



BIG OAKS

Newsletter of Big Oaks National Wildlife Refuge & Big Oaks Conservation Society

Fall 2003

WELCOME to the land of BIG OAKS

President's Comments - Rick Collier

As we approach the end of our first year, I would like to thank everyone who has worked so hard to get Big Oaks Conservation Society off to a terrific start.

It hardly seems a year ago when I received a call from Joe Robb, Manager of Big Oaks National Wildlife Refuge. Joe asked if I would be interested in attending a meeting to discuss local interest in the refuge. He mentioned the possibility of forming a group to support the refuge. I had no idea what an important role a "friends of the refuge" group played toward the future development and continuing mission of a wildlife refuge.

At that first meeting we were introduced to Donna Stanley from the Muscatatuck National Wildlife Refuge. She and Joe explained to us what a friends' group was, and how to begin to establish one for Big Oaks. Donna informed us that the Muscatatuck friends' group had applied for and received a grant to assist in the formation of a friends' group for Big Oaks. Without that grant, and Donna's help, BOCS

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would not be where it is today. I would like to extend my thanks, and the appreciation of all members of BOCS to Donna and the Muscatatuck Wildlife Society.

There were approximately 25 people at our introduction meeting, and all in attendance must have

realized the rewarding role they could play to support the maintenance and management of our natural resources.

We immediately started to work on the task of forming a group, but who would have thought that choosing a name would have been so difficult. It took us two months to decide on Big Oaks Conservation Society. Then we set out to write our articles of incorporation and by-laws. Directors and officers were elected to serve terms. Next we incorporated, filed for federal and state tax identification numbers, and filed for a 501(c)3, non-profit status. We all breathed a sigh of relief in June when our 501(c)3 was approved.

Accolades to the Big Oaks staff who have all been extremely helpful and easy to work with. Most of them have joined our group. Donna Stanley, from Muscatatuck National Wildlife Refuge, has even joined our group. BOCS had nearly 100 members during the first year.

Our mission to support Big Oaks NWR continues, and will only continue to grow in the future. Plans are ongoing to continue to promote Big Oaks NWR in our local community, in our state, and in our nation. We continue to seek members to assist us in our mission, and ask that anyone interested in joining BOCS feel free to attend our monthly meetings. Our group meetings are usually held on the first Monday of each month at 6:00 p.m. at the Refuge Office, Building 125. Our e-mail address is bocs_collier@hotmail.com, and our mailing address is: Big Oaks Conservation Society, PO Box 935, Madison, IN 47250.

Looking forward to our second year.
Rick Collier, President BOCS

MEMBERSHIP RENEWALS DUE

FOR THOSE WHO JOINED BIG OAKS CONSERVATION SOCIETY BEFORE OCTOBER 2003, IT IS TIME TO RENEW FOR THE NEW MEMBERSHIP YEAR. A MAIL-IN MEMBERSHIP FORM CAN BE FOUND ON PAGE 11.

BIG OAKS CONSERVATION SOCIETY MISSION

To support the goals of wildlife conservation and habitat restoration at Big Oaks NWR, develop environmental education programs, enhance public awareness, and encourage use and appreciation for the natural and cultural assets unique to Big Oaks.

BOCS is doing great things in support of the refuge. We hope to continue to grow and offer the community a chance to improve the refuge experience. The group is seeking more members to support a variety of activities. Committees that need more help are membership, newsletter, grants, and hunting concessions. If you would be willing to serve, please let us know.

If you have an interest in Big Oaks National Wildlife Refuge, and would like to receive future issues of this bi-annual newsletter, please consider joining Big Oaks Conservation Society. You can contact them at boc_s_collier@hotmail.com. A mail-in membership form can be found on page 11.



