

THE GNATCATCHER

Newsletter of Juniata Valley Audubon

Vol. 36 No. 6—Nov./Dec. 2004

www.juniatavalleyaudubon.org



Christmas Bird Count To Be Held Dec. 18

More than 50,000 observers participate each year in the all-day census of early-winter bird populations known as the Christmas Bird Count. The results of their efforts are compiled into the longest running database in ornithology, representing over a century of unbroken data on trends of early-winter bird populations across the Americas. Simply put, the Christmas Bird Count, or CBC, is citizen science in action.

Prior to the turn of the century, people engaged in a holiday tradition known as the Christmas "Side Hunt": They would choose sides and go afield with their guns; whoever brought in the biggest pile of feathered (and furred) quarry won. Conservation was in its beginning stages around the turn of the 20th century, and many observers and scientists were becoming concerned about declining bird populations. Beginning on Christmas Day 1900, ornithologist Frank Chapman, an early officer in the then budding Audubon Society, proposed a new holiday tradition—a "Christmas Bird Census"—that would count birds on the holidays rather than hunt them. So began the Christmas Bird Count. Thanks to the inspiration of Frank M. Chapman and the enthusiasm of twenty-seven dedicated birders, twenty-five Christmas Bird Counts were held that day. The locations ranged from Toronto, Ontario to Pacific Grove, California, with most counts in or near the population centers of northeastern North America. Those original 27 Christmas Bird Counters tallied a total of 90 species on all the counts combined.

The primary objective of the Christmas Bird Count is to monitor the status and distribution of bird populations across the Western Hemisphere.

The count period, which is from December 14th to January 5th, in North America is referred to as "early winter," because many birds at this time are still in the late stages of their southward migration, so it is not "true" winter. When we combine these data with other surveys such as the Breeding Bird Survey, we begin to see a clearer picture of how the continent's bird populations have changed in time and space over the past hundred years. The information is also vital for conservation. For example, local trends in bird populations can indicate habitat fragmentation or signal an immediate environmental threat, such as groundwater contamination or poisoning from improper use of pesticides.

From feeder-watchers and field observers to count compilers and regional editors, everyone who takes part in the Christmas Bird Count does it for the love of birds and the excitement of friendly competition – and with the knowledge that their efforts are making a difference for science and bird conservation. As long as there are birds to be counted, the Christmas Bird Count will go on being the most popular, fun, and rewarding bird census the world over.

If you would like to participate in this year's JVAS Christmas Bird Count, please contact Heidi Boyle at 949-9302 or hboyle@state.pa.us.

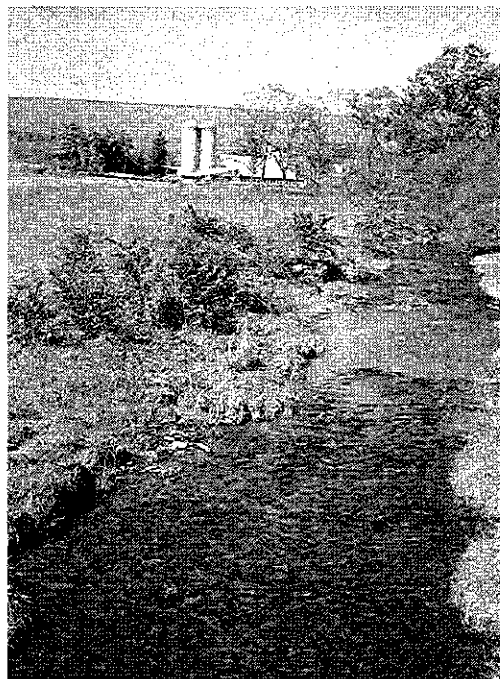
The Juniata Valley Audubon Christmas Bird Count will be held on Saturday, December 18, 2004. Following the count will be an end-of-the-day pot-luck supper and bird tabulation session hosted by Marge and Charlie Hoyer at their estate on Brush Mountain. Supper is scheduled for 6:00pm with arrivals of birders between 5:00 and 5:30pm. *Please contact Marge Hoyer at 684-7376 by Thursday, Dec 16, to let her know what you will bring to the pot-luck supper.*

Conservation Program Expanded

The United States Department of Agriculture has recommended the extension and expansion of the Conservation Reserve Program (CRP) and the Conservation Reserve Enhancement Program (CREP). Millions of acres that were set to lose funding now have a chance for new monies under the Conservation Title of the Farm Bill. The next Farm Bill is set to be introduced in 2007.

The Conservation Reserve Program works by paying farmers to take land out of agricultural use and return the land to its natural state. Many conservation and environmental groups consider the CRP to be an integral part of land restoration and conservation.

