

THE ACRES

QUARTERLY



PRESERVING NATURAL AREAS
IN NORTHEAST INDIANA

President's Message
Dygart Auction
Field Trips & Special Events
Swallows
Kokiwanee Nature Preserve
Bicentennial Woods Bridge
Darters

SUMMER 2004
Volume 43 - No . 3



president's message



The old 20-foot snag, part of the familiar scene out my kitchen window, fell to the forest floor during the night. The tall bare tree was the stage for many searching woodpeckers and busy red squirrels. It stood sentinel at the edge of the woods for a decade. I felt a bit sad when I found it down in the poison ivy and underbrush, but the fungi and creatures of the ground will feast on that fallen timber for many years. This change was inevitable and I feel privileged to bear witness to it.

In ecology, scientists often talk about dynamic changes: plant succession, population cycles and invasive species. But in popular nature poetry and prose, writers more often speak of the permanency and stability of natural landscapes. We also like to think of our environment as a benign and static place, disrupted only by human enterprise. But, in fact, change is constant and necessary.

ACRES as an organization, like the natural areas it stewards, has also changed. The privilege is ours to witness and embrace this evolution: growth in the volume and diversity of our land holdings; growth in our finances and personnel; growth in our land management responsibilities (and, yes, sometimes, headaches); and growth in the stature and influence of ACRES Land Trust in our "statewide community." We choose to celebrate these changes and uphold the vision of the many leaders who created and nurtured ACRES through the first forty-four years of its good work.

David Van Gilder, ACRES President



ACRES Board Members, (L to R -Clockwise starting with back row) Jack Stark, Frannie Headings (recording secretary), Pat Oppor, Nancy Leininger, Ted Heemstra, Sam Boggs, David Van Gilder (Pres.), Nathan Simons (Front Row) Steven Hammer, Bob Bryan, Sue Britton, Art Eberhardt, Bill Smith, Carolyn McNagny (Exec. Dir.) Absent: Janel Rogers, Richard E. Walker, Tony Acosta, Nancy Bradtmiller, Gary Tieben, Jeff Britton

Cover photo of waterfall and page 1 photo background at Kokiwanee Nature Preserve by Tim Kimmel.

WELCOME

new members!

Carl Akers, Jr.
Gene and Susan Andert *Gift of Thomas and Mary Jo Bland*
Jack Anglin
Tom and Gayla Baker
Tom Barry
Charles and Marilyn Bash
Gift of Judge and Mrs. William C. Lee
Jeff Baxter
Charles Bell *Gift of Bruce A. Flohr*
Max and Nancy Bell *Gift of Justin and Jacinda Kaylee*
Lynn Bobay
Joseph and Rosemary Bontrager
George and Lucia Brewer
Gift of Fred and Mary Anna Feitler
Robert and Gloria Britton *Gift of Sue and Jeff Britton*
Matthew and Kay Brown *Gift of Sue and Jeff Britton*
Neil Burchett
Janice L. Burgette
Alex and Dee Cole
Sam and Carol Conte *Gift of Sue and Jeff Britton*
Brent and Pam Cousino
David Cox *Gift of Bruce A. Flohr*
Eugene and Rosemary Daigle
Robert and Judith Davis
Peggy Delany *Gift of Sue and Jeff Britton*
H. E. Dennis *Gift of Jack H. Root*
Deborah Eberle
Matt and Amanda Elliott *Gift of John and Jean Elliott*
Robert L. Elmer *Gift of Robert W. Hawley*
Paul and LeAnn Fisher *Gift of Sue and Jeff Britton*
Pamela Flora *Gift of Mary Lee Hosey*
Anne Fortmeyer *Gift of Dale and Karen Buuck*
Adam Fox *Gift of Sue and Jeff Britton*
Kenneth E. and Angela Fulk, Jr.,
Gift of James and Linda Crouse
John and Vida Gardner
Gift of Judge and Mrs. William C. Lee
Jon Gillespie and Amy Nichols *Gift of Sue and Jeff Britton*
Robert and Martha Goings *Gift of Phil and Jean Ross*
Rick and Sara Greer
David Hart *Gift of Michael LaMasters*
Virginia Harter
Steve and Elaine Hatlem *Gift of Sue and Jeff Britton*
Ashley Hawley *Gift of Robert W. Hawley*
Frederick and Sharon Hepler *Gift of Sue and Jeff Britton*
Dennis and Cheryl Hobday
Eleanor Holley *Gift of Jack and Karen Horrell*
William and Shelly Jones
Dr. Ashok Kadambi *Gift of Sue and Jeff Britton*
Michael and Jodee Keleman
M. Bridget Kelly *Gift of Jeff Baxter*
Stephanie Kersten *Gift of Delles Gerig*
Michael and Rhonda Kile *Gift of Sue and Jeff Britton*
Geneva Kratz
Michael LaMasters
Justin, Jacinda and Matt Lettau
Scott Kiefer *Gift of Art and Marion Eberhardt*
Barb Leazier
Walt and Marge Lilley *Gift of Doug and Jane Gill*
Karen Mabey *Gift of Sue and Jeff Britton*
Vicki Massie
Margaret Appleseed McBride
Gift of James and Kathleen Bugert

