

THE ACRES

QUARTERLY

PRESERVING NATURAL AREAS

SINCE 1960



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Letter from the Executive Director

Dear Friends,

ACRES is expanding. We have acquired another nature preserve since the last Quarterly and have several more acquisition projects lined up for early 2008. The number of acres protected is not the only way ACRES has been expanding. Membership is at an all-time high, volunteer participation is increasing, and the endowment is growing. There are a lot of great expansions happening at ACRES.

One of the most exciting recent expansions is the growth of ACRES' service area. Historically, ACRES has added counties to its service area as acquisition opportunities arose. This method has served the organization well but does not allow for strategic acquisition planning. Therefore, the staff and board took a hard look as to whether there were areas beyond the current 14-county area that ACRES should service over the next 50 years.

Many factors were evaluated when areas were considered for addition to the service area. These factors include, watersheds, distance from the office, natural features, river corridors, potential funding sources, coverage by another land trust, goals of county, state, national conservation organizations, staff time, etc.

The result of this evaluation was the addition of three Indiana Counties; Grant, Blackford, and Elkhart Counties. This brings ACRES' service area in Indiana up to 17 counties and truly represents northeast Indiana. In addition to these counties, several counties in Michigan and Ohio were also added to ACRES' service area. Since natural systems do not recognize arbitrary lines drawn on a map (state lines), we felt we should view our service area in the same fashion. The result of ACRES' service-area expansion is shown on the map to the right.



Please realize that ACRES will not likely obtain property in all these new counties quickly—they are simply areas in which ACRES will consider new properties that possess natural significance. If within the next 50 years, ACRES obtains properties within a large portion of this new service area, staff and financial resources would also have to be expanded to accommodate such growth. Some of you can remember when ACRES was Allen County Reserves, with a one-county service area. That was 47 years ago. The expanded service area is simply forecasting a similar growth of ACRES in order to effectively plan, prepare, and control that growth.

ACRES is now registered to perform business in Ohio, and we will complete the necessary paperwork for Michigan this winter.

By expanding our service area we have expanded our potential to preserve natural areas, our funding and membership base, and have allowed for strategic planning on a regional scale for preservation. Growth is good for ACRES, and ACRES' growth is great for natural areas!

Sincerely,

 JASON

Jason Kissel



WELCOME **new** members!

Photo by Gary Darnell

Allen County Dumpstoppers

Terry Armstong

Gift of Bruce Flohr

Brett & Lynn Batson

Gift of David & Heidi Finley

Bill & Jan Baumgartner

Gift of Lynn & Christine Klopfenstein

Landon & Jaelyn Blue

Gift of James Blue

Aaron Mason Botas

Gift of James & Gwen Seely

Catherine Carmein

Gift of Bob & Pat Kinerk

Norm Cox

Jeff Crockett

Betty Egolf

Gift of Judith Marbach

Russell Garriott & Jane Martin

Sherman & Katy Gray

Gift of Phillip & Peggy Sider

Stephen Grogg

Bishop & Carol Hathaway

Joseph Keller

Bob & Pat Kinerk

Richard & Donna Knapp

Gift of Mary Lou Walda

LaGrange County Community Foundation

Jack Leon

Don Luepke

Judith Marbach

Mr. Jan Martin

Cecilia Mattingly

Gift of Joseph Keller

Matt Metzger Family

Benton Ordas

Richard Rodenbeck

Gene & Sandra Ruse

Tim Shambaugh

Thomas Wahley

Mary Penrose Wayne Chapter DAR

Gift of Kathryn Bloom

Kathleen Weatherford

Jeff, Rebecca, Myles & Grant Wilson

Life Members

Fred and Mary Anna Feitler

Don and Renee Gorney

Robin and Mary Lemberger

David and Judith Ruoff

Samuel and Jan Schwartz

Beth Snider and Jill Weaver

Renee Wright

(1) Anonymous

New Life Members

Linda Boyd

Wayne Boyd

Mike Lochner

Dr. Jerry and Mrs. Diane Mackel

Carol Wilcox



The Dead of Winter... is it really?

