

West Virginia Wildlife



Spring 2011

A Publication of the West Virginia Division of Natural Resources

Wild Perspective

Hunters' Dollars to Stay in West Virginia

For many years, some of the hard-earned money that West Virginia hunters spent on their guns, ammunition and other hunting equipment ended up going to other states. That is going to change in 2012, thanks to a new law passed this past legislative session.

Starting with Congressional passage of the Federal Aid in Wildlife Restoration Act in 1937, a tax has been levied on the manufacturers of hunting equipment. As with most taxes, that tax is passed on to the consumer in the price of guns, shells and other equipment. All that money from around the country is given to the U.S. Fish and Wildlife Service. The funds are then distributed to each of the states based on a formula that involves the amount of land area in the state and the number of hunting license holders in the state. Far-reaching language inserted into the 1937 bill stated that the funds could only be used for wildlife management activities. West Virginia currently receives \$3.5 million to \$4 million each year of these "federal aid" funds.

One problem is that once our residents turn 65, they no longer need a base hunting license and are no longer counted as a license buyer. The purchase of additional stamps doesn't count them as a license buyer. So what has happened to the millions of dollars of tax money they have spent on hunting equipment? It has gone to other states which have more license holders, including those which for years have asked their senior citizens to buy a license.

Simply put, the result of this bill is that the WV DNR will receive additional money each year to spend on wildlife management efforts and law enforcement activities related to hunting and fishing.

Residents who turn 65 after January 1, 2012, will have to buy a \$25 Lifetime Senior Hunting, Trapping and Fishing License. Nonresident seniors have always had to buy a base hunting license so they are not affected by this bill. I encourage even those who have been "grandfathered" in and are thus exempt from having to buy the license, to make this one-time purchase to benefit themselves and future generations. Thanks for helping keep your money in Wild, Wonderful West Virginia.



Frank Jezioro, *Director, Division of Natural Resources*



West Virginia Wildlife



Jim Negus

Longnose gars live in medium to large rivers in areas with a slow current.

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Volume 11, No. 1

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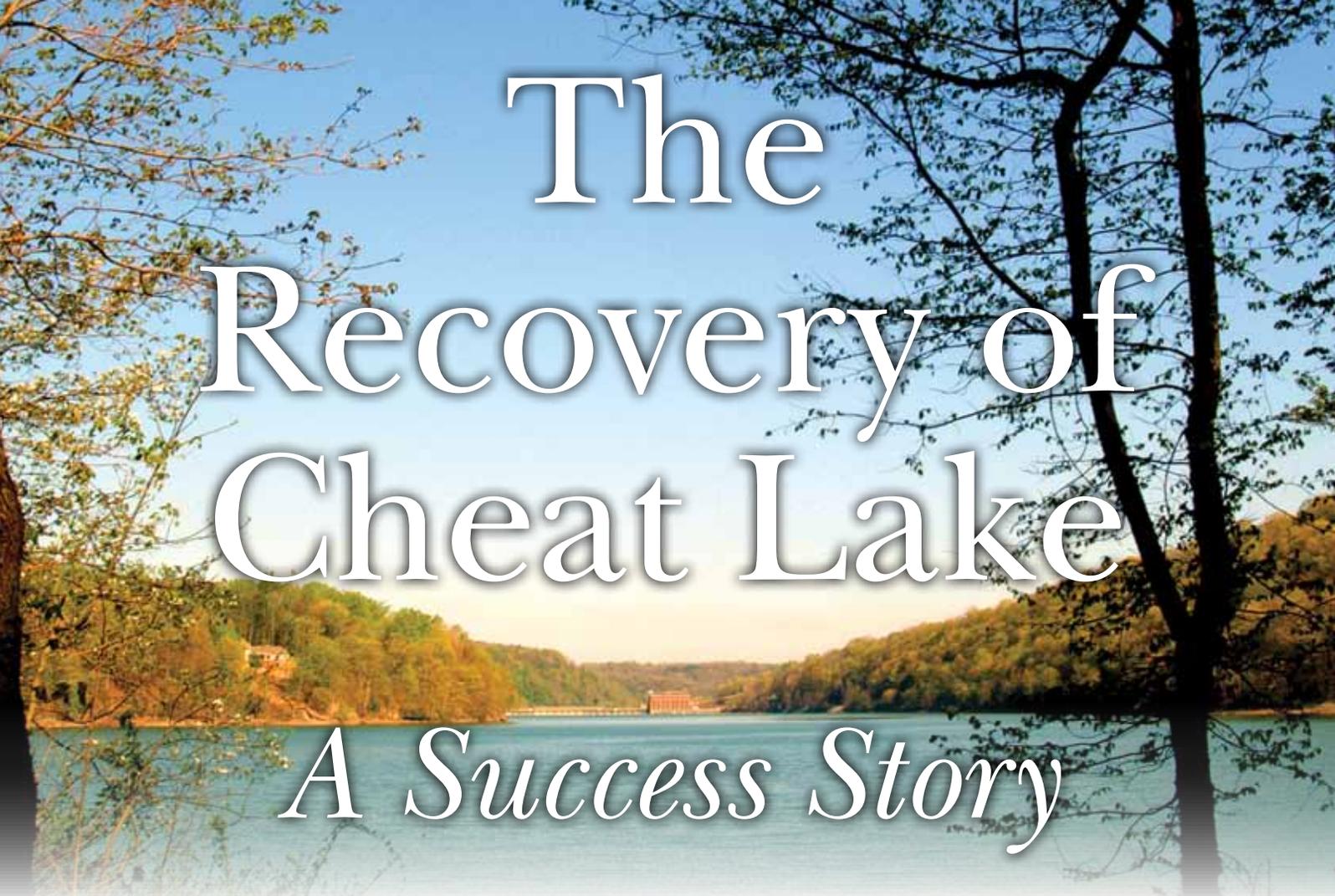
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The Recovery of Cheat Lake

A Success Story

By Frank Jernejcic and Dave Wellman

For most people, their first and only view of Cheat Lake occurs while crossing the Interstate 68 bridge east of Morgantown. Most interstate travelers do not realize that the majority of the picturesque lake's 1,730 acres lie out of sight north of the bridge. Only four other lakes in the Mountain State are larger. The maximum depth is about 90 feet near the dam, while the depth under the I-68 bridge is eight to 20 feet.

Historically, water quality throughout the Cheat River watershed has been negatively impacted by acid mine drainage (AMD) and Cheat Lake has served as a catch basin for highly acidic water. Cheat Lake is recovering from 80 years of AMD impacts, and anglers are experiencing the rebirth of a fishery. Acid mine pollution has reduced the productivity of the

lake and its fish populations ever since this man-made impoundment was created. Various fishery surveys in the lake throughout the years revealed a meager fish population characteristic of waters severely impacted by AMD. As a result, biologists did not attempt fishery management activities in the lake until the early 1990s.

Concerned citizens formed The Friends of the Cheat (FOC) watershed group in the spring of 1994 in response to a significant AMD blowout from an underground coal mine that had been closed recently. The founders immediately recognized that the scope of the AMD problem in the watershed extended far beyond this single catastrophe, and that all available resources would need to be coordinated to achieve a solution. Consequently, their efforts led to the formation in 1995 of the River of Promise (ROP) task

force composed of local, state and federal government agencies, private industry, academia, and conservation organizations. Meeting quarterly and chaired by FOC members, the ROP task force initiates, monitors and coordinates AMD remediation projects throughout the watershed.

Cheat Lake dam was constructed in 1926 by the West Penn Power Company to produce electricity by hydropower. It has no flood control capability. The dam is located seven miles north of the I-68 bridge and only 100 feet from the Pennsylvania state line in Monongalia County. The company named the new impoundment Lake Lynn, but most people refer to the project as Cheat Lake. Environmental issues were not important concerns when the project was designed in the early 1920s. Consequently, provisions for downstream river flows and recreational use were not mandated by state or federal agencies.

