

*Lake Wallenpaupack Watershed Management District*  
**CONSERVATION CLIPS**

## WETLANDS

MOTHER NATURE'S UNDERAPPRECIATED WORKHORSE!



During the European exploration of the early 1600's, the landmass that would become known as the "Lower 48" contained an estimated 221 million acres of wetlands. Today there are fewer than 100 million acres remaining. Why such a drastic change? As European colonization expanded throughout the New World, thousands of acres of wetlands were drained for agricultural purposes. Thousands more were drained for the "health" of settlers. In 1763, one of our great founding fathers, President George Washington, helped create the Dismal Swamp Land Company singlehandedly draining 40,000 acres of the Great Dismal Swamp on the Georgia/North Carolina border. In those days, and even as recently as the 1970's, wetlands were thought to breed disease carrying insects, harbor insidious creatures, and be generally useless to development. Unfortunately, the trend of wetland loss continues, albeit at a much slower rate than in the past.

Fortunately American intuition wasn't lost in the Great Dismal Swamp and we've made great strides to come full circle in our view of wetlands. Today we're well aware of the countless benefits and integral role wetlands play in ecosystem functioning. We know that wetlands enhance water quality, process and store stormwater, help control and slow flood waters, provide habitat for over 600 species of plants and animals, and add value to our recreation and tourism based economy. Despite this awareness, the United States still loses thousands of wetland acres annually at a cost much greater than that quantified through dollars and cents.

The very attributes which once caused humans to drain wetlands are actually some of the most valuable. The algae, bacteria, and vegetation associated with a wetlands' "rotten egg" smell, collectively, make up part of nature's best pollutant processing system. Natural chemical reactions alter or remove large quantities of pollutants. For example, phosphorous, a nutrient commonly used in fertilizer that causes excessive algae growth and degraded water quality, is removed by microbial and plant uptake in wetlands.

Along with nutrient uptake, wetland systems have the ability to take up, store and slowly release stormwater runoff. As the American landscape has developed and been covered with impervious surfaces, the amount and rate of stormwater runoff has increased. This runoff may cause overloads to stormwater systems, property damages, pollution in the form of water temperature change and organic pollutant discharges to waterways. Wetlands dramatically slow the rate of runoff which



Pitcher Plants, named for their obvious shape, grow only in sphagnum bogs largely devoid of nitrogen. Adaptations allow pitcher plants to capture and digest nitrogen rich insects as a source of the much needed nutrient.

allows cooling, sediment to settle out, and organics, like the phosphorous mentioned earlier, to be filtered by vegetation and microbial action. Much of the vegetation that allows for pollutant processing is extremely fibrous in nature and provides extensive storage capacity by absorbing runoff. In this way they function in much the same capacity as large sponges absorbing, holding, and attenuating water. Water's long residence time in wetlands also better enables infiltration of groundwater and aquifer re-charge.

North American wetlands are home to an astounding 600+ species of plants and animals. A surprising 43% of Federally Endangered Species rely on wetlands directly or indirectly for their survival. Regarded as the most biologically diverse of all ecosystems, wetlands serve as the home and/or breeding ground for numerous species of birds, amphibians, reptiles, and mammals. Consider that about 98% of the commercial fish and shellfish harvested in the Gulf of Mexico are dependent on estuaries and their associated wetlands.

In addition to ecosystem benefits, wetlands provide billions in economic benefits. Everglades National Park, by itself, contributes \$120 million annually to its local economy. Ducks

Unlimited (DU), the world leader in wetlands conservation, has spent \$11.2 million dollars on wetland projects in Pennsylvania alone. Even closer to home, our very own Wayne County leads PA DU in conserved wetland acres. Through years of research and a slow change in public perception we have come to realize the ecosystem services and economic benefits provided by wetlands. The world has come a long way, to say the least, in its approach to wetlands management, but there are many miles to go. The US still loses somewhere around 50,000 to 60,000 acres annually and new threats from development and land-use change show themselves almost daily. Rest assured all hope is not lost.

Today, numerous federal, state and local agencies are doing their part to protect wetland areas. The Great Dismal Swamp President Washington helped drain is now protected in perpetuity by the US Fish and Wildlife Service. In like manner, each of us, as individuals, should strive to protect our own "dismal swamps". If we each do our part to educate others, act responsibly and protect our special places, the fate of wetlands might not be so dismal after all.

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District*

#### MISSION STATEMENT

The Lake Wallenpaupack Watershed Management District, a community-based nonprofit corporation founded in 1979, is committed to protecting, maintaining and enhancing the water quality of Lake Wallenpaupack and its tributaries through leadership, public education and promotion of public awareness, scientific studies, and development and implementation of a comprehensive watershed management program, including the installation of watershed improvement projects. This will ensure high quality of life in the community, the protection of the natural environment, and the sustainability of the regional tourism and recreation economy.