Life Membership!

Robin Lemberger

Patrick McDonnell *Gift of Cheryl Allen*
Norman and Elizabeth Meintel and Family
Gift of Diane Humphrey
Kelly Metzger *Gift of Sue and Jeff Britton*
Aaron Miller *Gift of Jim and Mary Shearer*
Deb Miller *Gift of Art and Marion Eberhardt*
Steve Miller and Jessica Rogers *Gift of Carolyn F. Miller*
Mary E. Myers
James Neill
Jerry and Gayle Noble
Jessica Ortiz
Rosemarie and Amy Poznanski
John A. Raub
Jeff and Heidi Reed
Gift of Dale Guerin and Glenna Cayot-Guerin
Ken and Ingrid Rogers
Kyle Rothermel
Kay Royer
John Ryan
Wayne and Larisa Sexton
Gift of Thomas and Mary Jo Bland
John Shire *Gift of Renée Wright*
Phillip and Peggy Siders
Amit Sinha and Michele Feitler
Gift of Fred and Mary Anna Feitler
Marjorie Smith
Brett and Robin Stark *Gift of Jeff and Sue Britton*
Paul Steffen *Gift of Rosemary Rouch*
Paul L. Stephenson
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Brian Wagner and Davonne Rogers *Gift of Neil Burchett*
Donn and Diane Werling
Gift of Judge and Mrs. William C. Lee
Katie D. Wooster *Gift of Donna Jean Ohning*
Frances A. Wright *Gift of Renée Wright*
Jonathan Wuepper
Bob and Mary Young
Robert M. Zimmerman *Gift of Becky L. Zimmerman*
Lake George Conservancy *Gift of Brent L. Cousino*
Greenway Consortium, Inc.

ACRES Office may be moving!

The YWCA has announced that they are selling their campus at 2000 North Wells Street. We are looking for a new home. If you know of any options, please call ACRES at 260-422-1004, and speak to Carolyn McNagny, Executive Director. Thank You!



Dygert's Woods

Because of your encouragement and help, ACRES purchased the entire 80 acres south of the 56-acre Evelyn and Wendell Dygert Nature Preserve, Whitley County. The auction was held on Thursday, June 24th, and lasted 2 1/2 excruciating hours. Ted Heemstra and Jack Stark, ACRES Board Members, bid for

ACRES and did an excellent job.

ACRES spent \$325,000 for the 80-acre addition. The development pressures in this area are very intense because of a new school recently built 1/2 mile away. A special thank you to Wayne and Linda Boyd and Patricia McNagy, who attended the auction. Mrs. McNagy purchased the 6-acre Tract 10 and Mr. and Mrs. Boyd acquired 15 acres of Tract 8.

Without the generous support of the people acknowledged on this page and the next, ACRES would have been unable to purchase the 80 acres. Thank you!

