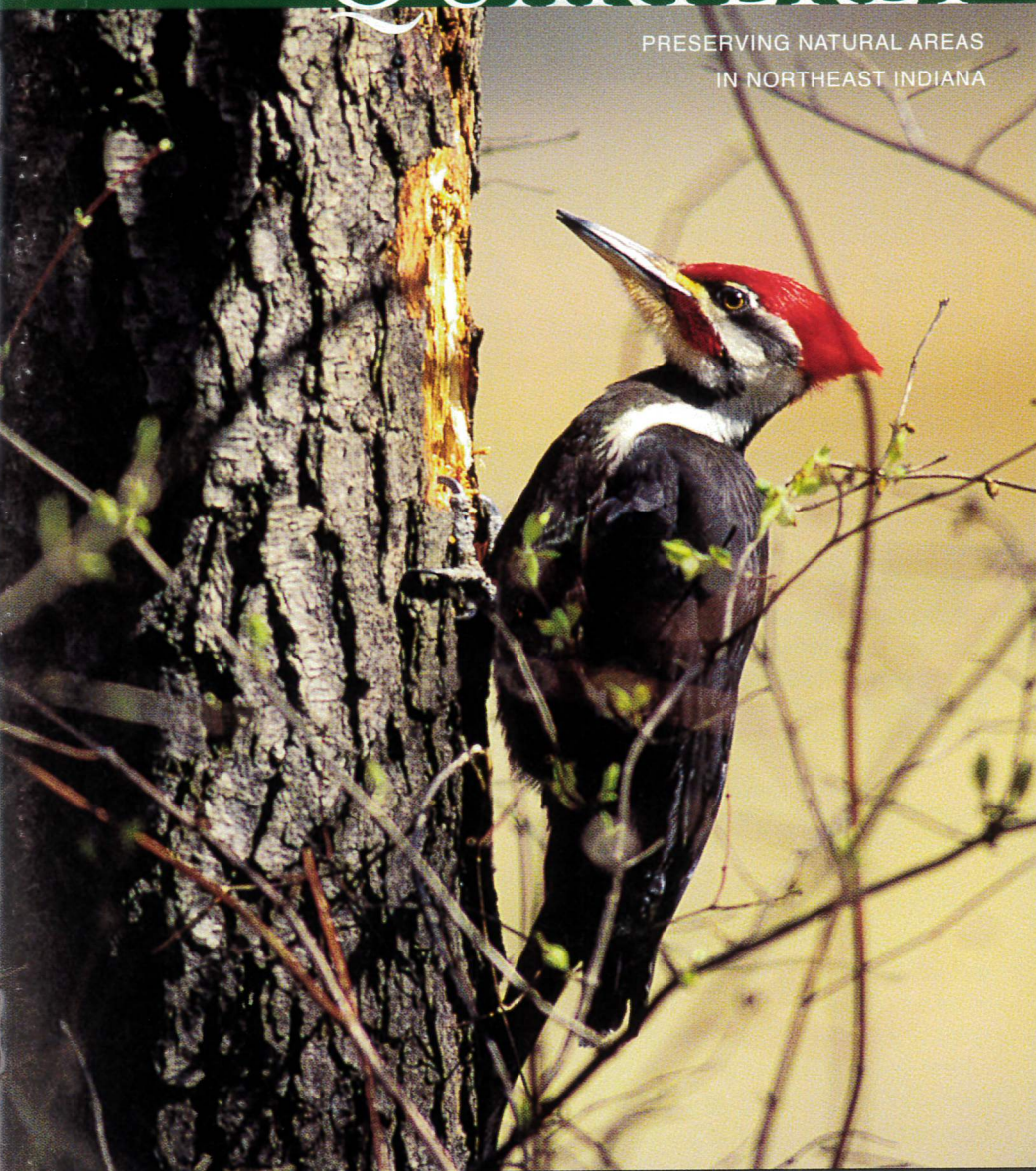


THE ACRES

QUARTERLY

PRESERVING NATURAL AREAS
IN NORTHEAST INDIANA



Land Acquisition Update
Christmas Ferns
Field Trips and Special Events
Jack L. Stark Preserve
Art Hammer Gifts
Frances Nevin's Tribute
Geology of Kokiwanee

WINTER 2005
Volume 44 - No. 1



landacquisitionupdate

arthammerngift

In his estate, Art Hammer gave 6 properties to ACRES. In an impressive land protection legacy, Art saved 574 acres in 6 different preserves. See article on pages 10 and 11.



jackstarkproperty

Thanks to Jack Stark's foresight, ACRES has a new preserve on the Pigeon River in LaGrange County. See article on pages 4 and 5.

johnsonproperty

Working with Kitt C. Johnson and George Johnson-Coffey, ACRES has acquired 12.4 acres on Chapman Road in Allen County. The property is wedged between the 8-acre Whitehurst Nature Preserve and the Thomas and Jane Dustin Conservation Easement. More than 1,000 acres are protected in the Cedar Creek watershed and the Johnson property furthers the goal of buffering this Indiana Natural Scenic and Recreational River. Upcoming article in Spring Quarterly.



oliverlake

IDNR Division of Nature Preserves, The Nature Conservancy, and ACRES have partnered to protect 115-acres adjacent to the 206-acre Olin Lake Nature Preserve. This project would not have been possible without the generosity of Mark and Myrna Peterman. The land acquired was part of the Limberlost Music Camp and includes a bay with 961 feet of undeveloped shoreline on Oliver Lake. The project also saves the entire south side of Olin Lake, ensuring that the largest undeveloped lake in Indiana will remain untouched.

mackelproperty

In the 1940s, a group of Fort Wayne businessmen organized to protect a beloved and well-known picnic area north of Fort Wayne. Where their efforts failed, Dr. Frederick and Mrs. Alfreda Mackel succeeded with their unselfish gift to ACRES in December 2004. With a gift of 17 acres overlooking the juncture of Cedar and Little Cedar Creeks and by placing a conservation easement on the 6 acres where their historic home is located, the Mackels have permanently saved a beautiful corner of Allen County. Upcoming article in our Spring Quarterly.



brammellpreserve

Terry and Nancy Brammall wanted people driving by their farm on US 20 to be able to see wildflowers. With a gift of 50 acres and ACRES purchasing an additional 30 acres, this new preserve sets aside 3/4s of Pigeon Pond, the south edge of Pigeon Lake, and a portion of Pigeon Creek. In an area that would have been a subdivision, the Terry and Nancy Brammall Nature Preserve will be a welcome place to hike. Upcoming article in our Summer Quarterly.

