



siosa
SOUTHERN IOWA OAK SAVANNA ALLIANCE

2007 UPCOMING EVENTS

- Evening burn party

Watch while the USFWS crew conducts a prescribed burn on a prairie remnant at Little River

- Wildflower study group

A lot of you have expressed interest in learning more about the flowers and birds found in southern Iowa oak savannas. In 2007 SIOSA will organize a study group guided by expert taxonomists.

- Landowner study group

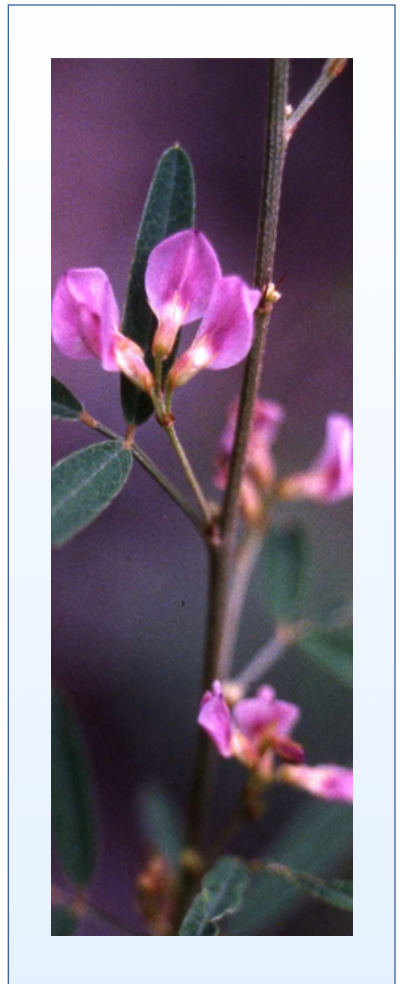
For those interested in learning more about restoration and developing a long-term restoration plan for their land

- Annual meeting in June

- Field trips and other programs of interest to landowners.

The SIOSA Program committee will meet in January to select dates for the above events. Please let Sibylla Brown know if you would like to enroll in either of the study groups. Tel: 641-446-7358. E-mail,

timberhll@grm.net



A Strong Foundation Built in 2006

by Gregg Pattison, Private Lands Biologist – USFWS

What an exciting year 2006 has been! A lot of energy has been built up over the last year for the oak savanna restoration project here in Southern Iowa. This is a great time to reflect on some of the great partnerships that were built and the accomplishments of the year. I have been especially thankful for dedicated individuals who have stepped up to help build a strong foundation for restoring oak savanna. Working together we have shared knowledge and resources that has generated real enthusiasm from conservation agencies, landowners and the community as a whole.

Planning and visioning for the future plays a key role for the restoration of native oak savanna and prairie habitats. Much of the past year involved meetings and planning sessions to build a vision of the desired conditions

for native ecosystems of Southern Iowa. Again, the efforts and dedication of the local conservation professionals and the leadership of SIOSA made the planning efforts successful. We have developed a Fire Learning Network site and held a strategic planning session for SIOSA. The combined efforts have painted a clear picture of the challenges ahead for successful habitat restoration.

The Fire Learning Network (FLN) is designed to share knowledge and resources on fire management among natural resources professionals and landowners involved in ecosystem and habitat management. The group held the first meeting in February to establish goals and determine the future desired conditions for the oak savanna and native prairie ecosystems of Southern Iowa and



Woodland restoration workshop at Slip Bluff

Northern Missouri. The landscape goal statement adopted by the group is: “To restore the prairie-woodland landscape that maintains itself over time through the implementation of prescribed fire and grazing in an agricultural-recreational mix, keeping a working landscape with public-private partnerships. Citizens using the landscape will come to appreciate, recover, restore, understand and be involved in the dynamic landscape and the role fire and grazing play in its continuation.”

This goal statement reflects the need to have involvement from the whole community to build a culture where fire is an accepted tool for managing the ecosystems of the region to maintain productive and healthy prairies and woodlands.

