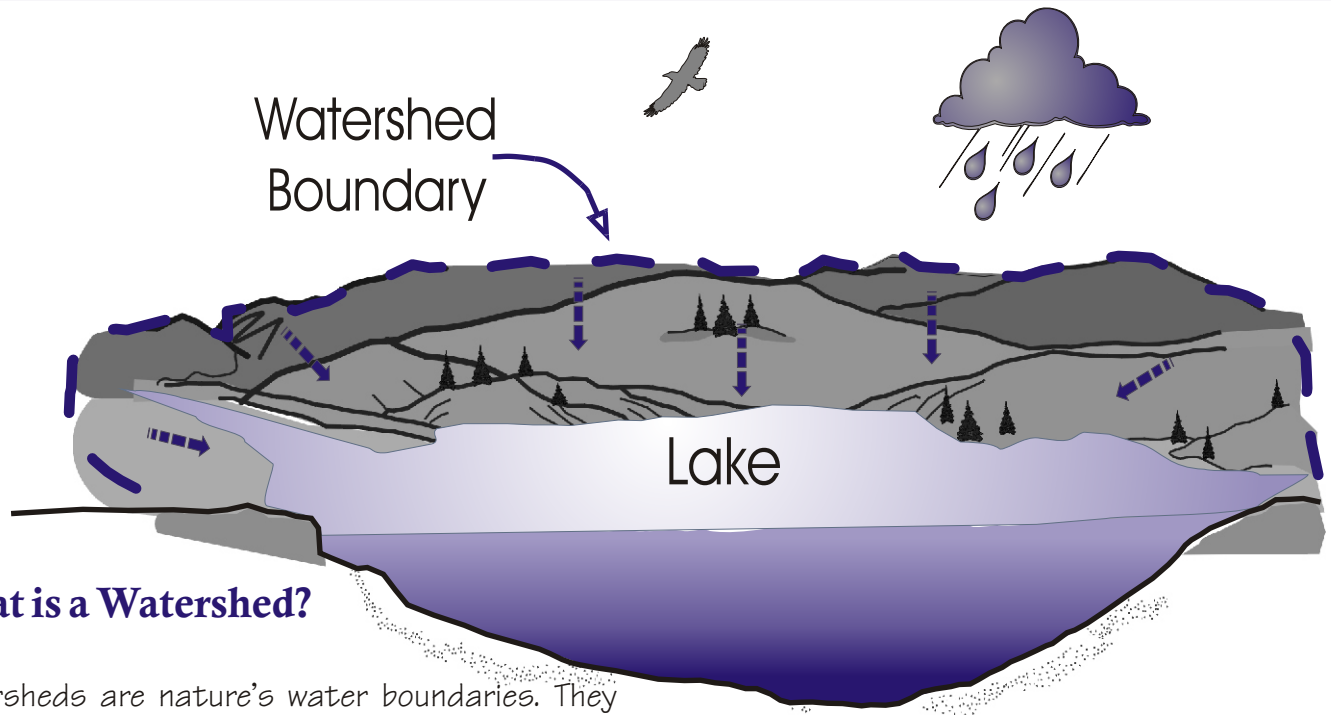


Watershed Management

Lake Wallenpaupack Watershed Management District - Fact Sheet



What is a Watershed?

Watersheds are nature's water boundaries. They are the land areas that drain to surface water bodies. A watershed generally includes lakes, rivers, estuaries, wetlands, streams, and the surrounding landscape. A watershed is best envisioned as a funnel with a glass at the bottom. Any water that falls into the funnel will find its way into the glass. Likewise, water that falls in a watershed flows downstream to a lake or other waterbody.

Lake Wallenpaupack is approximately 5,700 acres in size and has a watershed that encompasses approximately 219 square miles. The watershed is spread out over four counties and 14 townships. Any precipitation that falls within the Lake Wallenpaupack watershed and does not evaporate will end up in Lake Wallenpaupack.

