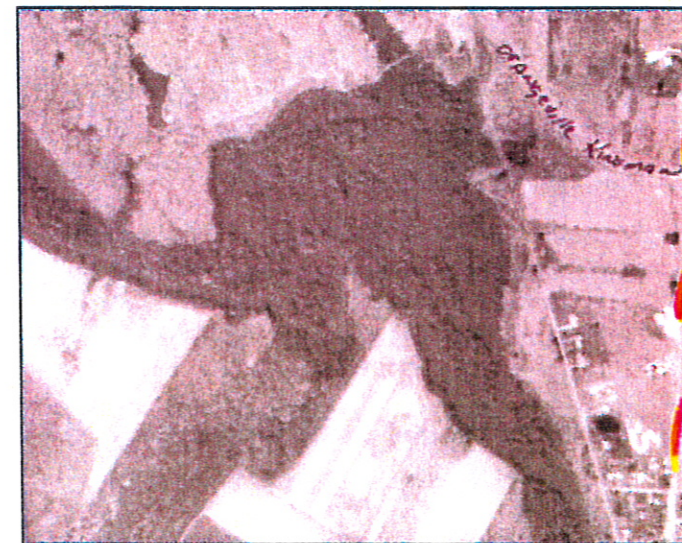
Protecting the Watershed and the River

Who Is Responsible for the Problems and the Solutions?

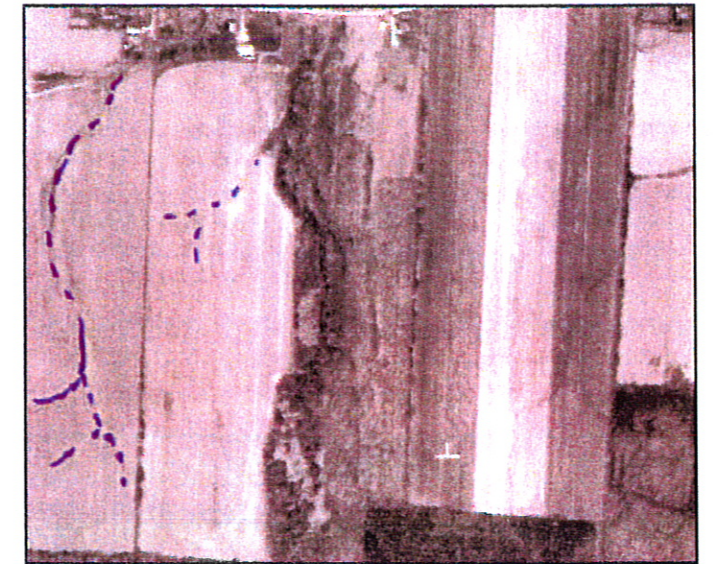
No single person or even group is responsible for all the problems. Everyone who lives, eats, drives, does business, feeds pets, raises crops, and feeds wildlife takes part in activities that may contribute to nonpoint source pollution and watershed degradation.

What Can We Do? Practices that Can Help Protect the River and Watershed

There are many things that individuals, groups, and governments can do to protect the watershed and its



This stretch of Pymatuning Creek has an undisturbed riparian buffer zone, protecting the river from sediment and other contaminants.



This agricultural field in the Pymatuning Creek subwatershed has no natural vegetated buffer along small headwater streams. This is an example of poor agricultural management practices in the watershed that can harm water quality.

resources, while allowing our continued use of the land — agriculture, development, and our daily living. Taking care of the river and its watershed can be as simple as cleaning up your trash and pet waste, as involved as lobbying for new land use controls, as direct as planting trees along the river, or anything in between. See Table 2 on page 5 for ways to protect the watershed and river.

Get to know your watershed. Become aware of the river, its wetlands, the waters flowing into it, the land draining to them, and what is affecting the watershed and its waters.

Partnerships, Partnerships, Partnerships

Even though many agencies, individuals, and organizations are already involved in some aspect of watershed management, no single group has enough funding, staff, or expertise to do all the watershed protection activities they would like. By working together, groups and individuals can contribute to the watershed protection effort — expertise, funding, equipment, volunteers, time, local knowledge, or training.

