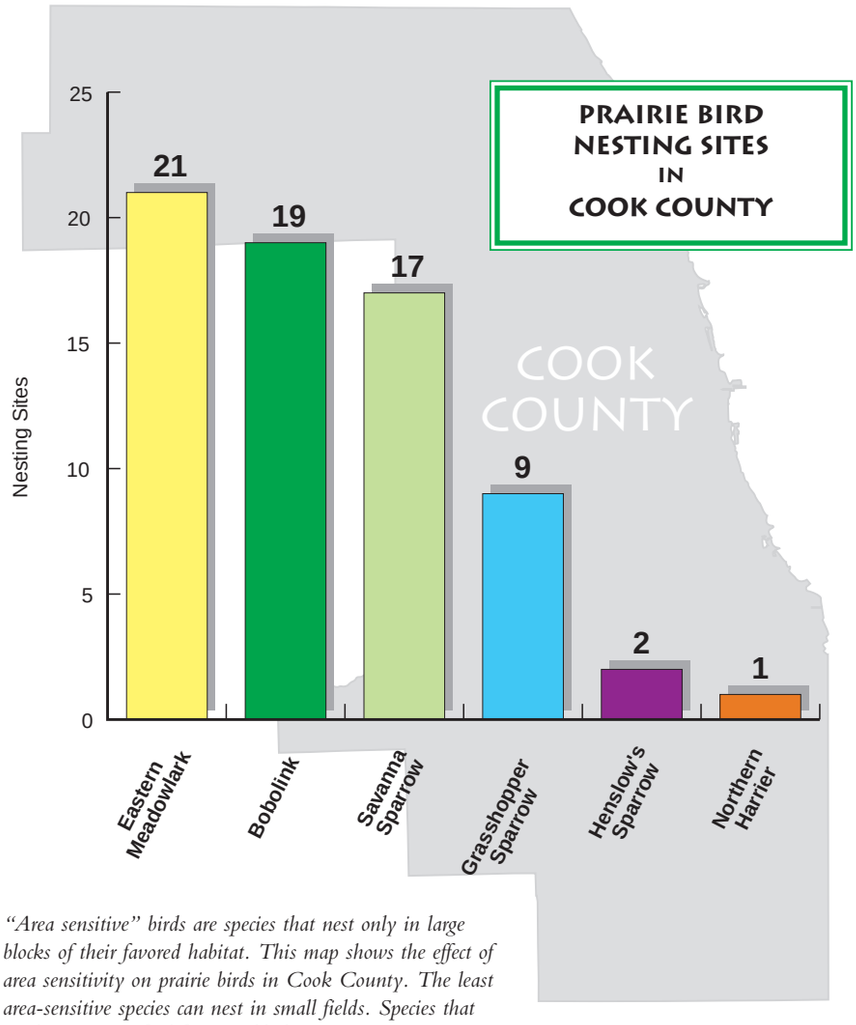

"Area sensitive" birds are species that nest only in large blocks of their favored habitat. This map shows the effect of area sensitivity on prairie birds in Cook County. The least area-sensitive species can nest in small fields. Species that need more room find few suitable locations.

Threatened in the state, the upland sandpiper's largest Illinois population is on the Midewin National Tallgrass Prairie in Will County.

Dickcissels are wanderers. They change nesting grounds from year to year.

PRAIRIES

Birds

On the green prairies of early summer, early in the morning before the sun burns off the dew, you might hear a long eerie whistling cry as if the wind were alive and singing.

From overhead comes a tinkling song, a long complex toccata delivered from high in the sky. These are songs of prairie birds. The cry comes from the upland sandpiper (*Bartramia longicauda*). The toccata is the flight song of the bobolink (*Dolichonyx oryzivorus*).

Many grassland birds have taken to singing in the air. With no trees to serve as perches, they provide their own elevated stages to spread their songs over the prairie.

The tallgrass prairie supports a distinctive group of birds. Adapted to life in a treeless environment, they sing in the air or from swaying perchs on the stems of prairie grasses and build their nests on the ground.

Most are migratory, but a few species have found ways to survive prairie winters. The cold winds are a severe test, but those same winds serve to keep some areas free of snow, revealing food for the resident birds.