Pennsylvania has the largest Conservation Reserve Enhancement Program in our nation. **Pennsylvania's share of the program, which will eventually involve \$400 million in state and federal spending, will cover 265,000 acres.**



The Conservation Reserve Enhancement Program pays farmers to take environmentally sensitive lands, such as this area along a tributary to Shaver's Creek in northern Huntingdon county, out of agricultural production and return them to their natural state.

PA GAME COMMISSION ASSISTS LANDOWNERS TO BENEFIT WILDLIFE

Do you appreciate the trill of a Fowler's toad, the flame red of a scarlet tanager, the stark winter beauty of the snowshoe hare, or sharp call of the bobwhite quail? These are all species of concern in Pennsylvania. With over 85% of Pennsylvania being privately owned, the use of private lands in Pennsylvania has a profound effect on the stability of these species. Until now, little help was available to aid private land owners interested in integrating species of concern into their land-use practices.

The Pennsylvania Game Commission, in cooperation with the Pennsylvania Fish and Boat Commission, has created a private landowner assistance program. The establishment of this program, which targets species of special concern like spotted turtles, American woodcock, and cerulean warblers, will allow the PGC and the PFBC to greatly improve efforts to inform landowners of how to create, manage, and improve habitat for a great variety of species.



To implement this program, a Wildlife Diversity Biologist had been established for each of PGC's six regions. Interested landowners can contact the Wildlife Diversity Biologist in their area to request information, discuss species, or schedule a site visit to assess the unique species on their lands. These biologists will provide technical assistance and help develop habitat management plans related to landowner objectives and species of greatest concern. In the future, look for workshops to be offered to interested landowners and conservation agencies on species of special concern and associated habitat management.

For the PGC Wildlife Diversity Biologist in the SouthCentral region, contact Dan Mummert at (814) 542-8759, dmummert@state.pa.us.

GROWING GREENER II DELAYED

Pennsylvania Gov. Ed Rendell recently warned regional lawmakers that his state would soon lag in environmental cleanup efforts unless legislative leaders this fall agree to put his Growing Greener II initiative on the spring primary ballot.

Growing Greener II, an extension of former Gov. Tom Ridge's popular Growing Greener environmental funding initiative, was the cornerstone of Rendell's budget environmental proposals this year.

It called for using bonds to finance \$800 million in environmental projects—including many that would benefit the Chesapeake Bay—over four years. Polls showed broad support for the bond issue, which Rendell wanted on the November ballot.

But Republican legislative leaders blocked efforts to put it on the ballot.

Opponents had questioned the funding mechanism for the initiative, much of which would be paid by industries based on the generation of certain pollutants.

Rendell and legislative leaders have appointed a "Green Ribbon Commission" to try to develop a compromise plan, including different funding options, that might be placed on the spring primary ballot.

Rendell said he was open to alternative sources of funding for the program, but added, "there is no excuse for not acting and not putting Growing Greener on the ballot."

PRESIDENT'S MESSAGE

The recent severe flood damage in Blair County points to the urgent need for local governments to prohibit development on steep slopes, wetlands, and floodplains.

The development of steep slopes results in the conversion of water-absorbing forests into water-repelling concrete and asphalt, causing an increase in both the volume and velocity of stormwater going downslope into streets, homes and businesses. Scientific studies have shown that forests, particularly those with larger trees, absorb hundreds of times more water than developed areas.

The development of wetlands results in the replacement of a water-absorbing landscape feature with buildings, streets, and parking lots that shed water rapidly into streams and thus affect downstream property owners. Wetlands act as sponges, absorbing water during times of heavy rainfall and then releasing water gradually during times of drought. Thus, wetlands lessen the adverse effects of both flood and drought.

The development of floodplains puts homes, businesses, and human lives directly in the path of destructive flood waters. Floodplains in their natural state provide multiple benefits: they serve as areas suitable for recreation, act as water storage areas during times of flood, buffer pollution from developed areas, and provide corridors for the movements of wildlife.

The prohibition of development on steep slopes, wetlands, and floodplains is a common sense, science-based, money-saving approach to lessen future flood problems. This approach will prevent damage to businesses and homes, save lives, preserve unique natural areas, and save taxpayers money.

-Cindy Moore

THE MEASURE OF MIGRATION

Cornell Lab of Ornithology's BirdScope editor Miyoko Chu recounts how adventurous researchers found that migratory flight can cost less energy than feeding chicks.

How much energy does a Swainson's Thrush need to fly 3,000 miles from Panama to Canada in spring? Not as much as it requires to rest and refuel along the way, according to counterintuitive results published in the journal *Nature* (June 12, 2003).

The study, the first to measure energy expenditure in freely migrating birds, found that during migration, birds spend only about 29 percent of their energy on flight, less than during stopover periods. Days spent in flight also required less energy than days spent feeding a large brood of hungry chicks.