By Fred J. Wooley

Photo by Larry Huff

The Dead of Winter is a phrase often used for this time of year and does merit some truth as insect sounds are silenced, new plant growth has halted, animals are not giving birth or laying eggs, and the mood in the meadows, marshes, and woodlands is simply quieter. In nature, though, all is certainly not dead. Animals that hopped, crawled and romped about weeks and months earlier have strategies that allow them to slow down, some seemingly coming to near death, while awaiting warmer times.

Hibernation is one key strategy, and like many wonders of nature, new things are learned about it constantly. Hibernation, or a "deep sleep," allows for an animal's biological processes to drop to low levels, mirroring temperatures as they drop towards freezing. Everything slows down in a true hibernator.

Cold-blooded animals, amphibians, and reptiles cannot create heat, and as the surrounding temperatures drop, they begin to seek refuge to escape freezing. Toads, land turtles, and snakes burrow deep below forest leaf litter and decaying matter into soft soils, below the frost line. Their metabolism slows to levels just barely maintaining life as they lay dormant until surroundings warm again. Water turtles and frogs at some point take one last gulp of fresh air and slip into the soft muddy bottoms of ponds and marshes. Here, metabolism slows to near stopping and

months pass before they reemerge and taste the sweet fresh air of late winter, early spring.

More recent research shows changes in body chemistry of some cold-blooded critters, allowing them to exist in even subzero temperatures. Wood frogs, for example, burrow only a short distance into the forest floor. As ice crystals begin to form in their bodies, glycogen, a form of sugar glucose, floods into vital cells and serves as antifreeze as water between the cells freezes hard. When the surrounding earth warms, so too do wood frogs. They thaw out, sugars flow from the cells back into surrounding fluids, and the frogs become one of the first to call in springtime woodland pools!

In the mammal world very few actually hibernate. An early morning look at freshly fallen snow can reveal track records of skunks, raccoons, rabbits, squirrels, mice, voles, and all that chase them. Some of these may sleep or go into hiding for a few days of very bitter cold weather, but they are not down for long. For those that practice complete hibernation and are gone for weeks or months, three body processes must slow down to incredibly low levels: body temperature, heartbeat, and breathing.

A classic hibernator is the woodchuck, or groundhog. The normal heart rate of 75 to 100 beats a minute drops to between

four and six, its breathing of 15 to 20 per minute falls to two or three, and its body temperature of a normal 99 degrees falls into the 40s. Woodchucks count on heavy layers of fat built up after a summer and fall of eating grass and your garden plants.

Some bats hibernate, but some reckon with winter as do the other air travelers—birds—and migrate to warmer climates. While some birds stay active, as evident at our winter feeders, and some fly south, where insects and worms remain active, there are a few species that actually enter a dormant state called torpor. For some, it is just a short time, maybe during the night, where body temperatures are lowered in a form of hypothermia, thus conserving energy. The chickadee out your window can do this.

The 13-lined ground squirrel is a deep hibernator, but its cousin, the chipmunk, is only a cold-stretch sleeper. Chipmunks have quite a store of food in their underground tunnels and will awaken at times to eat and void wastes. On warmer winter days, you will even see them scooting through the forest or revisiting bird-feeding stations.

Even deep hibernators will occasionally waken if things get too cold and they need to stir to shiver and warm up or find more food. It expends a lot of energy to do this, and to do so often can spell trouble. It

is one more good reason why bat caves should be off limits to humans, particularly during hibernation time.

Recent research in Pennsylvania (not Punxsutawney) also shows that some male woodchucks wake up late in hibernation and venture out to visit several female woodchucks, sometimes spending a day or so with each one before returning to their pads for more deep sleep. This sort of woodchuck “speed dating” may just be a way for the chucks to save time when they do emerge and get serious about mating a month later.

Most of us leave the details of hibernation research to the scientists from universities. As fascinating as it all is, few things beat real-life discoveries found in the not-so-dead-of-winter world of our ACRES preserves and other natural areas.



