

ERIE COUNTY  
CONSERVATION DISTRICT

KEEPING  
OUR  
WATERWAYS  
CLEAN AND SAFE!

FROM NON-POINT SOURCE POLLUTION



SOLAR LIVESTOCK WATERING SYSTEM  
AND  
WATERSHED DISPLAY

We would like to thank the following townships for partnering with us on this Water Resource Education Network (WREN) Watershed Protection project by displaying and distributing this and other conservation related outreach information at their township office buildings:

*Fairview, Franklin, Girard, Greenfield, Harborcreek, LeBoeuf, McKean, Millcreek, Summit, Union, Venango, Washington, Wayne, and Waterford.*

~If you would like to partner with us by providing a location to distribute educational and outreach information on conservation practices please contact the Erie County Conservation District.

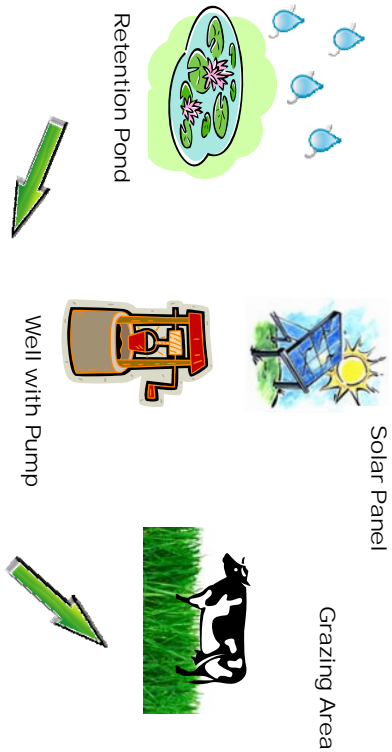
*The Outdoor Model Watershed Non-point Display has been funded by the League of Women Voters of Pennsylvania Citizen Education Fund through a Section 319 Federal Clean Water Act grant from the US Environmental Protection Agency administered by Pennsylvania Department of Environmental Protection and Pennsylvania Coastal Zone Management's Coastal Non-point Pollution Program.*

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SOLAR POWERED WATER PUMPING SYSTEM  
FOR  
THE REMOTE WATERING OF LIVESTOCK



~The model watershed and non-point pollution display at the Erie County Conservation District works as depicted in the diagram.

~Water from the retention pond filters through the ground and into a well. At the bottom of the well, a pump, powered by a solar panel, pumps the water through a system of pipes. The pipes carry the water to a holding tank in the grazing area and then back to the pond.

~On cloudless days, the cycle continues at a rate of four gallons of water per minute being discharged 400 feet from the well.

# WHAT IS NON-POINT SOURCE POLLUTION?



*A creek affected by non-point source pollution*

Non-point source (NPS) pollution, unlike pollution from industrial and sewage treatment plants, is pollution that comes from many sources.

This hard to trace pollution has become the nation's largest water quality problem.

NPS pollution is carried into our waterways by runoff water from rain events or snow melts. Once in a stream, lake or river, NPS pollution degrades water quality and harms aquatic life.

Federal and state legislation help to reduce the effects of NPS pollution.

Hopefully, by becoming aware of non-point source pollution, you too can help keep your environment clean and healthy!



*A healthy creek*

## MAJOR SOURCES OF NON-POINT POLLUTION

**Construction Sites** - Stormwater runoff washes construction related pollutants into our waterways. Dirt and mud sediment pose the largest threat to aquatic life as it can literally bury organisms such as fish eggs and insects.

**Marinas and Recreational Boating** - Boating activities in and around marinas contribute to NPS pollution. Leaking gas, oil and holding tank wastes are the most common of these pollutants.

**Logging Operations** - A timber stand disturbed by logging is highly erodable. Poor logging practices paired with heavy rain, can fill a creek with mud. Some of our most pristine trout streams are degraded by logging activity.

**Agriculture and Livestock Operations** - Keeping livestock out of and away from creeks can reduce manure and sediment from washing into the waterway. Instead of allowing livestock to get water directly from



*Solar powered remote watering system*

creeks or streams, livestock managers can install a remote watering system which uses a solar powered pump.

**Septic Systems** - Septic systems are neglected by many homeowners until they fail. Septic waste from faulty systems makes its way into lakes and streams.

**Mining** - Abandoned mine drainage is responsible for many miles of lifeless waterways in Pennsylvania.

**Urbanization** - Urban areas are major contributors to non-point pollution. Runoff from parking lots, streets and rooftops pollute receiving waters after a heavy rain.

**Dirt Roads** - Large amounts of road sediment can wash into creeks after a rain resulting in poor clarity and decreased oxygen levels.

## EDUCATIONAL MODELS



*Eight plywood displays depicting NPS pollution sources lie along the model watershed for educational demonstration.*

*The Erie County Conservation District invites you to visit their office to see this display and learn more about how you can help keep our waters clean!*