Partners *in* Wildlife Conservation

West Virginia Division of Natural Resources's Cooperative Management Partnership with the **U.S. Army Corps of Engineers.**

By Robert A. Silvester

Courtesy of U.S. Army Corps of Engineers

Bluestone Dam is one of 10 dams in West Virginia built by the U.S. Army Corps of Engineers as a result of the Flood Control Act of 1936. Completed in 1948, it has been undergoing major renovations the past few years.

On Good Friday morning, April 15, 1927, the rains came, setting all-time records over several thousand square miles, covering much of Missouri, Illinois, Arkansas, Mississippi, Texas and Louisiana. The Memphis Commercial Appeal warned: "The roaring Mississippi River, bank and levee full from St. Louis to New Orleans, is believed to be on its mightiest rampage. All along the Mississippi, considerable fear is felt over the prospects for the greatest flood in history." One man recalled, decades later, "I saw a whole tree just disappear, sucked under by the current, then saw it shoot up, it must have been a hundred yards downstream. It looked like a missile fired by a submarine."

So went the events of the great flood of 1927, which inundated an area of about 26,000 square miles. Levees were breached, and cities, towns and farms lay in waste. The flood waters destroyed crops, and paralyzed industries and transportation. Property damage amounted to about $1.5 billion at today's prices. More than 200 people lost their lives and more than 600,000 people were displaced.

Out of this carnage came the Flood Control Act of 1928, which committed the federal government to a definite program of flood control. Later, the Flood Control Act of 1936 authorized the expenditure of $310 million for flood control projects during the next year. The only limitation on federal flood control projects was that the economic benefits had to exceed the costs.

Since 1936, Congress has authorized the U.S. Army Corps of Engineers (COE) to construct hundreds of miles of levees, flood walls and channel improvements along with approximately 375 major reservoirs. As part of this major commitment to flood control for the Upper Mississippi and Potomac River drainages, the COE has developed and maintains 10 reservoirs in West Virginia. Tygart Lake, the first impoundment, was completed in 1938. More than 50 years later, Stonewall Jackson Lake, the newest impoundment, was completed in 1990.

Although flood control is still the primary role of these reservoirs, that is not the only major benefit these reservoirs have had in our state. In addition to the actual impoundments, more than 124,000 acres of land situated around these reservoirs are leased to the West Virginia Division of Natural Resources Wildlife Resources Section as wildlife management areas. While many local residents might still harbor some ill feelings over the development of these projects on their family farms, many believe the cooperative partnership between the WRS and COE has been a remarkable success story that has benefitted our state's wildlife resources for more than 50 years.

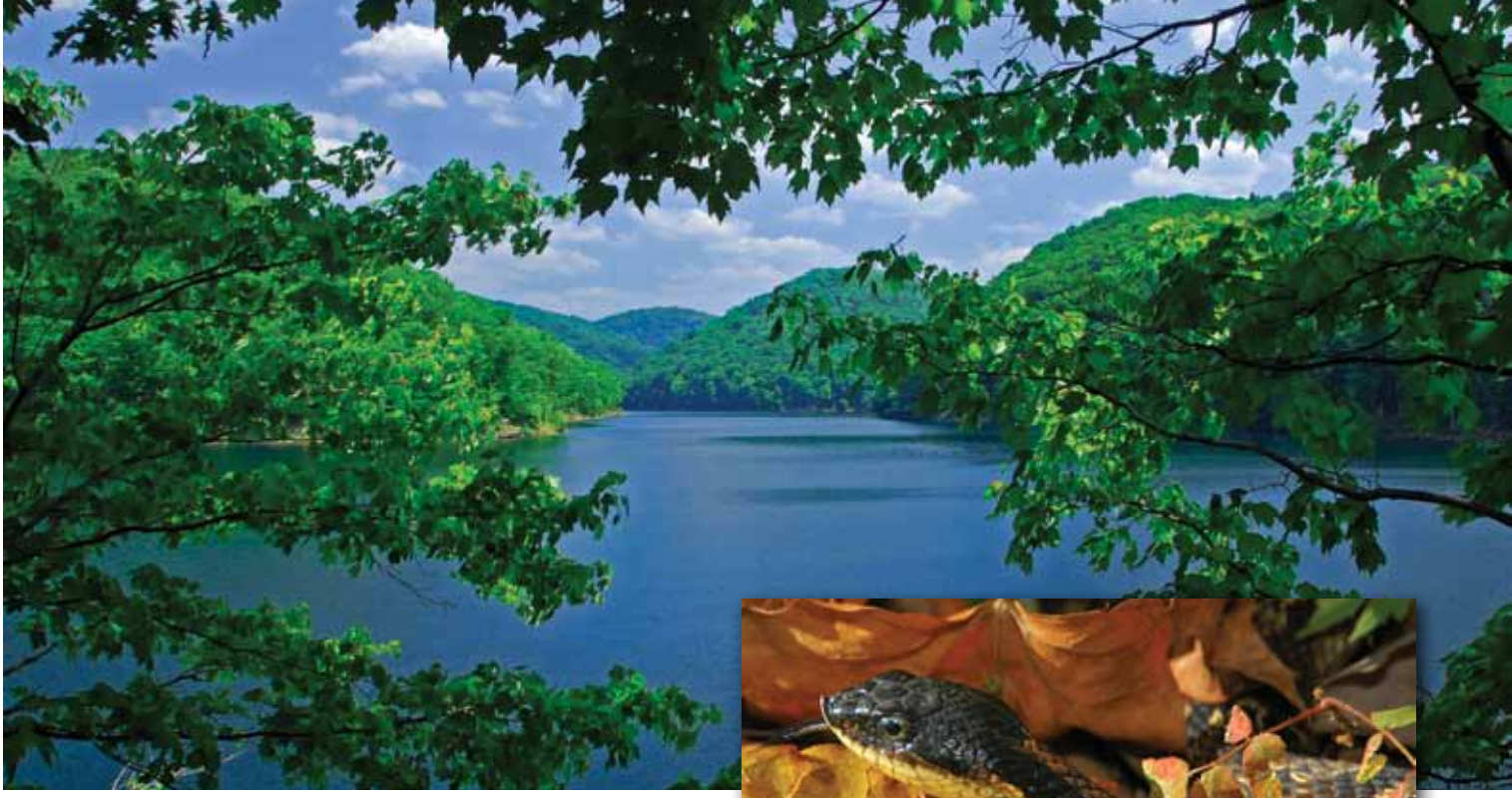
The WRS cooperative partnership with the Corps has afforded a unique opportunity to develop wildlife