Our friendly and enthusiastic members have made our first year an overwhelming success. The following is a brief overview of some of the first year achievements:

- Provided fish dinner for Centennial celebration at no charge to attendees
- Developed and distributed spring and fall refuge newsletter
- Sponsored "Take a Kid Fishing Day"
- Developed and distributed BOCS and BONWR brochure
- Attended National Conference
- Built structure to house time capsule
- Manned BONWR booth at state and county fairs
- Donated door prizes for youth deer and turkey hunts and youth fishing
- Sponsored fall refuge tours and fish lunch

Fundraising projects:

- Big Oaks NWR logo hats & refuge license plates
- Topographical maps of Big Oaks NWR
- Food sales for youth turkey hunt and refuge hunts



From foundation to near completion - volunteers built the time capsule structure at Old Timbers Lake. Big Oaks Conservation Society will purchase a special plaque to be placed here.

REFUGE ACTIVITIES

What are some of the activities visitors can do at the refuge? If you enjoy observing wildlife and photography, the refuge offers many scenic areas of hardwood forest, wetland, grassland and shrubland habitat. Visitors can hunt white-tailed deer and wild turkey. You may also fish at Old Timbers Lake, however, because of high demand, there is a quota system for boaters. There is much diversity among the plants, fish, birds and other animals that inhabit the refuge. You may also enjoy the interpretive programs that focus on habitat restoration and management. The refuge enjoys providing educational opportunities for students, educators and organizations.

Groups Visiting Big Oaks

Amos Butler Audubon Society
Ball State Wildlife Society
Beckham Bird Club
Boy Scout Troop 607
Congressman Baron Hill and Staff
Evansville Audubon Society
Hanover College Herpetology Class
Historic Hoosier Hills Teacher Workshop
Indiana University Conservation Biology Class
Knob and Valley Audubon Society
Madison High School Biology Class
Model A Club
Oak Heritage Conservancy
Save the Valley
Sierra Club
Wings Over Muscatatuck Bird Festival Tour

VISITOR INFORMATION

All visitors must annually view a safety video and sign a release form. This will give you access to the areas designated as public use. There is a \$3 fee for a daily access permit, or users may purchase an annual refuge permit for \$15, or a \$10 hunter access permit. The day use area covers 4,170 acres. An additional 22,500 acres is open to the public for special hunts and guided tours. The public may access the refuge from mid-April to the end of November every Monday and Friday, and the second and fourth Saturdays of each access month from 7:00 a.m. to 4:30 p.m.

VOLUNTEER OPPORTUNITIES

Contact the refuge if you are interested in any of these volunteer activities:

- Guiding wildlife and educational tours at the refuge
- Helping with bi-annual litter pick-ups along the refuge roadsides
- Speaking to schools and civic groups about Big Oaks NWR
- Helping in the refuge office by checking in visitors, answering phones or aiding in the refuge's safety-briefing program

The opportunity to become involved is open to all. Other opportunities will become available as the refuge develops its plans for the future.



Swamp Chestnut Oak in the refuge – photo by Brent Collier

PRIVATE LANDS PROGRAM

Big Oaks NWR provides funding for wildlife habitat restoration projects on private lands through the 'Partners for Fish and Wildlife' (PFW) program, which is a national program administered by the U.S. Fish and Wildlife Service. Wetland restoration, streamside renovation, reforestation and native warm season grass reestablishment are among the program's habitat accomplishments. In 2003 the refuge funded the establishment of 45 acres of warm season grasses, planted 11 acres of trees, and assisted with the construction of 8 acres of wetlands. Jason Lewis, the refuge biologist, also provided technical assistance to the Department of Agriculture's Natural Resource Conservation Service on countless other wildlife habitat improvement projects.

Manager's Corner – Joe Robb



The refuge in October is a busy place. The deer hunters are calling every 5 seconds wanting to know where the trophy bucks are and the staff is busy filling out year-end reports because our fiscal year ends on September 30. We have reports on just about everything these days, so consider this column a "state of

the refuge" report to our refuge friends. I am very pleased with Big Oaks Conservation Society's progress this year. We have had many firsts this year due to their involvement. We celebrated our refuge centennial with a dedication of a time capsule and had a wonderful fish fry. The Society recently built the brick structure that will house the time capsule near Old Timbers Lake. Without the Society's dedicated members we would not have been able to have a successful "Take a Kid Fishing Day" or Youth Deer and Turkey Hunts. We now have a detailed refuge map that is available (for a \$12 fee that will increase the Society's funds) to aid visitors. This map was crucial in a search and rescue operation that took place last spring.