During the study, Princeton University biologist Martin Wikelski and colleagues used a combination of high-tech methodology and on-the-ground pursuit of individual thrushes across hundreds of miles. Over the course of two springs, the team intercepted 38 Swainson's and hermit thrushes in Urbana, Illinois. They attached radio transmitters to the thrushes and injected them with "doubly labeled water," a form of water with distinctive hydrogen and oxygen isotopes that is used to measure energy expenditure in humans and other animals. When a thrush took off at nightfall, the research team drove along a network of roads, following the bird by listening for the transmitter's signal.

The team had to keep within 15 miles of the migrating bird to stay within range of the signal. Sometimes they lost the bird en route; other times, they followed it all the way to Wisconsin, only to lose it when it dropped to the treeline and the transmitter's range diminished to a 5-mile radius.

When they could still detect the signal, they often had to rely on the good graces of homeowners to relocate the bird. "At 6:00 in the morning, we had to knock on people's doors and say, 'I'm really sorry, but this is an emergency situation—we have a bird that flew all the way from Illinois last night and landed in your yard,'" Wikelski says. "They thought we were crazy—we had scruffy beards and black rings under our eyes—but everyone was really nice and allowed us to look for the birds."

In all, the researchers followed 12 thrushes, some for as long as 7.7 hours, or more than 370 miles. Remarkably, they recaptured six of these birds, obtained blood samples, and measured how much energy the birds had used. On their spring journey, thrushes expend about 0.3 calorie per mile, including flights and stopovers. In cold weather, thrushes that stayed put overnight spent as much energy just to keep warm as they would have used during 2.5 hour flight. The researchers suggested that reverse migration, when birds backtrack south in spring, may be an energy saving strategy in cold weather.

The study also hinted at the importance of natural habitat in urban and suburban areas as stopover areas for migratory birds. Three of the six birds landed within 55 yards of houses, and one landed in Chicago, where it foraged all day in a few trees. **"Even tiny pieces of nature are really important," Wikelski says. "If people keep their backyards in a natural state, with food for migratory birds, it could make a big difference, especially in fragmented landscapes, through which billions of songbirds migrate every spring and fall."**



Illustration by QAS member Dick Mock

RICHARD WHITEFORD TO HEAD IMAP

The Important Mammal Areas Project is delighted to announce that Richard Whiteford, of Downingtown, Chester County, has been hired as the project's first full-time director.

The Pennsylvania Important Mammal Areas Project (IMAP), initiated in 2002 with funding from the Wildlife Conservation and Restoration Account (WCRA), seeks to ensure conservation of habitats that support rare mammals, and large aggregations of certain mammal species, as well as sites that are important for educating the public about the natural history of resident mammals.

Identifying and designating 45 Important Mammal Areas in the first phase, mapping them in the second phase, and continuing the process of producing and implementing conservation and stewardship plans and using this all to help educate the public on the importance of critical habitat will help lead to more appreciation of such and a reduction of lost habitat in the future.

Speaking about the importance of IMAP, newly appointed director Whiteford said, "Mammals are losing habitat through disturbance and destruction at an alarming rate." Each year Pennsylvania loses nearly 120,000 acres of natural land to industrial and residential development.

"It's a thrill to be in the driver's seat of a first-of-its-kind project. I'm especially looking forward to working with the scientists on the Mammal Technical Committee and the other stakeholders involved with this project," Whiteford said.

Whiteford brings 16 years of conservation experience to the job, most recently working to help preserve remaining critical natural areas in Chester County as the Outreach Coordinator for the Highlands Coalition. He completed training in the Pennsylvania Forest Stewardship program, is a board member of the Pennsylvania Biodiversity Partnership, and is a noted environmental journalist.

IMAP is a pilot program that will be rolled out nationally once the Pennsylvania project is completed. This project, the first of its kind in the world for mammals, was conceptualized by the Mammal Technical Committee of the Pennsylvania Biological Survey (PaBS) and is being implemented through partnerships with diverse groups, including the National Wildlife Federation and their Pennsylvania affiliate, the Pennsylvania Game Commission, the Carnegie Museum of Natural History, and the Mammal Technical Committee of the Pennsylvania Biological Survey.