Photo Credits:
Blue-eyed Mary photos and Fleabane by Marcia McNagy
G. Wendell Dygert by David Hicks
Woods and field addition by Marcia McNagy



Wayne and Linda Boyd
John and Marcella Ellenwood
Tony Fleming and
Victoria Ferguson
Tim Gerardot
Diane S. Humphrey
Richard and Dr. Sylvia Manalis
JoAnn Martin
Patricia A. McNagy
Janel A. Rogers
Martha L. Sittler Trust

Cheryl H. Allen
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John and Beth Beams
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Judy M. Archer-Dick
Andrew and Margaret Dirksen
Mark and Cricket Dolezal

G. Wendell and Evelyn Dygert
John and Jean Elliott
Tim and Nancy Eviston
Fred and Mary Anna Feitler
Thomas and Joan Foltz
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Fayne Harter
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Donald Jones and
Cheryl Skiba-Jones
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Dan and Judy Kaufman
Maureen Bridget Kelly
Bruce and Barbara Kistler
Robin Lemberger
Gene and Elizabeth Lightner
Nancy Malis
Laura Manalis
Jeff Marchant
Arthur J. Matott
Paul and Marla McAfee
Ethel McClelland
David and Mary McCutchan
Carolyn McNagy
Elizabeth McNagy



Richard J. McNett
Ranelle Melton
Carolyn Miller
John and Lavonne Miller
Kathryn Moore
Victor C. Moeller M.D.
Norman and Sonia Myers
Peter and Pamela Oleson
Patricia Oppor
Virginia Petit
Ed and Cynthia Powers
Avis E. Rayl
Bruce and Ann Reidenbach
Barron Renkenberger
Dr. Paul and Mary Rothrock
Rosemary Rouch
Ben and Renee Roush
John Ryan
Lucas Satter
Samuel and Jan Schwartz
James and Gwen Seely
Deborah and Kim Shoup
Thomas and Barbara Silva
William A. Smith IV and
Sally Garrett Smith
Carol Thomas
Dr. Samuel and
Mrs. Jane Ann Thompson
Jack and Carolyn Thrush
William and Cecilia Weakley
Frances E. Wilder
Richard and Joyce Wolf
W. Paul and Carolyn Wolf
Fred and Jackie Wooley
Chris Worrell
Dr. Phillip and Marcia Wright
Don and Cheryl Wyckoff
Mel and Carolyn Zehner

Jefferson Letter Service
Wild Birds Unlimited



Bark Baskets

Sunday, July 25th at 3:00 p.m.

Presented by Erik Vosteen, Eagle Lake Productions. Join us for an afternoon of "hands on" fun as we explore the ancient uses of trees for crafts and other domestic and utilitarian items. We will familiarize you with the tools and techniques used for harvesting and processing raw materials and assembling them into beautiful and functional baskets and even watertight containers suitable for cooking over an open fire. Everyone will be provided with all of the tools and materials needed to make an elm bark basket (often called "makuk") or a ladle, styled after docu-

mented examples of those commonly in use across the eastern woodlands for centuries before contact with Europeans. Everyone makes their own to take home! **Participants must pre-register by July 23 by calling ACRES at 260-422-1004. \$30.00 program fee for supplies.** Start time is 3:00 pm and most people will need at least three hours to complete a basket or one hour to complete a ladle. Minimum recommended age is 12 years. **Where:** The Blue Lion Coffee House, Pierceton, Indiana.

Canoe Wing Haven

Sunday, August 1st at 2:00 p.m. Presented by Ethel McClelland and David Homan. We will canoe five of the seven sister lakes. Join us for a beautiful day. **Bring:** Canoe or kayak, paddles, life jackets, sunscreen, swim suit (or not), and sunglasses.

Where: Wing Haven Nature Preserve, Steuben County. Take I-69 to Pokagon State Park exit (Exit 154). Turn south on SR 127 and immediately left onto 400 N. Preserve located on north side of 400 N in 1 mile.



Pancakes on the Lake and Canoe Race at 8:30 a.m.

Saturday, August 7th

The Crooked Lake Property Owners Association holds its annual Pancakes on the Lake. We will meet at the Crooked Lake access site at 8:30 a.m. and paddle to the pancakes. After breakfast, take a hike at the 146-acre Crooked Lake Nature Preserve or take part in the 3/4 mile Canoe Race (10:30 a.m. for children, 12:00 adults) for trophies. **Where:** Crooked Lake, Whitley/Noble County line. Take US 30 to Columbia City and then turn north on SR 109. Go 7 miles on SR 109 to the IDNR access site, located on the east side of the road. **Bring:** Canoe or kayak, paddles, life jackets, sunscreen, swim suit (or not), and sunglasses. **Cost: \$4.00** to benefit the Crooked Lake Property Owners Association, working to improve the water quality at Crooked Lake.