Photo by Jon Ingleman

Making it through an Indiana Winter:

True Hibernators

Jumping Mice
Thirteen-Lined
Ground Squirrels
Woodchucks (Groundhogs)
Brown Bats (big and little)
Indiana Bats
Pipistrelle Bats
Northern Bats
Silver-Haired Bats
(some migrate)
Gray Bats
Southeastern Bats
Big-eared Bats
Amphibians
Reptiles

Deep Sleepers

Some Mice
Chipmunks
Skunks
Raccoons

Active

Most Mice
Voles
Squirrels
Shrews
Moles
Rabbits
Muskrat
Mink
Opossum

Beavers

(though sometimes in
lodges and under ice)

Otters

Deer
Some Birds

Migrators:

Some birds
Monarch Butterflies
Red bat
Silver-Haired Bats
(some then hibernate)
Hoary Bats
Evening Bats

BrushwoodEducationalCenter

ACRES is partnering with The Charles Porter & Gene Stratton Porter Society (CP&GSPS) to construct an educational center within the Munro Nature Preserve. The programs offered at this location will focus on the rich historical and natural features of the preserve and surrounding area. Munro Nature Preserve is home to Hartford Township District No. 6 school, commonly referred to as the Brushwood School. The school was built in 1903 and made famous by its prominence in Gene Stratton Porter's book "A Girl of the Limberlost."

Project goals include:

- construction of an educational center that can accommodate groups of 75 people
- preservation of what remains of the Brushwood school, or creation of a historical monument for the school
- providing educational opportunities to Adams County residents and visitors
- raising awareness of ACRES and the CP&GSPS
- providing community events and tourism opportunities for Adams County

\$75,000 will be required to construct and furnish this educational center. A generous lead gift of \$25,000 has already been received! If you would like to offer your support of time, expertise, or finances to this project, contact ACRES or the CP&GSPS at:

Charles Porter & Gene Stratton Porter Society
PO Box 66
Geneva, IN 46740
(260) 368-7352

"This project will draw attention once again to the historic Brushwood school and Munro property. The educational center will serve as a link to the past and provide a foundation for future education and appreciation of these significant resources." —Willis & Ruth Brown, CP&GSPS



Photo by Shane Perfect

Memorials

Charlotte Aubrey from Mike Lochner

Kareen Glaze from Mike Lochner

Mary McCutchan from
Fred & Jackie Wooley

Larry King for Dustin Nature Preserve
from Diane Schafer; Brian,
Denise, & Amanda, St. Louis

Nancy Kumler for Kokiwanee Nature
Preserve from
Richard Kumler

Jerry Stratman from
Paul and Marla McAfee
the Dygert family
the Manalis family

Argil Shock from
Yoder Farm, LLC
Marla McAfee
Mildred Shock

William F. Mead for the Tom and Jane
Dustin Nature Preserve from
Warren and Sharon Mead



ACRES' MISSION

Dedicated to preserving natural areas since 1960, ACRES manages and protects 63 nature preserves totaling over 4,200 acres.

1802 Chapman Rd.
Huntertown, IN 46748-9723
260-637-ACRE (2273)
email: acres@acreslandtrust.org

acreslandtrust.org



SPECIAL THANKS!

Dave Brumm

volunteered around the office

Olive B. Cole Foundation

grant of \$68,000, completing the Marsh Wren & Indian River Fund Drives!

M.E. Raker Foundation

grant of \$10,000 for educational programming and materials

Cathy Huff

donated a portion of Larry Huff's photographic archives

Diane Humphrey

for her generous donation

Legal Services of Maumee Valley

donated metal file cabinets

Nancy Malis

donated a kayak and birdseed

David Rezits

volunteered his time to play cello at the 2007 wine-tasting and photography exhibit

Robin Wilson

drafted a Land Management plan

Orion Foundation

grant of \$25,000 for operating support

Tom Bastable, Al Diefenbach, Jerry Dietrich, Fred Feitler, Art George, Karen Griggs

painted the garage at the Johnson Nature Preserve

Annual Dinner Volunteers:

Al and Sue Diefenbach
Karen Griggs
Judith Marbach and Friend
Ron and Cheryl Noyer
Robin Wilson

Community Foundation of Wabash County

grant for preserve road signs

Huntington Community Foundation

grant for preserve road signs

Bill Christie

for presenting our Nature Photography program

TriR Services

donated three used Steelcase ergonomic computer desk chairs

Britton Marketing and Design Group

for donating design and editing time on the Quarterly

All Silent Auction Donors!