The Society wants to do more for the refuge and is seeking new members. I know lots of visitors are interested, because they ask me about the group. I encourage those folks to take the time to complete and send in the membership form included in this newsletter. Our activities and monthly meetings are fun and are a great way to support Big Oaks NWR. The best way to understand how a National Wildlife Refuge works is to become part of a local friends of the refuge group. Big Oaks Conservation Society is becoming an integral component of many of the refuge's activities.

I also deeply appreciate my staff, Experience Works employees (George Tilley and Jack Skirvin), interns, and volunteers. They make my job much easier because of their dedication and skill. George and Jack handle most of the entrance gate chores and guide and greet all of the refuge visitors. Without them, public

use activities on the refuge would probably be reduced. Jack recently underwent bypass heart surgery, and he has been in our thoughts and prayers. He recently stopped by the office, eager to get back to work. Both his and George's devotion helps keep my work in perspective. Our interns' curiosity and passion also is inspiring, and helps me remember why I love my job. Volunteers who come in at 4:30 a.m. to help me are blessed, and usually can be guaranteed a free breakfast meal from the refuge manager.

Big Oaks NWR is full of contrasts, potential danger from munitions, and natural beauty. Together we can learn from its history and benefit from its future.



Big Creek - photo by Brent Collier



"Take a Kid Fishing Day" Winners



BIG OAKS NOTES BIG OAKS NOTES BIG OAKS NOTES

Big Oaks Web Site

Newsletters, refuge pictures, BOCS and refuge information can be found on the web site: Midwest.fws.gov/bigoaks

Deer Hunting

State drawn archery hunts on Big Oaks NWR will occur on: Oct. 18-19, 25-26. State drawn gun hunts on Big Oaks NWR will occur on Nov. 8, 9, 15-16, 22-23, and 25-26. Another local lottery archery hunt will be held at the refuge. "No show" drawings will be held each hunt day. Big Oaks NWR is conducting a special 2-day youth deer hunt event on November 1-2. Additional hunting information can be found on the web site.

Old Timbers Lake

Old Timbers Lake is a 165-acre surface impoundment with a total of 8 miles of shoreline. Maximum depth is 40 feet. Refuge fishing, with a valid fishing license, is permitted in this area only. Anglers fish for bluegill, crappie, redear, bass, and catfish.

Take a Kid Fishing Day

BOCS and Big Oaks NWR held their first "Take a Kid Fishing Day." Thirty-three kids participated in the fishing derby. The day was quite successful and will be repeated next year.

New Maps

Volunteers from BOCS and refuge staff members have completed the mapping project begun last winter. The project entailed taking the 1:24,000 scale map created for the Army of JPG and imposing current refuge information over the existing topographic information. The map shows the numbered hunting zones and those areas closed to the public due to ordinance safety concerns. The maps measure 26.5" by 39" and are two-sided, allowing the entire refuge to be pictured with one

side depicting the refuge north of "H" road and the other south. The map effort was headed by BOCS volunteer Jim Leveille and former Refuge Operations Specialist Steve Miller. Assisting in the gathering of GPS coordinates were BOCS members Bill Hughes and Bob Dixon. Just days after arriving last spring, the maps proved their usefulness when two boys illegally entered Big Oaks and were lost over night. Law enforcement and search personnel were issued the new maps. Refuge Manager Joe Robb said the maps were "vitaly important" in coordinating the successful search effort.

The maps are available in the refuge office for \$12.00.