Osprey nestlings await the next parental feeding 20 feet above Stonewall Jackson Lake.

Photo by Kirk Piehler

Top: *Biologists with the Corps of Engineers (left) and the WV DNR Wildlife Resources Section measure the bill of a young osprey.*

Photo by Marshall Snedegar



More than 18,000 acres comprising Elk River WMA provide public access to land surrounding Sutton Lake. The land also provides habitat for many wildlife species including the uncommon Eastern hognose snake.

Photos by WV Dept. of Commerce/ Steve Shaluta

management programs on Corps projects for numerous wildlife species. Many of these areas are composed of a variety of different forest types. From riparian habitats and their associated bottomland hardwoods to oak-hickory forest types along the ridge tops, these Corps projects provide a mosaic of ecological communities that are critical for a variety of wildlife species. Almost all of the Corps projects are located along major waterways where thriving communities and settlements occurred. In fact, many of these major river bottoms were the focal point for early Indian villages that pre-date the first European settlements. The Corps projects afford protection for these early settlements. With appropriate management practices, these river bottoms provide invaluable habitat for wildlife species, including cottontail rabbit, bobwhite quail, red-winged blackbirds, bobolinks and whip-poor-wills.

Recently, wildlife biologists have identified more than 80 species of "Greatest Conservation Need" requiring the diverse habitat communities found on many COE projects. Riparian habitats with bottomland hardwoods interspersed with wetlands, along with herbaceous and shrub cover provide roosting and nesting habitats for wood ducks, and nesting areas for other migratory waterfowl species. Corps areas are frequented by wildlife species such as bald eagles and ospreys that are listed as species of special concern. The uncommon Eastern hognose snake has been found numerous times on Elk River Wildlife Management Area around Sutton Lake in Braxton County. According to the most recent survey data, the range of this snake is extremely limited, with only 100 occurrences known statewide.

DNR personnel first initiated several successful wildlife management projects on COE projects. Southern West Virginia counties received turkeys trapped on Bluestone Lake Wildlife Management Area in Summers County

during the Wild Turkey Restoration Program. In addition, wildlife resources personnel trapped and fitted wild turkeys with radio transmitters on several COE areas for two studies on wild turkey population dynamics and gobbler survivability. R.D. Bailey Lake WMA in Wyoming County was the focal point for the re-establishment of deer, turkey and river otter in southern West Virginia.

The reintroduction of osprey in West Virginia first occurred on Tygart Lake in Taylor County using a technique call hacking. The term "hacking," coined during the Elizabethan Era, refers to a technique in which endangered raptor chicks are placed in boxes containing nest material perched along high cliffs or atop poles to provide protection from predators. DNR personnel place the chicks in these boxes a couple of weeks before they fledge. The birds are closely looked after and provided with food through a pipe, void of any human contact, so they will become independent once they are released into the wild. (For more information on the process, go online to www.wvdnr.gov, click on WV Wildlife Magazine in upper right, click on past issues and read "Things are Looking Up" in the Summer 2006 issue.)