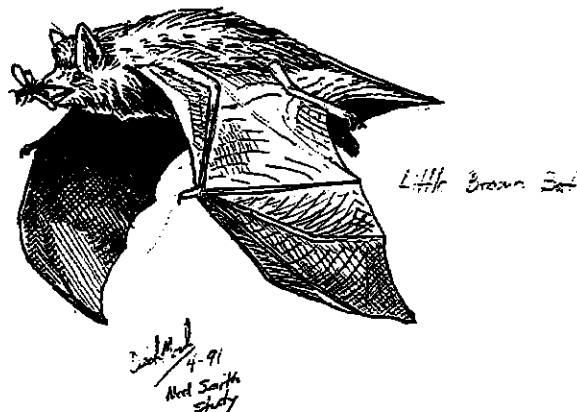
Editor's note: Three Important Mammal Areas have been designated in the upper Juniata Valley:

1. *The Canoe Creek IMA, which includes parts of Brush Mountain and Lock Mountain, as well as all of Canoe Mountain and the Canoe Creek Watershed including State Game Lands 166 and Canoe Creek State Park in Blair County. This IMA was designated because of its importance to the federally-endangered Indiana bat, the threatened small-footed bat, the rare long-eared bat and silver-haired bat, the threatened Allegheny woodrat, and the bobcat. The Canoe Creek IMA was also noted to have an outstanding environmental education focus on mammals led by the DCNR's staff at Canoe Creek State Park and the Pennsylvania Game Commission.*

2. *The Thousand Steps IMA, which includes parts of Jack's Mountain and State Game Lands 112 near Mapleton in Huntingdon County. This site was designated because of its importance to the threatened Allegheny woodrat.*

3. *The Central Mountains IMA, which includes Shade Mountain, Blacklog Mountain in Huntingdon, Mifflin, Fulton, and Juniata Counties. This site was designated because of its importance to the threatened Allegheny woodrat.*

*Illustration by WAS member
Dick Mock.*

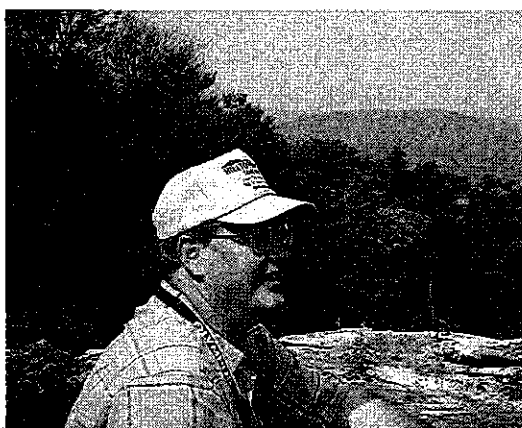
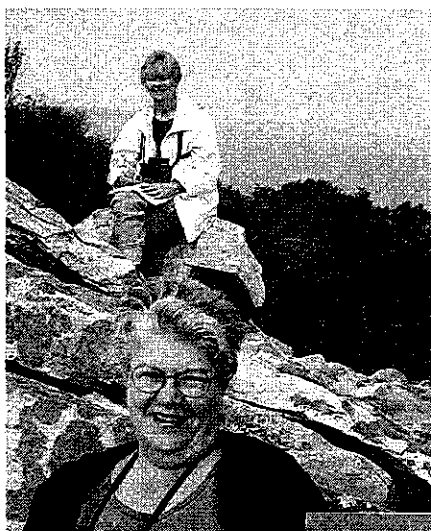


Below: Luis Moore points out a Cooper's Hawk for Helena Kotala.

WAGGONER'S GAP



Above: Georgia Bottenfield and Stan Kotala enjoy the highest perch on Waggoner's Gap overlooking the Cumberland Valley.

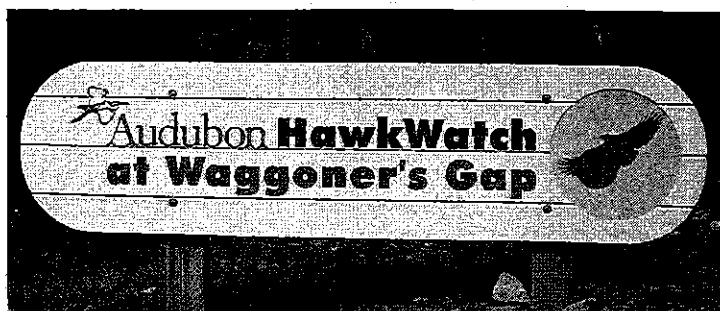
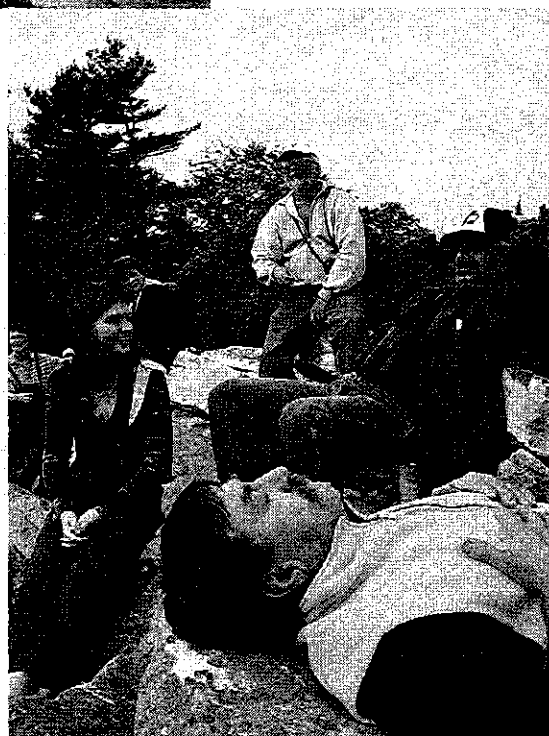


Left: Dick Mock enjoys the view from the hawkwatch.