Photo Credits:
Bark Basket by Erik Vosteen
Crooked Lake by Bob Webber
Sedge Meadow by Carolyn McNaghy
Bank Swallow by Paul McAfee

Shoreline Sedge Meadow Hike

Sunday, August 8th at 2:00 p.m.

Come learn the botany of a calcareous sedge meadow in an unexpected environment. The shoreline at this new recreational vehicle park was preserved and restored (in progress) with the intent of being a feature natural landscape for the appreciation of summer camping residents. Bring plant field guides and wear footwear that can get wet. Meet at the Presbyterian Chapel of the Lakes to carpool. From I-69, take Exit 150 (Lake James). Turn left (north) onto CR 200 W. Travel approx. 1 mile to Orland Road. Turn left and travel approx. 1/2 mile to stop sign (Sunset Inn). Take right fork and travel another 1/2 mile to the stop sign at the intersection of Orland Road and CR 300 W. **Contact:** Nate Simons: (260) 316-2498.



Children's Program!

Les Gustafson Zook plays instruments at Wildwood

Saturday, August 21st at 10:00 a.m.

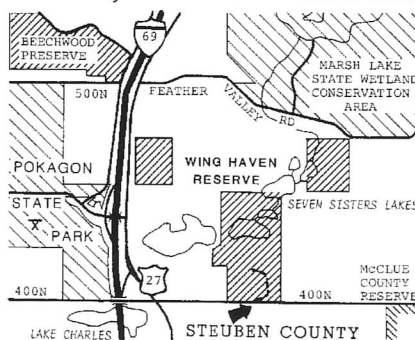
Les is an entertaining and energetic multi-instrumentalist performer for both children and adults. The 2001 International Autoharp Champion and the 1989 National Autoharp Champion, Les will perform his *Songs of the Pioneers* program at the serene 238-acre Wildwood Nature Preserve.

Where: Wildwood Nature Preserve, Kosciusko County. From Ft. Wayne, take SR 14 west of I-69 for 32 miles. From the intersection of state highways 14 and 13, it is about 4.6 miles west. From county road 100 E, it is about .6 mile west. Wildwood sign on south side of road.

Swallows of Summer

Sunday, September 5th at 2:00 p.m.

Paul McAfee, an excellent photographer and naturalist, will introduce you to the birds of summer, the swallows. Learn how to identify them on the wing and their importance in keeping the mosquito population low, which would make everyone cheer! **Where:** Wing Haven Nature Preserve, Steuben County. Take I-69 to Pokagon State Park exit (Exit 154). Turn south on SR 127 and immediately left onto 400 N. Preserve located on north side of 400 N in 1 mile.



Contact ACRES at 260-422-1004 for more information about our programs.



Swallows

Article and photographs by Paul McAfee

Barn Swallow and young

*flashes of springtime
over the mosquito pond
creature of the air*

From the Japanese haiku artist Obi Waankenobi, a poem delicately phrases what most people think when they watch swallows. Stand next to any lake in ACRES land in mid-May and you will undoubtedly see numerous swallows of a variety of species hawking mosquitos and other insects. The graceful twists and turns look like a special dance created exclusively for the benefit of the audience, but in reality they are deadly efficient predators of the air.

Northeast Indiana has its share of these wonderful critters. There are six species seen regularly in this part of the world: Tree, Barn, Bank, Northern Rough-winged, Cliff and Purple Martin.

TREE SWALLOW

This is a very common bird that loves to use constructed bluebird houses. They are dark blue on the back and white underneath. They have a very romantic mating dance that often involves one bird dropping a feather and the other catching it. The nest generally includes some feathers as well.