COE projects located along major waterways such as the New, Tygart, Monongahela and Ohio rivers are the main focal point for the WRS migratory waterfowl management programs. These waterways represent the major migration routes through the state. Wildlife management activities include the development of various wildlife habitat components that are critical for many species. The development and maintenance

DNR wildlife manager plows field at Bluestone Lake WMA in preparation to plant food and cover for wildlife.

Photo by Colin Carpenter

Colin Carpenter

Crabapple with protective exclosure to prevent over-browsing by deer.

of openings with herbaceous plants by mowing, liming and fertilizing have established critical brood rearing habitat for turkey, ruffed grouse and many grassland bird species. Roads and trails are sometimes gated and maintained as linear wildlife openings. Gated roads provide a refuge with limited disturbance for wildlife species to raise their offspring. Planting a variety of fruit and nut-producing shrubs and trees, coupled with the pruning of existing fruit trees, ensures an ample supply of soft and hard mast foods for wildlife.

Existing fruit trees require sunlight, so clearing competing vegetation allows more light to reach the trees. Planting annual grasses and grain crops provides foraging areas for several wildlife species. The control of noxious vegetation with herbicides provides better foraging areas for wildlife species and limits the spread of these invasive plant species that compete against native plants which provide optimal food and cover for native wildlife. The development of marshes along riparian areas that are periodically flooded provides critical habitat for waterfowl species.

Colin Carpenter

A timber harvest on Bluestone WMA creates an opening which benefits wildlife.

Colin Carpenter

Prescribed burns improve habitat for many wildlife species.

Planned timber harvests are a vital habitat management tool benefitting numerous forest wildlife species. Early successional forest habitat (five to 20 years after cutting) is critical for many wildlife species of concern. The American woodcock, ruffed grouse, rufous-sided towhee and golden-winged warbler thrive in these communities and are examples of species in decline. Stonewall Jackson Lake and Green Bottom Wildlife Management Areas were selected for the development of an American Woodcock Demonstration Areas which showcase the Best Management Practices (BMP) for developing woodcock habitat. This project is part of the Appalachian Woodcock Initiative and one of the goals outlined by the North American Woodcock Conservation Plan.

Maintaining oak forests is also vital in developing sound wildlife management programs. Using shelterwood cuts, where approximately 50-60 percent of the forest overstory trees are removed, allows for a new generation of oak seedlings to perpetuate oak forests. Monies generated from timber sales are invested in the same areas to fund additional management programs. In addition to timber harvests, wildlife managers have incorporated prescribed burning, a technique where fire is used during proper weather conditions to remove competing vegetation while also releasing important nutrients back into the soils to help the desired species of plants grow in the newly regenerated stands.

In addition to the upland wildlife programs, WRS fisheries personnel actively manages the fisheries resources in Corps reservoirs and large river systems such as the Ohio and Monongahela rivers. Fish habitat enhancement projects include the development of aquatic vegetation to improve spawning and nursery areas, and placement of fish attractors such as Christmas trees collected by the West Virginia Division of Environmental Protection Rehabilitation Environmental Action Plan (REAP) program. These attractors are placed near the shore line to accommodate both boating and shore line anglers. Other artificial structures that attract fish include concrete blocks and plastic pipe called "spider blocks." They are so named because they resemble a giant spider when completed. Spawning enhancers such as catfish spawning boxes and clean pea gravel are put in some COE lakes. The establishment of these habitat projects involves several groups including Corps staff and volunteers from the West Virginia Bass Federation and Muskies Inc.

The value of these Corps projects for fish and wildlife habitat is apparent. Their importance

Emergent vegetation beds planted by DNR personnel provide cover for young fish and other aquatic animals.

Wildlife Resources Section personnel tie discarded Christmas trees to cinder blocks and place them in the bottom of reservoirs during winter drawdown to provide shelter for fish.

Photo by Jim Walker

as public access areas for hunting, fishing and other wildlife-associated recreation is particularly valuable, as opportunities to pursue these activities decline on privately-owned lands. As the demand to develop additional recreational facilities such as cabins, campgrounds, golf courses and ball fields on COE land increases, we need to understand how vital undeveloped areas are to our state's wildlife and citizens. Urban sprawl and other human activity has fostered increased habitat fragmentation and loss, decreased water quality, and an alarming increase in wildlife-human conflicts that may eventually lead to more declines in wildlife numbers. This human encroachment on wildlife communities has created an uncertain future for many wildlife species. In an era when the demand for public access areas for hunting, fishing and other wildlife-associated recreational opportunities is at an all-time high, and is projected to increase with each passing year, these COE lands are essential to the well-being of West Virginia's wildlife resources.

Jim Walker

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