May Day Bird Count

The 2003 May Day Bird Count was the most productive count since the refuge was established. Four parties totaling 14 volunteers scoured the refuge looking for rare and exciting species. Volunteers spent 11 hours birding the refuge and tallied an impressive 1,915 individuals and 112 species. The highlights for the count included Lincoln's sparrow, swamp sparrow, and mourning warbler. Most remarkable were the 28 species of warblers, including 38 cerulean warblers. A complete list of refuge birds can be found on the Big Oaks NWR web site.

Butterfly Count

Big Oaks NWR has one of the most diverse butterfly populations in Indiana. Over the last few years the refuge count has rivaled the Monroe/Brown County count for the most species and individuals counted in the state during the North American Butterfly Survey. The 2003 count held with that tradition in producing 43 species and 1,382 individuals. Counts that identify more than 40 species are said to be outstanding counts and the Big Oaks NWR count has produced 40 or more species every year since the count began in 1999. The highlights for the 2003 count included a new species for the refuge called the checkered white, as well as an impressive 300 common wood nymphs. All told, 59 butterfly species have been observed on the refuge in the 5 years since the survey has been established.

BOCS FALL MEMBERSHIP DAY



This fall BOCS sponsored a free fish lunch and two refuge tours to introduce newcomers to the refuge and to spread the word about our mission and goals. BOCS members really know how to put on a shindig! Cooking and serving fish that day were Ed & Judy Schafer, Dale & Diane Carson, Bob & Dorothy Kimball and new members (as of that morning!) George & Karen Terlinden. Fish from Old Timbers Lake was donated by members. Diane Carson did a great job organizing the event! About 30 visitors from the Napoleon Senior Center and BOCS members brought lots of food, including many tasty desserts. The day was an overwhelming success! Around 600 fish filets were served to the many guests. Around 80 people toured the refuge. Several people joined BOCS that day and several bought maps, hats and license plates. Many positive comments are still being heard.



Fall Tour at historic Edward's Ford Bridge over Otter Creek

MEET THE BOCS BOARD MEMBERS

Kirsten Carlson - I currently live in Madison, where I teach biology at Madison Consolidated High School. I am also assistant band director and environmental club advisor. I received my B.S. and M.S. from IU. I am a member of Hanover Wind

Ensemble and North United Methodist Church, Madison Schools Education Foundation, and the Hoosier Association of Science Teachers. I have a focus of research and teaching the topic of biodiversity in an inquiry-based environment. I play hand bells at Madison Presbyterian Church. I have two dogs, a German Shepard mix and a Maltese and one kitten at home. I enjoy hiking, camping, gardening, cooking, reading, and music. I have been a saxophonist for 20 years. My interest in Big Oaks came from conducting research for Miami of Ohio University and the National Science Foundation. I have an interest in biodiversity and wildlife preservation.

Dale Carson - I worked as a union # 431 IBEW Electrician in Indianapolis. I am retired now and loving every moment. I love fishing, hunting and making fishing lures in the winter. My wife of fifty years, Diane, and I live at Rexville. We go to all of the state parks that we can in the winter, to see new areas. We have raised seven children, who are all gone from home. All of them also fish and hunt. I enjoy helping out at Big Oaks with the Conservation Society cookouts to raise money for wildlife programs, and enjoy meeting new people. I made an Old Timbers Lake map for the group to sell.

Rick Collier - I moved here in 1974 from central Kentucky. I worked at Sears. I am a retired service technician. My wife, Sharon, and I now own and operate Glass Unlimited in Madison. We have two children, Ketia and Brent. My hobbies are woodworking and collecting antique tools. Growing up in a rural setting, I have always had an interest in the outdoors. I love to hunt and fish. Since living in the Madison area, I have hunted and fished in the former JPG. I also hunt and fish in the refuge. I serve on the Kruger Lake Park Advisory Committee. I felt the need to give something back for the privilege of having such a unique place to enjoy the outdoors.

