



# CENTRAL SUSQUEHANNA WOODLAND OWNERS ASSOCIATION

## OCTOBER 2018 NEWSLETTER

### Walk in Penn's Woods

Sunday, October 7, 2018

1:30 pm

Goose Woods Trail

Montour Preserve Visitors Center

374 Preserve Road, Danville



#### Mission –

- The Central Susquehanna Woodland Owners Association (CSWOA) is committed to sound forest management and wildlife enhancement.
- We sponsor educational programs demonstrating the importance of our woodlands to the economy, environmental health, and aesthetics of the Central Susquehanna region.
- We help connect landowners with resources and experts who can help them implement sound forest practices to increase enjoyment of their woodlots and, potentially, to help them realize economic benefits.

CSWOA is participating in the 2nd Annual “Walk in Penn’s Woods” activity being held at numerous locations across Pennsylvania. The partnership coordinating this activity includes the PA Forestry Association, Penn State Center for Private Forests, Penn State Natural Resources Extension, PA Dept. of Conservation and Natural Resources, PA Forest Stewards, PA Sustainable Forestry Initiative, and the Association of Consulting Foresters. The “Walk” is an effort to build appreciation for forests, the people who care for them, and the importance of tending them. For more detail about this statewide effort, please visit [www.walkinpennswoods.org](http://www.walkinpennswoods.org).

Our October 7th program will include a walk along Goose Woods Trail in the Montour Preserve to discuss how Penn’s forests benefit all Pennsylvanians and to view changes on the trail over the years from the 1800s to the present time, including changes related to logging, farming, regrowth, pioneer trees, maple sugaring, and invasive species. The tour will be led by Jon Beam, Assistant Director of the Montour Area Recreation Commission, who is very familiar with the Montour Preserve fields and forests.

The easy walk is about 3/4 mile in length over gentle terrain. The trail is wheelchair and stroller accessible. No pets allowed. Bring your family!

CSWOA is partnering with the Columbia County Conservation District and the Montour Area Recreation Commission to sponsor this event.

**DRIVING DIRECTIONS:** The Montour Preserve is located at 374 Preserve Road, Danville, PA 17821, about 4 miles northeast of Washingtonville. However, please note that the Montour Preserve’s address has recently changed as part of a Montour County-wide 911 re-addressing. Those using navigation systems or online mapping programs may find that using the old address of 700 Preserve Road, Danville, PA 17821 may work better.

On Route 54 at Washingtonville, turn right as if heading toward Strawberry Ridge. At the first intersection, turn left onto PPL Road. Continue north on PPL Road past the Montour power plant to the intersection with Preserve Road. Turn right onto Preserve Road. Montour Preserve will be on the left. Proceed about 150 feet to the main parking lot at the Visitors Center, where the group will assemble to begin the walk. Information: (570) 336-2060.

### UPCOMING CSWOA PROGRAMS

Sunday, October 21, 2018 – 1:30 pm – Hemlock Treatment for Woolly Adelgid  
Bald Eagle State Forest, Laurelton

Sunday, November 4, 2018 – 1:00 pm – Cutting Firewood to Improve Your Forest  
Weiser State Forest, Aristes

### CSWOA CONTACTS

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# Forest Stewardship:

## Watershed Management in the Headwaters

Think of what the forest provides: wood, wildlife, recreation, and water. You may not consider water to be one of the forest's resources, but it is. Along with providing habitat for fish and many kinds of wildlife, water enhances an area's beauty and increases its recreational value. Water moves over the landscape and through the soil to form surface and subsurface water supplies that people depend on to meet domestic, agricultural, and industrial needs. Also, water from forested lands is usually of very high quality.

A watershed is an area of land from which surface and subsurface water drains into a stream. Your forest may be entirely within a watershed or may be part of several watersheds—either way, it's important that the water flowing from your forest be of high quality. This publication describes practices that a forest landowner can use to maintain or improve water resources in ways that are compatible with other management objectives.

### Forested Watersheds

Forests make excellent watersheds chiefly because their soils usually have a high infiltration capacity—they are capable of quickly absorbing large amounts of water. Therefore, rainstorms or melting snow in woodlands produce relatively little surface runoff with the associated problems of erosion (detachment and movement of soil) and sedimentation (the deposition of soil). Turbidity is the term applied to water that has reduced clarity due to suspended sediments. Turbid water looks cloudy. Generally, the water flowing through streams in stable forests has very low turbidity.