Mengerson Nature Reserve "A Hidden Urban Treasure"

by Shane Perfect

At the turn of the 20th century, the Carl Mengerson Sr. farm encompassed much of what is known today as the Maplecrest shopping center in Fort Wayne. Tucked away in the northwest quadrant of Maplecrest and Stellhorn Roads (SR#37) are the remaining 36 acres of the original homestead. Two things are certain: development pressure will continue, but also, the Mengerson Nature Reserve will remain protected in perpetuity.

In 1973 Carl and Ursula Mengerson granted ACRES management rights to the property, and then, in 1989, this land was bestowed to ACRES as a gift in their will. Additional protection for Mengerson occurred in 1990, when it was dedicated

as a state nature preserve with the IDNR Division of Nature Preserves.

Mengerson contains an old-growth beech-maple forest on its northern half. The southern portion is meadow that will eventually become the same type of forest. While hiking deep into the woods, one will discover two ephemeral wetlands.

If you want to enjoy a hike but just don't have enough time to get to one of our outlying preserves, go to Mengerson next time you're in Fort Wayne. The entrance is on the north side of Stellhorn Rd., a quarter mile west of Maplecrest Rd., between the residential addresses of #5857 and #5859. There is room for a couple of vehicles on the ACRES portion of a circular gravel driveway and

a grass parking area. Enter the trail head at the north end of the parking area. Keep your eyes open along the way for some of the following:

Plant species: spring beauty, rattlesnake fern, false solomons seal, wild geranium, squirrel corn, cinquefoil, New York ironweed, Jacobs ladder and many others.

Tree species: red, white and pin oaks, sugar maple, shellbark hickory, and beech, to name a few.

Some of our wild and furry friends include: deer, red fox, great horned owls, and numerous bird species (133 and counting).

Thank you, Carl and Ursula, for your vision!

Center Photo: Ironweed at Mengerson by Shane Perfect





fieldtrips&SPECIAL EVENTS

For information on all programs, contact the ACRES office at (260) 637-2273 or visit acreslandtrust.org.

ANIMAL TRACKS & SIGN

Saturday, January 19th, 2 p.m.

Presented by: David Homan and Ethel McClelland

Search for signs of animals in the middle of winter. David and Ethel will show you what to look for to determine what animals are inhabiting the cold, wintry Wildwood Nature Preserve. As always, there will be wonderful refreshments to energize you through the afternoon.

Where: Wildwood Nature Preserve, Kosciusko Co. About 3 miles east of Silver Lake on State Rd. 14. Entrance is on south side of road. 1/4 mile east of County Farm Rd.



Deer Track by Shane Perfect

WONDERFUL WORLD OF BIRDS & LIFE OF AN INDIGO BUNTING

Saturday, February 2nd, 2 p.m.

Presented by: Conrad Getz

For any bird enthusiast, this program presented by Conrad Getz is a must-see. Having spent much of his retired time examining, filming, and learning about birds, Conrad will show you a world full of fun and feathers in these video and discussion presentations.

Where: Dustin Nature Preserve, Allen Co. 1802 Chapman Rd. From I-69 take exit 112 north on Coldwater Rd. Continue on Coldwater Rd. for 5 miles north of Dupont Rd. to Chapman Rd. turn right (east), after 3/4 of a mile look for the "ACRES Land Trust Office" sign on your right.



Indigo Bunting by Paul McAfee
acres are just waiting to be explored during these whitest and brightest of times.

SKIING/WINTER HIKE

Saturday, February 16th, 2 p.m.

Presented by: David Homan and Ethel McClelland

Come hike/ski/snowshoe the Wildwood Nature Preserve, where 238 acres are just waiting to be explored during these whitest and brightest of times.

Where: Wildwood Nature Preserve, Kosciusko Co. About 3 miles east of Silver Lake on State Rd. 14. Entrance is on south side of the road. 1/4 mile east of County Farm Rd.



Photo by Shane Perfect

WING HAVEN OPEN HOUSE

Sunday, March 2nd, 1 p.m.

Presented by: Bill and Dawn Spurgeon

Stop by the studio to learn about the latest ACRES news and activities, or just stop in to warm up by the wood burning stove after a brisk hike in the preserve.