Jeanne Dugle - I live with my husband and our three children on a farm that is very close to the Big Oaks National Wildlife Refuge. We bought our little slice of nature almost 10 years ago. It is covered with hills, trees and wildlife. Fortunately, we have a farmer that plants crops on part of our land for us. It helps us to pay the mortgage and all the wild animals enjoy eating the wonderful crops. I teach science at the Madison Junior High School. My hobbies are gardening, outdoor activities, and travel. I joined the Big Oaks Conservation Society because of my interest in

preserving nature and wildlife. That interest also led me to become a science teacher.

Dan Herron - I am originally from Anderson, IN but have lived here for the last 35 years. I have been a science teacher and administrator in the Madison School Corp. for the last 30 years. I am presently the assistant principal at Madison Consolidated High School. My wife, Jean, is the director of child development services at Hanover College. She is the parent and I am the stepparent of a daughter, Michele Long, and a son, John Dowling. John works at a school for wayward youth in Idaho. He has a son, Ezra, who is three. Michele and her husband, Mike, live in Carrollton and they have a new daughter, Grace. I am a 23-year member of the BPOE and a member of Kiwanis International. Big Oaks got my attention because I am interested in wildlife and habitat preservation. I like to hunt and fish but I cannot seem to find the time to do much of those. I have been in college forever. I have an A.S. and B.S. degree in computer science, a B.S. in biology, and an M.S. in science education.

Jim Leveille - I live with my wife, Sara, and three sons, Jimmy (16), Kenny (14), and Joey (12) on the eastern edge of Big Oaks NWR in Rexville, IN. I was born and raised in Connecticut. I graduated from the United States Air Force Academy in 1981 with a Bachelor of Science. In 1984, I completed my MBA from Louisiana Tech University while serving in the Air Force as a B-52 pilot. In 1988 Delta Airlines hired me. I am currently employed as a Boeing 737 Captain. My interest in Big Oaks is a natural by-product of my life-long interest in the outdoors. All of my sons and I are active in Boy Scouts, with three out of four Eagle Scouts, and Joey not far behind. First learning to hunt, fish, and appreciate the woods of New England as a youth, my Air Force assignments exposed me to outdoor adventures in Colorado, Oklahoma, California, and Louisiana. Having seen my native Connecticut overrun by development and congestion, I truly treasure open, natural places such as Big Oaks and believe their preservation is critical. Besides my activities at Big Oaks, I coach high school cross-country and track, serve as a trustee of my church, and serve as President of the Tyson Library Board in Versailles.

Bill Poindexter - I am from Madison. I have previously worked as a Math Aid, Weather Technician, and Range Technician at Jefferson Proving Ground. While I was a Range Technician I observed the process of ammo testing at J.P.G. I have also worked as an Inventory Technician at the Lexington-Blue Grass Army

Depot and served as a Survey Technician at the Marble Hill Nuclear Power Plant site, for a local engineering company, and with the United States Army Corps of Engineers. Other local group affiliations include Madison Walnut Street Fire Company No. 4, Madison Regatta, and Oak Heritage Conservancy. My hobbies are observing nature and outdoors, birding, and nature photography. I am involved with BOCS because I think too much of nature is being destroyed.

BOCS Hats for Sale



The Big Oaks Conservation Society is selling Big Oaks hats and Indiana refuge license plates to raise money for projects that benefit the refuge. The hats are \$12 each. Colors to choose from are camouflage, hunter orange, or tan. The hats can be purchased at the refuge office. Indiana National Wildlife Refuge plates are \$8.

Show your Big Oaks Conservation Society membership card and get a 10 % discount.