The FLN also held a prescribed fire workshop in May. The workshop focused on threats from invasive species and using fire to manage pastures. A key message from this meeting was that we are on a short time-line for controlling invasive species such as eastern red cedar trees. The trees will overtake much of the region and be a financial hardship for the cattle industry and eventually destroy much of the existing remnant prairies of the region. One potential tool that came out of this meeting was the establishment of Prescribed Fire Cooperatives. These cooperatives would be landowner driven groups that would establish a cooperative to implement prescribed fire on the landscape. This will be a critical component to meeting the broad goal of fire being an accepted and utilized tool on a landscape scale.

Members of the Fire Learning Network (FLN) include SIOSA, the USFWS, The Nature Conservancy, the Iowa DNR, the Decatur County Conservation Board, the Natural Resources Conservation Service, Iowa State University, Pheasants Forever, Conservation Districts of Iowa, and Graceland University

SIOSA held a strategic planning session in October to develop a road map to guide them into the future. The planning session involved partners from the USFWS, DNR, Decatur County Conservation Board, NRCS and Pheasants Forever. A draft long range plan has been developed and will be finalized in the coming months. This plan will help guide the restoration efforts, help establish educational programs and give a focus to the efforts SIOSA wishes to accomplish in the coming years.

Funding is always a concern when developing a large project such as this. The USFWS Partners for Fish and Wildlife Program has been a strong partner in the project. The USFWS has committed over \$100,000 to the project area thus far through the Partners program. This funding was greatly enhanced this summer when it was announced that SIOSA was awarded a \$125,000 grant through the USFWS Private Stewardship Grant Program. SIOSA decided that the majority of these funds should be used to establish a project where people could see first hand how the restoration of oak savanna and prairie happens. Approximately \$84,000 of the grant funds will be used to restore the woodlands and prairies of Slip Bluff County Park. The work will take place over this winter and workshops will be developed for people to learn more about how fire and woodland management can have a positive impact on wildlife, plants and water quality of the park. The goal of the work at Slip Bluff is to excite more people on the potential benefits of managing their woodlands and prairies. The remaining funds will help establish a fire cache for the burn crew that will be established over the next year and for completing more restoration work on private property.

We also had a good year in restoration work. There are several project sites started in Decatur County and with the support of Iowa DNR biologist, several projects in Lucas, Wayne and Clark Counties as well. Below are the estimated acres restored in 2006:

Woodland and Prairie Burns: > 650 acres (mainly private individuals, Decatur County Conservation Board and DNR)

Woodland Thinning (Savanna): >150 acres



Dr. Gerould Wilhelm

A key to success of the restoration work will be scientific credibility. Research projects and monitoring will play a key role in maintaining a high level of confidence in the work we are completing. Timber Hill Savanna has played a key role in this process. The Browns were able to secure funding through an EPA grant to hire Dr. Gerald Wilhelm to complete a study of the plant, insect, bird and hydrologic response to the restoration work and fires on the savanna. The results will be published soon, but the preliminary reports have been amazing, with over 450 vascular plants identified, increased bird use and nesting in the restored savanna areas, and drastically improved hydrologic conditions. Studies of this nature will greatly enhance the understanding of the importance of woodland management and the benefits provided to the public. Dr. Wilhelm also completed a preliminary inventory of plants at Slip Bluff

Park and talked to several SIOSA members and the public about restoration potentials in Decatur County. More research projects will be developed in 2007 with an emphasis on monitoring the effects of restoration on wildlife and insect communities, water quality and patch-burn grazing.

It is hard to put everything that has happened this last year into a newsletter article. So much has happened and so many people have been involved in the work. I want to wrap up this article with what I feel may be the most important aspect of habitat restoration work – keeping the public informed and educated on what we are doing and how the work is important in their lives. SIOSA has sponsored several workshops in 2006 that offered the public an opportunity to see first hand how restoration will improve conditions on the landscape and how these benefits are good for everyone, including conservationist, bird enthusiast, woodland/prairie landowners, hunters, cattle ranchers and the general public. SIOSA held a series of workshops in September that brought the public to Slip Bluff Park to discuss woodland management and prescribed fires. These workshops were very successful and have lead to the development of a program committee for SIOSA and series of workshops will be established for 2007. Communication and education is a key to maintaining the energy and enthusiasm that has been established.

Building on the foundation that was established this past year will be the goal for 2007. We will be establishing fire training classes, developing a local burn crew to help implement fire management on the landscape, complete phase one of the restoration work on Slip Bluff Park, involve more landowners in restoration projects, provide opportunities for community involvement through fun workshops, and continue to grow the Fire Learning Network.