Chipmunk and dogwood by Ron Everhart
Green tiger beetle by Tim Kimmel
Cover image: Pileated woodpecker by Richard Fields

WELCOME

new members!

Bradley Alter *Gift of Joy and Hamilton Hunter*
Kaitlyn Alter *Gift of Joy and Hamilton Hunter*
James and Sue Bakehorn
David and Jaci Beard
David and Kaaren Biglands *Gift of Patricia A. McNagly*
Chuck and Kathy Brinkman
David Brookmyer
Michael Bultinck, Lauri Rowe, Quartny and Graham Rowe-Bultinck
Jill Burnett *Gift of Julia and David Hurley*
Jeff Carter
Gary and Elma Chapman
Henry and Carole Cole
Steve Cornelius
Gary Darnell and Jeanne Sparks
Laura C. Dauscher
Julie Donnell
John L. and Seane M. Elliot-Ervin
Steven and Pamela Etheridge
Richard E. Ford
Richard and Evelyn Gerke
Alan and Peggy Grossnickle
Leslie Carmin Hammer
Iris Hanson
Betty Jo Harper
Jane N. Harshbarger
Jacob Hatfield
Michael and Janet Hawley *Gift of Kenneth and Dorothy Manning*
Dan Heller, M.D.
Kara L. Highley
Jeff Lipman and Hollie Kearney
Janet R. Kelly
Brad and Kim Kepler
Louise A. Larsen
Dana Leininger and Molly Keltsch *Gift of Brett and Robin Stark*
Catherine Mather-Grimes *Gift of George and Doris Mather*
Ralph and Margaret McDowell
Joey and Pamela McElroy
Madonna F. McGrath *Gift of David M. Wagner*
A. Genevieve McHoes
Jeff Mettler *Gift of Barbara J. Studebaker*
Barbara Miller
Gary and Barbara Miller
Timothy and Tamara Miller
Frank and Tina Paladino Family *Gift of Joanne A. Weber*
Terri Penrod and Sue Raber
Rosemary Presswood *Gift of Joyce Goggin*
Mary J. Purcell
Bobbi Putman *Gift of Kenneth and Dorothy Manning*
Lu Anne Rayl
Dawn A. Ritchie
Davonne Rogers *Gift of David and Shirley Rogers*
Don Ryan
Jim and Lana Sack
Larry and Jeanine Samuelson

Tributes

Paul and Debby Meade

for their help with Wildwood, Acres Along the Wabash and for being benefactors and friends

Jane, Gary and Barbara Ferguson

for the Kokiwanee Nature Preserve from Tony Fleming and Victoria Ferguson

Judi Wire and Great Panes Glass Co.

for the stained glass window honoring Ethyle Bloch

Amy Oberlin

Reporter with the Herald-Republican for her many articles on ACRES

Cardinal Chapter of the Indiana Audubon Society

for their support of the Acres Along the Wabash Preserve

Stockbridge Audubon Society

for their \$15,000 gift to the Kokiwanee Nature Preserve

Bob Bryan and the State Farm Companies Foundation

for their \$500 gift to the Land Management Fund

Joanne A. Weber

for all of her help

Brandon Schultz *Gift of George and Betsy Schultz*
George and Becky Schultz
Roderick and Arleen Shippey
Michael R. Slabaugh
Thomas Starkweather and Jennifer Hicks
David M. Wagner
Andrew and Marnie Weber Family *Gift of Joanne A. Weber*
Joe and Jodi Weber Family *Gift of Joanne A. Weber*
David White
Rex and Laura Whiteleather *Gift of Sam Whiteleather*
Sam Whiteleather
Denise D. Whittecar
Rod M. Wilson
June H. Wolfe
Richard and Liz Young
Randy and Kathy Zion *Gift of Joanne A. Weber*
Millennium Environmental
Purdue University - IPFW Library



JACK L. STARK NATURE PRESERVE

By Carolyn McNagny

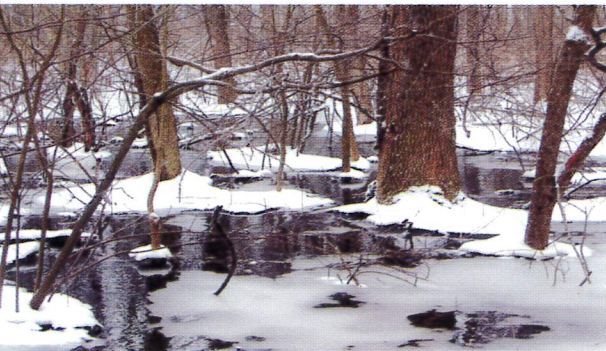
Straightened and dredged through much of Steuben County, the Pigeon River has retained its graceful curves and natural beauty in LaGrange. Wanting to buy a natural area to protect, Jack Stark purchased 41 acres along Pigeon River, located west of Howe and south of US 120. Due to Jack's generosity, ACRES was able to acquire the property, helping place another piece in the puzzle of protecting the Pigeon River.

The river shapes this preserve in every way. Forming its southern boundary, the Pigeon is undredged through most of LaGrange County and wildlife still holds its own. River otters cruise the river's shallows and pike lurk near sunken logs. Great blue heron hunt for fish and then return to their nearby rookery.

Ospreys are nesting in the area for the first time in nearly 50 years and can be



Jack Stark, fox squirrel and Pigeon River in winter by Tim Kimmel; River otter by Richard Fields; River in summer, cardinal flower and fungus by Jack Stark.



seen overhead with their distinctive black "elbow" patches on their wings.

Jack Stark found this land in 2001 and bought it specifically to see it protected. "Long story on how I got it," Jack laughed, "I was driving down a country road in Whitley County, heading north to go kayaking, and stopped to look at a boat. The man who owned the boat was a brand new real estate agent. I told him I was looking for land to protect and he said 'I will find you something.'"