BARN SWALLOW

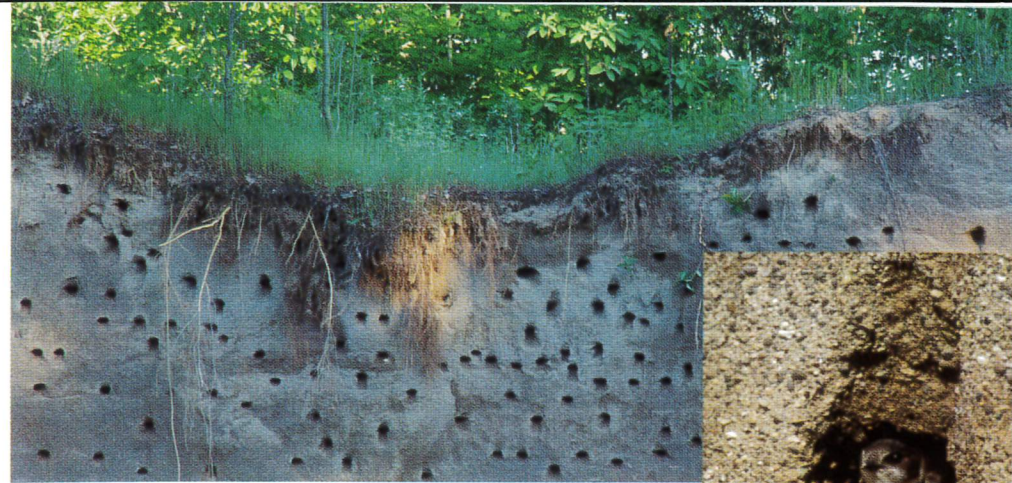
Another very common bird, especially around barns. Their mud nests often adorn small ledges that are under a roof. Barns, carports, and porch overhangs are their preferred nesting habitat. Farmers know that Barn Swallows will follow them around on the tractor catching insects that are stirred up. These birds have a dark blue back, a rusty colored throat and a dirty white belly. They have a very pointed forked tail. In straight flight, the tines of the tail are held together, giving it a very long pointed look. During a quick turn the tail flares out, revealing the long tines that give them the aerial maneuverability.

BANK SWALLOW

These are social swallows. They nest in colonies in sandy banks, with sometimes hundreds of nesting holes in a colony. They are common where suitable nesting habitat occurs. Bank swallows have brown backs, white bellies and a brown neck band.

NORTHERN ROUGH-WINGED SWALLOW

These birds look very similar to the Bank Swallows. Rather than a brown neck band, they just have a sort of dirty looking throat.



Bank Swallow Colony

Bank Swallow

In flight, both birds are so twisty and turny that it's hard to pick out the markings on the throat. Rough-wings nest in holes in banks, but aren't as colonial as Bank Swallows. Sometimes there will be a few in a Bank Swallow colony, but mostly they will be on their own or near two or three other pairs.

CLIFF SWALLOW

This bird is the rarest for northeast Indiana. They look similar to a Barn Swallow, but don't have the forked tail and have a rusty patch on their rump. Their nests are also similar to the Barn Swallow's mud nest, but it is typically attached to the side of a structure, oftentimes a bridge, and it is enclosed with an entrance hole. They are somewhat colonial with several nests located near each other at a suitable location.



Bank Swallow Nest

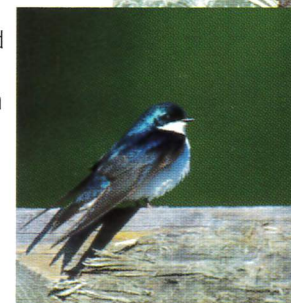
PURPLE MARTIN

This is a large swallow. It is practically as large as a Starling and looks somewhat similar from a distance. It is a dark purple bird that nests in famous colonies. They are typically rare, except where they have taken to a manmade nest box or collection of gourd nests. It is generally very difficult to entice a colony of Purple Martins to start nesting in a nest house, but very rewarding when they finally show. As Ms. Waankenobi puts it:

*"Martins in the house
mosquitoes, bugs, pesky gnats,
insects hard to find."*



Barn Swallow
Building Nest



Tree swallow



Memorials

Else Matott

for Edna W. Spurgeon Woodland
Arthur Matott
Everitt Padgitt

Thomas Schmidt

for Pokagon State Park
Karen Ericson

Charlene E. Snyder

for Evelyn and Wendell Dygert
Nature Preserve
Leslie Carmin Hammer
Joe and Ann Jenney
M. Bridget Kelly
Mel and Carolyn Zehner
Johnny Appleseed Festival