Where: Wing Haven Nature Preserve, Steuben County. From Angola, go north on N. Wayne St. four miles. Turn right (east) onto 400 N. For parking closest to the studio, enter at the gated driveway on the left, after 1/2 a mile.

NATIVE AMERICAN HERITAGE

Sunday, March 2nd, 2 p.m.

Presented by: Dr. Larry Wiedman, Geologist

"Of course, many Native Americans traveled through Northern Indiana, but why did they stay in such large numbers? A geologist and geographer's perspective." There will be lots of show-and-tell, and it will be geared to the audience present, but certainly at a level for the whole family to enjoy.

Where: Salamonie Reservoir Nature Center. From Ft. Wayne, take US 24 west, past Huntington. Stay straight on US 9. Go about 5 miles to 200 S, and take a right. Turn right at the T, then make a quick left turn to stay on 200 S. In about 4 miles, turn left at the Salamonie sign. Go over the reservoir, and take the first right onto Lost Bridge Rd. Take the next right onto New Holland Rd. Pass the gatehouse, take the first paved road on the right, and follow the signs to the Lost Bridge Interpretive Center. It is the second drive on the right.

fieldtrips & SPECIAL EVENTS

For information on all programs, contact the ACRES office at (260) 637-2273 or visit acreslandtrust.org.

MERRY LEA'S MAPLE SUGAR CAMP

Saturday, March 8th, 10 a.m. – 1 p.m.

Presented by: Bill Smith

Join Bill (ACRES Vice President), Larry Yoder and fellow sugar bush volunteers for sausage, pancakes, fresh maple syrup, and a guided tour of the Yoder Sugar Bush near the ACRES office.

Where: Merry Lea Maple Sugar Camp-Yoder Farm, Allen County. Take Coldwater Road north of Fort Wayne to Chapman Road, turn east and drive to the Yoder Farm at 2427 Chapman Road. Park next to the red barn and walk 1/2 a mile back to camp.

Only 50 spots available! Reservations required. Call ACRES' office at (260) 637-ACRE (2273).

This event fills quickly, call early!



Photo by Larry Yoder

LOOKING FOR THE GREEN: TREE IDENTIFICATION AND SIGNS OF SPRING

Saturday, March 29th, 2 p.m.

Presented by: David Homan and Ethel McClelland

Join David and Ethel as they lead a hike focusing on winter tree identification and search for those first indicators of spring.

Where: Wildwood Nature Preserve, Kosciusko Co. About 3 miles east of Silver Lake, on State Rd. 14. Entrance is on south side of road. 1/4 mile east of County Farm Rd.

2008 WILD WALKERS

2nd and 4th Friday of each month

Presented by: Renee Baines, Outdoor Education Coordinator, Fort Wayne Parks and Recreation.

Share your knowledge of nature as you explore some of northeast Indiana's finest outdoor areas with this nature-oriented group. Wild Walkers is an adult hiking group that meets the second and fourth Friday of each month for a walk on the wild side. Each hike features a different natural area in the region (parks, wetlands, nature preserves, etc.), and carpooling is available when necessary. Join us for our first walk of the new year, Friday, January 11, 9:15 a.m., at the Beechwood Nature Preserve in Steuben County. Carpooling will leave Fort Wayne at 8:15 a.m. from the Salomon Farm on Dupont Rd. If you would like to help plan meeting times and destinations for 2008, we will meet again on Friday, January 25, 9:00 a.m., at the Salomon Farm Learning Center. If you are unable to attend the meeting, you may call 427-6005. A copy of the 2008 schedule will be posted soon at www.fortwayneparks.org.

WILD WALKERS EVENING EDITION

2nd and 4th Wednesday of each month

Acres Invites You To The **2008 Fort Wayne Home & Garden Show!**

February 28th – March 2nd

We need volunteers for the ACRES booth at the Coliseum. Share ACRES' mission with the general public; plus, get an exhibitor's pass to the entire show!

Please contact the ACRES office at 260-637-2273 if you are interested in this volunteer opportunity.