Located northwest of the IDNR Pigeon River Fish and Wildlife Area, the new preserve is in a priority ecosystem, the Pigeon River corridor. Through the efforts of ACRES, the IDNR, and The Nature Conservancy, 18 miles of the Pigeon is protected. With each addition of saved land, the numbers and variety of wildlife increases, from a bobcat sighted at dusk to bald eagles wintering along the river.



Since he acquired it in 2001, Jack said "I have been going up there every other week." He created a one mile trail system through the bottomland forest, placed trail signs, and affectionately named it the Soggy Bottoms Nature Preserve. "My favorite parts of the preserve are the river and the pawpaw grove," said Jack, "and I almost stepped on a wild turkey along the trail."

Red maple and red oak make a bright display in fall, and ash, cottonwood, sycamore, walnut and swamp white oak fill out the canopy. Nate Simons, ACRES Board Member, has hiked the area and said "the crescent-shaped oxbow pool holds water year round and is bordered by button bush. The golfball-sized seed clusters of the button bush shrub provide thousands of seeds that are relished by wood ducks. The hulking, cavity-filled swamp white oaks and sycamores that line the riverbank, coupled with plenty of water and buttonbush seeds, spell 'woodie' paradise."

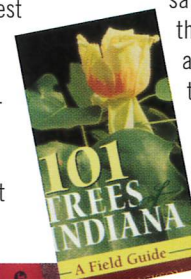
With 87% of wetlands gone from Indiana, every marsh, swamp, bog, fen, and bottomland forest saved stems the tide of wetland loss. Jack Stark's example of finding a natural area and purchasing it for protection is an encouragement to all of us.

"I believe we must preserve natural space not only for ourselves," said Jack, "but for future generations. Visiting natural places fulfills my spiritual needs and I want my grandchildren to have the opportunity to benefit from the same experiences in nature."



Thanks to....
Dr. Marion Jackson
for his program about his
new book,
101 Trees of Indiana!

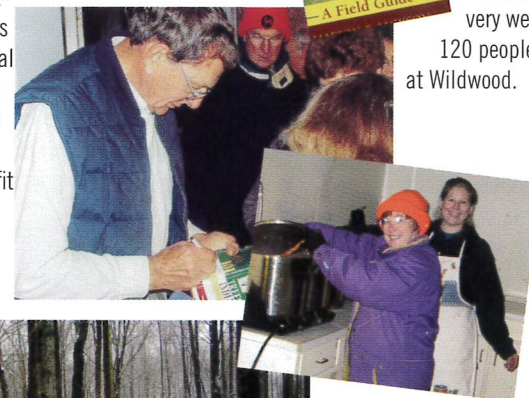
With impressive photographs, crisp artwork and concise text, 101 Trees of Indiana is available for sale at the ACRES office. Autographed by the author, Dr. Marion Jackson, the books are on sale for \$18.00. For more information, call (260) 422-1004.



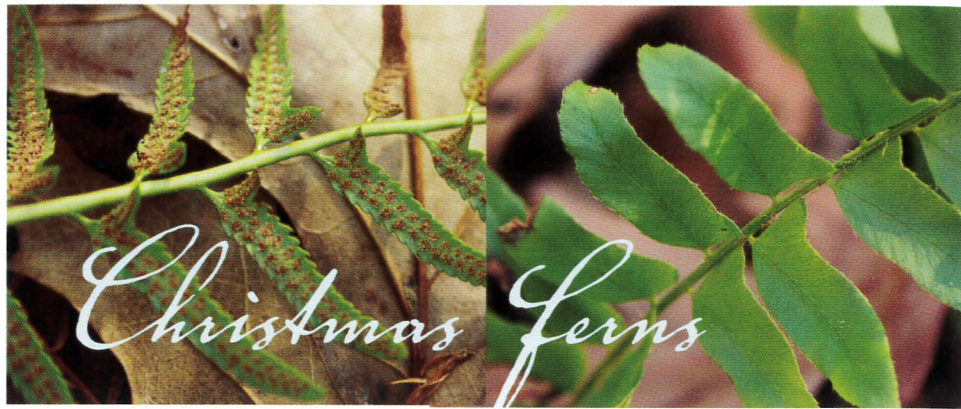
Dr. Marion Jackson presented programs for ACRES at the 2004 Annual Meeting and at the Wildwood Nature Preserve in November 2004. Both programs were very well attended, with more than 120 people at the Annual Meeting and 40 at Wildwood.

Kokiwanee campout!

More than 50 boy scouts and 10 troop leaders braved the elements at Kokiwanee for their well-named Yukon Weekend. Camping in the snow, the Scouts played winter golf, hiked the 140-acre preserve, watched stars, and kept warm at Star Lodge.



Dr. Marion Jackson by Tim Kimmel;
Kokiwanee photographs by Tim Kimmel



*No shivering frond that shuns the blast sways on its slender chaffy stem.
Full veined and lusty green it stands, of all the wintry woods the gem.*

-W.N. Clute

By Sue Kern

As we hike through forests and woodlots on gray wintry days, the promise of spring seems buried beneath the brown, dry leaves of autumn. An occasional white pine breaks the monotony of the dull landscape. Our eyes search the forest floor hoping to find the smallest promise of life.

Suddenly at the base of a massive beech, we discover a bouquet of green silhouetted against the light gray trunk. It is a fern, a beautiful dark green Christmas fern. It may have received its name from the colonists who used its fronds to decorate their homes at Christmas. Perhaps it was because each leaflet resembled tiny green boots hung from the central axis of the blade like miniature stockings. These Christmas stockings though, are hung by their heels!

The Christmas fern, *Polystichum acrostichoides*, is one of the few evergreen ferns found in Indiana. Marginal wood fern, ebony spleenwort, and common polypody are also considered evergreen. These ferns are not true evergreens like our native conifers. "Wintergreens" might be a more appropriate term. "Wintergreen" ferns remain green through most of the winter months, eventually turning brown just before new fronds appear each spring. Each year, as the temperature dips below freezing, the stipe

or stem of the Christmas fern becomes mushy 2 to 4 inches above the base. With their support gone, the fronds lie recumbent on the ground. This action does not damage internal structures, which would cut off the supply of nutrients to the plant. It does help minimize exposure to cold and drying winter winds.