Nancy Collins Stagg

for Evelyn and Wendell Dygert
Nature Preserve
Thomas and Barbara Silva
Samuel and Jane Ann Thompson

Edith Earline Boggs

for Pokagon State Park
Employees of Pokagon State Park

Frank Dulin

for Pokagon State Park
Staff Members of The Writing Center
Indiana University-
Purdue University Fort Wayne

Jane H. Dustin

for Cedar Creek
William B. Barnes Sr.
K. N. and Cathy Miller
Charles and Ruth Oswalt
Everitt Padgitt
James P. Sweeney

W. Glenn Fogwell

for Fogwell Forest
Robin and Michele Simerman

Vera Ropchan Kindraka

Sister of Sam Ropchan
for Ropchan Wildlife Refuge
Katherine Berger
Deborah Eberle
Al Ropchan
Alice Ropchan
David M. Ropchan



ACRES' MISSION Dedicated to preserving natural areas in northeast Indiana, ACRES manages and protects 53 nature preserves in 13 counties.

2000 North Wells Street
Fort Wayne, IN 46808-2474
260-422-1004
email: acreslt@fwi.com

acres-land-trust.org

Photo Credits:

Dwarf Larkspur by Tim Kimmel
Bicentennial Woods Bridge by Bill Smith
Ethel and David by Tim Kimmel

Bicentennial Woods Bridge



Bill Smith, ACRES Board Member, was driving near The Bicentennial Woods in northern Allen County. Seeing two telephone poles laying alongside the road, he pulled over and asked the linemen if he could take them. And so began the effort to create an impressive bridge spanning a 25-foot ravine. Carl Deimling, also known for his wood-working expertise, and Bill worked several months to build a bridge similar to one Carl had seen at a National Park. Thank you for the beautiful bridge Bill and Carl!

Tributes

David and Sandra Haist

*For their generous help
to Kokiwanee Nature Preserve and ACRES*

Conrad and Charlene Getz

*For opening their bird sanctuary
to the public!*

Jack and Karen Horrell

For their generous help to Wildwood and ACRES

Celebration!

Frederick and Alfreida Mackel's 60th Wedding Anniversary

From:

Robert and Monia Alexander
James and Pat Barrett
Don and Susan Graber
George and Martha Weatherford

"Thank you to people for letting us know when trees are down across trails and for lopping trails when they are hiking. Would like to thank Sam Boggs for mowing the trails and Greg Mauk for mowing the parking area at the Beechwood Nature Preserve."

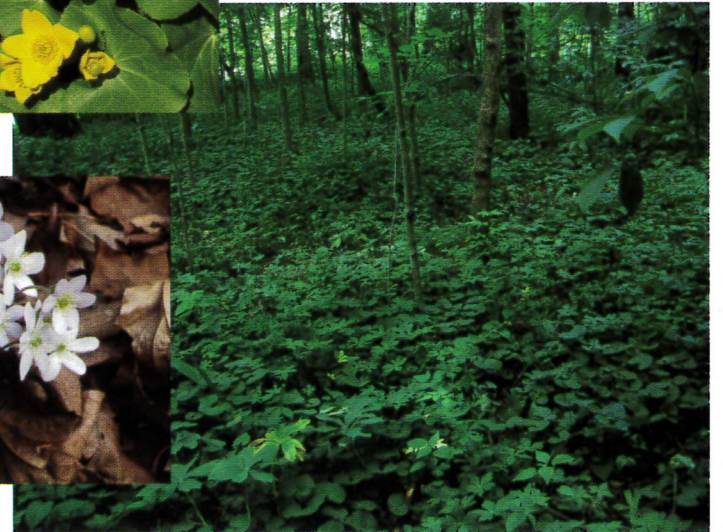
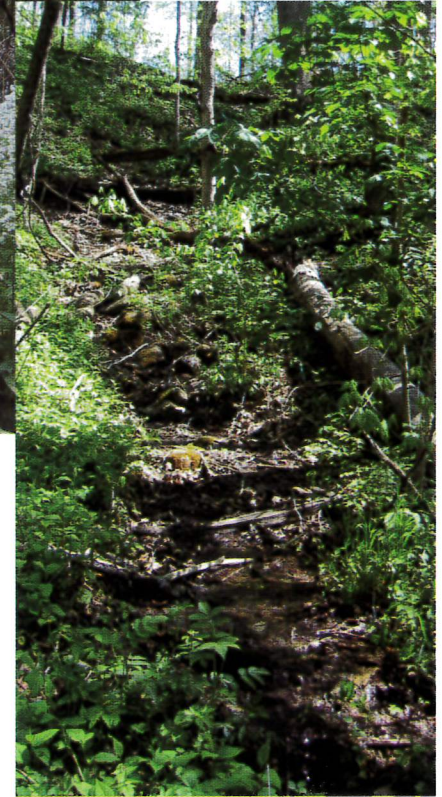
"To the Kokiwanee crew: we could not have accomplished what we did without you!"