Please feel free to contact me with if you are interested in our project or feel you may have some native prairie or oak savanna you would like restored. I can be reached at (641) 784-5356 or stop by my office in the Science building on Graceland University, room 123.

Oak Savanna Mushroom Survey

By Sibylla Brown

My interest in mushrooms began when I was a young child living in post-World War II Germany. Food was in short supply immediately after the war and I used to accompany my mother on her treks to the alpine foothills to gather wild mushrooms for the table. The Pfifferling (Chanterelles) and Steinpilz (King bolete) that we gathered made feasts out of our meager rations. However, the wild food foraging ended when my family moved to the U.S. in 1947, and the produce counter at MeToo supermarket replaced the Bavarian countryside. It wasn't long before I forgot how Pfifferling and Steinpilz tasted.

Those early memories were reborn when my husband and I moved to Timberhill, our Decatur County farm.. After we began restoring the degraded oak savanna I found Chanterelles and King boletes fruiting in the open woodland. But those weren't the only species I found. Each year as we restored more of the woodland, the species diversity of the mycoflora increased. My interest in fungi expanded beyond mycophagy. I wanted to learn to identify the mushrooms that fruited so abundantly outside my door.

In 1998 I enrolled in Dr. Lois Tiffany's Field Mycology class at Iowa Lakeside Lab, and learned to identify the major genera and common species of macrofungi in Iowa and key out unknown species. I began applying these new skills as soon as I returned to Timberhill. As my taxonomic skills increased I was amazed at how many species I collected. Even in late fall, after a hard frost I was able to collect ten different species of Hygrophorus, (Waxy caps). And wherever I collected terrestrial fungi, I observed an increasing species diversity of forbs.

The more I learned the more questions I had. Is there a connection between mushroom species richness and diversity of other organisms? Is mushroom species abundance an indicator of a healthy woodland ecosystem? By extirpating tree species such as *Ostrea*



Boletus rubroflammaus



Amanita flavoconia, Yellow patches

virginiana (Ironwood) and *Ulmus americana* (American elm) and reducing the leaf litter with annual prescribed burns had we also eliminated some mushroom species?

When Dr. Gerould Wilhelm began his study of the impacts of ten years of prescribed fire at Timberhill, I began a survey of epigeous macrofungi in the plots he laid out. Dr. Wilhelm set up eight plots. Two plots had had no management since being clearcut in 1925. Two plots had been burned frequently but not thinned. Four plots had been thinned and burned annually since 1995.

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From May 24, 2006 through October 7, 2006, I visited each plot weekly. Fresh specimens were collected from May 26 through July 10, 2006. No sporophores were collected from July 20 until August 16, 2006. From August 16 through September 28 fruiting was abundant in all plots and collection continued. Sporophores of all epigeous macrofungi growing on the surface of the soil were collected, including large Agaricales, Gasteromycetes, Aphyllophorales and Discomycetes. Representative specimens of all taxa collected were brought to the laboratory for identification then dried and labeled for herbarium storage. I did not collect litter inhabiting or lignicolous species.

Prior to beginning this survey I met with Dr. Tiffany and Rosanne Healy to assign Coefficients of Conservatism (COC) for each mushroom species previously collected at Timberhill. Species as likely to occur in an old field as a woodland were assigned a 3. Species likely to occur in remnants but also found in an old fields were assigned 4. Species found in degraded woodland sites and natural areas were assigned 5. Numbers 6, 7, 8 designate species that might occur in a degraded site but are usually found in remnant natural areas 9 and 10 are applied to those found only in the highest quality remnant woodlands.

Since this survey only collected data on mushroom fruiting in 2006 many species present at Timberhill are not included. Mushroom fruiting is ephemeral, dependent on many factors, and many species don't fruit annually. At least ten years of collecting will be required to accurately reflect mushroom species diversity at Timberhill.