Federal laws regulating hydropower development have since required that these projects not harm fish populations. Furthermore, fishing and other recreational opportunities must be improved if possible. To satisfy the new environmental requirements for relicensing the Cheat Lake hydropower project, power company consultants conducted extensive aquatic surveys on the lake and in the tailwater during 1990.

They collected 33 species of fish from Cheat Lake in 1990. This represented a substantial improvement from the 15 species collected in the mid-1950s. Additional evidence of improving fish populations came from a successful bass fishing tournament in 1990. Four bass tournaments held in 1992 produced

the third best catch rate of all West Virginia lakes. Something had definitely improved.

The Federal Energy Regulatory Commission subsequently issued a renewal license to Allegheny Energy Supply (AES) for the Lake Lynn Project in 1994 for a term of 30 years. This new license

agreement required a biomonitoring study of the aquatic resources in the lake and in the Cheat River downstream. The Commission also mandated two changes in the operation of the dam to improve water quality, fish populations and boating recreation.

The first major change implemented a minimum flow release of 212 cubic feet per second (cfs) from the dam to mitigate poor water quality in the river downstream from the project. No minimum flow was required prior to 1994 when a zero discharge could, and often did, occur. The minimum flow buffered acidic tributaries entering Cheat River downstream of the project.

This allowed upstream movement of fish from the Monongahela River and provided anglers a tailwater fishery. A second change in the operation of the dam specified certain lake levels that had to be maintained throughout the year. The summer pool elevation must be held between 868 and 870 feet (above sea level) from May through October to increase fish spawning success and enhance recreation. Elevations can fluctuate between 857 and 870 feet from November through March to maximize power production, but only between 863 and 870 feet during April to improve walleye and yellow perch spawning success. The maximum Cheat Lake fluctuation of 13 feet is minimal when compared to most of West Virginia's other large



A trophy-size smallmouth bass caught in Cheat Lake.
Dave Wellman / WV DNR

Fishery surveys conducted from 1997 to 2009 collected a total of 46 species and revealed a significant increase in both sport fishes and forage fishes in the lake since the 1990 study.



Above, boats are launched in preparation for a bass tournament in Cheat Lake. Right, contestants line up for weigh-in with their catches.



Frank Jernajcic / WV DNR

impoundments that are operated by the U.S. Army Corps of Engineers for flood control purposes.

A partnership between AES, the West Virginia Division of Natural Resources (DNR), and the Pennsylvania Fish and Boat Commission (PFBC) was created to monitor the aquatic resources and water quality as related to project operations in the lake and downstream in Pennsylvania. Various fishery and water quality surveys, funded by AES, were conducted annually from 1997 through 2009 to evaluate different aspects of the fishery resource that might be affected by hydropower operations. Fisheries biologists gleaned several conclusions from these surveys.

Fishery surveys conducted from 1997 to 2009 collected a total of 46 species and revealed a significant increase in both sport fishes and forage fishes in the lake since the 1990 study. Most notable were the increases in channel catfish, largemouth, smallmouth and spotted bass, walleye, and white bass. Golden redhorse suckers also increased significantly. Adult gizzard shad numbers remained constant. They are reproducing successfully but predation is obviously keeping their numbers low.

DNR Wildlife Resources Section personnel have put a lot of effort into creating a walleye fishery in

Cheat Lake. The increase in walleye abundance can be attributed to stockings in 1999, 2000, 2004–2007, and 2010. Stocking was not conducted in 2008, and walleyes 8–10 inches long, which would indicate successful natural reproduction, were not collected in fall 2008 as they had in previous years that followed stockings. Frequent storms during April and May of 2008 caused turbid water conditions that may have reduced spawning success, egg survival, or availability of food for walleye fry. The 2010 stocking was the largest yet and coincided with good water conditions. This should produce good numbers of 15-inch fish for anglers in 2012 and should contribute to the reproducing population during the next three to five years. A 15-inch walleye will be two or three years old while a 20-inch fish would be four or five years old.

During the most recent Wildlife Resources Section fishery surveys, fewer 10- to 13-inch yellow perch were collected than in previous years. This is consistent with angler reports that smaller and fewer yellow perch have been caught over the last couple of years than in the golden year of 2005 when large yellow perch were common. Yellow perch populations, as well as walleye populations, are cyclical and are greatly influenced by environmental conditions such as high, muddy

water. Often the number of yellow perch and walleyes available to anglers are dependent on one or two successful reproductive years every five to 10 years. A daily creel limit of 15 perch was enacted in 2007 in response to high angler harvest rates in 2005 and will spread out the catch during years of abundance. The age of 11-inch perch ranged from 5 to 11 years old.

The channel catfish population has increased in number and size. Three-pound fish are common and a nine-pound fish was the largest reported in 2010. Hardy anglers can catch catfish from the fishing piers at the Cheat Lake Park throughout the winter when the lake is not covered with ice. This is probably the best channel catfish fishery in any of our large impoundments.

Smallmouth bass numbers have increased throughout the lake while largemouth bass are most abundant in the embayments. The percentage of smallmouths caught during bass tournaments has also increased. In fact, Cheat Lake has become one of the best lakes in the state for bass tournaments. The number of bass tournaments has increased from one in 1990 to an average of 30 tournaments held annually since 2005. During 2008, Cheat Lake bass anglers experienced the highest success rates among 21 major West Virginia tournament waters. Bass tournament fishing activity is one of the best indicators of the recovered Cheat Lake fishery.

DNR water quality analysis has indicated that during periods of low river flow and warm temperatures, specifically during summer and early fall, dissolved oxygen can be limited in deeper parts of the lake. These conditions are common throughout West Virginia lakes and typically do not adversely affect fish populations.

As mentioned previously, however, the improved water quality has been the direct result of AMD treatment upstream of Cheat Lake. To document this improvement, DNR, in cooperation with Allegheny

When built, the Lake Lynn power house and dam reflected the state of the art in American hydroelectric power technology and developed a



Jet Lowe/HAER

very substantial portion of West Virginia's hydrologic resources. This utility helped provide electricity to much of northern West Virginia and southwestern Pennsylvania and encouraged economic development in these areas. The reservoir created by the dam also permits the Monongahela River (into which the Cheat River flows) to run normally during dry, late summer months.



Energy Supply and the West Virginia Department of Environmental Protection (DEP), have been monitoring water quality entering Cheat Lake since 2004. During this period, pH values, a common indicator of AMD, have generally been greater than 6.0, which is the minimum required for a healthy fishery.

Unfortunately, events in May 2009, and to a lesser extent in November 2009, illustrate Cheat Lake's continued vulnerability to AMD inflows. The pH throughout Cheat Lake fell below 6.0 while Cheat River entering the lake experienced pH values less than 6.0 for almost the entire month of May. The pH depressions indicated that acid sources from mine drainage and/or acid precipitation still negatively impact



Dave Wellman / WV DNR



Dave Wellman / WV DNR

Author holds a largemouth bass, above, and a yellow perch, right, caught during separate fish surveys.



Frank Jernejcic / WV DNR

The orange coloring of Muddy Creek in Preston County 14 miles above Cheat Lake indicates acid mine drainage.



Steve Brown / WV DNR

Limestone sands dumped into tributaries of the Cheat River help neutralize acidic waters in the stream and in the lake downstream.



Steve Shaluta / WV Dept. of Commerce

Cheat Lake. Fortunately, no dead fish were observed during these events, nor was fishing obviously affected. The lake's large volume of good quality water was able to dilute the lower quality inflow during those events.

The continued recovery of Cheat Lake fish populations and the development of a new tailwater fishery are dependent upon the maintenance of good water quality in the lake. The recent water quality improvements are related to a reduction of acid mine drainage entering the lake. The cause of such a reduction has not been documented, so it is not certain if the situation is permanent. Fish populations and water quality will be monitored in the lake and in the Cheat River above and below the lake to determine the future of fishing in these waters. West Virginia's anglers are optimistic that the future of fishing in Cheat Lake will remain positive.