Above: Alice Goodlin (back) and Alice Fleischer (front) are happy to be hawkwatching on such a great day.



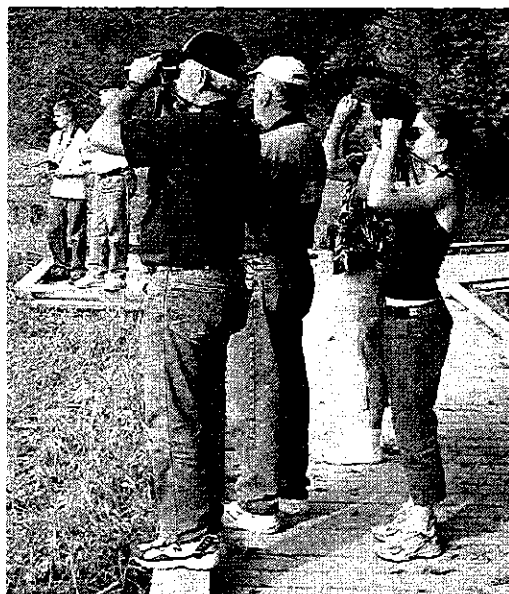
Right: A Red-tailed Hawk soars overhead.



AND OLEWINE



Above: The Alice Trio— Alice Goodlin, Alice Kotala, and Alice Fleischer.



Above: Luis Moore, Dave Kyler, Georgia Bottenfield, and Helena Kotala search the marsh for birds.



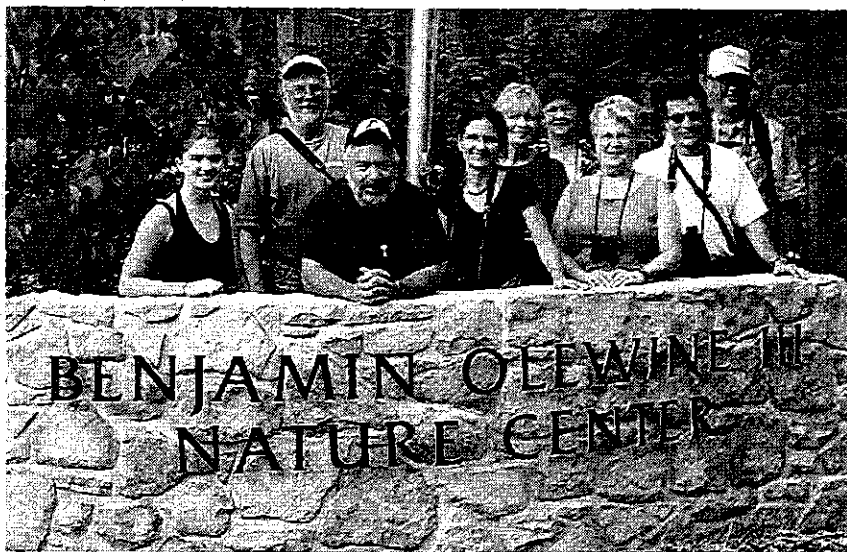
Above: Wildwood Lake and Marsh with Blue Mtn. in the background.



Above: Looking through binoculars at a bird perched high in the trees.



Above: Helena Kotala focuses on a Great Egret in the marsh.



Above: The group (L-R)— Helena Kotala, Dave Kyler, Luis Moore, Alice Kotala, Alice Goodlin, Georgia Bottenfield, Alice Fleischer, Stan Kotala, and Dick Mock. Absent from photo: Darryl Goodlin

JVAS FIELD TRIP TO YELLOW CREEK STATE PARK

by Dr. Stan Kotala

Coldness and fog enveloped the valleys as fourteen JVAS members embarked on the season's second field trip under the leadership of IBA Coordinator Dave Kyler. Our destination was Yellow Creek State Park, an Important Bird Area in Indiana County with a long list of bird observations by the Todd Bird Club.

Gorgeous autumn scenery surrounded us during our drive to the park. The mist made the colors of the oaks, maples, hickories and birches stand out even more than usual. However, the fog soon was burned off by the power of the sun, so that, when we arrived at the side of Yellow Creek, the sky was blue with only hints of clouds. The large lake was surrounded by a riot of fall colors on the nearby ridges.

