Conservation of Wooded Lands in the Chicago Wilderness Region: A Model Policy

An Introduction to Chicago Wilderness

Chicago Wilderness is a regional nature reserve that includes more than 200,000 acres of protected natural lands within the greater Chicago metropolitan area. Chicago Wilderness stretches from southeastern Wisconsin, through northeastern Illinois and into northwestern Indiana. The protected lands in Chicago Wilderness include forest preserves, state and local parks, and federal lands. There is also much unprotected natural habitat in Chicago Wilderness.

The Chicago Wilderness consortium is an alliance of more than 160 public and private organizations working together to protect, restore, study and manage the precious natural ecosystems of the Chicago region, enrich local residents' quality of life, and contribute to the conservation of global biodiversity.

Purpose of this Document

This paper is a product of the Chicago Wilderness consortium. It is one of a series of documents on regionally important questions. It is designed to aid decision-makers in developing and implementing policies which can strengthen the presence of nature in our region and in our communities, thereby improving quality of life, fostering harmony between people and nature, and creating a healthy environment. This paper seeks to inform, build consensus and foster implementation of the recommendations in the Chicago Wilderness *Biodiversity Recovery Plan*.

The Chicago region has a rich and diverse heritage of wooded communities. Over the years, many of these communities have been lost to development, and these losses continue. But the greatest threats to the health and biological diversity of the region's wooded lands concern land already protected for conservation. A large portion of our most threatened wooded community types are gradually being degraded and lost in spite of legal protections. Planning and management practices are needed to restore and maintain the region's wooded communities in a healthy, sustainable condition.

This document provides guidance and support for the management of wooded lands. It provides background information and recommendations for the actions needed to restore the health of the region's wooded communities. In general, restoring the health of wooded communities means promoting and protecting the biological diversity of native species. In other words we seek to increase and maintain the ability of these globally rare ecosystems to sustain the unique assemblages of species that are best suited to these ecosystems. This document:

- Describes the current state of the region's wooded communities and the major threats to these communities.

- Identifies management techniques needed to maintain the region's wooded communities in good health.
- Lists specific action initiatives that would benefit the region's wooded communities.
- Provides a list of resources for more detailed information.

Summary

The Chicago region once contained a diverse array of wooded communities. As described below, these forested communities have been classified as three types—woodlands, flatwoods and forests—along with thinly timbered areas known as savannas. Historically, these communities have been intermeshed with grasslands and wetlands in a self-sustaining regional landscape. Such forces as fire, drought, flood, grazing, and predation kept the animals and plants in a robust and dynamic balance. Both agriculture and urbanization have disrupted this balance. Most of the region's wooded communities have been degraded, and important resources will be lost if they are not restored and managed in a sustainable way.

To return our wooded communities to sustainable good health, the natural processes that have been disrupted need to be restored. Controlled burning should be used in the appropriate places to restore structure and composition. Where lack of fire has caused unnaturally high densities of trees, removal or thinning of invasive exotic and native tree species can be crucial. White-tailed deer populations must be returned to sustainable levels in areas where they have grown out of balance with their environment. On some of our lands, the use of drainage tiles and ditches should be reversed to restore the wetland and groundwater conditions necessary for ecosystem health.

Additionally, there are currently not sufficient resources to restore all local sites to good condition, so criteria for setting priorities need to be established. Each site has unique conditions and will require management specific to its needs. Some areas should be left unmanaged, for comparison with managed sites. But basic management must be extended to most sites so that the region will once again benefit from a thriving diversity of healthy wooded communities.

Historic and Current Conditions

Natural history

Natural forces shaped the woods of the Chicago region. Following the last ice age, species from the east, south, and west coalesced here to form the natural communities of plants and animals that have composed the natural landscape of the Chicago region for approximately the last 8,000 years. During these recent millennia, Native American hunting and burning of lands probably played a significant role in maintaining the ecological balance. Prior to that time, many of this region's species evolved in response to non-human predators and fires started by lightning. Thus the first European settlers to arrive in the Chicago region found ecosystems of ancient lineage that, over most of the landscape, were adapted to and depended on periodic fire.

