FINAL REPORT

WPF GRANT #06-020W

Trail Brochure for Dirksen-McNaughton Woods LWR

Project Description

Develop an eduational brochure which explains the concepts of forest restoration and succession, and the specific habitat relationships between grasslands, wetlands, shrublands and forest and certain bird species.

Method

Text written by Tom Lerczak of the I.D.N.R. staff; layout by Illinois Audubon Society staff. Printed by contract with I.A.S.

Copies of final product enclosed.

Budget

Printing and shipping costs:	$1043.60
Match provided by I.A.S.	43.60
Grant reimbursement requested	$1,000.00

This project has been completed in accordance with the grant requirements.

Marilyn F. Campbell, Exec. Director
Illinois Audubon Society

Forest Restoration and Birds at Dirksen and McNaughton Parks

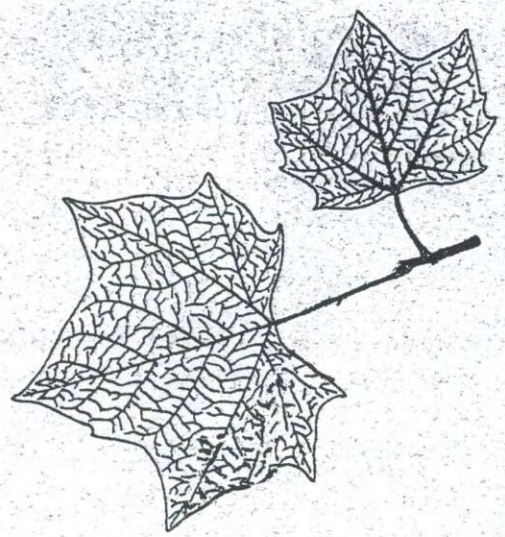
Interpretive Trail Guide with GPS Coordinates

Pekin Park District

This brochure was developed to provide visitors with information on forest restoration management taking place at Dirksen and McNaughton parks, especially as related to birds. The eleven interpretive stations are located along the main trail system and may be visited in any order without sacrificing continuity of interpretation.

INTERPRETIVE STATION (IS) #1 (GPS: N 40.59272, W 89.59801). Tree Growth Forms. Along this section of the trail, there are several large white oak trees, which stand out in great contrast to the surrounding woods. Most of the trees in these woods are younger and have much smaller diameters (at breast height) than the big white oaks. The large white oak trees not only have large diameter trunks, but they tend to have large branches even at lower levels. This may be contrasted with many of the younger trees

which tend to lack branching until the upper levels. These growth forms indicate that the habitats surrounding the oaks have changed from an open woodland to a closed-canopy forest. How would this changing habitat affect the resident bird community?



IS #2. Stream System and the Bird Community (GPS: N 40.59083, W 89.60213). The stream system that runs through Dirksen and McNaughton parks is a valuable resource for local wildlife. It not only serves as a source of water, but provides food resources (fish, invertebrates) and enhances habitat diversity. A basic principle of ecology is that habitat diversity is directly related to species diversity. So a visitor may notice that the number of bird species found along the stream is higher than in areas further from the stream. For example, sycamore trees tend to be more common along the stream. And during the breeding season, the yellow-throated warbler is highly associated with this tree. As further examples, belted kingfishers and Louisiana waterthrushes will only be found along the stream system. How might water quality affect the forest bird community?