Our group of fourteen was delighted with our first bird sighting: an osprey hovering over the lake just 200 feet away from us. Although she didn't dive for a fish, the "fish hawk" didn't disappoint us, for she swooped in over our heads and gave us all a great view of her beautiful sun-burnished plumage. A flock of a dozen dunlins buzzed back and forth along the shoreline just above the water's surface, affording us great close-up views of these swiftly-flying shorebirds. The calls of a greater yellowlegs drifted across the water from a long edge of marsh grasses. In a moist lakeside forest full of swamp white oaks, aspens, and arrow-wood, we found a flock of mixed blackbirds, some of which had a high-pitched squeaky call. With per-



fect lighting from the sun we were able to make side-by-side comparisons of the three species in this flock: rusty blackbirds, red-winged blackbirds, and brown-headed cowbirds. This same wooded area also held song sparrows, northern juncos, cedar waxwings, and ruby-crowned kinglets.

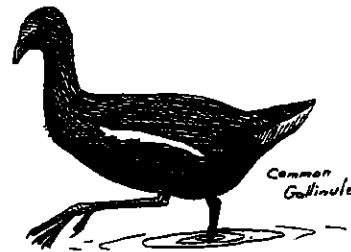
Dave then led us through a fern-carpeted maple-, cherry-, and hickory-covered hillside to the waterfowl observatory, a substantial enclosed wooden structure built on ten-foot tall stilts, which provided outstanding views of the lake and a lakeside marsh. Our first sighting, however, was not of birds, but rather of two white-tailed deer swimming across the lake! It took them about twenty minutes to cross the open water and they didn't seem to be struggling!

Through the observatory's portholes we were able to see ruddy ducks, northern shovelers, American wigeons, green-winged teal, double-crested cormorants, pied-billed grebes, ring-necked ducks, and a raft of 90 American coots! At the edge of the emergent marsh, however, was a lone bird which I first thought was a privacy-loving coot. Dave Kyler was suspicious of this bird and observed it closely. He noted an unusual head-bobbing motion as the bird swam, as well as a thin white streak, like a slash, along the bird's flanks.

This was no coot, Dave exclaimed, but rather a **common moorhen**! Voices could be heard approaching the observatory through the crimson- and gold-

colored woodland as members of The Todd Bird Club of Indiana, Pennsylvania, arrived and excitedly informed us that **this common moorhen was, in fact, only the second one ever to be recorded at Yellow Creek State Park!** They congratulated us on our discovery and also told us that they had seen a sora rail earlier in the day at a lakeside wetland.

We took a lunch break at a picnic area under a grove of gnarled swamp white oaks as Dave and I cooked up a feast of hamburgers and hotdogs while we basked in the glow of the autumn sunshine. The apple cider flowed freely as hungry JVAS trekkers washed down a cornucopia of side dishes and pumpkin pie and walnut ring desserts! Reviewing our sightings of birds on this wonderful day, we left Yellow Creek State Park with full stomachs and bulging checklists! The sighting of the common moorhen added a life bird for five of us and was icing on the cake for a perfect field trip!



Common Moorhen by Dick Mock.

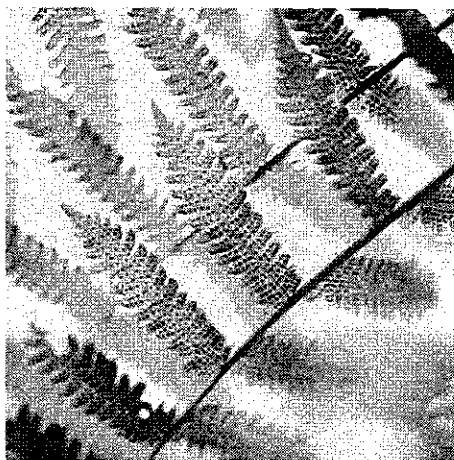
A Green Christmas

By Heidi Boyle

As the days grow short, and many plant species are on the wane, hunting for true post-autumnal green can be a challenge. This is one of my favorite times of the year to search for ferns. Taking to the woods on a rainy late-autumn day, I spent much of my morning walking muddy slopes and clinging precariously to a slippery limestone outcrop looking for ferns.

This particular morning I was delighted to see beautiful Christmas ferns (*Polystichum acrostichoides*) decorated with the downed red and orange leaves of the maples and oaks. The common Christmas fern is one of the "eyecatchers" of the early winter woods, being one of the few greens left among the autumn colors. However, getting a true close up of Christmas fern, or any fern for that matter, may require some dedicated belly crawling, rock hopping and tolerance of spiders.

The deep green fronds of the Christmas fern are a common sight in the woods of this area, preferring moist soil and shady conditions, typical of most ferns. The majority of ferns we see are members of the polypody family, sporting the familiar triangular fronds that are divided into multiple leaflets (pinnae) and smaller pinnules.