*—Ethel McClelland and David Homan,
ACRES Land Management Specialists*





Kokiwanee Nature Preserve by photographer Tim Kimmel



darters

By Sue Kern

"Wait, don't move, they're right at the edge of that log. As I bent down slowly to get a better look there was a sudden flurry of activity in the pool. I found myself staring at empty water, no fish. We had come to the base of the Kokiwanee Nature Preserve's 25 foot waterfall to identify darters, those small fish that most people collectively call minnows, which inhabit its pools and riffles. I say "we" because it's always a good idea to bring a friend along when you decide to undertake such an endeavor. First of all, it's difficult to keep track of the fish as they scurry in several different directions simultaneously. Secondly, and perhaps the most important reason, reassurance. Here I am, an adult, sloshing along a stream bed in waders, looking into each and every pool trying to catch a glimpse of very small, very fast, fish for no other reason than identification. Most people would think that's a bit silly but if you have someone else with you doing the same thing, it's a research expedition.

I left the pool and walked along the stream bed towards the waterfall with the hope of finding more fish. It was the middle of June and the stream that had once been over ten feet wide had been reduced to rivulets gurgling over, under, and around small stones. Every few yards, shallow pools had formed from the debris and logs that had been snagged by the larger rocks. I was expecting the stream bed to be sand; instead it was bedrock, worn smooth from the flow of millions of gallons of water over the centuries. I passed a young northern water snake, coiled and sunning itself at the water's edge; its tiny tongue tasting the air for any foreign scent. Someday it will grow to around three feet long; but right now it's only about six inches and kind of cute in a snake sort of way.

I managed to make my way to the falls. I stood at the base overwhelmed. Towering 25 feet above me were huge sharp outcroppings of stone with volumes of foamy water cascading over them. The roar it created was both soothing and relaxing. I stood there for over an hour enjoying the solitude. By the

time I remembered why I had come to this special place, deep shadows were starting to envelope the woods. There's always tomorrow and we will back.

Darters remained relatively unknown to the general public until the 1970's when the small Snail darter brought the species into the spotlight. Discovered in 1973, this darter was believed to only inhabit a 38 mile section of the Little Tennessee River. It was immediately placed on the Endangered Species List. At the same time, The Tellico Dam was nearing completion. This project would submerge the river and destroy the darter's habitat. Concerned about the fate of the Snail darter, environmentalists filed a lawsuit to halt construction of the dam. The case ended up in the Supreme Court, which voted six to three in favor of the darter. Congress then intervened and allowed the dam to be completed. All was not lost for the little darter. Scuba divers caught and relocated three populations to different habitats and additional groups were later found in other locations. Indiana has its own share of darters on the endangered species list; Gilt darters, Harlequin darters, and Tippecanoe darters, just to name a few. The pollution free, fast-flowing streams that these fish need to prosper are disappearing at an alarming rate.

Darters are the smallest, rarely exceeding four inches, most diverse members of the perch family. They can be found in fast flowing stream riffles or quiet pools. Each member is well-suited to its particular habitat. All have stream-lined bodies, separate dorsal fins and large pectoral and caudal fins. The Rainbow darter, *Etheostoma caeruleum*, like other bottom dwellers of this family, has no swim bladder. This organ, which allows bluegills to remain suspended above a lake bottom, would make it nearly impossible for the darter to remain stationary in a fast flowing current. It uses its large pectoral fins to wedge itself into small rocky crannies thereby conserving valuable energy. During breeding season, the male Rainbow darter has been called the most beautiful of all Great Lakes fish; its sides and tail turning beautiful shades of orange and blue. The Rainbow darter is used as an indicator species of stream health. Its presence often denotes a high quality water source.