Frank Jernejcic is the District Fisheries Biologist and Dave Wellman is the Assistant District Fisheries Biologist stationed in the DNR Farmington office.

Wildlife Diversity Notebook: Longnose Gar

By Karen McClure

Common Name: Longnose Gar

Scientific Name: *Lepisosteus osseus*

West Virginia Status: Common in areas where they occur.

Description: The longnose gar is a long cylindrical fish covered with ganoid scales (diamond-shaped, thick hard scales that do not overlap). This fish's single dorsal and anal fins are near the tail fin. Longnose gars, appropriately named, have long, beaklike snouts filled with many sharp teeth, reminiscent of needle-nose pliers. They are usually olive green on top and silver-white below with yellow-orange fins. Some fish have dark spots on their fins and along their sides, mostly towards their tail; however, gar from murky water often will not have spots. Longnose gars can reach more than 50 inches in length and weigh more than 25 pounds. The West Virginia state record for length is 52.25 inches and weight is 19.08 pounds. These records are for two different fish caught in the Kanawha River.

Habitat: Longnose gars live in medium to large rivers in areas with a slow current.

Diet: Longnose gars mainly eat other fish, along with an occasional invertebrate. They lie in wait or slowly follow their prey, then quickly rush in to move their snout from side to side, injuring or killing their prey. Once it captures its prey, the longnose gar will manipulate the prey so that it can swallow it head first. Adult gars feed more at night than during the day.

Range: The longnose gar is native to the Mississippi watershed, the lower Great Lakes, and along the Atlantic Coast. In West Virginia, the longnose gar swims in the Monongahela, Little Kanawha, Kanawha, Guyandotte, Big Sandy and Ohio rivers, as well as small tributaries of these rivers.

Life History: Longnose gars spawn in the spring, using vegetated shallows



A longnose gar showing one of the variations of color displayed by the fish.

Photo by Jim Negus



Shelby Searls of Henderson caught a 52.25-inch, 16.42-pound fish from the Kanawha River in Mason County on August 20, 2006, using a creek chub for bait. Searls' catch established a new West Virginia record for length.

Photo by Zack Brown/WV DNR

or gravel stream beds. Males chase the females during courtship. A single female may spawn with more than one male in a season. Longnose gars do not build a nest or provide any parental care for their eggs. Each female longnose gar can release more than 30,000 tiny dark eggs. These eggs are poisonous to crayfish and mammals, and take about a week to hatch. Studies have indicated that male bass provide care for both their own eggs and those of gar, and that fishes in nests with young of both species had a higher survival rate than those in nests with only bass young. One researcher hypothesized that gars benefit from this association because their eggs are guarded, while the bass benefit because gar eggs are larger and closer to the nest's edge

than their own, and thus are eaten more often than bass eggs in the nest.

Hatchlings use a suction cup on their snout tip to attach to a submerged object until they consume their yolk sac. Young gars can reach two feet in the first year. Males mature in three to four years; females take about four or five years. Longnose gars can live more than 20 years, with females typically living longer than males. Longnose gars have gills to take oxygen from the water like other fish but also have an air bladder that allows them to gulp air to extract oxygen.

Karen McClure is a Public Information Specialist stationed in South Charleston.

ESH is the KEY

The roar of chainsaws and rumble of logging trucks on Bluestone Wildlife Management Area in Summers County was causing a lot more noise and commotion than anticipated at that particular remote timber-cutting site. Some local residents and visitors to the area, including a few hunters, were upset and downright angry that the Division of Natural Resources Wildlife Resources Section was allowing the “devastation” and “destruction” of this prime forest hunting area.irate phone calls were received at the Beckley and Charleston DNR offices. Threats of petitions and cursing of loggers as well as DNR officials were voiced along the ridges and down in the hollows.

This same scenario also played out many years ago in Pennsylvania, when the Pennsylvania Game Commission proposed plans to create early successional habitat (ESH) in the form of clear-cuts on one of its large game lands. Because Pennsylvania has a much larger population than West Virginia, the proposed plan for logging a portion of the area to create habitat for wildlife that thrive in young, dense forest ESH stands was met with much more opposition than at Bluestone WMA. Environmental groups in Pittsburgh and Philadelphia were roused into action. A prominent state newspaper conservation writer, who owned property near the game land, took up the cause. He denounced the Game Commission in several editorials, claiming their proposal would be very detrimental to wildlife, the forest, hunters and other recreationists.

As stewards committed to the welfare of all wildlife, the Game Commission held public hearings, weighed the positive and negative aspects of their proposal, and carried forth their management program that included clear-cutting and other timbering

Early Success



Above, three-tiered habitat includes newly cut area (left and middle), two-year regrowth (right), and 15-year regrowth (background). This area in Canaan Valley provides excellent habitat for gamebirds, such as the American woodcock, at right.



for Some Wildlife Species

Successional Habitat



WV DNR

He was now enjoying more exciting, pleasurable hikes and had more wildlife sightings than when the game land was a totally mature forest. He pointed out that emotion overrides reason oftentimes. He apologized to the Game Commission and commended wildlife officials for sticking to their goals and performing their duties the way their profession and science dictated.

ESH is generally defined as young forest stands or shrub communities. These dense habitats gradually grow into pole-size timber and eventually large mature woods. They provide excellent wildlife habitat as they grow. Wildlife agencies in West Virginia, Maryland, Ohio, Pennsylvania and Virginia have identified more than 80 species of “Greatest Conservation Need” that require ESH in their Wildlife Action Plans. Included are the rufous-sided towhee, golden-winged warbler, American woodcock and ruffed grouse. Woodcock and grouse have received particular attention because of their popularity as game birds and their dramatic population declines in recent years. Several major, national bird conservation groups have ranked woodcock as one of the highest (global) priority species in need of conservation.

Forestry data in West Virginia show that ESH has declined more than 50 percent since the late 1970s and that development from housing and agriculture are also contributing factors in the loss of early successional habitat. Bird breeding surveys and flushing counts reveal grouse numbers also have declined in the Mountain State by about 50 percent during the same period. Drumming male grouse counts in Ohio have declined almost 65 percent.

Singing ground counts for male woodcock conducted by the U.S. Fish and Wildlife Service have shown a decrease of nearly 38 percent for the eastern

activities. After a few years, the various user groups stopped voicing concerns and the matter settled down. After several years the Game Commission was pleasantly surprised when the conservation writer printed a retraction. He reported that the affected area had more game animals as well as a larger diversity of wildlife species including nongame birds for birdwatchers. He also noted that the cutover areas were providing shelter and a variety of wildlife foods.

Sherril Young / WV DNR

U.S. woodcock population since 1970. Since 1980 the losses of young, high-stem density forests have declined 34 percent in oak woods and 40 percent in maple-beech-birch forests in northeastern states. Woodcock prefer ESH or timber stands with dense understories (vegetation near the ground) in flat, moist areas, such as those found along valleys and bottoms.

This loss of ESH, so critical for survival of many wildlife species, has caused concern among wildlife biologists throughout the United States. Recently, DNR Wildlife Resources Section personnel were involved in the development of the Ruffed Grouse Conservation Plan and the American Woodcock Conservation Plan. These plans provide habitat management recommendations, Best Management Practices (BMPs) and coordinated management implementation aimed at restoring ruffed grouse numbers to the 1980s level and return woodcock to the population levels of the 1970s.

Historically, young small-diameter forests were created and sustained by fire (caused by lightning or Native Americans) or other natural disturbances such as hurricanes, tornadoes and beaver colonies. Today, however, ESH is created by commercial timber harvests or proactive management practices, such as prescribed fire or forestry mulches. These activities must be implemented at regular intervals, every 10-15 years, to maintain a continuous supply of important early successional habitat.