Polystichum acrostichoides prefers wooded hillsides and wooded streambanks. Because this plant retains its dead fronds for a year or two, it provides very effective erosion control by blocking leaves and other materials from being washed into nearby streams. The leaves of the Christmas fern are about 3' high, 4" wide and taper rapidly from the middle upward. The leaflets are short-stemmed and bristle-tipped with incurving teeth.



The stalk is scaly. Christmas fern fiddleheads emerge so early in the spring, around April, that they may encounter freezing temperatures. The hairs and scales on its stalk provide at least a little insulation.

Ferns do not make flowers. They reproduce by way of spores, which are so small that you would need a microscope to study them. Spores are not to be confused with seeds. A seed, when sown, will directly produce a plant similar to its parent. Ferns produce two independent, self-supporting organisms alternating with one another. Botanists call it "alteration of generations." If you look closely at the upper one third of a Christmas fern frond, you may notice small brown dots on the underside of each leaflet. These are called sori or "fruitdots", which contain the tiny spores. When these spores ripen sometime between June and October, they are discharged from the fronds and drift to earth. Unless they land on warm, moist earth, they will remain dormant until conditions are favorable. If they germinate, they grow into a small green heart-shaped plant called the prothallus.

The prothallus is often mistaken for a liverwort because it has no true roots, stems or leaves and is about 1/4" across. The sexual organs develop on the underside of this prothallus. Near the apex of the "heart" is the antheridium where sperm is stored and near the notch of the "heart" is the egg storage area or archegonium. As a rule, the antheridium and the archegonium mature at different times, thus preventing self fertilization. When the eggs mature, the sperm swim through moisture that has formed on the plant and fertilization is accomplished. Lack of moisture limits the occurrence of ferns. This is why you will find ferns in moist shady woods and not dry prairies. After fertilization is complete, the embryo develops into a fern frond, which bears spores, and the process begins anew.



If you look closely at the fronds of a Christmas fern, you may notice that it has two slightly different fronds. One frond is the taller, more erect, and more rigid of the two. This taller frond is the fertile frond, which bears the spores. It releases its spores, dies and turns brown in winter. The sterile frond remains green through the winter. The first frond to appear in spring is the sterile frond, followed a little later by the fertile frond. A fern that has different sterile and fertile fronds is called dimorphic.

When you begin to feel that winter will last forever and spring will never arrive, bundle up, grab a thermos of hot chocolate, get out of the house, and go searching for Christmas ferns. The fresh air will do you good, and you may realize as I have that winter is not as dull and drab after all.



ACRES' MISSION Dedicated to preserving natural areas in northeast Indiana. ACRES manages and protects 55 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

Ferns on hillside by Tim Kimmel; other photographs by Sue Kern.

For Information on all programs contact: ACRES Office at (260) 422-1004.

BALD EAGLES AT KOKIWANEE with Stockbridge Audubon Society



Baby bald eagle by Richard Fields

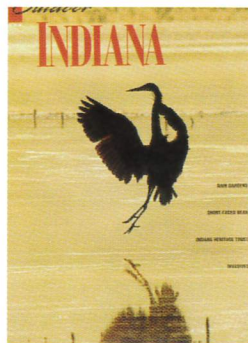
Saturday, February 19th at 10:00 a.m.

Presented by: Ed and Cynthia Powers, Stockbridge Audubon Society. Come out for a 1-hour hike at the Kokiwanee Preserve. Bald eagles have been seen on the Wabash and Salamonie Rivers near the preserve since December. We will look for eagles and other winter birds, such as red-breasted nuthatch, juncos, downy, red-bellied, and pileated woodpeckers and wild turkeys. As in any birding venture, there is no guarantee, but the scenery will be spectacular in any case! Refreshments served at Mossy Heights Shelter. Bring lunch if you would like. Dress warmly! **Where:** Kokiwanee Nature Preserve, Wabash County. Take old US 24 to Lagro, turn south at Lagro (there is only one road that crosses the bridge) and turn onto Hanging Rock Road. Follow Hanging

Rock Road around to the south, where it will turn into 500 E. Continue on as 500 E turns into 50 South and Kokiwanee Nature Preserve is located on 50 S.

PHOTOGRAPHY PROGRAMS WITH RICHARD FIELDS with Stockbridge Audubon Society

Presented by: Richard Fields, photographer for *Outdoor Indiana*. Many in Indiana are aware and grateful for the outstanding work of Richard Fields, who takes tens of thousands of photographs a year for the Indiana Department of Natural Resources. The photographer for *Outdoor Indiana*, IDNR's bi-monthly magazine, "Natural Heritage of Indiana" and "Indiana from the Air", Richard will present a 1-hour slide program of his favorite photographs. Giving tips other photographers would enjoy, Richard will explain how to capture color and detail.



Blue heron by Richard Fields

Saturday, March 5th at 7:00 p.m., Achatz Hall, St. Francis College, Fort Wayne

Sunday, March 6th at 2:00 p.m., Pokagon State Park Nature Center, Steuben County. Take I-69 to Pokagon State Park exit (Exit 154), and follow signs to park.

To order *Outdoor Indiana* (\$12.00 per year for 6 issues or \$20 for 2 years or 12 issues):
Toll-free : 1-877-463-6367 or visit www.in.gov/dnr.

SUNDOGS AND RAINBOWS: Atmospheric Optics



Sunday, April 3rd at 2:00 p.m.

Presented by: David Finley, Dean of Engineering at Tri-State University. David will give a colorful power point presentation on atmospheric optics, explaining why we see iridescent rainbow, the "green flash" and other beautiful shows in the sky. Refreshments provided by Heidi Finley.

Where: Wing Haven Nature Preserve, Steuben County. Take I-69 to Pokagon State Park exit (Exit 154), turn south on SR 127 and then immediately east onto 400 N. Preserve is located on the north side of 400 N.

For Information on all programs contact: ACRES Office at (260) 422-1004.

ENCORE: GEOLOGY OF KOKIWANEE

Saturday, April 9th at 10:00 a.m.