Photo by Aaron Fortim

Massasauga Rattlesnakes

by Bruce Kingsbury

The Eastern Massasauga, *Sistrurus catenatus catenatus*, is one of the more interesting denizens of several ACRES properties. As the nickname “swamp rattler” suggests, massasaugas are associated with wetlands. I think of swamps as forested wetlands, so for me, that nickname misses the mark a bit, but fens, wet meadows and bogs are certainly appropriate. If the wetland has pitcher plants, shrubby cinquefoil, tamarack, poison sumac, or lady slipper orchids, then maybe it has massasaugas as well.

The name massasauga appears to be derived from the Chippewa word for “great river mouth,” referencing the affiliation the species often has for wetlands near streams. No doubt, massasaugas were encountered in such places by Native Americans and explorers looking for a place to land their boats. Massasaugas reside in areas lacking trees, with a ground cover of mostly sedges or grasses. In this part of the Midwest, massasaugas are usually in wetlands, where the soil is saturated and the going can be pretty rough. While you are on the trail, massasaugas prefer to perch on sedge hummocks, cryptically basking in the sun.

Eastern Massasaugas range from the eastern Great Plains to New York. Once common in some places, they are now a federal candidate for listing as threatened. They are listed as endangered in every state and province where they occur, except in Michigan, where they are a Species of special concern. They also are declining in that state, but there are undoubtedly more populations in Michigan than in the rest of the range combined.

These diminutive rattlesnakes may be only two or three feet long. Typically, their bodies are colored mostly with browns and grays, with darker blotches down the middle of the back and along the sides. The tail takes on a more ringed appearance. While the rattle, vertical pupil, and heat-sensitive pits on the face may help distinguish this species from other snakes, the superficially similar hognosed snakes, milk snakes, and even northern watersnakes may be mistakenly identified as massasaugas.

Adults principally eat small mammals such as voles and shrews, while juveniles may also eat small snakes. A variety of animals in turn will eat them, including skunks, raccoons, herons and hawks. Young are delivered fully formed

in late summer. They stay with their mother for perhaps five to seven days, until they shed for the first time, then they disperse. The mother does not show any parental behavior during that time, except perhaps being a little more defensive than usual.

One of the more fascinating aspects of massasauga biology is the way these snakes generally hibernate—under water! In the fall, many massasauga populations converge on wetlands (along with gartersnakes, watersnakes, and other wildlife) to spend the winter in crayfish burrows. The burrows are constructed by the crayfish so that they may access the water table to stay hydrated. Long after the crayfish are gone, the burrows remain. The water in the burrows not only keeps the hibernating snakes moist but, perhaps counter-intuitively, also protects them from freezing. Water has outstanding heat storage capabilities, and thermally links water-soaked soil near the surface to the warmer ground below. The snakes get very cold but do not freeze. And, since their metabolism is influenced by temperature, cold snakes don't need much energy or oxygen. Consequently, they can survive underwater for long periods of time, provided the water is nearly freezing and well-oxygenated. If necessary, a snake can stick just the tip of its nose out of the water to breathe, otherwise remaining underwater.

"Saugers" are remarkably difficult to find, given their cryptic coloration and secretive behavior, so if you ever see one, consider yourself fortunate. Are massasaugas dangerous? Yes—and no. They are rattlesnakes and, thus, venomous. A bite from a massasauga is reason to go to the hospital. While no one has died from a massasauga bite in at least 50 years, it is uncertain how strongly one might respond to a bite. The youngest and oldest amongst us, or those with the misfortune to have an allergic response to the venom or the antivenin treatment, could be in for a rough ride. Arthritis and other ailments may pursue the bitten long after recovery from the bite itself.

Bites are extremely rare. Unless caught out in the open, massasaugas "freeze" where they are, in the hopes of going undetected. During years of surveying for this species and tracking them using radio telemetry, my students and I have never witnessed aggressive behavior from an untouched snake. If you wear boots and stay on trails, the chance of a bite is virtually nonexistent. But pick one up, or whack it with a stick, and I don't make any promises. Almost all bites involve young men and, often, alcohol. Acts of bravery or bravado figure into many events—boys will be boys, I suppose. Consider just walking around our fascinating wetland resident, and both of you can go on enjoying your respective afternoons.

Beechwood Alert!