BOCS members enjoy a summer picnic at the Leveille's

FALCON RESCUE



This young female Peregrine falcon found assistance from the Big Oaks staff. It fledged from the Madison-Milton Bridge. Problems happen with bridge nesters when the young start exercising their wings. Their first flights sometimes end prematurely in the river. The falcon flapped to the shore, where it was found by a local resident near the riverfront benches. The police were alerted and they called the local animal control officer. He called Big Oaks. Jason Lewis picked up the bird and took it to the refuge. He and Joe Robb found the bird to be healthy. It was then taken back to the river and put up in a tree to see if the parent would come to feed it. That did not happen, so it was sent to the Hardy Lake Rehab Center. The falcon was fed and placed in a flight cage. Even though nothing was physically wrong with the bird, it would not fly. This is typical of birds in this situation, having had a traumatic experience from a previous flight attempt. The bird was then brought back to Big Oaks and later transported to the Kentucky Fish & Game Department. They put it at a hack site on the Kentucky River near Carrollton. The bird began flying and was one of the most vigorous falcons hacked from the site. The bird eventually flew away. It was carrying a radio transmitter. It was tracked for several weeks before the signal was lost. Radio transmitter batteries typically last about a year. It likely migrated south, but may eventually return to this area.

FIREFIGHTER ACTIVITIES

Big Oaks firefighters were quite busy this year. In addition to the prescribed burns at the refuge, they traveled to the western states to help with the summer wildfires. Brian Winters went to Oregon as an Engine Boss and Type 4 Incident Commander. Laura Lake and Dale Sides went out to Montana and then to Idaho on an Interagency Hand Crew. Dale served as a Squad Boss trainee. Teresa Vanosdol and Diana Shuler served on a hand crew in Montana. Dustin Varble worked on a hand crew in Wyoming. Eric Suttles served in Idaho on an Interagency Hand Crew. Jason Lewis and Laura Lake went to Glacier National Park to assist in fighting wildfires there. Amy Sayler now has a seasonal fire job with the Forest Service in California.

PRESCRIBED FIRES

This year 10,500 acres at Big Oaks were treated with prescribed fire. Last year 1,300 acres were treated. Burning maintains the grasslands. Hardwood encroachment (along with exotics) is the biggest threat to the grasslands. The army created the grasslands by mechanical disking, chemical application and burning. They used these areas to test weapons and munitions because the low vegetation created better observation opportunities. These three practices in combination were very effective in controlling the hardwood encroachment. The Fish & Wildlife Service is limited, at the time, to prescribed fire. They will probably never be able to use mechanical practices due to the unexploded ordnance on the refuge.



Maintaining refuge grasslands with prescribed fires

Species Spotlight

Henslow's Sparrow

By Teresa Vanosdol

Big Oaks NWR, located near Madison, IN, is home



to many unique plants and animals. Surveys of the refuge have documented 120 species of breeding birds, 7 species of bats, 26 amphibian species, 18 reptile species, 8

freshwater mussel species, 41 fish species and 46 state-listed plant species. Picking just one for the “species spotlight” can be quite a challenge!

This time we are ‘putting the spotlight’ on one of the species that played an important role in the establishment of Big Oaks National Wildlife Refuge, the Henslow’s sparrow. This rare grassland nesting bird is easily overlooked due to its secretive nature and insect-like song, “a hiccupping *tse-lik*”. Many birders spend years trying to add this bird to their life list. Once you are fortunate enough to catch a glimpse of this rare bird, you will see that it is no ordinary ‘little brown’ bird. It is quite beautiful, in fact. It is distinguished from other sparrows by having a rufous-toned back and wings, streaked breast and flanks and an olive green face. Viewing this bird in the morning sunlight, while it throws its head back to sing is an image that will stay with you for a very long time.

Breeding Henslow’s are found in the states of Wisconsin, Minnesota, Kansas, Oklahoma, Missouri, Indiana, Illinois, Kentucky, Tennessee, West Virginia, Virginia, Maryland, North Carolina and New York. Habitat includes grasslands, meadows, prairies and hay fields. Some shrubby vegetation is tolerated and is often used by males for song perches and displaying. Nests are on, or slightly above, the ground and well concealed by a canopy of grasses or forbs. Nests are built by the female in approximately 3-5 days. Clutch size varies from 3-6 eggs, commonly 4-5. Eggs are creamy white

with reddish brown blotches concentrated at the large end. Incubation is performed by the female for 11-12 days. Young Henslow’s sparrows fledge in 9-10 days.