Presented by: Tony Fleming, Professional Geologist for 20



Winter Waterfall and Tony Fleming by Tim Kimmel

years. Since more than 85 people showed up for his first hike, we decided to do an encore. Tony will lead a 2-hour hike along the Salamonie River gorge to explain the rock outcroppings, the origin of the gorge, and the dramatic landscape. Snow trillium, hepatica, and other early spring wildflowers may be visible. **Where:** Take old US 24 to Lagro, turn south at Lagro (there is only one road that crosses the bridge) and turn onto Hanging Rock Road. Follow Hanging Rock Road around to the south, where it will turn into 500 E. Continue on as 500 E turns into 50 South and Kokiwanee Nature Preserve is located on 50 S.



16th ANNUAL ADOPT-A-TREE FESTIVAL

Saturday, April 23rd from 9:00 a.m. to 3:00 p.m.

Presented by: Art and Marion Eberhardt, Jim Shearer, David Syler, John Eddy, and Dave and Bonnie Snyder. Take home red bud, tulip, and white cedar trees to plant! Held at the 264-acre Wing Haven Nature Preserve, the Adopt-A-Tree Festival offers a variety of events for children and adults: Make a bluebird home or suet feeder; study pond water under a microscope; make a leaf T-shirt to take home; hike the trails; and listen to hammer dulcimer and fiddle music. Come out for this happy event! **Where:** Wing Haven Nature Preserve, Steuben County. Take I-69 to Pokagon State Park exit (Exit 154), turn south on SR 127 and then immediately east onto 400 N. Preserve is located on the north side of 400 N.



Adopt-A-Tree Festival by Art Eberhardt

WILD WALKERS' HIKES

Presented by: Mike Graves, Outdoor Education Coordinator, Fort Wayne Parks and Recreation. Join this energetic group of hikers for friendship and fun times visiting ACRES Nature Preserves. In its 2nd year, the Wild Walkers group has more than 75 members. Carpool from Fort Wayne to the different preserves or call Mike Graves to meet the group at the site. Great exercise and beautiful scenery!

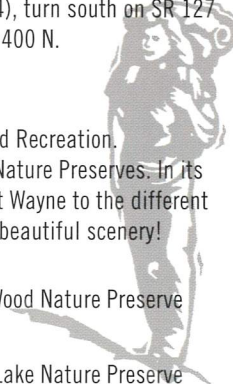
Friday, March 11th, 7:30 to Noon - ACRES and LaGrange County Parks' Maple Wood Nature Preserve

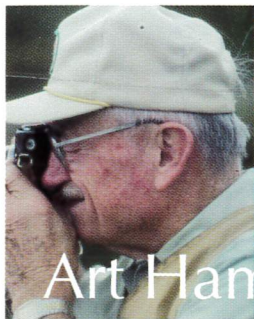
Friday, April 8th, 8:00 to 10:00 - ACRES' Vandolah Nature Preserve

Friday, April 22nd, 7:30 to Noon - IDNR Division of Nature Preserves' Crooked Lake Nature Preserve

Friday, May 13th, 7:30 to Noon - ACRES' Edna W. Spurgeon Woodland Reserve

Carpooling is available for all of these hikes and the pick-up point is at the Fort Wayne Parks and Recreation office, located at the corner of State and Parnell Streets, Fort Wayne. **Contact: ACRES at (260) 422-1004, or Mike Graves at Fort Wayne Parks and Recreation at (260) 427-6005.**





Art Hammer's Land Gifts

By Carolyn McNagny
ACRES Executive Director

Making a lasting imprint on land protection in Indiana, Art Hammer gifted 141 acres in his estate to ACRES. In his lifetime, Art donated 433 acres in three nature preserves (Art Hammer Wetlands, Anna Brand Hammer, and Herman F. Hammer Wald). His legacy is an impressive 574 acres.

THE GIFTS OF LAND:

Addition to Anna Brand Hammer Nature

20 acres, Wells County: This gift adds 20 acres to the original 20 acre preserve, which Art gifted in 1982. The addition is on the east side of the preserve and is farmland. Located in the Central Till Plain, one of 12 natural regions in Indiana, this area was changed the most dramatically by the arrival of settlers, due to its flatness and rich soil. The original preserve is a beautiful example of the natural region that once covered more than 7 million acres.

Addition to Art Hammer Wetlands Preserve

15.5 acres, Noble County: Half grown sycamores, with their white trunks and graceful shapes, crowd this land. Taking the original 350-acre preserve to 366 acres, the addition protects road frontage on CR 125 W. With so many parcels being split into house sites along county roads, the addition keeps the view of ACRES largest nature preserve intact. The Elkhart River is the focus of this wonderful preserve.

Addition to Herman F. Hammer Wald Preserve

7.5 acres, Allen County: The preserve was originally 42-acres in size, then Art added an additional 20.7 acres in 2000, and now a 3rd gift to bring the total to 70.2 acres. The gift

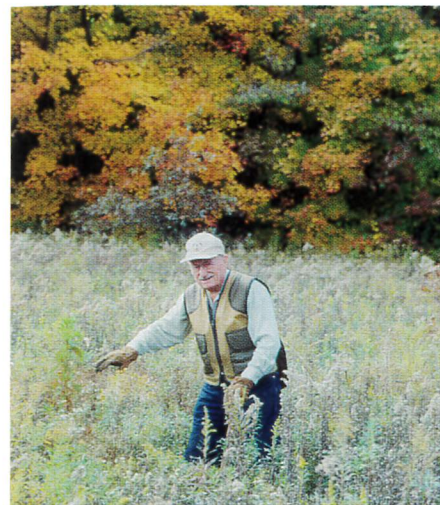
includes a bluebird trail established by the Boy Scouts and more than 6,000 trees planted in 1999 by Tom Crowe, Forester with Wakeland Forestry Consultants. The trees planted were mainly Burr, Chinkapin, red, and white oaks and walnuts. "19 different species were planted," said Tom, "including sweet gum, just because Art liked them."