Beechwood Nature Preserve is in the beginning stages of an oak savanna restoration project. The vegetation within the southern and middle portions of the property (the old fields area) has been heavily populated by invasive species. In order to control these invasives and establish an oak savanna habitat, ACRES has contracted Blue Heron Ministries to perform restoration services on this

area over the next seven years. Invasive species will be removed and controlled, native trees typical of an oak savanna will remain, and prairie species will be established. Prescribed burns will be used to maintain the oak savanna. The end result will be a vegetation community similar to Pokagon State Park's habitat adjacent to Beechwood's western boundary. Oak savannas are dominated by grasses with

individual or small groups of trees scattered throughout. So, as you notice the landscape changing at Beechwood, don't be alarmed. It's just ACRES converting a field of invasives back into a native Indiana plant community—an oak savanna. Oak savannas are the world's most endangered ecosystem, with less than 0.1 percent of original areas remaining. Beechwood will remain open throughout this project.



Photo ACRES Archive

The ACRES office is currently having a new septic system installed. The failed conventional septic system is being replaced with a constructed wetland septic system. Russell Engineering, Inc., graciously provided discounted professional services to design the system. Ken Russell provided the following description of the project.

Wetlands are great “natural filters” removing sediment and nutrients from stormwater runoff. “Constructed” wetlands are a way to harness the benefits of a wetland to clean wastewater. A wetland treatment system seemed like a perfect fit for a land trust like ACRES.

A sealed wetland basin is constructed with an inlet and outlet pipe manifold. The basin is filled with pea gravel, and a diverse culture of wetland plants is installed. The water level is maintained at about two inches below the top surface of the stone.

Wastewater passes through a conventional septic tank, where most of the solids are settled and greases and oils are trapped. This is called primary treatment and is not any different from any other septic system design.

The discharge from the septic tank contains dissolved organic material, nitrogen, and phosphorous—nutrients that plants can use for growth. This discharge is directed into the inlet pipe of the constructed wetland and passes in a linear fashion to the outlet.

Along the way, the wetland plants uptake these nutrients. In addition to the wetland plants and their root structure, algae and other bacterial cultures grow on the surface of the pea gravel in the basin. The combination of plants and bacterial cultures filters most of the solids from the wastewater and removes the dissolved nutrients.

Our design uses two parallel-flow wetland cells, allowing one wetland cell to be taken out of service for cleaning while the other remains online. This also allows the system to handle large variations in flow. The discharge from the wetland will be absorbed into the soil in a field near the wetland basin. There will not be any direct or open-flow discharge allowed.

Russell Engineering supports the objectives of ACRES and has long sought to find projects that make a positive environmental and socially conscience statement. This project is just such an undertaking.

Interested in a winter project?

- Preserve benches (see next page)
- Bluebird boxes
- Wood duck boxes
- Routing preserve signs
- Invasive removal

Contact the ACRES office for project instructions.



Frozen Waterfall by Jason Kissel

WinterSleepers

Time now for the long sleep of the four-footed brethren. The frosty nights, the days so brief and so subdued, the cold and voiceless emptiness of the ruined woods, have warned the woodchucks, the pine mice, the chipmunks and the bats. And now in couples, or in families, they creep away to their lairs.

When I am troubled with insomnia, I think not upon those foolish sheep, jumping heavily and wearily over a stile. I think instead of the sleep of the white-footed mice, in their burrows and hollows, warm flank to warm flank, clever little paws folded over sensitive noses and whiskers, as they doze away the days and the nights together, secure in their retreat, contented with their lot. They sleep as the plants sleep in their roots and bulbs. Their hearts beat so slowly that they scarce suffice to force the warm blood through the chilled limbs; minds are a blank, all hunger, desires, impulses and fears in abeyance for days and days, for weeks and weeks. So do these little fellows sleep, five and ten at a time, fallen upon each other in little furry windrows of drowsiness.

—Donald Culross Peattie, 1935

“Winter Sleepers” condensed from *An Almanac for Moderns* by Donald Culross Peattie, G.P. Putnam’s Sons, NY, 1935. Reprinted by permission of Noel R. Peattie and Curtis Brown Associates Ltd. Copyright 1935, 1963 by Donald Culross Peattie.

ACRES Land Trust
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Huntersville, IN 46748

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