Table 2: What Can You Do?

Problem	If you are...	Solution
Limited awareness of need to protect watershed and its resources	<ul style="list-style-type: none"> • School, volunteer group, conservation district 	<ul style="list-style-type: none"> • Public education about watershed protection; special watershed events; watershed/water quality monitoring
Contaminated stormwater runoff from litter, dumping waste oil, pet waste, spills and leaks, etc.	<ul style="list-style-type: none"> • Homeowner • Business property owner • Solid waste handler, local or county government • Volunteer group, school, cons. district • Local/county government 	<ul style="list-style-type: none"> • Properly dispose of waste oil & toxic materials, remove litter, clean up pet waste, maintain cars • Sweep parking lots, remove litter, properly store & dispose of chemicals; spill prevention/clean-up plan • Establish toxic waste disposal sites or days, waste oil recycling center • Public education, stencil storm drains • Improve existing storm drains; sweep streets; stormwater regulations
Over-application of pesticides and fertilizers	<ul style="list-style-type: none"> • Farmer, business property owner, homeowner, park district 	<ul style="list-style-type: none"> • Use minimum necessary, organic practices and integrated pest management
Litter	<ul style="list-style-type: none"> • School, volunteer group, conservation district, park district 	<ul style="list-style-type: none"> • Perform/organize clean-ups
Development or improvement of riparian buffers, wetlands, floodplains	<ul style="list-style-type: none"> • Land trust, local community, agriculture preservation group, park district • Developer, local government • Park district, farmer, school, conservation district, volunteer group • Farmer 	<ul style="list-style-type: none"> • Conservation easements or purchase of key riparian parcels • Conservation development; local land use controls (setbacks, overlays) • Replant riparian buffers with trees • Fence streams, maintain wooded riparian buffer
Erosion from disturbed sites — sediment enters waterways	<ul style="list-style-type: none"> • Homeowner, developer, farmer • Farmer • Local governments, developer • County conservation districts, local governments 	<ul style="list-style-type: none"> • Cover disturbed soils • Conservation tilling • Limit development on steep slopes • Erosion control requirements for development, public education
Septic system failures	<ul style="list-style-type: none"> • Home or business owner • County conservation district, health department, local government 	<ul style="list-style-type: none"> • Maintain septic systems frequently • Waste water management districts, alternative systems, public education
Uncontrolled development	<ul style="list-style-type: none"> • Local/county government • Volunteer group, cons. district 	<ul style="list-style-type: none"> • Develop comprehensive plans, resource protection zoning, and resource mapping (GIS) • Education for public and officials
Animal waste	<ul style="list-style-type: none"> • Local government, park district • Individual • Farmer 	<ul style="list-style-type: none"> • Limit areas for feeding waterfowl, require pet waste clean-up • Clean up pet waste • Work with conservation district to limit animal waste problems

Penn-Ohio Watershed Association

The Penn-Ohio Watershed Association is a partnership formed across state boundaries to protect natural resources throughout the Pymatuning/Shenango watershed. Led by the Trumbull County (Ohio) Soil And Water Conservation District, the Association's membership consists of the watershed's five county conservation districts, citizens, and various non-profit and governmental organizations representing a wide variety of interests.

The Penn-Ohio Watershed Association has spearheaded a watershed planning effort, which has identified the following as some of its priorities:

- Maintain a long-term watershed protection group.
- Map, replant, and restore riparian areas.
- Assemble and make available information sheets and data on the watershed.
- Assist volunteer groups.
- Coordinate with land use planners and hold land use planning workshops.
- Hold watershed events.

Protecting These Resources



Wetland system in the Pymatuning/Shenango watershed.



Wooded riparian corridor in the Pymatuning/Shenango watershed.

Improves Our Quality of Life

- Provides habitat
- Reduces erosion and flooding
- Protects water quality
- Provides recreation
- Improves sense of community



Pymatuning Lake, viewed from Pymatuning State Park.