New Property

23 acres, Allen County: Sitting high above the Little River valley, this land was Art's favorite of all the properties he owned. When Art purchased the land in 1987, it was tilled farmland and you could see for miles from the ridge. Art then began to hand plant trees, a few hundred each spring. Towering Norway spruce edge the lane into the property, with clusters of oaks, ash, walnuts, maples and butternuts creating a canopy overhead. Art took Kevin Kilbane, reporter for the News Sentinel, on a tour of this land in November 1995. Art was quoted as saying "Here's an oak. Here's an oak. There's a walnut. There's an oak. No, that's a walnut." Art singlehandedly created his very own woods on this land.

New Property

19 acre gift, Allen County: One of the few areas in northeast Indiana with a healthy bobwhite quail population, thanks to Burton Wygant who lives down the road. This land has diverse habitats with scrub, a pond, and a secondary growth woods. Burton has raised tens of thousands of quail for release (with quite a few being released at ACRES preserves), and



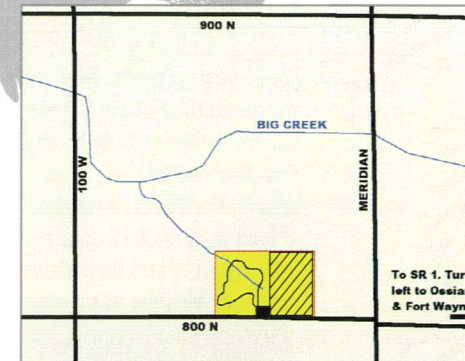
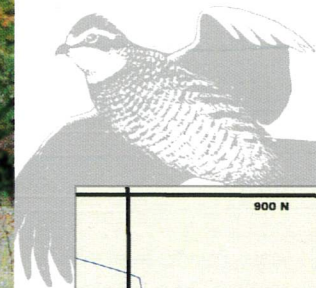
said his "escapees" alone have populated Art's land. Another property that was originally farmland, the land was planted with 27 species of trees by Tom Crowe. Tom said, "More than most anyone I can think of, Art just wanted trees."

New Property

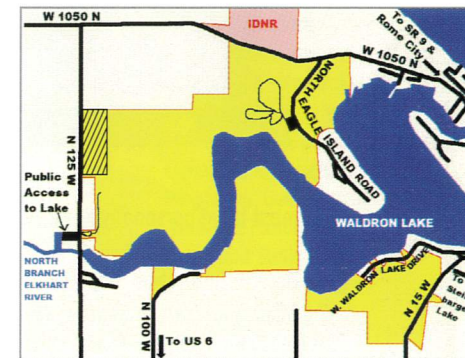
35.77 acre gift, Allen County: Located across the Whitley County line from Steel Dynamics, Inc., the property is farmland. With an eye for land that might increase in value, Art was always looking for land at a lower price. Art purchased this property a decade before SDI came to the neighborhood.

Art died in 2002. He continues to be missed by his many friends. "Whatever Art did, he put his all into it," said Janel Rogers, ACRES Land Acquisition Chairman. "I went with him to release bobwhite quail at his property, and he spent an hour showing me the bald cypress and other trees he had planted. Art had such a passion for natural things and this is an awe-inspiring gift."

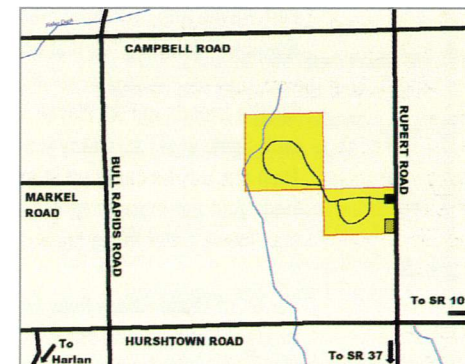
Art Hammer by Bob Weber;
Cattails, marsh marigolds lakes edge, boat and maps by
Tim Kimmel. Map Key: Hatched areas indicate new additions.



ANNA BRAND HAMMER RESERVE



ART HAMMER WETLANDS



HERMAN F. HAMMER WALD

Frances Meadows Nevin

A Tribute

For 31 years, Frances lived with her husband, Scott Nevin, in their log cabin in the woods south of Chain O' Lakes State Park, feeding the birds and butterflies, raising flowers, listening to owls, and watching hawks and meteors. "The birds and flowers and other wildlife owe them a due, but were much appreciated by them in return," said Ed Eberhardt, a longtime friend. Scott and Frances protected their 100 acres of land as an ACRES nature preserve in 2003, which is a continuing tribute to their love of nature and their stewardship of 'their' wildlife.



Frances loved people and enjoyed serving guests meals of good southern cooking from her garden and surrounding farms. "Frances was born in the south" said Ed Eberhardt, "and was certainly proof of the great cooking skills characteristic of that area. Her special meals for us, and friends, always included farm-fresh or the equivalent. I think she

must have personally known every source of farm food within 30 miles of Albion."

Born in Columbus, Georgia, Frances, and her mother Lillian, worked as riveters at Boeing Aircraft in Seattle, Washington during World War II. She subsequently lived in Idaho, California, and spent seven years in Alaska. After the war, she worked for several years for Periodical Publishers and then was hired for ITT Night Vision in Roanoke, Virginia. Scott was working for ITT Research and Development Lab in Fort Wayne and "when he made one or more of his 'solve the problems' visits to Roanoke" said Ed, "he met Frances."

Scott's friends in Fort Wayne knew something was afoot. Phyllis Hall, who worked with Scott at ITT for many years, said "We didn't know anything about Frances, and then one day he came up in our driveway and I said 'I bet he's going to get married.' And get married he did and Frances was the nicest thing he ever gave us. She was like a sister to me because I never had any sisters and I loved her."

For all of those whose lives Frances touched, she will be deeply missed. "Scott brought her here and she was immediately in everyone's lives," said Mary Frances Schneider. "She became very important to all of us because of her warmth, nobility and genuineness."



Hepatica by Ron Everhart; Scott and Frances Nevin by Phyllis Hall.

Mary G. Cook

for Evelyn and Wendell Dygert Nature Preserve
from David A. Child
Sue W. Cloak
Jill Fryberger
Donald and Benita Murphy

Martha Duguid

for Kokiwanee Nature Preserve
from Salamonie Reservoir Crew

Thomas H. Dustin

for Cedar Creek
from Ann Carter and Thomas Hughes
George and Nancy Kasdorf
Theodore and Natalie Lanham
Herbert and Charlotte Read

Thomas and Jane Dustin

for Cedar Creek
from Alan and Susan Diefenbach

Wayne Flowers

for Acres Along the Wabash
from Cardinal Chapter of
the Indiana Audubon Society
Wayne counted birds for the Chapter
for many years.