Even-aged timbering systems such as clear-cut, seed trees and shelterwood are the most effective methods to create ESH. Removal of all or most trees at one time from an area three acres or more, provided by even-aged logging, establishes and sustains quality ESH for grouse and other species. The resultant thick young forest growth provides protective cover, diversity of foods, and nesting/brood habitat for many wildlife species requiring early successional habitat.

The Wildlife Resources Section has been very active the last several years in developing ESH on



Above, Wildlife Resources Section personnel clear an area at Stonewall Jackson WMA with a recently purchased mulcher. Right, a ruffed grouse.



state WMAs. A forester was added to the staff in 2005 to assist district wildlife personnel in identifying merchantable stands, cruising and marking timber, and implementing timber sales. All timbering activities on WMAs are conducted with the primary goals of benefiting wildlife and sustaining mast-producing trees. WMAs on which timbering activities for ESH have occurred include: Pleasant Creek and Lewis Wetzel in District 1, Short Mountain in District 2, Elk River and Stonewall Jackson in District 3, Bluestone and Plum Orchard in District 4, and Chief Cornstalk in District 5.

The Wildlife Resources Section recently purchased a large forestry mulcher for areas deemed not suitable for commercial harvest. This skidster machine with mulching head is capable of cutting and grinding trees up to eight inches in diameter. It was purchased with assistance from the U.S. Fish and Wildlife Service and a \$10,000 donation from the state chapter of the National Wild Turkey Federation.

In addition, wildlife personnel are planning woodcock demonstration areas — sites that show BMPs



for developing woodcock habitat — in each district of the state. Currently three areas are being treated: Spruce Knob, District 2; Stonewall Jackson WMA, District 3; and Green Bottom WMA, District 5. The Spruce Knob site is nearing completion following a 30-year timber cutting — an ESH development project that has primarily focused on grouse. Recent monitoring efforts by Wildlife Resources Section personnel indicated six singing woodcock males lived on the treated area (where timbering has occurred at intermittent intervals in coordination with the U.S. Forest Service) while no singing males were observed on the control area where no timbering was done.

Funding for the Green Bottom, Stonewall Jackson and future woodcock demonstration areas has been provided by the Highland Drummer and North Central West Virginia chapters of the Ruffed Grouse Society, the National Ruffed Grouse Society and the West Virginia Bird Dog Association. These monies will be matched by federal dollars dedicated through the Wildlife Management Institute and allocated through the Appalachian Mountains Woodcock Initiative.

The courtship display of the American woodcock is a remarkable nature show. Those who have never seen the male's "sky dance" on a balmy spring evening are missing one of life's fantastic outdoor adventures. Just before evening light turns to darkness, the male

woodcock emerges from his diurnal haunts — often thick brushy cover (ESH) along a stream bottom. He flies low, often silently, to his singing ground located in an old field with scattered shrubs. Shortly after landing, he begins to emit frog-like "peents." This peenting may last several minutes before the amorous male leaves the ground in a low twittering flight that begins to spiral above his earthly-singing ground. Upon reaching a height of as much as 300 feet, wings constantly emitting the twitter sound at a faster and faster rate, the woodcock then begins sharp dives that bring forth a beautiful, high-pitched "chirping song" high in the twilight sky. This song is produced not by voice, but by the outer wing feathers that have also produced the twitter. After a short series of dives and loud chirps, an act to attract females to his singing area, the male drifts down like a far-off leaf drifting down from the sky, landing at his original "peenting" site. This performance is repeated several times in the next 30–40 minutes, until complete darkness settles in.

On one such evening in early April 2010, a DNR wildlife employee, about to begin work on a deer spotlight count, heard a peenting male and moved closer to observe the enchanting aerial courtship display. The bird's descent ended with its alighting in a log landing beside a recent clear-cut — on the Bluestone WMA in Summers County.

Although logging using Best Management Practices in a mature forest has a short-term visual impact on an area, the aesthetic impact lessens in a few years, and the diversity of wildlife increases. Proper timber management practices create a diversity of habitat, including ESH that is vital to certain species of wildlife such as the unique woodcock. Continued management for ESH will mean more opportunities to experience outdoor thrills like spying the love dance of the American woodcock.



Frozen Camp contains 2,587 acres of mostly wooded, hilly terrain. Open bottom land and a few open ridge tops are scattered around the area. Left Fork Lake (22 acres) and 20-acre Right Fork Lake, along with their associated streams, provide a variety of aquatic habitats. Left Fork Lake is accessible only by foot. Marshy ground along the headwaters has been enhanced to provide wetland habitat for a variety of wildlife species. Right Fork Lake has a boat ramp. Boaters are limited to electric motors only on both lakes. Hunters can make use of a 200-yard rifle range with eight covered shooting benches at Right Fork Lake. Camping is not permitted on Frozen Camp WMA.

Wildlife viewing information: Look for wild turkeys along the forest edges. Many songbirds can be found in the area in spring and summer, when many of them migrate here to nest. Waterfowl and wading birds are frequently spotted on the two lakes, and along Left Fork, McCrady Fork and Right Fork. Ruffed grouse can startle you as you hike through the woodlands. Listen for the sound of a whip-poor-will on summer evenings. Cottontail rabbits frequent the brushy areas, and squirrels are regulars around the oak-hickory stands. Coyotes are abundant at Frozen Camp. Look for tracks and scat left on rocks by males as territory markers. Bobcats live in the woods and fields.

The lakes provide great habitat for bass, sunfish and channel catfish. Keeping bass caught in either lake is prohibited. The lakes are also home to aquatic frogs like bullfrogs, green frogs and pickerel frogs. The streams shelter aquatic salamanders, and the moist hillsides provide homes for terrestrial frogs and salamanders. Snake spotters should head for the drier slopes and rock outcrops, where lizards are most likely sunning when conditions are right. Butterflies, dragonflies and other insects are abundant in summer, especially on sunny afternoons.