Christmas Fern is considered one of the more humble of the polypody ferns, in contrast to the delicate designs of its lacey cousins. As I lay sprawled on the cold wet duff with the wet chill of late autumn dripping down my neck, I looked closely at the delicate 2-3' fronds, admiring the simple elegance of their structure. A spined micrathena spider tiptoed along the boot-shaped leaflets, 20 - 40 of which fit closely together along the dark green rachis (axis). The leaflets were smooth and leathery to the touch, and the fertile fronds, with their clusters of sori (spore sacks) stood taller than the sterile fronds.

As a lone nuthatch scabbled down a nearby trunk, I reflected that the clumps of green dotting the orange and brown background certainly were appropriately named. Christmas fern was named for remaining green at a time when other plants have succumbed to the cold and frost. Settlers used the hardy, deep green

fronds with their leathery leaves as a holiday decoration.

Christmas fern was also used by Native Americans to treat a variety of ailments. Tea made from the roots was used to treat chills, fever and pneumonia. Rheumatism and seizures were treated with a poultice made from the rootstock of the fern.

Aside from the simplicity of the Christmas fern, these spore-producing plants in general have a fascinating history. In medieval times, ferns were looked upon with great suspicion; they grew prolifically, but had no apparent seeds. Knowing that all plants produced seeds, people came to believe that only witches could see the invisible seeds of the ferns. Witches would then put these seeds in their shoes and become invisible, and so were able to spread malice and evil unseen.

It wasn't until the early 1500s that the German botanist, Hieronymus Bock, used white sheets to catch spores from ripe ferns, and succeeded in raising ferns from the spores. He published his findings in 1539, but it took several centuries until the old myths faded away connecting ferns and witches.

Using a magnifying lens, I looked at the now past-ripe sori on the undersides of the uppermost leaflets. The once misunderstood reproductive structures looked like miniature fuzzy brown donuts. When spores emerge from these fruit dots, they are carried by the wind, often for miles. Ripe Christmas fern sori release millions of spores between July and October. Only a few develop into the tiny flat green bodies, which may grow into a new fern.

Digging into the moist humus at the base of the fronds, I probed the dense root-ball out of which new growth will appear in spring. As the new fronds emerge, they gradually unroll, resembling the head of a fiddle. The fiddleheads (called crosiers) of Christmas fern are silvery and scaled, covered in a fine, gray down.

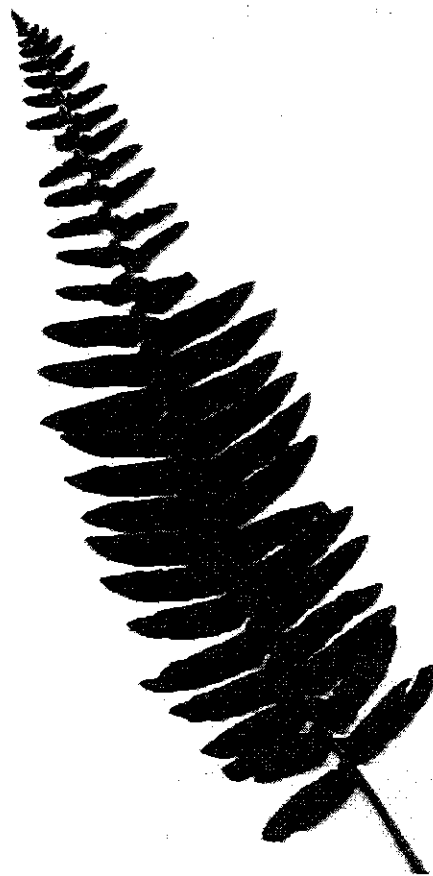
Although most of our ferns produce spores from sori positioned on their leaflets and send up new fronds from a root ball, many species have developed different yet successful means of reproduction. The succulent ferns (adder's tongue, rattlesnake, grape ferns), which belong to the most primitive fern family, produce spores from a fertile spike rising from the rootstalk. Another limestone-loving fern, the walking fern (*Camptosorus rhizophyllus*) sprouts anew from where the tip of the frond touches suitable soil. This form of vegetative reproduction creates an illusion that the fern "walks."

With its limestone and sandstone outcrops, this area of Pennsylvania sports a diversity of ferns. More than a dozen species reside in our area, some with quixotic names of Maidenhair, Royal, Purple-Stemmed Cliffbrake, and Ebony Spleenwort. Each species has evolved in response to specific growing conditions, with specific preferences for temperature, humidity, soil

type, moisture and pH. As a result ferns are now being recognized as good indicators of the conditions, possibly more reliable as indicators than seed-producing plants.