Meadowlarks are partial migrants; some birds go south, but a few remain through the winter. We have two species: the eastern (*Sternella magna*) and the western (*S. neglecta*).

Meadow larks eat a varied diet, specializing in insects in summer; switching to seeds in winter. They are perhaps the least area sensitive of our prairie birds. Area sensitivity refers to the need which many birds have for large blocks of uniform habitat around their nesting territories. The Henslow's sparrow (*Ammodramus henslowii*), another prairie species, claims a territory of only a few acres, but it rarely nests in any grassland smaller than about 80 acres. Meadowlarks can nest in fields as small as 20 acres, and they often sing from tree limbs at the edge of fields. The discovery of area sensitivity has made us aware of the need for large preserves to sustain all our species.

Upland sandpipers and bobolinks are the champion long-distance migrants among our

Once extirpated from the Chicago Wilderness Region, sandhill cranes are breeding once again in Lake, McHenry, and DuPage Counties.

Grasshopper sparrows use only a small space for nesting territory, but they will not nest on small patches of grassland.

prairie birds. They fly all the way to Argentina for the winter. Dickcissels (*Spiza americana*) winter as far south as Venezuela. This species is known for its nomadic habits. It may nest in some numbers in a location one year, be completely absent the next year, only to return in subsequent years. These movements may be triggered by changes in food availability. They may also be affected by moisture differences. In dry years, birds of mesic prairie may move into usually wet prairies and in wet years, birds of wet prairies may seek out normally mesic sites.

Northern harriers (*Circus cyaneus*) and short-eared owls (*Asio flammeus*) are the principal hunters of the prairie. They seek their prey, rodents, small birds, herps, and insects by flying low over the ground and pouncing on anything that shows itself. Both of these birds favor wetter prairies and often hunt over places we would class as wetlands. The former name for the harrier was "marsh hawk."

Sandhill cranes (*Grus canadensis*) also occupy both wet prairies and marshes, sedge meadows, and other wetlands.

Birds are most affected by the structure of their habitat. Prairie species nest quite successfully in meadows filled with Eurasian grasses imported into the Midwest in the past 175 years. As long as a place has little or no woody vegetation, the prairie birds will continue to use it.

Their ability to adapt to life among strange grasses helped sustain high populations of prairie birds even after agriculture had destroyed almost all the prairies. The birds simply moved into pastures and hay fields. Birds such as the upland sandpiper that prefer shorter grass actually benefited from the change. However, the switch from general farming to an almost exclusive reliance on corn and soybeans produced a disaster for prairie birds. Since the 1950s, populations have declined 90 percent or more for all our prairie species.

Today, the prairie birds that remain almost all nest in meadows of Eurasian grasses. Few of our prairie remnants are large enough to support bird populations. The song of the bobolink is heard only on a few of the larger sites.

PRAIRIES

Butterflies and Moths

Ants tend the caterpillar of the silvery blue butterfly.

Most of the animals on earth are insects, so it is not surprising that most of the animals of the prairie are insects. In the Chicago Wilderness region, this is more true than it ought to be. Our prairie remnants are mostly so small that they can't support any animals larger than insects. Even our prairie sparrows usually have to make do with fields full of imported grasses and weeds because our real prairies are so tiny.

With prairies so scarce, the continued survival of thousands of species of insects could be in doubt. Small populations of any plant or animal are always in danger of being wiped out by weather or disease or some other catastrophe, and with prairies so widely scattered, the odds against a prairie being colonized by new individuals of the deceased species are very long.

If insects are like prairie birds, able to adapt to life amid imported species, then we need not worry particularly about their futures. As long as there are weed patches around, the insects can thrive. But what if insects are like white-fringed orchids and the other conservative prairie species that survive only in prairie communities? We could be facing the wholesale extinction of an entire fauna.

This aphrodite fritillary (Speyeria aphrodite) is a prairie specialist. It does not live on grasslands of Eurasian plants.

Extended investigation into more than 800 species belonging to seven families of insects of prairies and savannas has revealed that about one quarter of the total species in these groups are confined to remnants of the native landscape.