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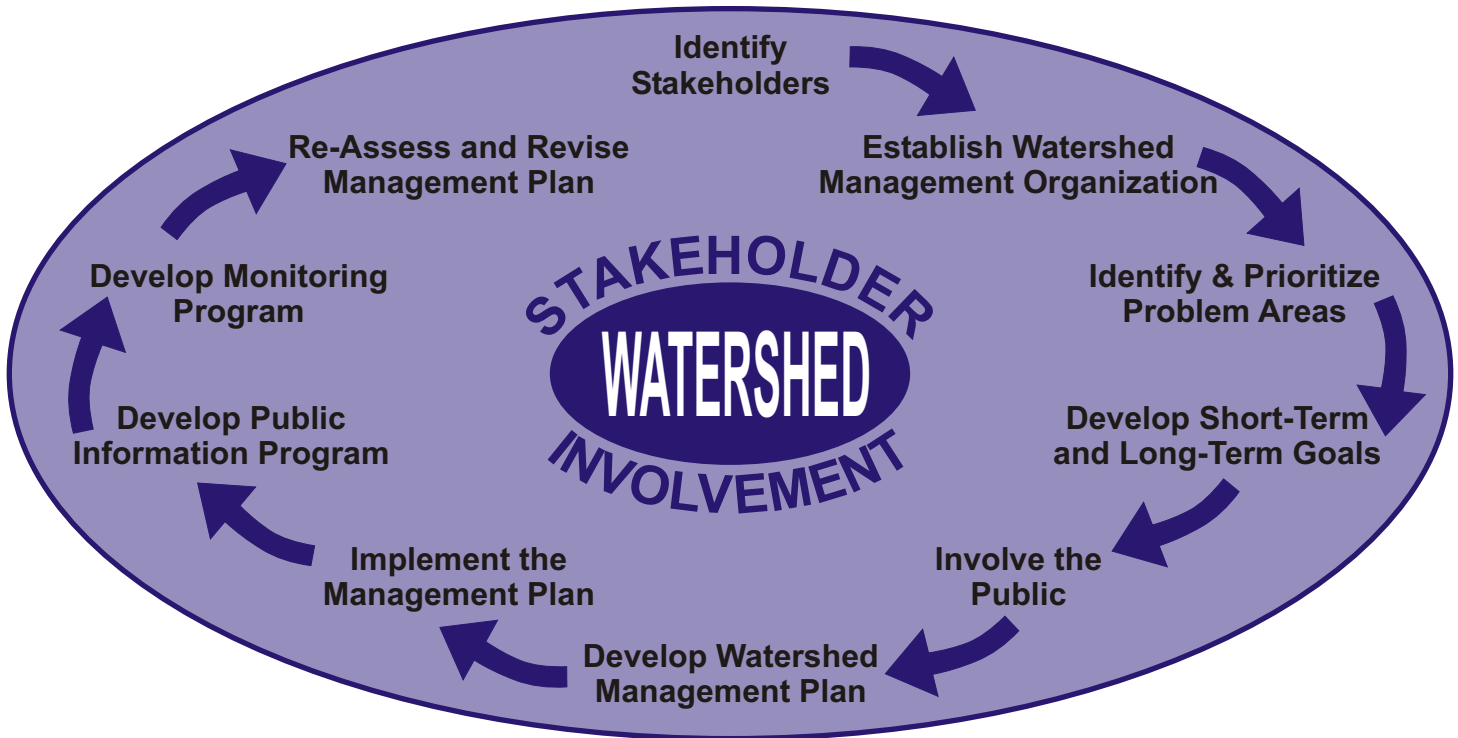
Watershed Pollution

The streams, lakes, and wetlands in a watershed are affected by two general types of pollution: point source and nonpoint source pollution.

Point sources of water pollution are municipal and industrial wastewater discharges from a distinct "point" such as a sewer outfall. There are 13 permitted wastewater treatment plant discharges in the Lake Wallenpaupack watershed. Nonpoint sources of water pollution, however, cannot be easily traced back to a particular location. This type of water pollution is diverse and comes from everyday land use activities such as agriculture, residential development, construction and forestry. Based on studies conducted by the Lake Wallenpaupack Watershed Management District, nonpoint sources of pollution significantly affect the water quality of Lake Wallenpaupack.

Ten Steps for a Successful Watershed Management Plan

In order to reduce, improve, and protect water quality in Lake Wallenpaupack, the following 10 Steps were taken to develop the Lake Wallenpaupack Watershed management Plan:



1. Identify Stakeholders - Stakeholders are all of the affected parties, groups and agencies that have an interest in the watershed. Stakeholders in the Lake Wallenpaupack watershed include municipal and county officials, conservation districts, environmental organizations, township environmental commissions, fish and game clubs, state and federal officials, landowners, farmers, and the general public.

2. Establish A Watershed Management Organization - The Lake Wallenpaupack Watershed Management District (LWWMD) is a watershed management organization that was established 25 years ago to coordinate all watershed management activities and protect the quality of Lake Wallenpaupack. All of the municipalities and both counties in the watershed are represented in the

LWWMD. Regular meetings of the organization are important to ensure that all parties are working toward a common goal. The LWWMD meets at 7:00 pm on the third Wednesday of every month. The general public is welcome to attend the meetings.