Coyotes frequent Frozen Camp.
Steve Shaluta / WV Dept. of Commerce

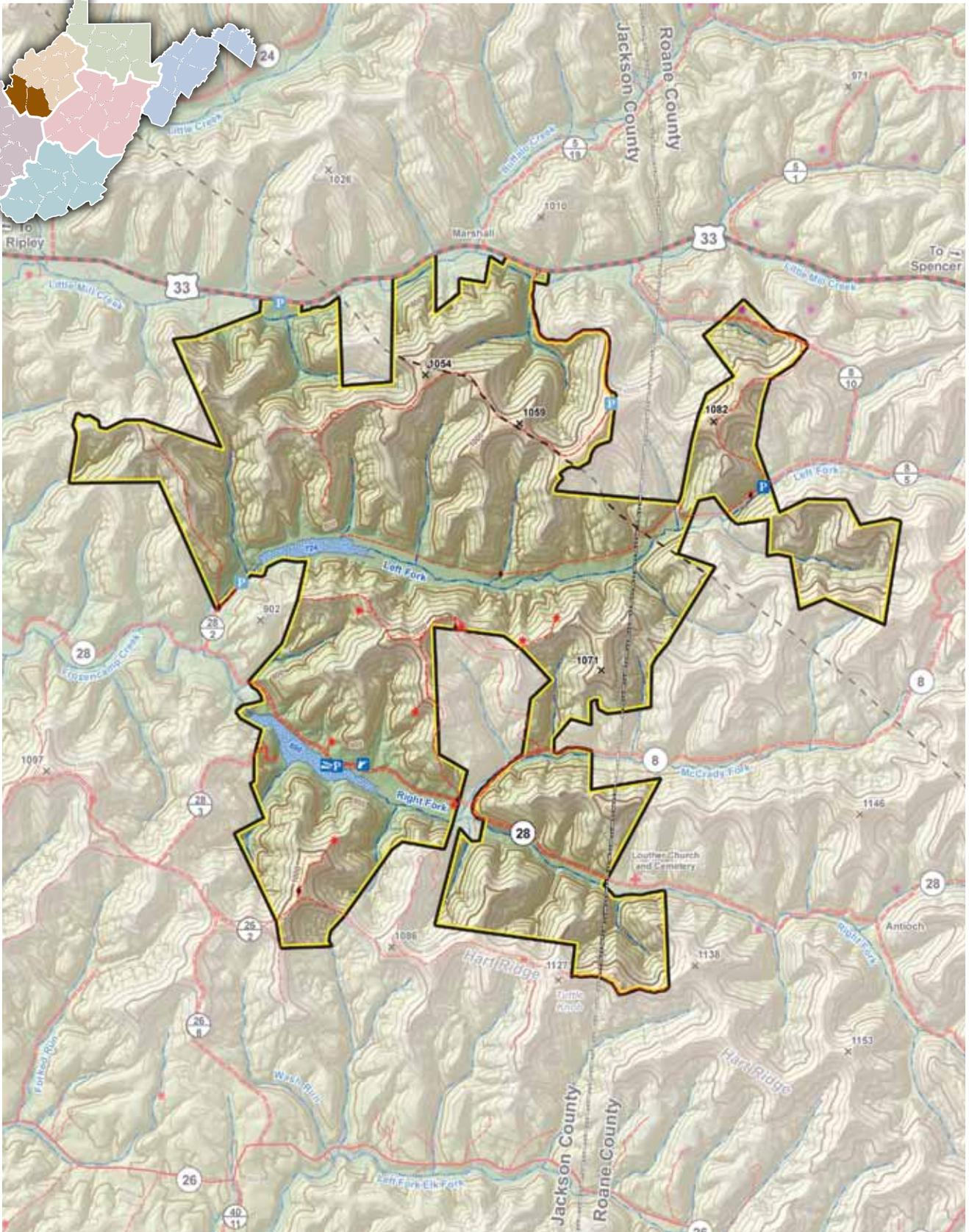
Directions: There are three access points from the northern boundary. From Ripley, take U.S. Route 33 east approximately 10 miles to a parking area. You can continue east past Marshall to a signed road, or go a little further east and take county routes 8/10 and 8/5 to a parking area on Left Fork.

To access the western boundary and both lakes, take U.S. Route 33 east 9 miles from Ripley to county Route 28. The boat ramp on Right Fork Lake is 5 miles. Drive approximately 4 miles and take county Route 28/2 to the parking area for Left Fork Lake. The parking lot is at the base of the dam on the downstream side, so it is a short, uphill hike to the lake.

The Right Fork boat ramp can also be accessed from the east by taking U.S. Route 33 to county Route 8, which runs into county Route 28 near the boat ramp.

Note: Frozen Camp WMA is a public hunting area. Please check the WV hunting regulations booklet or with the DNR Parkersburg office for season dates.

Ownership: West Virginia Division of Natural Resources, 304-420-4550.



The

TOTAL

By Lee Strawn

The days have become noticeably longer, the morning sun begins to warm your face again and with each passing morning comes a new experience. Spring is in the air. You can see, hear, smell and even taste it. The desire to get out and experience it is overwhelming. It's a new beginning and what better way to experience it to the fullest than to get outdoors.

Being outdoors in the spring means many different activities for each of us. You may enjoy bird watching and the changes that take place as a male goldfinch loses his dull winter plumage and acquires his brilliant yellow-and-black appearance. You may like to listen to the sound of a warm spring rain being drowned out by the sound of spring peepers as evening approaches. Spring could also mean walking the ridges and fields in search of shed antlers or searching the hillsides for the first patch of green that means it's time to dig ramps. Your idea of a spring experience may involve putting new line on a rod and reel and going trout fishing or catching your first smallmouth of the year. You could be looking for morels while scouting for spring turkey season. Whatever your reason, one thing is certain — being outside is what spring is all about!

Mark Shock



ramps



peeper



morel



goldfinch

Spring Hunting Experience

For some of us, it's not enough simply to be outside. In order to get the total spring hunting experience, you have to get into nature and interact with what is going on around you.

Morning gobbler hunting can be followed by an afternoon of trout fishing.

Steve Shaluta / WV Dept. of Commerce

For some of us, it's not enough simply to be outside. In order to get the total spring hunting experience, you have to get into nature and interact with what is going on around you. One of the best ways to do this is spring turkey hunting. Enough can't be said about being in the woods during the pre-dawn hour and watching the day come to life. The day doesn't seem complete unless you've listened to the birds wake up or watched a red fox slipping along looking for one last bite before heading back to the den. Being in the woods when the first gobble rolls across the ridges and spontaneously putting together a strategy to set up on the bird is only part of the total spring hunting experience.

What happens after you've tested your strategy by interacting with the tom adds to that experience. This interaction tests your skills, not just as a hunter but as a part of nature itself. Even the best laid plan can change at a moment's notice, and that's what keeps your interest. Occasionally, the gobble will come in "on a string," but more often than not your ability to

adapt and interact with nature will come into play. A hen coming up the side of the ridge and getting between you and the tom, a bird that "hangs up" at 70 yards, or the glimpse of a coyote closing in on your location will test your strategy.

The experience and lessons learned are often enough to satisfy you, but actually harvesting a gobble brings a nice close to the day's events. Regardless of the outcome, it's you interacting with nature and experiencing it to the fullest that is the ultimate reward. It's not enough to simply stand at a distance and listen to the tom as he brings in the new day. You have to get into the action to feel like you too have participated in bringing in the new day.

There is no daily ritual or experience that will make you feel more alive than being outdoors. Regardless of what activity you choose, one thing is certain, spring time is all about being outdoors.

Lee Strawn is the wildlife manager at Nathaniel Mountain, South Branch and Fort Mill Ridge WMAs.

the Natural History of Blennerhassett Island

By Josh Vance

In the Ohio River between Parkersburg, West Virginia, and Belpre, Ohio, sits beautiful Blennerhassett Island. Many people are familiar with the island's rich history. Archeologic evidence indicates Native American use of this land as early as 12,000 years ago. Nemocolin, the famous Delaware Indian, lived on the island in the 1760s. George Washington documented the island in 1770 during his early exploration of the Ohio Valley. Blennerhassett

Island has been visited by many presidents, vice presidents and famous frontiersmen over the past 200 years. The island's most noted historical feature, however, is the setting where former Vice President Aaron Burr, in conjunction with island owners Harmon and Margaret Blennerhassett, allegedly plotted treason against the United States. While many people are familiar with the island's history, the island's unique and extensive natural history is less well known.

Nearly 200 species of birds have been documented on Blennerhassett Island, including, from left to right, wood duck, prothonotary warbler, tundra swan, great blue heron and ring-necked duck.

The four-acre open water slough on the island, background, is one of the few reliable places in the state where one can see prothonotary warblers.

WV DNR



Maslowski photo / USFWS



Matt Orsie

Blennerhassett Island comprises about 425 acres with a variety of habitats including bottomland hardwood forest, old fields of grassy and herbaceous vegetation, and a large four-acre open water slough. Because of this great diversity of habitat, the island supports a variety of mammals, birds, amphibians and reptiles. Mammals common to the island include white-tailed deer, beaver, muskrat, raccoon and red fox, and small mammals such as voles and mice.

Close to 200 species of birds have been documented on the island. The largest proportion of these species are songbirds and other passerines. Other bird groups common to the island include waterfowl, wading birds, shorebirds and raptors. Amphibians and reptiles are mostly restricted to more aquatic groups, such as frogs and turtles. Also, more than 30 species of freshwater mussels and more than 100 species of warmwater fishes have been identified around the island.