Historically, physical landforms, or features such as topography, rivers and streams, had major impacts on the configuration, extent, and intensity of fire at a landscape scale. For example, hilly

areas and those on the east sides of water features burned less frequently or less intensely. Open, level areas tended to burn most often and most intensively. The land most frequently burned supported the growth of prairies. In areas of less frequent or intense fire, an impressive variety of wooded communities thrived.

Oak savanna is the name for grasslands with some trees. Fire was historically most frequent and intense in oak savannas, resulting in a tree canopy covering 10 to 50 percent of the grassland. **Woodlands** are defined as areas where a leafy canopy historically covered 50 to 80 percent of the land, with an understory of grasses and wildflowers adapted to mottled sun and shade. **Flatwoods** are areas where an impermeable layer of soil hinders surface drainage and creates small wetland pockets. In flatwoods, the tree canopy was typically in the 20 to 80 percent-range, and a specialized group of water-tolerant and drought-tolerant plant species filled the understory. Where fire was historically infrequent or of low intensity, the tree canopy covered from 80 to 100 percent of the ground. If such areas burned occasionally, what we call **oak forests** developed. In ravines and other areas where fire rarely occurred, **maple forests** developed. In the floodplains of rivers, a variety of **floodplain forests** evolved. Oak and elm species dominated areas where fire was frequent. Elm, silver maple, and ash were common in unburned areas.

All of these habitat types have their own species and natural processes, but under modern conditions, they are all in need of management. More than 90 percent of our original forests were dominated by oaks and hickories, oaks and elms, oaks and maples, or some other oak combination. All such forests depend on regular burning. Maple forests and others historically sheltered from fire still need to be protected from it, but have different management needs, such as protection from non-native species and from excessive browsing by white-tailed deer.

Until the 1980s, most conservation agencies left forests unmanaged, except to protect them from misuse. The assumption was that these communities would remain healthy or would actually increase in health through the process of natural succession. But research by many agencies increasingly showed that most of our wooded lands were losing species. Human activity has disrupted the natural cycles that wooded communities in our region depend on for health. Community fragmentation and isolation have prevented seed and gene dispersal. Small preserve size has led to the loss of most large mammals and to the loss of the dynamic processes that shaped the mosaic of habitat types of the natural landscape. For example, fire has been actively suppressed, and large predators have been hunted or have lost habitat and no longer occur locally. Non-native plants, animals and diseases have been introduced. Agriculture and development have disrupted the natural flow of groundwater. Because of these and other disruptions of natural processes, people must now manage our wooded communities sufficiently to restore and maintain their capacities to sustain diverse assemblages of native species.

The current challenge

Studies throughout the Chicago region have documented the declining state of our oak woodlands. Mature, large oaks are being replaced by other species. One study showed that, in the East Woods of The Morton Arboretum, the oaks are being replaced in the canopy by maples. In the five years of the study, the relative importance (frequency and cover) of sugar maple increased by 7 percent, while the importance of white and red oak decreased by 3 percent and 2

percent respectively. A study of 25 sites over 20 years in DuPage County showed a loss of almost 5 percent of canopy white oaks relative to other species, and a decline of nearly 9 percent of all oak species.

But the greater threat is in the lack of oaks in the understory. In DuPage County, white and bur oaks combined dropped from 5 percent of mid-sized trees in sampling between 1979 and 1985 sampling to 1 percent in 1999 and 2000. In 87 random samples taken in the Cook County Forest Preserves in 2002, white and bur oak comprised 26 percent of canopy trees but only 3 percent of the trees between one and eight inches diameter.

There are 67,000 acres of wooded land in the Illinois portion of the Chicago region, of which 17,000 acres are "unassociated woody growth" as revealed in satellite photos. Unassociated woody growth is land that is too poor in quality to be classified as a natural community. Floodplain forest covers 12,000 acres. The largest portion, 38,000 acres, is upland forest or savanna, originally dominated by oaks. Here, if DuPage County data proves typical, the canopy oaks may be dying at a rate of 25 white oaks per 100 acres per year, and there are few oaks in the understory to replace them. Many other plant and animal species are dependent on the levels of light, acidity, and other conditions present in oak forests.

Management Recommendations for Natural Wooded Communities

The following section outlines the Chicago Wilderness consortium's recommendations for management of wooded communities in the Chicago region.

