FRIENDS OF RYERSON WOODS

Ryerson Almanac

A Newsletter From the Friends of Ryerson Woods Volume 15, Fall/Winter 1998

Scientists Study Forest Patterns and Change at Ryerson Woods

by Marlin Bowles, Plant Conservation Biologist, Morton Arboretum

Knowing how to preserve and restore Lake County's important natural heritage requires understanding the location, composition, and structure of our forests, savannas, and prairies. In northeastern Illinois, the interaction between eastward moving prairie fires, which were driven by westerly winds, and landscape features that served as firebreaks, created the conditions for the natural vegetation. Maple forests developed in areas that were afforded greater fire protection, while fire-adapted oak savanna and woodlands developed in areas that were less protected from prairie fires.

The locations of the oak/maple forests at Ryerson Conservation Area provide examples of how the Des Plaines River affected forest distribution. Tallgrass prairie occurred west of the river, and fire-protected maple forest occurred along the river's eastern floodplain terrace. Eastward, this forest merged into the first oak woodland and then oak savanna along a gradient of decreasing fire protection.

Recent studies of northeastern Illinois forests, including maple and oak forests at Ryerson Woods, have shown declines in biodiversity. Far fewer numbers of oaks and native shrubs now occur in permanent plots than in 1975, and in many cases they have been replaced by increasing numbers of maples. Understanding and correcting these changes have created challenges for conservationists and resource managers.

These changes in forest composition and structure began after Europeans settled this area. These settlers suppressed fire and fragmented the landscape, isolating once-connected forests, savannas, and prairies. That action prevented the natural spread of fires that formerly maintained diversity across the landscape.

It now appears that these fires even affected maple forests along the Des Plaines River, allowing persistence of a rich diversity of tree and shrub species. After human settlement, disturbances such as grazing and occasional burning apparently have kept these forests open through the late 1800s and early 1900s.

But now, the Ryerson Woods maple forest is slowly shifting toward greater maple dominance and loss of diversity.

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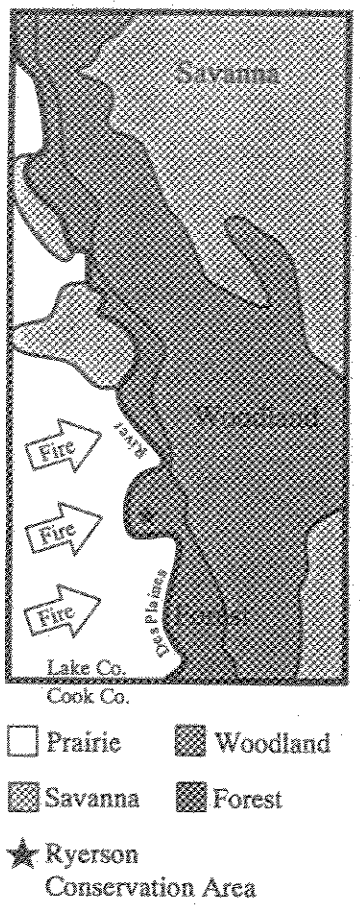

Locations of prairie, forest, woodland, and savanna along the Des Plaines River at the time of European settlement. Maple forest is situated on the east bank of the river, in the landscape position afforded greater protection from fire.

THE RESEARCH TEAM: Marlin Bowles, Plant Conservation Biologist at the Morton Arboretum, led a team of researchers on a study of 20 years of woody vegetation changes and ground layer species in 28 high-quality northeastern Illinois upland forests. One of these forests included Ryerson Woods, and the study here was financially supported by a Nancy Ryerson Ranney Leadership Grant. The researchers concluded that loss of structural and biological diversity has occurred in maple and oak stands in these forests in the past 20 years. Controlled burns along with removal of alien species can help re-establish this biodiversity, the researchers say. These results coincide with efforts being done now by the Lake County Forest Preserves and volunteers to protect Ryerson Woods. The research team also included Jenny McBride, Christopher Dunn, and Michael Jones of the Arboretum, and Tim Bell of Chicago State University.