This recently discovered moth of the genus Papaipema lives on prairie remnants in the Chicago Wilderness. It has not yet received a scientific name.

That means that more than 200 species could not continue to live in our area if the last prairie and savanna remnants were destroyed.

Remnant dependence is particularly high among butterflies and moths, with 40 percent of our local grassland butterflies confined to prairies.

Among root-borer moths of the genus *Papaipema*, more than 80 percent of our local species are confined to remnants of the natural landscape. One species of these moths, *Papaipema eryngia,* lives only in the roots of rattlesnake master (*Eryngium yuccifolium*), a plant common on prairies but rarely seen outside them. This moth is known from only three sites in the world: two here in the Chicago region and one in Oklahoma.

It is not surprising that a large number of butterflies would be dependent on particular plant communities, since caterpillars are often dependent on particular plants as food sources. The degree of specialization varies, but it is always present. Some caterpillars are confined to a single species, others to a single genus, still others to a single family.

Skippers are tiny butterflies whose caterpillars feed on grasses.

Big Grazers

When Marquette and Joliet passed through the Chicago Region in 1673 they wrote of the "wild cattle" and "stags" that could be seen grazing on the prairies. They were referring, of course, to bison (*Bison bison*) and elk (*Cervus elaphus*), the largest of our native animals.

Bison were the first large animals to be killed off following settlement, and elk followed shortly thereafter. Cows and horses became the major grazing animals on the rapidly shrinking prairie.

Grazing animals have definite tastes in food plants. It is possible to tell whether a field has been grazed by cattle or horses just by looking at what has been eaten and what has been left alone. We may soon have a chance to learn what effect bison and elk have on a prairie. Current plans call for reintroducing these animals at the Midewin National Tallgrass Prairie in Will County.

Bison were probably the first animals extirpated from this region after settlement. They may soon be reintroduced at Midewin National Tallgrass Prairie.

Herps

People who study reptiles and amphibians are called herpetologists. The name comes from a Greek word meaning "creeping." Herpetologists call the creeping creatures they study "herps." It is a useful word, short and easy to remember, and it saves us from the endless repetition of the cumbersome phrase "reptiles and amphibians." We will use "herps" to refer to these animals throughout this Atlas.

The Chicago Region is rich in garter snakes. We are at the eastern end of the range of the plains garter snake (*Thamnophis radix*). A few isolated populations of the western ribbon snake(*Thamnophis proximus*) and northern ribbon snake (T*hamnophis sauritus septentrionalis*) can be found in our region. We even have our own special garter snake, the Chicago garter snake (*Thamnophis sirtalis semifasciatus*) a subspecies of the eastern garter snake.

In the chaotic conditions of a booming metropolis, you might discover one of these snakes almost anywhere, but in places where natural conditions are a bit more stable, they begin to sort themselves out. At the Fermi National Accelerator Lab near Batavia, IL, a large scale ecological restoration project has been underway for more than 20 years. Inside the accelerator ring, an enormous half-buried steel doughnut a mile in diameter, is a small grove of oaks surrounded by a recovering prairie. Search among the oak trees and you will probably find *sirtalis*, the eastern garter snake. Out on the prairie, the usual snake is *radix*. Search a transition zone, the land within about 200 yards of the trees, and you might find either species. The snakes are a walking—or rather slithering—demonstration of the need to protect all the varieties of natural habitat in our region.

Herps can serve as guides to conditions on the land. Their limited mobility makes it difficult for them to travel in search of a better home, especially in a land of six-lane expressways. As a result, they are vulnerable to local extinction. If a small population dies out, new animals of the same species are unlikely to be able to colonize the vacated habitat.

The Smooth Green Snake

In the Chicago Region, the herp most closely associated with the prairie is the smooth green snake, a lovely little serpent whose smoothly scaly skin practically glows with a Kelly green tint. The presence of a smooth green snake (Opheodrys vernalis) can be taken as an indication of the quality of a prairie remnant. Found in an old field full of recently imported Eurasian weeds, the smooth green snake is a sign that the land was once a prairie, and that it has not been too heavily dosed with pesticides.

Smooth green snakes are small. The largest specimen ever measured was 26 inches long. Their diet is principally insects.