Trees contribute to the high infiltration capacity of forest soils. When tree roots remove water from soil pores, space is created for additional water to be stored. Forest soils also have a great deal of pore space. The abundance of organic matter from decaying plant parts creates a well-structured soil in which the individual soil particles tend to form aggregates (small clumps of soil stuck together). This clumping of soil particles produces large, interconnected pores between the aggregates. Water poured on the surface of such soils quickly disappears into the pores. Microorganisms, insects, small animals, and growing tree roots also contribute to soil aggregation (and consequently more pore space) by moving and mixing soil. These actions put soil particles in contact with each other, increasing the likelihood that soil particles will clump together, resulting in large pores through which water can easily drain. The litter layer, which consists of leaves and bits of wood in various stages of decay on the forest floor, helps maintain healthy populations of soil organisms. By shielding the soil from the elements, the litter layer provides soil organisms with a less hostile, more stable environment.

Even in the winter, when forest soils may be frozen, they can maintain a high infiltration capacity. Concrete frost—a solid, impermeable layer of soil and ice—rarely forms in forest soils. The litter layer insulates soil from extreme cold. Also, because the loose forest soils have high amounts of organic matter and large pores, the frost penetrating such soils is of a more porous, granular, or honeycomb nature, permitting water to percolate through.

The forest vegetation also protects the soil's infiltration capacity. Raindrops falling on exposed soil may have enough energy to break up soil aggregates. Individual soil particles are then easily eroded and washed into soil pores, clogging them and preventing rainwater absorption. When such conditions occur, water tends to flow over the soil surface, increasing the chance of erosion. But

in a forest, rain is intercepted by the forest canopy, the leaves of shrubs or small trees in the understory, and the organic litter layer covering the forest floor, reducing the force with which rain falls on the soil. Soil pores remain unclogged, allowing infiltration.

### Effects of Timber Harvesting

Cutting timber affects both water quantity and quality. Clearcutting (harvesting all trees) allows more water to flow to streams because there are no leaves to intercept rain and snow (some of which would later evaporate) and roots no longer take water from the soil, until the forest recovers from the harvest and seedlings and saplings revegetate the site. Areas being considered for clearcutting should have a substantial ground layer of organic material to help minimize these effects.

Much of the water taken into trees by their roots passes through the leaves into the atmosphere in a process called transpiration. Trees and other plants return water to the atmosphere through evapotranspiration—a combination of evaporation and transpiration. Evapotranspiration is an important process—during the growing season in a Pennsylvania hardwood forest, as much as 60 percent of the rainfall is returned to the atmosphere through evapotranspiration.

In the humid Northeast, the greatest increase in streamflow occurs during the first growing season after the clearcut. But in following years, as the area begins to revegetate, the increased flow lessens. Five to ten years after the cut, streamflow may return to pre-cut levels. This effect on quantity is most important to managers of water-supply watersheds.

Of greater concern to woodland owners is the effect of timber harvesting on water quality. Because of the possibility of accelerating erosion, logging can contribute to sedimentation—the most damaging and widespread water pollutant from forested watersheds. Sediment harms water resources by destroying fish habitat, reducing the storage capacity of reservoirs, and increasing treatment costs for municipal water supplies. The greatest problems do not occur as a result of the actual cutting of trees, but from moving them out of the forest, which requires the use of heavy equipment on a system of trails and roads. If the transportation system is not carefully designed and maintained, erosion on the watershed can be greatly increased because roads account for the vast majority of sediment associated with timber harvesting.

### Choosing Stewardship

Water resources are intimately connected to land use. The quality of our water resources is affected by the manner in which we use land. Some land-use practices protect water; others degrade it. Forests protect people and wildlife. They are natural guardians, consistently providing us with high-quality water for drinking, fishing, swimming, boating, or simply enjoying the intrinsic natural beauty of a clear stream, lake, or pond. Forests have a great influence on water. Be aware of this connection when using the various resources of your forests and you will profit by enjoying the many benefits of clean water well into the future.

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Excerpted from *Forest Stewardship: Watershed Management*, revised by Allyson Muth, Interim Director, Penn State Center for Private Forests. Originally prepared by Joseph R. Makuch, Coordinator, Water Quality Information Center, USDA.

Complete article can be found at

<https://extension.psu.edu/forest-stewardship-watershed-management>.