The Division of Natural Resources Wildlife Resources Section has been monitoring deer populations on the island since the early 1990s. This is done by conducting drive counts in which deer are routed from one end of the island to the other and counted. This process yields an accurate estimate of the number of deer on the island. Wildlife personnel

conduct these counts once in the spring and once in the fall each year. Since the DNR has been monitoring populations on the island, numbers of deer have been as high as 559 individuals.

Deer populations that are too high can lead to problems with overpopulation including an insufficient amount of food and a decrease in the overall health of the herd. In order to maintain a healthy deer herd on the island, the DNR initiated the first managed deer hunt in 2001. This one-day hunt was very beneficial as it provided participants the opportunity to harvest one deer either with a bow, muzzleloader, or shotgun and allowed for management of the number of deer on the island. Hunters harvested 185 deer. Due to its success, managed hunts were conducted in 2002, 2007 and 2010, harvesting 87, 50 and 52 deer respectively. Managed hunts on Blennerhassett Island will continue in the future as the need for population control continues.

Due to its unique habitat and natural history, the island is an excellent location for wildlife research. Between 1989 and 1995, representatives from the DuPont Wildlife Habitat Enhancement Committee (DWHEC) partnered with the DNR and the U.S. Fish and Wildlife Service (USFWS) to reintroduce osprey



to the mid-Ohio River Valley. In the mid 20th century, osprey populations had suffered significantly from the misuse of the pesticide DDT, which caused thinning of eggs and subsequent crushing during incubation. Since DDT was banned from use in the United States in 1972, the chemical has slowly disappeared from the environment and osprey chick survival has greatly increased.

Biologists took 62 osprey chicks from the Chesapeake Bay region to the Blennerhassett Island slough, kept them in a special “hacking box” constructed by DuPont employees, and released them when they were able to fly. It was hoped that they would identify the Ohio River as home and return to nest in future years. Upon release, these birds eventually migrated to Central and South America where they spent the first four years of their lives, only to return north as adults to the mid-Ohio River Valley to nest. Due to this successful reintroduction program on the island, there are now at least seven active osprey nests in the mid-Ohio River Valley that are colonized by the offspring of birds released on Blennerhassett Island.

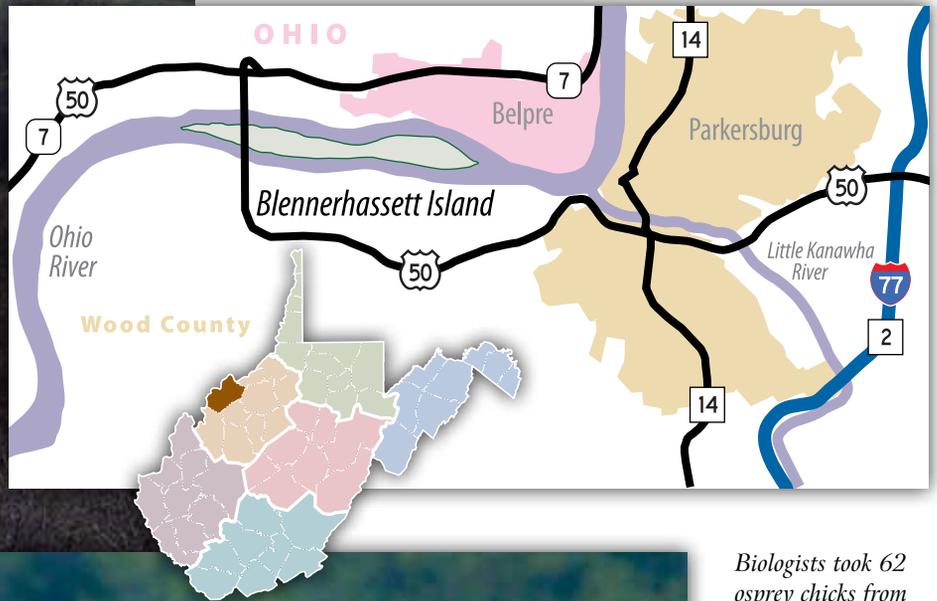
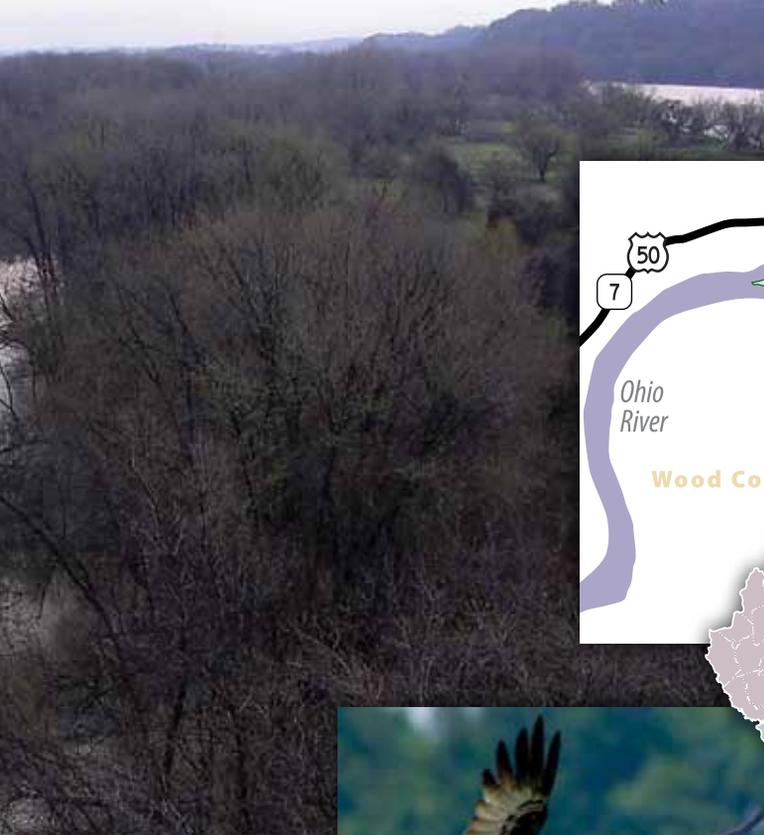
Wood ducks are another species that have historically suffered great declines. At the turn of the 20th century, wood duck populations were on the brink of extinction due to unregulated hunting and destruction of woodland and wetland habitat. Conservation efforts, such as regulated hunting and installation of nest boxes, were undertaken in the 20th century to increase wood duck populations and protect this species from extinction.

Wood duck conservation on Blennerhassett Island has been conducted as well. In 1993, representatives from DWHEC partnered with the DNR and USFWS to band wood ducks in the slough on Blennerhassett Island in support of the Wood Duck Population Monitoring Initiative. They trapped, banded and released 22 wood ducks on Blennerhassett Island. The project was discontinued in subsequent years due to



an overabundance of wood duck predators, but the information collected proved to be valuable. Band returns from hunters showed that the wood ducks banded on Blennerhassett Island were harvested in North Carolina, South Carolina, Georgia, Tennessee, Ohio, Alabama and Louisiana. This data provided information on the migration of wood ducks hatched in West Virginia and allowed wildlife biologists a means to better manage this species. Because of conservation efforts directed at wood ducks, they have become a highly sought-after game bird with no fear of decline.

Lastly, Blennerhassett Island is a bird watcher’s dream with close to 200 species documented on the island. Diversity of birds is high due to the multiple habitat types and its location on a river. Diversity is especially high during spring and fall migration in May and September when large flocks of songbirds can be seen and heard on the island. On a visit in the spring, one can easily encounter many species of warblers, vireos, flycatchers, swallows and cavity nesters, such as chickadees, titmice, woodpeckers and bluebirds that are nesting on the island. Red-tailed hawks, osprey, and kestrels can be seen soaring over the island in search of



Above, an early spring view of Blennerhassett Island from the U.S. 50 bridge that crosses the Ohio River above the island. The island's slough is in the foreground. Blennerhassett Island is owned by the DuPont corporation. DuPont's Washington Works is the only U.S. plant site having a state park reside on plant property.

