

# WETLANDS!

## A 30-Year Reflection

By Roger Anderson



When West Virginians think of the DNR Wildlife Resources Section, they envision trout stocking, hunting, regulations and, perhaps, nongame wildlife education programs. But there is a whole other side to the agency that functions to conserve and protect wildlife habitats to ensure that hunted and non-hunted species alike have a place to live and grow. Wetlands are one of these important and unique habitats.

In 1977 Congress passed a law that was signed by President Carter to protect our nation's waters, which include wetlands. Section 404 of the Act, known as the Clean Water Act, specifically regulates the dredging, filling and draining of wetlands.

I was fortunate enough to start my career with the then Wildlife Resources Division of the Department of Natural Resources in 1978, one year after passage of

the Clean Water Act. At that time I had no idea that I would make a career of helping to conserve and manage one of our state's most limited resources – wetlands.

First of all, what is a wetland? Wetlands are areas having three characteristics: they have vegetation that grows best in wet conditions; they have specific soil types that are formed under continuous or at least regular soakings with water; and they must have water at or near the surface for at least part of the growing season. These criteria define the areas as a wetland in both legal and ecological terms. Wetlands in West Virginia range in size from areas as small as a wet spot in a field to expanses as large as Canaan Valley, our state's largest contiguous wetland.

In the 1600s the continental United States had approximately 221 million acres of wetlands. By the mid-1980s that number had decreased significantly to

◀ *Cranesville Swamp in Preston County is a diverse mosaic of forested and open peatlands which contains plant species commonly found in Canada.*

*Photo by Steve Shaluta*

103 million acres. Our latest estimate in 1997 is 100 million acres.

How extensive are wetlands in West Virginia? Our steep topography and lack of glaciation are not favorable for wetland formation. Recent surveys indicate we have between 57,000 and 102,000 acres of wetlands, or less than one percent of the state's total area. I realize that this is almost a 50 percent difference between the high and low acreage, but the lower number is actual inventoried wetlands interpreted from aerial photos in 1996 and the upper number was a projection made from sampled wetlands in the 1980s. Any loss of wetlands in West Virginia is significant because of how few we have. Their scarcity and many functions and values make our wetlands worthy of protection.

Even if you're not an avid conservationist, you will have to admit that wetlands have a place in the overall scheme of things. Not convinced yet? Let's discuss their value for a moment. First, wetlands trap and slow the flow of water. This reduces the overall chances for flooding and the severity of floods when they do occur. It's better that the low-lying wetland floods instead of your house. Also, wetlands hold water long enough to allow it to percolate into the soil, allowing recharge of increasingly important groundwater reserves. What isn't trapped in the groundwater is released slowly to maintain water levels in our rivers, lakes and water wells. A third beneficial function of wetlands is that, like kidneys in your body, wetlands filter our water to keep it clean and healthy. We have found that wetland vegetation removes harmful acids and minerals from water before it poisons aquatic life.

The West Virginia coal industry is aggressively using man-made wetlands to help purify mine drainage.

Wetlands are very productive parts of our environment; more productive of vegetation, in fact, than some agricultural soils. "So what?" you might ask. "We don't eat alders and sedges." True, but this vegetation does serve other important purposes. It shelters and feeds many wildlife species that cannot survive elsewhere. Almost 35 percent of all rare and



*Elizabeth Byers*

*In autumn, this fen on Canaan Mountain offers a colorful display of scarlet peatmoss and evergreens, dotted with white cottongrass fruits. This fen provides a home to the four-toed salamander.*

endangered species depend, in some way, on wetlands. More common wetland species provide enjoyment to many by serving educational, research and recreational needs. Waterfowl and many furbearers such as beaver, mink and muskrat provide both consumptive and non-consumptive recreation and are dependent on wetlands.

Fish, of course, have to live in water; but just how important are these little wetlands to the average angler? More important than most would guess. Many fringe wetlands provide the food that young fish need to survive. By slowing the flow of water, wetlands help keep banks from eroding and they trap and settle suspended silt before it smothers fish eggs and covers the insects and other animals that fish eat.

Lastly, wetlands add visual diversity to our lives. Take a trip to Canaan Valley State Park or the Canaan Valley National Wildlife Refuge and walk on one of the many trails that skirt or cross the wetlands located

there. Look at the different plants and see some of the wildlife species that live there. I think you will find it relaxing, rewarding and different than a normal walk in the woods.

Recognizing the importance and value of wetlands to everyone, we have taken action to protect them. The 1977 Clean Water Act gives the U.S. Army Corps of Engineers the responsibility to protect the nation's wetlands and waterways by issuing permits to place fill and remove a wetland when development is necessary.



*Steve Shaluta*

*Cattails are aggressive colonizers of disturbed wetlands and may crowd out native vegetation.*





Steve Shaluta

*The boardwalk at Cranberry Glades offers visitors a close-up look at unique plants including insectivorous (insect-eating) sundew and pitcher plants.*

West Virginia’s authority to protect wetlands comes from the Constitution of West Virginia, state laws, and state’s rights provisions of the Clean Water Act. Basically, our goals are to move construction and development out of wetlands whenever possible, limit wetland losses by suggesting less damaging designs or adjusting project site when relocation is impossible, and accept negotiated mitigation (replacement) for unavoidable damage to wetlands.

The issues are clear. Wetlands are important to the quality of human life and these areas must be conserved and managed. Protection of all the country’s wetlands is imposed by federal agencies. But state agencies in West Virginia implement regulations specific to our state’s needs and companion federal requirements.

I hope after reading this article that you understand the importance of our state’s wetland resources and why we believe their conservation is so important. As a biologist/manager, I have seen many changes in the past 30 years to wetland regulations; some progressive and some regressive. Most of these changes have come about as a result of our court system. These changes have resulted in attempts to redefine streams, change the definition of fill and its placement, and define when areas are and are not wetlands. Significant changes have been solely based on legal challenges to the interpretation of the Clean Water Act, not biology.

To date, one thing remains consistent and moving forward – wetland science. Science has and continues to be the foundation for wetland conservation and management. We know with a significant level of surety what a wetland is, where it is, and why it exists through good evaluation methods that are based on

tested science. We know they must have certain physical, biological and chemical parameters to be wetlands. We know that wetlands occur in places that we would not normally expect them, such as on the sides and tops of mountains. We continue to make great strides in building wetlands for mitigation that actually function. Most importantly, we have learned from research and our mistakes about where not to attempt to construct wetlands.

Over the past year we have heard the word “change” used as a slogan for a new president and I concur that positive, directed change is good.

Yes, in the next 30 years wetland science will continue changing and continue to react to changes in regulations. These changes will require scientists to learn more about wetlands to meet the challenges of the court cases that will be litigated. I only hope that the nation doesn’t lose sight of the value of these habitats to our clean water and wildlife and let those who would attempt to degrade and eliminate these resources under the guise of legal interpretation and progress prevail.

*Roger Anderson is a wildlife biologist stationed in Elkins.*



Keith Krantz

*Beaver dams create a diversity of wildlife habitat within a wetland.*

## Value of Wetlands

Wetlands are beneficial for many reasons. They:

- Reduce flooding by holding and absorbing flood waters
- Filter silt and debris and neutralize some pollutants from water
- Provide fish and wildlife habitat, particularly breeding and spawning areas
- Provide recreational opportunities – wildlife watching, hunting, fishing, nature photography
- Recharge groundwater reserves