The Eastern sand darter, *Ammocrypta pellucida*, can be found in states east of the Mississippi River. It is a small fish, around 2 ½ inches long, with a slender body, violet color on top, and a row of 10 -17 spots on each side. It inhabits slower moving streams with clean sandy bottoms. It is believed that the darter buries itself in the sand until only its eyes are exposed. There it lies in wait for its favorite food, midge larvae.

Although still under investigation, the Eastern sand darter may play a vital role in the existence of the Round hickorynut mussel, *Obovaria subrotunda*. Many species of fish, including darters perform an integral role in the reproductive cycle of freshwater mussels. The fertilized egg of a mussel develops into larva which attaches itself to the gills of the appropriate host fish. The fish provides a means of transporting the larva to other parts of the stream. Once the mussel transforms into its adult stage it drops off to begin the cycle again. The Eastern sand darter and the Round hickorynut mussel are on the list of Special Concern species in Indiana. The major cause for the darter's decline is increased siltation due to dam building and agriculture.

The Johnny darter, *Etheostoma nigrum*, is one of the most common darters found in Indiana. It is straw-colored, about 2 ½ inches long with six dark cross-bars on its back. The easiest way to distinguish this darter is the little "x" and "w" markings on its back and sides. The Johnny darter can tolerate more siltation than either the "Rainbow" or Eastern sand darter; one reason being its spawning behavior. The male darter will pick the nesting site on the underside of a rock and care for the eggs by fanning them with his pectoral fin to provide them with a constant flow of oxygen and keep them free of silt.

Go exploring the stream and waterfalls of Kokiwanee Nature Preserve. Let me know what you find but don't forget to take a friend.



Rainbow darter



Johnny darter



Logperch darter



Eastern sand darter

Darter photographs by Gary Meszaros

Brood X

BY GUEST WRITER JEFF BRITTON



Brood X cicada by Tim Kimmel

They have been living beneath the soil for 17 years... sucking at tree roots... preparing to emerge from small half-inch holes all at once... as many as 1.5 million of them per acre.

Thousands of cicada larvae emerge in one night, fearless of any predator: dogs or birds, the small furry mammals that eat them, or the small furry boys that catch them. Slowly, they crawl up into trees, bushes, or anything they can—like the one that went up my pant leg. Why do they do this? So they can harden into BROOD X, the 17-year cicada.

We all know the oscillating fall-cicada sound we hear on hot days, but Brood X sounds different. Sue thought it was someone's house alarm going off in the distance, but when it continued the next day, she realized it was something else... a slowly rising ambient noise as their numbers grow and grow.

17-year cicadas are large insects that suck plant juice. But unless you have just planted a lot of small trees, they are harmless to you or your pets, even if they do "creep you out" a little. They have red wide-set eyes and yellowish translucent wings which fold over the tops of their stout bodies. Adult cicadas tend to be larger than most insects in Indiana from 1.5" to 2.25" long. Their conspicuous acoustic signals are made by the boy cicadas using specialized structures called tymbals, found on the abdomen.

You can see most kinds of cicadas every year, even if they emerge in the 2 to 8 year cycle, because the population is not developmentally synchronized. In contrast, Brood X is a periodical cicada that *is* synchronized; that is, all of them mature into adults the same year. The fact that periodical cicadas remain locked together in time, becomes more amazing when you consider their extremely long life-cycles of 13 or 17 years.

There are seven species of periodical cicadas—four with 13-year life cycles and three with 17-year cycles. Sometimes they are called "17-year locusts" or "13-year locusts", but they are not true locusts, which are a type of grasshopper.

Brood X is the largest of the 17-year broods and they are here in Indiana, along with 15 other states from New York to Illinois. So if you don't care for their "humming" you may have to wait them out, 'cause you can't stop them... they're BROOD X!

The ACRES Quarterly welcomes letters, articles, artwork, photos, and anything else of interest to our readers. Send any and all items to Susan Britton, Editor, ACRES Quarterly, 2000 North Wells Street, Fort Wayne, IN 46808-2474. Deadline for the October issue is September 15th. For information on ACRES call 260-422-1004. www.acres-land-trust.org

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