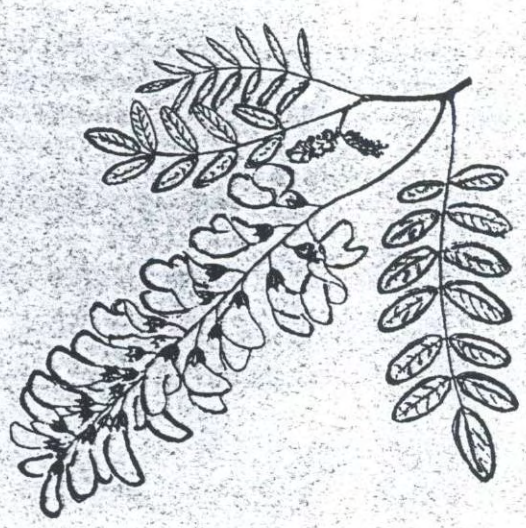
IS #3. Reforestation Area (GPS: N 40.58771, W 89.60105). About 828 acres at Dirksen and McNaughton parks have been permanently registered as Dirksen-McNaughton Woods Land and Water Reserve with the Illinois Nature Preserves Commission and Illinois Department of Natural Resources. To qualify for this distinction, formal studies were conducted to document the presence of at least 10 bird species that require large areas of forest for breeding purposes. About 690 acres were forested at the time these studies were conducted in 2001 and 2002. To improve bird habitats, by reducing forest fragmentation, the Pekin Park District is reforesting its agricultural fields and manicured mowed areas within the registered reserve. How long will it take before forest birds begin to benefit from this restoration?

IS #4. Mature Forest (GPS: N 40.58429, W 89.60728). The forest in this area along Lick Creek has remained undisturbed for a long time, allowing many of the oaks and sugar maples to become quite large. During the growing season, the forest canopy allows only a small amount of sunlight to penetrate, so the forest environment remains moist and cooler than the surrounding landscape. During the summer months, listen for the songs of the wood thrush, scarlet tanager, red-eyed vireo, and Acadian flycatcher, which thrive in large mature forests. During other times

of the year, these species will be less conspicuous or may have migrated southward. But year-round forest birds such as the white-breasted nuthatch and tufted titmouse will usually be present somewhere. The impressive pileated woodpecker may occasionally be seen or heard in these mature woods.

IS #5. Shrublands and Edges (GPS: N 40.59804, W 89.61223). The habitats created by this permanently maintained powerline corridor include shrublands and forest edge. The deep forest birds found at other areas along this trail (see Interpretive Station #4) will typically not be found here. And while shrublands created by the recent reforestation of agricultural fields at Dirksen and McNaughton parks will eventually become mature forests, this powerline corridor will remain. It represents a break in the continuity of forest cover, but also provides summer habitat for bird species such as the gray catbird, field sparrow, orchard oriole, and American goldfinch. During the winter, look for dark-eyed juncos and American tree sparrows. Further north along this trail there are areas that were once mowed grass, but are now a part of the forest restoration project. These restoration areas will reduce forest fragmentation and edge for the benefit of forest-interior birds.

IS# 6. Forest Restoration Versus Mowed Grass (GPS: N 40.59383, W 89.60502). Beyond the mowed area directly to the west is the boundary of the Dirksen-McNaughton Woods Land and Water Reserve. This reserve was established by Illinois law to protect the large blocks of forest habitat that occur here for the benefit of forest-interior songbirds, which only occur in such woodlands. Recreational areas used for picnicking and outdoor games are not part of this reserve. To increase the amount of forest, agricultural fields and mowed grassy areas within the reserve are being converted to forest. But growing a forest takes many decades, so visitors are asked to be patient with the rather brushy, unkept look of the restoration areas.



IS #7. Non-native Species: Black Locust Groves (GPS: N 40.60734, W 89.60387). Non-native species (sometimes called "exotic") are a great threat to the health of all natural areas in Illinois. Because such species are not from Illinois, they tend to lack the natural checks and balances that would typically keep a particular species from overwhelmingly dominating an area. Although the forests along this stream provide habitat for a variety of songbirds that require large tracts of unbroken woods, a large percentage of the trees are black locust, a species which is not native to this part of Illinois. Black locust also tends to form pure stands, and this can crowd out other species, such as the desirable oaks and hickories that are the classic forest dominants in central Illinois. The management plan for this site includes a gradual eradication of the black locust tree, while at the same time, maintaining the forest canopy and structure that is so important to forest songbirds. Bush honeysuckle and garlic mustard are two other non-native species that managers hope to eradicate. Bush honeysuckle can prevent tree saplings from surviving to maturity, and garlic mustard severely out-competes native wildflowers. Constant vigilance will always be required to keep these and more non-native species in check.