3. Identify and Prioritize Problem Areas - The LWWMD, professional scientists, and volunteers worked together to identify and prioritize the problem areas in the Lake Wallenpaupack watershed. Problem areas included streambank erosion sites, agricultural runoff, wastewater treatment plants, and urban stormwater discharges, among others. The compilation of existing data was the first step in determining historical problems in the watershed. Additional water quality studies and watershed investigations further contributed to the body of knowledge.

4. Develop Short-Term and Long-Term Goals -

Short-term and long-term goals were established to keep the LWWMD focused on solving water quality problems in the watershed. LWWMD's goals include performing studies to evaluate Lake Wallenpaupack and its watershed, determining pollutant sources to Lake Wallenpaupack, developing a watershed management plan, and implementing a continuing watershed management and public education program for Lake Wallenpaupack.

5. Involve the Public - The public has been highly involved in the Lake Wallenpaupack watershed management program. Volunteers have performed many useful activities such as identifying nonpoint source problem areas, assisting with water quality monitoring, providing valuable input in the development of the Watershed Management Plan, and serving on committees. Conducting educational seminars to educate the public has helped to recruit volunteers. Regular meetings with the public keep stakeholders informed on important watershed issues.

6. Develop Watershed Management Plan - The Lake Wallenpaupack Watershed Management Plan aims to control both point and nonpoint source pollution. The Watershed Management Plan includes a prioritized list of problem areas, a schedule for implementation of Best Management Practices (BMPs) to correct problems, and an education program which serves to involve the public. The Watershed Management Plan was adopted by all 14 municipalities in the watershed.

7. Implement the Watershed Management Plan -

The LWWMD is implementing the Watershed Management Plan using funding from the Pennsylvania Department of Environmental Protection 319 Nonpoint Source Program, the US EPA Clean Lakes Program, the US EPA 104(b)3 Grant Program, and Congressional Grants. To learn more about the Watershed Management Plan implementation, including descriptions and photos of installed BMPs, visit <http://www.wallenpaupackwatershed.org>.

8. Develop Public Information Program - A key element in the success of the Lake Wallenpaupack Watershed Management Program is continuing to provide public information. The LWWMD has developed fact sheets, brochures, and a web page to keep the public informed about watershed activities. The LWWMD has also conducted several educational workshops.

9. Develop Monitoring Program - A monitoring program has been developed to quantify water quality, establish pollutant loads, and characterize aquatic biota in Lake Wallenpaupack and its tributaries. The monitoring program provides baseline water quality data, and measures the effectiveness of the Lake Wallenpaupack Watershed Management Program as it is being implemented.

10. Re-Assess and Revise Management Plan - A Watershed Management Plan is a living document that needs to be reassessed and revised periodically. Priorities change with time and the Lake Wallenpaupack Watershed Management Plan will be revised accordingly.

"When we begin to see land as a community to which we belong, we may begin to use it with love and respect."

-Aldo Leopold



Volunteers Restoring a Stream

Watershed Management

Lake Wallenpaupack Watershed Management District

What is Nonpoint Source Pollution?

Nonpoint source pollution is pollution that does not originate from one particular source, but comes from diverse locations. It involves three natural processes: stormwater runoff, erosion, and sedimentation.

Rainwater flowing across land and entering rivers and lakes is known as stormwater runoff. The force of runoff breaking up the soils and detaching individual soil particles is termed erosion. When these soil particles are deposited into nearby streams and rivers, the process is called sedimentation.

Runoff, erosion, and sedimentation are natural processes. However, these processes can be accelerated by the way the land has been developed, leading to excessive stormwater runoff, excessive erosion, and excessive sedimentation.

What Causes Nonpoint Source Pollution?

Almost all nonpoint source pollution is caused by stormwater runoff. Rainwater and melting snow run over residential lawns, bare soil at construction projects, streets, and farm fields, causing erosion and carrying with it pollutants such as soil particles, chemicals, and nutrients.

Nonpoint source pollution can also occur when water infiltrates (soaks into) the ground. Some pollutants can be carried into the groundwater during infiltration.

Pollutants from landfills, abandoned mines, underground storage tanks, and septic systems are possible groundwater pollution sources.

Since nonpoint source pollution comes from a variety of land use activities, we are all responsible for the problem. Thoughtful watershed management can reduce the amount of nonpoint source pollution entering our streams and Lake Wallenpaupack.

What is Watershed Management?

Watershed management is a way to protect the lakes, streams, and wetlands in the Lake Wallenpaupack watershed. It is accomplished by developing an understanding of key factors that affect the quality of surface waters, and by following a plan of action to reduce or minimize those activities that may negatively impact water quality. Watershed management may include controlling point and nonpoint source pollution, monitoring water quality, adopting protective ordinances and policies, educating stakeholders, and controlling growth and development in a watershed.



Automated Water Sampler for Water Quality Monitoring

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