Jeff McCrady / WV DNR



Biologists took 62 osprey chicks from the Chesapeake Bay region to the Blennerhassett Island slough, kept them in a special "hacking box" constructed by DuPont employees, and released them when they were able to fly. There are now at least seven active osprey nests in the mid-Ohio River Valley that are colonized by the offspring of birds released on the island.

Steve Shaluta

food, while Canada geese, wood ducks, mallards, belted kingfishers and great blue herons all forage regularly in or around the slough. In addition, the slough on the island is one of the few reliable places in the state to see prothonotary warblers. Prothonotary warblers are bright yellow cavity-nesting songbirds that frequent hardwood swamps in the southeastern United States and are uncommon in West Virginia.

The DuPont corporation owns Blennerhassett Island and leases it to the state of West Virginia for use as a recreational area and a historical interpretation site associated with the Blennerhassett Island

Historical State Park. The DNR is the lead agency with administrative responsibility over the park. Blennerhassett Island is open to the public and can be accessed from May through October by sternwheeler departing from Civitan Park in Belpre, Ohio. More information on a visit to Blennerhassett Island can be obtained at the Blennerhassett Museum of Regional History in downtown Parkersburg or by calling 304-420-4800.

Josh Vance is a Wildlife Manager stationed at Shannondale Springs Wildlife Management Area.

Clubmoss

Identification Cards

Background

Clubmosses are primitive plants. This means they do not have flowers or seeds, but reproduce through spores. Clubmosses are evergreen, so they can be found and identified all year. They are short plants, and a lot of them are trailing, or long and low like a ground-clinging vine. Historically, people used clubmosses for Christmas decorations, and the spores, which are quite flammable, were used in firework production. Eight species of clubmosses live in West Virginia. Here we will look at the most common four: two that grow statewide, and two that live in the mountains.

Objectives

Children become budding botanists, having fun hiking to find clubmosses, or looking for them in the yard or a local natural area. They learn identification, habitat, size estimation, and map skills.

Method

Children cut out and use the Clubmoss cards to find and identify common species. They also measure plant equivalents.

Materials

Clubmoss Cards, ruler, pencil, journal (optional).

What to do

1. Cut out and read the Clubmoss cards together. Look at the map of West Virginia on the card. Figure out which species are found in your area. Find objects that are about the same length of each species. Note on each card (or in your journal) the object you found that matches the plant in length.
2. Go out in the yard and look for clubmosses. Note where each plant species was found on the cards (or in your journal). Note the other interesting things you found while looking.
3. Go on a hike nearby (a walk if you live in the city) and look for more species. Note the ones that you find in your journal. Note the other things you notice while looking: temperature, weather, sounds, smells and sights.
4. For more clubmoss fun, check out this children's book:
Ferns, Mosses & other Spore-producing Plants (Kingdom Classifications)
by Steve Parker.

Information compiled by Karen McClure

Common Clubmoss



Lycopodium clavatum

Height: 3 to 10 inches

Leaves: Tipped with a fine hair

Branch width: 1/8 inch

Spores: On fork-shaped growths that grow from the top of some branches

Growth pattern: Trailing

Habitat: Woods and swamps

Range: Grant, Mineral, Monongalia, Pendleton, Pocahontas, Preston, Randolph, Tucker, Upshur and Webster counties

Note: Native Americans made a tea of the plant to treat pain, fever and weakness. In the old days, the spores were used to treat diarrhea, dysentery, gas and rheumatism. The spores were also used as a diuretic and to stop bleeding. The spores were used in medicinal powders for baby chafing, tangled or matted hair with parasites and strep rashes.

WARNING: This plant contains a toxic alkaloid.



Shining Clubmoss



Huperzia lucidula

Height: 4 to 10 inches

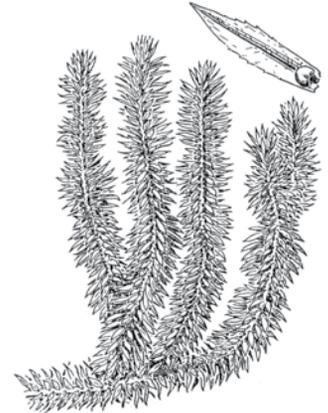
Leaf length: 1/4 to 1/2 inch

Spores: At the base of each leaf

Growth pattern: Trailing

Habitat: Cool, moist woods

Range: Statewide



Groundpine



Lycopodium digitatum

This clubmoss is also called ground cedar, because it resembles red cedar trees on the ground

Height: 1 to 2 1/2 inches

Leaves: Tiny leaves press against the stems

Spores: On fork-shaped growths that are taller than the rest of the plant

Growth pattern: Trailing

Habitat: Dry woods to open fields

Range: Statewide



Tree Clubmoss



Lycopodium dendroideum

Height: 4 to 12 inches

Leaves: Tiny leaves stick out from all around the stem

Spores: On two tall skinny cones at top of "tree"

Growth pattern: Erect (main stem underground)

Habitat: Moist, rich woods

Range: Fayette, Grant, Greenbrier, Hampshire, Hardy, McDowell, Monongalia, Nicholas, Pendleton, Pocahontas, Preston, Raleigh, Randolph, Tucker, and Upshur counties



Shining Clubmoss

Huperzia lucidula



Karen McClure/W DNR

Common Clubmoss

Lycopodium clavatum



Bill Beatty

Tree Clubmoss

Lycopodium dendroideum



Bill Beatty

Groundpine

Lycopodium digitatum



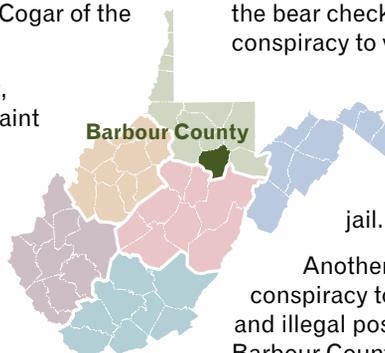
P.J. Harmon / WW DNR

Three Plead Guilty in Bear Case

Three Barbour County residents have pled guilty to several violations of West Virginia wildlife laws involving the illegal killing of two black bears, according to Lt. Jon Cogar of the DNR Natural Resources Police.

Natural Resources Police Officer Josh Prickett, stationed in Barbour County, received a complaint regarding two dead bears hanging in a tree on Talbott Road near Route 33 in the Belington area. The bears were checked in by two different hunters and the tags showed the bears were taken in the Cheat Mountain area of Randolph County. Officer Prickett contacted the alleged hunters who checked the bears in during the first week of bear season in December.

After interviews, Officer Prickett and Sgt. Bob Waybright were able to prove that all parties involved fabricated their stories of the bear hunt to cover up their illegal activity. Tickets were issued January 24 and 25, 2011.



One man, age 26 of Belington, was charged in Randolph County for exceeding the season limit on bear and violating the bear checking regulations. He was charged with conspiracy to violate Chapter 20 of the West Virginia Code (wildlife laws), withholding information, and illegal possession of wildlife in Barbour County. He entered a guilty plea to the Randolph County charges and was fined a total of \$2,677.60 and sentenced to 30 days in jail. The Barbour County charges are still pending.

Another man, age 36 of Belington, was charged with conspiracy to violate Chapter 20, withholding information and illegal possession of wildlife. These charges were filed in Barbour County. This man entered a guilty plea and was fined a total of \$542.40.

A woman, age 40 of Belington, was charged with conspiracy to violate Chapter 20 and withholding information. These charges were filed in Barbour County. She entered a guilty plea and was fined a total of \$361.60.

Governor's One Shot Sets Record Donations

Gov. Earl Ray Tomblin announced that the Governor's One Shot Whitetail Deer Hunt raised a record \$75,000 in donations for the Hunters Helping the Hungry (HHH) program at a check presentation at the Capitol on March 2. The event, held Dec. 5 and 6, 2010, at Stonewall Jackson Resort State Park in Lewis County, has been held the past four years to raise money for HHH, which is administered by the DNR Wildlife Resources Section.