Big Oaks NWR provides habitat for approximately 600 breeding pairs of Henslow’s sparrows. Big Oaks NWR conducts an extensive prescribed burn program to maintain Henslow’s sparrow habitat. Prescribed burns are conducted in early spring (March to early April) or, rarely, in late fall (October-November). Approximately 5,000 acres of the refuge is composed of grassland habitat considered suitable for Henslow’s sparrow nesting. Only a portion (approximately 25%) of the area is burned in rotation annually, thus making habitat available on a yearly basis. Prescribed burns help maintain the grassland habitat Henslow’s sparrows prefer by inhibiting the growth of woody vegetation.

Big Oaks NWR has been designated by the American Bird Conservancy as a “Globally Important Bird Area” in recognition for its value to the conservation of birds and their habitats, particularly the Henslow’s sparrow. If you are interested in seeing this rare grassland bird, call and join one of the birding tours held in the spring and summer. The Big Oaks staff consists of many talented birders and we all enjoy ‘showing off’ the refuge.



Refuge booths at Cincinnati Zoo with Puddles, the Fish & Wildlife mascot

ANOTHER SPECIES FOUND AT BIG OAKS - by Dr. Daryl R. Karns

The crawfish frog story begins in late March 1999. I was out with Joe Robb on K Road checking sites for a student study at the northern end of BONWR. We heard what sounded like a motor speedway in the distance (approximately one kilometer down the road). We drove up to the gate at Machine Gun Road. Frogs were calling from out in the impact field, and they sounded like the state endangered crawfish frogs. If true, this would be a significant range extension of several counties and approximately 130 km from the easternmost verified localities in Monroe and Morgan Counties. Later, Refuge staff and National Air Guard staff reported seeing what were probably crawfish frogs in April 2002. However, we needed full documentation (photos, frog call recordings, specific localities) to verify the presence of crawfish frogs at BONWR. That was not to happen until March of 2003.

Crawfish frogs are relatively large, heavy bodied frogs (the size of very large green frogs, but squattier) with conspicuous light-bordered dark spots on the back – very distinctive. This state endangered species is often associated with the mound systems of burrowing crayfish. These upland crayfish produce chimney-like mounds and tunnels and a variety of vertebrates and invertebrates utilize their mound systems. Crawfish frogs are secretive, nocturnal feeders. They are rarely seen except during breeding season movements when they congregate at breeding sites. Their deep, snoring call has considerable carrying power. They are explosive breeders that assemble for a short period (often less than a week) at a given site. Their breeding activity is dependent on weather (wet nights with water temperatures > 50°F are the best conditions). Thus, to see or hear crawfish frogs, you have to be in the right place at the right time.

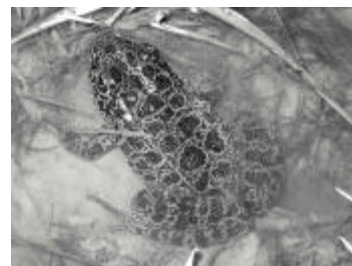
In March 2003, we set up a crawfish frog “hotline.” Conditions looked good on Tuesday, March 17. We (Joe Robb; Daryl Karns; Erin Haswell, a Hanover College student; and Diana Shuler, a firefighter at BONWR) hit the road. It was a damp, warm night and amphibians were everywhere on the roads. We saw chorus frogs, spring peepers, southern leopard frogs, green frogs, bull frogs, spotted salamanders, and smallmouth salamanders. Crayfish carrying eggs on their abdomens were on parade on the roads.

We went to the K Road area where we had heard frogs in 1999, but were disappointed because we did not hear

the “motor speedway.” We did hear some chorusing in the distance and decided to walk K Road. Joe and I were looking at a crayfish carrying her young when we heard Diana say, “Hey guys, is this what you’re looking for?” Sure enough, there was a male crawfish frog sitting on the road! Here was our verification. We eventually found four crawfish frogs on the road that night and a number of chorus sites. Over the next 10 days, we tried to go out on all good “froggy” nights. We never had an experience quite like the first night, but we did verify that crawfish frogs were found throughout Big Oaks in association with large grassy areas that are maintained by burning. Ironically, the craters created by the impacts of ammunition over the years when JPG was in operation have created many water filled holes used by crawfish frogs, other amphibians and wetland animals.