W. Glenn Fogwell

for the Fogwell Forest Nature Preserve
from Roger J. and Annabel J. French

Byron C. Jackson

for the Evelyn and Wendell Dygert Preserve
from Joy and Hamilton Hunter
Byron loved to fish.

Marvin McClelland

for 57-acre addition to Pokagon State Park
from Tom Armstrong
Keith and Nancy Drewes
Rosemarie and Amy Poznanski

Neal McHoes

for 57-acre addition to Pokagon State Park
from Spring Point Association, Lake James

Frances Meadows Nevin

for the Scott and Frances Nevin Nature Preserve
from Robert and Genevieve Aspy
Charles and Shirley Bennett
Glenn C. And Virginia N. Blaisdell
Jeannette J. Biberstine
Alan and Carolyn Critchfield
Richard and Rita Curtis
Philip and Sandra Dunn
Arthur and Marion Eberhardt
Ed and Nancy Eberhardt
James and Carolyn Ellis
Velma Freeze
Thomas and Susan Frisch
Bill and Kathy Gehron
Mary K. Gynn
James and Phyllis Hall
Marshall and Sharon Heckaman
Richard and Mary Hertel
Tim, Barbara, Anne, Judy, and David Hines
Rosalie M. Houser
Donald and Gwen Jenne
Nick and Pam Keister
Ralph and Stella Knuth
Thomas and Carin Maxwell
Carolyn McNagny
Lois O. Otey
Ruth L. Parke
John and Cathy Petrie
Carolyn J. Puryear
John and Marguerite Ralph
Dave Schneider and Dawn Frank
Howard and Mary Frances Schneider
Kerry and Rosemary Shipman
Ronald and Jean Wyss

Weldon Shaffer, Sr.

for 57-acre addition to Pokagon State Park
from Karen and Robert Griggs

Robert Townsend

for 57-acre addition to Pokagon State Park
from Karen and Robert Griggs



KOKIWANEE NATURE PRESERVE

400 Million Years of Geologic History By Tony Fleming

The dramatic landscape of Camp Kokiwanee furnishes a window into a distant geologic past that includes such disparate environments and processes as subtropical barrier reefs, continental glaciation, post-glacial stream adjustment and waterfall retreat, all of which formed the Salamonie River gorge. The results of this varied history is a remarkably diverse landscape characterized by contrasting plant communities whose distributions closely mirror specific sets of geologic conditions and modern ground-water processes. It is a fair statement to say that Kokiwanee is a treasure trove of eco-geologic diversity.

The earliest geologic events known to take place at Kokiwanee are recorded in the bedrock exposed in the bluffs. These rocks are part of the Wabash Formation, a complicated collection of limestones (calcium carbonate), dolomites (calcium-magnesium carbonate), and mudstones (silt and clay), that represent discharge in a shallow, subtropical sea that covered most of eastern North America during Silurian time, some 400 million years ago.

Reef-like masses of rock are well developed in the area and form the so-called "Klinter" of the Wabash Valley. Such formations are exemplified at the nearby Hanging Rock Nature Preserve. These reef-like rocks are composed mainly of thick-bedded, hard dolomite formed from the fossilized remains of corals and other reef-dwelling organisms. They are readily recognized by the fact that the bedding dips strongly away from a central core, which is in sharp contrast to the flat layers of sedimentary rock that usually characterize the Midwest. The areas in between the reefs were quiet, shallow basins that received periodic influxes of mostly muddy sediment derived from distant landmasses, as well as from storms that swept the surrounding reefs. Lime mud was also formed in these basins when geochemical conditions were favorable and it is the common cementing agent in the mudstones. At times, the shallow Silurian sea had restricted water circulation, causing a buildup of salts, such as magnesium. The magnesium-rich water infiltrated the sediments, causing some of the limestone to be converted to dolomite. No reef-

like rocks are exposed at Kokiwanee; instead, bedrock which consists mainly of various kinds of calcareous and dolomitic mudstones, formed in the surrounding basins, along with a few beds of almost pure limestone. Most of these rocks have a poor resistance to erosion and tend to form poor, shallow, high-magnesium soils that support somewhat xeric, hickory-dominated forests and herbs. An example of such a place is in the terrace near Mossy Heights or the scraggly cedar glades along the bluff.

The next major period of geologic activity represented by the geologic record at Kokiwanee is the Pleistocene, or Ice Age, during which the region was repeatedly covered by continental-scale ice sheets for about one million years. All of the glacial sediments at the preserve appear to date from the latest period of the Ice Age, known as the late Wisconsin Stage, which began just a mere 50,000 years ago.

The areas above about 750-760 feet in elevation are almost uniformly underlain by clayey glacial till of the Lagro Formation, which blankets most of northeast Indiana and was deposited by the very last ice sheet to affect the area, roughly 12-15,000 years ago.

It is apparent from the above description that the geologic record at Kokiwanee contains a profound gap representing some 400 million years, between the Silurian rocks and the overlying Wisconsin age glacial sediments, which are no older than about 25,000 years in this area. Many geologic events undoubtedly affected the area during these "missing" years—deposition, erosion, landscapes created and destroyed, perhaps even dinosaurs inhabiting the prehistoric Kokiwanee—but we can only speculate as to these episodes, as no evidence remains.

What is apparent is that the top of the bedrock contains vestiges of an ancient, pre-glacial landscape, complete with ridges, plateaus, and valleys. The best known such feature is the so-called "Teays" valley, a 500-foot-deep bedrock gorge that runs from North Carolina to western Illinois and passes a few miles south of the preserve. Although now largely buried by glacial sediments, and in many places, severely eroded by

the Pleistocene ice sheets, the general configuration of the bedrock surface in the Kokiwanee area is well known from numerous water well records and other subsurface data. These records show that the preserve occupies a plateau on the bedrock surface. Thus, by virtue of its relatively elevated nature, the bedrock surface in this area was largely scoured clean by each successive glacier that advanced over it, which explains why only the most recent ice sheet is well represented in the record.