"I want to thank all those who participated, from the hunters to the business sponsors, because they put food on the table for many West Virginia families," Tomblin said. "While I look forward to this fall's hunt, I'd like to encourage West Virginians to make year round donations to our food pantries."

Private individuals and businesses donate money for the opportunity to participate in guided antlerless deer hunts on private property near Stonewall Jackson Resort State Park. The event ends with an auction and an awards banquet. All venison from the hunt, along with profits from the sponsorships, goes to HHH. The first event, held in 2007, raised \$17,000, the second in 2008 raised \$35,000, and the third in 2009 raised \$50,000.



Gov. Tomblin and DNR Director Frank Jezioro also commended the landowners who allowed the participants to hunt on their property, providing not only a place to hunt, but also an opportunity to remove antlerless deer from overpopulated areas. Special thanks went to the many guides, who gave their time to help the participants find the deer and assist with the harvest.

More information about the HHH program can be found at www.wvdnr.gov/Hunting/HHH.shtm or by calling 304-558-2771.

www.wvdnr.gov

Calendar of Events

APRIL

- 16, **Spring Bird Walks**
 23, **Prickett's Fort State Park**
 30 Join DNR biologists on an easy, hike at 8 a.m. to look for local birds and watch bird banders in action. Call Sue Olcott at 304-825-6787 for more information.

15-17 **Becoming an Outdoorswoman (BOW) Spring Workshop**
North Bend State Park
 The WV Becoming an Outdoors-Woman (BOW) program encourages women to participate in outdoor activities. The BOW program is looking for women who are at least 18 years old and are interested in improving on an existing skill, learning a new skill, and/or are looking for the camaraderie of like-minded individuals. Classes include: hiking, biking, camping, shooting, fishing, and outdoor cooking. For more information, call Billie Shearer at 304-558-2771.

MAY

- 6-8 **Birding and Banding Weekend**
Tygart Lake State Park
 A weekend of activities focused on bird watching and banding birds. Come for a day or spend the weekend at the special "birder rate" for lodging. Contact: 304-265-6144.
- 7 **40th Annual Spring Bird Count**
Pipestem Resort State Park
 Join the search for 100 species of birds in one day. For more information, call 304-466-1800.
- 14 **Migration Celebration**
Little Beaver State Park
 Join Three Rivers Avian Center from 9 a.m. to 5 p.m. for various activities and displays related to migratory birds. Free event. Contact: 304-466-4683.

28-30 **Birds and Blooms Weekend**
Cacapon Resort State Park
 Beginner bird and wildflower identification. Package includes lodging, some meals, and activities. For more information, call 304-258-1022.

JUNE

3-5 **Canaan Valley Birding Festival**
Canaan Valley Resort State Park
 Enjoy daily walks, workshops and guest speakers. Day guests welcome. Lodging package offered. Contact: 304-866-4121 X2788.

4 **Kids Fishing Derby**
Little Beaver State Park
 Begins at 9 a.m. Kids receive lunch, t-shirts and prizes. Call 304-763-2494 for more information.

11-12 **Free Fishing Days**
Statewide
 Fish without a license! Great time to try fishing for the first time or to renew an old pastime.

11 **Kids Fishing Derby**
Bowden Fish Hatchery
 Free fishing for kids; casting contest; catch-and-release pond and catch-and-keep pond. Call 304-637-0245 for more information.

11 **Kids Fishing Derby**
Tygart Lake State Park
 Free fishing for kids in cooperation with Hooked on Fishing, Not on Drugs program. Call 304-265-6144.

18 **Bird Walk and Raptor Presentation**
Tygart Lake State Park
 Join experts for birdwatching hike. Listen to a presentation with live birds from Three Rivers Avian Center. Call 304-265-6144.

www.wvdnr.gov

Oldham Receives IWLA Award

Tom Oldham, a DNR fisheries biologist, was honored by the Izaak Walton League of America with its prestigious Honor Roll Award at its national convention. Tom has worked with the Coldwater Fisheries Section of the DNR Wildlife Resources Section in Elkins for the past 35 years.



OLDHAM

Tom is one of the original volunteers who formed the Randolph County "Hooked On Fishing, Not On Drugs" committee, and has worked on this committee for 17 years. During that time, the event evolved from a small collaboration to become a regular event supported by the entire community. Over a two-day period, more than 2,500 children and their families participate in activities designed to educate kids about the harmful effects of drugs and to encourage them to get outside and enjoy the state's natural resources.

Oldham has also coordinated the Bowden Fishing Derby since its inception 20 years ago. He organizes the event, arranges for volunteers, and oversees all aspects of the derby. The derby is free to children ages 3 to 14. An average of 700 youth plus their families attend each year at the Bowden State Trout Hatchery. Several ponds stocked for the event allow anglers to use bait and take home two trout; and another pond is set up as catch-and-release for more experienced anglers. Oldham is a past president of the WV Chapter of the American Fisheries Society. He previously received the Professional Award of the West Virginia Division of the Izaak Walton League.

WVDNR 2011 Mid-Winter Waterfowl Survey

AREA	2011		2010		2009		2008		2007	
	Ducks	Geese								
Kanawha River (Upper)	121	673	160	465	253	326	299	683	207	693
Kanawha River (Lower)	102	182	66	483	123	304	74	151	250	176
Ohio River (Lower)	1,195	764	849	1,321	290	501	318	824	1,007	1,611
Ohio River (Middle)	2,712	3,536	1,424	4,915	975	1,365	808	1,514	446	1,791
Tygart Lake Pleasant Creek	82	15	212	170	72	128	37	70	44	58
Shenandoah River	136	588	18	154	102	422	68	180	66	1,150
Bluestone Lake/New River	696	389	139	281	218	229	110	44	180	93
Total	5,044	6,147	2,868	7,789	2,033	3,275	1,714	3,466	2,200	5,572
10-Year Average	3,333	4,729	4,805	5,154	5,012	4,764	5,505	4,881	5,768	4,980

Duck Numbers Show Significant Increase

Wildlife biologists counted 5,044 ducks and 6,147 Canada geese during the annual mid-winter waterfowl survey in early January, according to Steve Wilson, Waterfowl Biologist for the DNR Wildlife Resources Section.

"The number of ducks counted increased significantly compared to last year while the number of Canada geese decreased slightly," Wilson said. "Despite the decrease in Canada geese from last year, their numbers are still 30 percent above the 10-year average, and duck numbers are 51 percent above average," Wilson noted. The increase was not unexpected due to the amount

of snow and cold weather that occurred in December.

Canada geese, mallards and black ducks, as usual, were the most commonly observed species in the 2011 survey. Other waterfowl observed include: canvasback, scaup, ring-necked duck, redhead, bufflehead, wood duck, mergansers and snow geese. Biologists also observed 13 bald eagles, two golden eagles and 11 unidentified eagles.

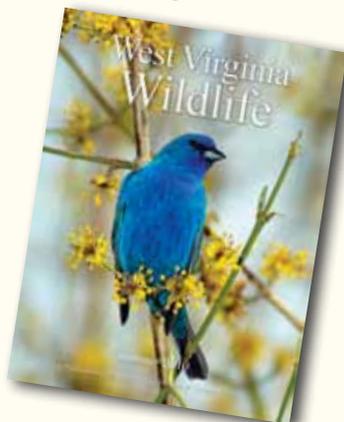
The survey was conducted January 5-7, 2011, and included portions of the Kanawha, Ohio, Shenandoah and New rivers, as well as Tygart and Bluestone lakes.



Maslowski photo / USFWS

Black ducks, above, along with Canada geese and mallards were again the most commonly observed species in the annual DNR survey.

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