The role ferns play in influencing the establishment of tree seedlings is also being studied extensively. In forests of the mid-Atlantic and New England states, the forest understory is thought to act as an ecological filter affecting forest regeneration. Seedlings of many tree species germinate and inhabit the forest understory for a few to over 100 years. As such, ferns may play a significant role in influencing the formation of a pool of suppressed seedlings "waiting" for the right environmental conditions to grow.

Lying in the wet duff of the forest, with the wet fronds of a Christmas fern smudging my glasses, such studies seemed a world away. At present I was content to enjoy the constant drip of rain from branches onto the newly crunchy forest floor, decorated with clumps of green fern. Soon it will be time to gather fronds of Christmas fern for holiday decoration. The scent of drying Christmas ferns provides a gentle reminder of myths, witches and folklore, and even of the color of the spring to come.



Membership Matters

At the October board meeting of Juniata Valley Audubon, it was voted to add another category to the Chapter-only memberships: Corporate Member. For an annual donation of \$100 to help support local Audubon activities, including conservation education and conservation advocacy, Corporate Members will enjoy all the benefits of regular Chapter-only membership and will be recognized in every issue of the bimonthly newsletter, *The Gnat-catcher*.

JVAS members who know of a business that might consider supporting the chapter by becoming a Corporate Member are encouraged to contact Membership Chair Charlie Hoyer at charma@nb.net or 814 684-7376. He will follow up with an invitation to your recommendation.

Chapter-only annual membership rates are as follows:

- Individual Membership, \$15
- Family Membership, \$20
- Supporting Membership, \$35
- Friend of the JVAS, \$50
- Corporate Membership, \$100
- Life Membership, \$500

The membership year runs from January 1 to January 1, regardless of when you join. However, the JVAS has a end-of-the year special in which anyone joining as a Chapter-only Member during November or December 2004 will have a membership expiration date of January 1, 2006. **It should be emphasized that all Chapter-only membership dues remitted to the JVAS will be retained by the Chapter and used exclusively for its activities.**

A perfect gift suggestion for the upcoming holiday season is a Chapter-only membership in Juniata Valley Audubon. Use the membership application form on page 11 for this purpose. An acknowledgment of your gift membership will be mailed to the recipient by the membership chair.

JOIN JUNIATA VALLEY AUDUBON!

Juniata Valley Audubon membership provides you with the following benefits:

- Notification of Juniata Valley Audubon's exciting activities including monthly nature programs, field trips, and other events
- Subscription to the bimonthly chapter newsletter *The Gnatcatcher*.
- Opportunity to participate in local advocacy efforts to help make a real difference.
- Opportunity to aid in the preservation of the natural world.
- Opportunity to have fun in joining with fellow nature enthusiasts. **Make your check payable to JVAS.**

- Become a chapter-only member: ☐ Individual—\$15
☐ Family—\$20
☐ Supporting—\$35
☐ Friend of JVAS—\$50
☐ Corporate—\$100



Juniata Valley Audubon Life Membership provides you with all the benefits listed above along with special recognition in *The Gnatcatcher*. Become a primary supporter of the JVAS' mission of education and advocacy for a once-in-a-lifetime fee of \$500. Make your check payable to Juniata Valley Audubon.

Name _____

Address _____

7XCH U03

Mail the completed form to JVAS, P.O. Box 32, Tyrone, PA 16686

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 CBC Coordinator.....Heidi Boyle 949-9302
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 NAMC Coordinator...Dr. Stan Kotala (see above)

NOVEMBER & DECEMBER PROGRAMS

November 16, 2004

"Fort Indiantown Gap: Wildlife on the Ridge"-

Join Joseph Hovis to learn about the natural history and management of one of Central Pennsylvania's most unique and important tracts of public land. Joseph is a biologist for the Pennsylvania Department of Veterans and Military Affairs and is stationed at Fort Indiantown Gap near Harrisburg.

December 18, 2004

"Christmas Bird Count"- Contact CBC coordinator Heidi Boyle at 949-9302 or hboyle@state.pa.us for information on how to take part in this annual one-day census of winter birds.

NOVEMBER & DECEMBER FIELD TRIPS

November 20, 2004

Shawnee State Park & Dunning's Creek Wetlands

Bedford county birding in the morning with a visit to "the wetlands" after lunch with the hopes of seeing waterfowl and lingering shorebirds. Meet at 8 AM in front of Unkel Joe's Woodshed in Altoona. Bring binoculars and boots. Restaurant lunch.

ABOUT JVAS PROGRAMS: Programs are presented on the third Tuesday of each month. They begin at 7 PM in the chapel at Alto-Reste Park on Plank Road, Altoona. Our programs are designed for a general audience, and are free and open to the public.

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Pennsylvania Elk: Photo taken by JVAS member
Frank Kovaloski near Bennezette, Elk County.

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Exp: 8/1/05



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