One question raised by our discovery is why are these frogs at Big Oaks? The northern crawfish frog is a prairie and forest-prairie transition species, not a woodland species. Historically, southern Indiana was forested. Did crawfish frogs move eastward in response to European settlement and clearing of the forest in the 1800’s? In any event, the BONWR crawfish frog population is now the easternmost known population of this species and may be one of the largest populations in Indiana. This species has found a protected home and will hopefully be the subject of future studies at BONWR. Many questions about the biology of this secretive species remain unanswered.

It is both interesting and encouraging that four Indiana amphibian species have all had their known geographic ranges recently expanded in Indiana. One positive aspect of the declining amphibian phenomenon is that there are now more people than ever interested in amphibians and looking and listening for them. It may be that these secretive and hard to find species are actually more common than generally thought and the type of survey work described here will continue to find new populations.



Crawfish frog found at Big Oaks

Big Oaks National Wildlife Refuge
1661 West JPG Niblo Road
Madison, IN 47250
 Phone: 812-273-0783
 Fax: 812-273-0786
 E-mail: bigoaks@fws.com
 Website: Midwest.fws.gov/bigoaks

REFUGE STAFF

- Dr. Joe Robb** - Refuge Manager
- Jason Lewis** - Wildlife Biologist
- Teresa Vanosdol** - Wildlife Biologist
- Janet Pike** - Administrative Technician
- Brian Winters** - Prescribed Fire Specialist
- Laura Lake** - Fire Program Technician
- Eric Suttles** - Firefighter
- Dale Sides** - Firefighter
- Amy Saylor** - Firefighter
- Diana Shuler** - Firefighter
- Judith Eldridge** - Intern
- Dustin Varble** - Intern
- Marie Perkins** - Intern
- Kelly Perkins** - Intern

BIG OAKS
 Newsletter

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Contributing Members



BIG OAKS
 Conservation
 Society

**Membership
 Benefits**

10% discount on
 merchandise

opportunities to participate
 in special refuge events

contribute to the
 improvement of the refuge
 for all visitors

Big Oaks Newsletter

If you would like to join, or rejoin, the **Big Oaks Conservation Society**, to support the refuge,
 please fill out this membership form and send along with your check to:

Big Oaks Conservation Society
P.O. Box 935
Madison, IN 47250

Yearly Membership Form (Oct. to Sept. 30) Please select a category.

<input type="checkbox"/> Youth \$5	Name(s) _____
<input type="checkbox"/> Individual \$15	Address _____
<input type="checkbox"/> Family \$25	City _____
<input type="checkbox"/> Supporting \$25	State/Zip _____
<input type="checkbox"/> Lifetime (per Individual) \$150	Phone _____
<input type="checkbox"/> Corporate \$500	E-mail _____



2003 CALENDAR OF EVENTS

<u>September</u>	<u>Migration begins!</u>
<u>October</u>	<u>Deer archery season</u>
<u>November</u>	<u>Deer shotgun season,</u> <u>Youth Deer Hunt,</u> <u>Last chance to fish</u>
<u>December</u>	<u>Christmas Bird Count</u>
<u>January</u>	<u>River Otters slide in the snow</u>
<u>February</u>	<u>Great Horned Owls nest</u>
<u>March</u>	<u>Big Oaks is smokin' –</u> <u>prescribed burning</u>
<u>April</u>	<u>Migrating birds, wildflowers,</u> <u>turkey hunt, fishing begins</u>
<u>May</u>	<u>Sign up for a refuge tour!</u>
<u>June</u>	<u>Breeding bird surveys</u>
<u>July</u>	<u>Butterfly survey</u>

BIG OAKS

**Conservation Society
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