IS #8. Forest Management (GPS: N 40.60961, W 89.60667). The forest along this section of the trail is perhaps some of the best quality mature woods within this park. Healthy oak trees, for example, are fairly common, and the forest has a mature structure with recognizable canopy, sub-canopy, and shrub layers. Even so, the forest is in need of management. This is because its natural balance has been upset for many years due to past land management activities and the invasion of non-native species. One goal of the long-term plan for this area is to re-establish forest conditions as they would have been before natural processes were interrupted. Certain tree species (e.g., elm) may have to be removed to encourage others (e.g., white oak) to grow and reproduce. Other plants may actually have to be re-introduced. This restoration process will usually be gradual and will take may years to complete. Change will be rather subtle from one year to the next, but profound over the long-term. And because Dirksen-McNaughton Woods Land and Water Reserve is protected by state law from destruction, future generations will always benefit from forest management begun in our time.

IS #9. Reforestation Versus "Hands Off"(GPS: N 40.61150, W 89.59871). Some may suggest that the best way to restore natural habitats is simply to curtail human activities and let nature take its course. Seeds from a number of plants, including trees, may enter the restoration area by a variety of means (e.g., bird-dispersed, wind-driven), and over a sufficient period of time, a forest will eventually become established. But what characteristics will this type of forest have? Will a natural Illinois oak-hickory forest appear after several decades? Or will some other tree species dominate, perhaps ones which have historically never been part of a natural Illinois forest? Will native wildflowers ever become re-established? Land managers possess the knowledge to help this process along and guide it, so chances will be increased that a native Illinois forest will, indeed, become restored. Beginning in 2005, agricultural fields at Dirksen and McNaughton parks have been planted to tree species characteristic of Illinois' native forests. This field is one such restoration area. Return here often over the years and watch how this field grows into a forest.

IS #10. Hay Field (GPS: N 40.61039, W 89.59554). This field is within the Dirksen-McNaughton Woods Land and Water Reserve, an area protected for its value to forest-interior songbirds. The Pekin Park District will one day retire this field from hay production and plant trees to create an even larger tract of forest than already occurs at Dirksen Park. But until that happens, the field will continue to be used to produce hay for horses at the park stables.

IS #11. A Meandering Stream (GPS: N 40.61056, W 89.59090). The power of moving water naturally results in a stream changing its course over the landscape. As sediment is deposited in one part of the streambed, the banks erode from another. A meandering stream is, therefore, never in one stationary place indefinitely. Though meandering is a natural process, it has been greatly accelerated throughout much of Illinois. Rain water runs off the land faster today than historically, and many streams have purposely been straightened to move the water farther and faster to avoid localized flooding of developed areas. One result is that, on average, there is more power behind water flows today than historically, and this has resulted in more erosion of stream banks. Look below on this bluff edge, and try to imagine where the stream channel may meander next.

For additional information, see the following:

Pekin Park District
1701 Court Street
Pekin, Illinois 61544

309-347-7275
http://pekin.net/pekinparkdistrict/

Illinois Audubon Society Web Site
www.illinoisaudubon.org

Illinois State Museum Web Site
http://museum.state.il.us/muslink/site/index.html

Published by the Illinois Audubon Society
P.O. Box 2547, Springfield, IL 62708
www.illinoisaudubonsociety.org
Spring 2006, utilizing a grant from the Ilinois Dept. of Natural Resources through the Wildlife Preservation Fund

Illinois Wildlife

Preservation Fund

Illinois Department of Natural Resources

Printed by authority of the State of Illinois