However, the preliminary results are interesting. In all 86 terrestrial mushroom species were collected between May 24 and October 7, 2006. The highest number of species were collected in an unmanaged, unburned plot. The reason may be that that plot has more tree species than found in the managed plots. (Many fungi have mycorrhizal associations with specific trees.) It is also indicative of the high restoration potential of the plot. Most significant, however, the four managed plots all had higher floristic quality than the unmanaged plots. Data collected in one season is not enough to draw conclusions but it appears that the floristic quality of mushrooms collected in an area

can be used to measure its natural quality. As I continue this study in future years I hope to learn which mushroom species are indicative of high quality oak savannas.

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This month the SIOSA featured landowners are Dick and Nancy Hillyard. In this article they describe their restoration work at Oak Ridge Farm.

It was in a heavy snow that I first visited the southern hills of Decatur County in search of land which would later become our home. The cedar trees were covered with snow and the winding roads were narrow with piled snow; truly it looked like a winter wonderland. The cedar lined lane into the property was drifted with so much that I had to walk through deep snow to inspect the buildings and not much of the land especially the timber was seen at that time.

We purchased our farm in the early spring of 1979 while we were still in Des Moines where Dick was an Engineering supervisor with Northern Natural Gas Co. Soon after the purchase we moved to Omaha and Houston we were even farther away from our property and weren't able to visit it very often. Since we were never very close to the farm we rented it out for pasture and crops and eventually turned some of it into the Conservation Reserve Program with the government. During those 25 years, the cedars, multi-flora rose and prickly ash went unchecked and the timber became almost impossible to walk through and even unusable for anything, except maybe goats.

In 1998 after remodeling the only house on the property, our oldest daughter, son-in-law and family moved from Des Moines to the peaceful tranquility of the farm. Between then and 2004 we began spending more time at the farm, built a home for ourselves and finally made the transition from Texas to Iowa. With more time to spend on the property we came to appreciate the many magnificent oak trees and limited areas of native grasses and woodland flowers.

After watching the Browns burn their property for a few years and seeing the results of their savanna restoration program we were encouraged to start work on our own oak and hickory timberland. They helped get the dream started for us and we are now working on it for the benefit of future generations.

The DNR District Forester, Randy Goerndt, was contacted and after a visit to our farm he worked up a Woodland Stewardship Plan for 87.6 acres of our 138 total acres. We started with a controlled burn of 10 acres in November, 2005, and in February, 2006, had a contractor, Iowa Natural Resources Corp, start the clearing of cedar and invasive trees and girdling of other trees to allow sunlight into the timber. No chemicals were used at that time to discourage regrowth. In order to record the progress of the savanna work, I selected and marked specific oak trees that were located throughout the timber and took pictures in all four directions.

With the encouragement of Gregg Pattison of the U.S. Fish and Wildlife Service we continued savanna work by removing cedar trees and thinning about 25 more acres. Included in those acres was a cedar thicket about 3/4 acre in size and was so dense with 8" and 10" trees that ground vegetation was not allowed to grow. I found out that the cedar trees that had looked so pretty with snow on them during my first visit are so invasive and are very hard to get rid of especially when they get so large.

We stopped the savanna work on April 14 because of the Indiana Bat which is a federal and state endangered species. Nursery colonies of the bat exist primarily between the months of May and August beneath the loose or peeling bark of trees like shagbark hickory. A controlled burn of the the timber except the 10 acres burn in 2005 along with 25 acres of CRP in the Woodland Stewardship Plan was accomplished in mid-April. Within two months, vegetation was growing in the cedar thicket area that had been cleared and burned. Big and little bluestem and various forbs are starting to come back already there and in the CRP acreage that was also burned. Plans are to finish savanna work before the year's end on another 12 acres not completed in the spring and a complete burn of all the acres in the Woodland Stewardship Plan in early 2007.

Additional wildlife habitat improvements are being planned in cooperation with the DNR that will involve the establishment of 3 acres of native grasses/conservation cover for quail habitat, 2-1/2 acres of food plots and strip disking and spraying on the edges of the savanna work to provide areas of diverse plants and bare ground.

We have much to learn about the identification of native grasses, forbs, wildflowers and mushrooms and are looking forward to the day when we can walk through our timberland and not be hampered by multi-flora rose and prickly ash.

Support SIOSA by becoming a dues paying member

- \$10** STUDENT MEMBER **\$100** SUPPORTING MEMBER **\$100** SAVANNA STEWARD
- \$25** SAVANNA FRIEND **\$250** SUSTAINING MEMBER

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