Ryerson Woods is a Lake County Forest Preserve

IT'S TIME FOR AUTUMNFEST AND HALLOWEEN HIKES

Families will enjoy wagon rides, children's pioneer games, and other outdoor activities at this annual event from noon to 4 p.m. on Sunday, Oct. 11, just in time for the brilliant fall colors. AutumnFest is underwritten by G.D. Searle Co., and sponsored by the Friends of Ryerson Woods and the Lake County Forest Preserves. Friends members are admitted free. Cost for others is $5 for adults and $3 for 4-to-12-year-olds.

Register now for the Annual Halloween Hikes, a non-threatening walk through Ryerson Woods at night where your youngsters will meet some interesting creatures. The hikes will be held on Saturday, Oct. 31 and Sunday, Nov. 1. You'll find a complete registration form in the Lake County Forest Preserve's *Horizons* newsletter. Or call us at 847-948-7750 to receive registration materials.

COMING THIS SPRING A NEW AND IMPROVED SYMPOSIUM

Nature lovers — children and adults alike — have long enjoyed the bird walks, workshops, and keynote addresses at the Friends of Ryerson Woods Annual Smith Symposium. This spring, to better meet your needs and to give busy people an even greater opportunity to participate in this special series of hands-on workshops, we're making some changes and additions we think you'll like.

You'll still get the high-quality workshops and free bird walks you've come to expect, plus now everything will be packed into one fun-filled and educational weekend, where you can interact with some of the region's most respected educators and scientists. We are also planning several activities geared specifically for children.

The New Smith Nature Weekend and Symposium will be held on **Saturday, May 15, 1999, and Sunday, May 16, 1999.** The event will focus on Endangered Species and culminate in an exciting keynote address on Sunday May 16 given by Les Fisher, the former director of the Lincoln Park Zoo. We've designed the Smith Nature Weekend and Symposium so you can attend for a morning, an afternoon, one day, or both days, whatever fits your schedule. "We're really excited about the new format," said Gerry Batsford, Friends of Ryerson Woods Program Committee Chair. "We've received lots of positive comments from participants over the years about the Symposium, and they've also offered suggestions on how to improve it. So that's what we're doing."

Mark your calendars now for the third weekend in May of 1999. Then look for the next edition of the *Ryerson Almanac*, a special 8-page issue that will explain the new format in detail and provide all the registration materials you need. If you have any questions, please call us at 847-948-7750. The Smith Nature Weekend and Symposium is held in honor of Ellen and Dutch Smith, who fostered a love and respect for nature in Lake County many years ago. We think they'd be proud to know this fine tradition is now in its 16th year.

continued from page 1 -- Again, humans are the cause. American elms served as an important component of the maple forest canopy until the 1960s. Dutch elm disease, introduced from Europe earlier this century, destroyed most of the large, native elms. Humans also eliminated larger predators, such as wolves, which helped limit the sizes of eastern white-tailed deer herds. By the early 1990s, overbrowsing by an increasing number of protected deer had reduced native wildflowers and shrubs at Ryerson Woods, causing further decline in forest biodiversity. See below for a continuum on the changing forest of Ryerson Woods.

Ryerson Woods in 1800

White oak

Before European settlement, the maple forest in what is now Ryerson Woods included a diverse assemblage of maple, American elm, oak, ash, and walnut. This scenario is based on the presence of 200-year-old individuals of these species in the forest canopy at Ryerson Woods. Occasional fires facilitated the diversity.

Ryerson Woods in 1975

American elm

In the mid 1960s, the outbreak of Dutch elm disease led to the loss of the American elm from the maple forest canopy. By 1975, when the forest was first studied, the only elms present were those restricted to understory sprouts. This impact may have allowed maple numbers to increase at the same time that oak and ash numbers declined.

Ryerson Woods Today and Tomorrow

White ash

Over-browsing by white-tailed deer apparently caused a significant loss of wildflowers and probably shrubs from the maple forest by the early 1990s. Increasing maple abundance could lead to almost total dominance by the year 2000, except for a few oaks, walnuts, and ashes persisting in the forest canopy.