On the other hand, water well records and outcrops in the big ravine suggest that a small, gravel-filled bedrock valley crosses the eastern part of the property. This bedrock valley is about 20-30 feet deep and appears to cross the main ravine at almost right angles. Outcrops of coarse gravel, marked by copious ground-water discharge, are visible in the bluffs and stream bottom several hundred feet upstream of the waterfall, and mark the location of several strong fens. Here, ground water can be seen boiling up out of the ground, and the vegetation along the fen surface is encrusted with tufa, which is a spongiform type of limestone deposited by oxygenated waters super-saturated with calcium carbonate. The fens support a number of unusual plants adapted to hypercalcareous conditions.

The upper sections of the ravine above the main waterfall host an outstanding example of a primary till-plain forest, with more than 20 major canopy species and a plethora of herbs and understory species familiar to rich soils. Underlying the clayey Lagro till at many places is a sheet of coarse gravel and sand deposited directly on the bedrock surface by meltwater in front of the advancing ice sheet. This basal gravel unit is widespread and well recorded in the immediate area, where it is reported to be up to 30 feet thick and contains a large proportion of limestone and dolomite pebbles. This calcareous gravel plays a key role in the distribution and geochemistry of fens on the property, and the plant communities they support.

The deglaciation of the Wabash Valley at the end of the Wisconsin Stage was a tumultuous affair. The Salamonie River originated as an ice-marginal channel about 14,000 years ago, when the edge of the receding ice sheet stabilized for a short time along the Salamonie Moraine. This is one of the five such end moraines in northeast Indiana. The river drained a vast area of the collapsing ice sheet and was subject to torrential flows of meltwater that severely scoured the adjacent landscape. The landscape-altering force of these meltwater outbursts is carved into the rock record at Mossy Heights. The evidence is in the form of the broad bedrock terrace, whose surface is dotted with cobbles and boulders up to several feet in length and some weighing more than a ton, which were left by the glacial floods. The terrace appears to mark the elevation of the bottom of an ancestral Salamonie River as the ice sheet receded away from the area.

It seems likely that most of the modern river gorge has been cut in the relatively recent geologic past, and certainly after glacial meltwater was no longer active in the area. An intriguing idea is that the cutting of the gorge originated suddenly in response to the downcutting of the Wabash Valley by the Maumee Torrent, and that the gorge subsequently formed over thousands of years by the gradual upstream retreat of a large waterfall. The presence of several prominent waterfalls where



tributary ravines join the Salamonie at Kokiwanee and adjacent properties is highly suggestive. All of these falls are at the same elevation and all are held up on the same thick, resistant ledge of limestone, above and below which are soft mudstones. At Kokiwanee, the river has a remarkably steep gradient, significantly greater than that of the Wabash, indicating that it is still adjusting to the "new" (i.e., post Maumee Torrent) level of the Wabash. This suggests that the tributary waterfalls are relicts of a higher stream level, when the Salamonie River flowed on the same resistant limestone layer. With its greater flow and erosive force, the river eventually broke through the limestone ledge, creating a spectacular waterfall that gradually retreated upstream, leaving the tributary valleys "stranded" as hanging valleys. Regardless of its origin, the gorge now exerts a major effect on ground-water flow in the bedrock. Water levels reported from nearby wells developed in the bedrock aquifer system stand as much as 50-80 feet above the bottom of the gorge, indicating that ground water is upwelling to the surface close to the gorge. This process is manifested in the seepage bog in the bottom of the big ravine just upstream from the waterfall, where colorful deposits of iron and manganese oxides mark locations where ground water issues out of the ground.

The ground water coming out of the bedrock is probably very old (thousands of years) and highly mineralized. Unlike the fens that derive from the calcareous gravel, however, the ground water that feeds the seepage bogs lacks oxygen, and thus supports the development of an organic mat at the ground surface. It is these acidic conditions that prevent the accumulation of calcium carbonate, and thus support a bog community that contains some unusual plants adapted to more acidic conditions.

Photography by Tim Kimmel

WIND. CRISP AIR. CRUNCHING SNOW.

Nothing will wake you up as fast as an early morning - winter hike. It's February and it's a nippy zero degrees. I am in Vandolah Nature Preserve in Allen County. I didn't see you out here, so...let me describe what I am experiencing, while you have yourself another cup of "steamin' joe."

- I can hear a woodpecker. His hammering echoes somewhere close by, but finally, when he tires of banging his head against the frozen wood and flies away... I can see that he is just a few yards off. When it's this cold, almost all moisture is squeezed out of the air. This means that when sound travels, it's not slowed down; bumping into molecules of water. Additionally, there are no leaves or other soft surfaces this time of year to mute the sound, so it comes to my ear with unusual clarity.

- The ice on the pond is especially brittle this morning. Any shift in the weight can cause a break that sounds like a gunshot. I have seen cracks appear on one end and race for 50 yards.

- Snow is crunching under my foot. There is no chance for the microscopic melting that occurs when you walk on snow when it is a little warmer. And when it is warmer... you can make a snowball, but today as I walk over the snow... you can see the prints, but there is no compaction.

- There are a few small animal tracks on top of the snow, but most of the little creatures are safely under the snow pack in burrows, or underground where the ambient temperature of the earth is less bitter. The larger animals like raccoons and opossums are snuggled away in hollow trees or under brush piles and leave, waiting for this cold to ease up a bit. Amphibians, like frogs and turtles and salamanders count on this ambient earth temperature as they hibernate in the mud, over there, at the bottom of the pond, under the ice.

- Barred owls are still out. I heard one calling just after dawn. They call to define their territory in the evening and early morning. They continue to hunt even in this cold. Their ears are so sensitive they can hear the movement of mice and voles under a foot of this snow. Sometimes you can see the wing prints where they plunge their talons into the snow for dinner.

Being in an extreme situation can be very philosophical. There is a real sense of loneliness, but at the same time, I have some sense of where I am on the planet, the turning of the earth, the march of seasons and how very important hot chocolate can be.



Salamonie River by Tim Kimmel

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