Monitoring and setting goals

Wooded communities that have been under restoration management for a decade or more show recovery that is both obvious to the naked eye and confirmed by monitoring. But most woodland management is in its early stages. It is important that sufficient numbers of diverse sites be managed consistently for at least 20 years, with basic monitoring data recorded to deepen our understanding of management requirements. It is equally important to monitor unmanaged sites both for comparison with managed sites and to determine priorities for adding sites to management regimes.

As a first step in the management process, complete site-specific management plans should be prepared for all managed and unmanaged sites, even if that means developing only a simple monitoring plan for an unmanaged area. Such plans should consider community type (based on canopy trees, conservative species, soils, and historic data), invasive species populations, predator/prey balances, and hydrology. Initial management steps include: 1) removing and/or managing the most aggressive invasive species, 2) returning fire as a process through the use of controlled burns, 3) controlling the numbers of white-tailed deer or other species that are out of balance with their habitats, and in some cases 4) removing drainage tiles, ditches, or other hydrologic disturbances. While developing a plan is extremely important, management is valuable for all wooded communities, and initial steps should not be delayed while more detailed management plans are developed.

Community type
Land managers need to determine what community types are present on a site (e.g., savanna, woodland, flatwoods, oak forest, maple forest). Initially, the determination should be based on a combination of four factors:

- *Historical records* – Prior to European settlement of this region, surveyors mapped the land and recorded geographic and natural resource features. These records and other historical accounts include the species and sizes of trees present at one-mile intervals, and can provide strong indications of what community types existed in particular areas.
- *Soil records* – Each wooded community type has a different assemblage of tree and plant species, a different burn cycle, and different hydrological characteristics. Over time, these factors result in the formation of different types of soil. By analyzing the soil characteristics of a site, land managers can gain insight into the type of wooded community that historically occurred there and is most likely to thrive there today.
- *Indicator species* – Each community has a set of species that, taken together, identify it. Some of these species may persist on a site despite recent disturbances to natural processes. Older trees on a site often provide reliable information about the state of the site 100 to 300 years ago.
- *Hydrology* – Drainage tiles, ditches, and invasive species have changed the natural hydrology of many sites. Some invasive species remove large amounts of water from the soil. Land managers should consider the role of hydrology in shaping community types.

As management progresses, the character of a site will begin to display itself through species distribution and community structure, particularly in the case of higher-quality sites. Regular community monitoring is therefor essential to evaluate the success of the restoration efforts and the direction the management is taking. Management plans may need to be adapted as monitoring results provide additional information about the success of restoration efforts in relation to the goals of each site's management plan.

Control of invasive trees
Decades ago, most conservation lands were managed as examples of one of two broad types: treeless grassland or closed-canopy forest. However, historical records show that at least in this region, there was a continuum of habitats with prairies blending into shrublands or savannas, blending into open woodlands, blending into forests. Today most wooded preserves are dark, closed-canopy environments where old canopy trees tower over a dense sea of shade-tolerant saplings. Instead of the dense stands of invasive saplings, the natural understories once had young canopy trees (mostly shade-intolerant oaks) mixed with a wide variety of grasses, sedges, forbs (wildflowers), and shrubs. This was made possible by ample sunlight reaching the ground.

Because of the dense growth of invading trees, the species balance in our wooded areas is changing. Even though the tall canopy oaks appear healthy, for example, few or none of the saplings growing up to replace them are of the same species. The lack of light reaching the ground level prevents the growth of oaks and other native canopy trees. As a result, once the canopy trees die, the next generation of large trees will be of different species, and the nature of our wooded lands will change. Oak woodlands are becoming maple stands with little surviving in the understory. That means many of the understory shrubs and plants, and the animals that

depend on them, can not survive when the light levels change so drastically and the oaks disappear. Ultimately, such changes drastically reduce biodiversity.

Some of the problem tree species are exotics from Europe and Asia. In many cases, they have left behind the animals and diseases that would otherwise limit their populations. Plants like European buckthorn reproduce quickly and, without their natural controls, form dense thickets that do not allow other plants to grow.

Other problem trees are natives that are not growing in their historic niches. Green ash, for example, is adapted to the fire-shielded wet areas on the east sides of rivers. Due to the fragmentation and disruption of the fire regime in existing wooded lands, it is now found in large numbers in wooded communities where it had historically been eliminated or thinned by fire.

Exotic and native trees that are out of balance in their number or location within local ecosystems often need to be removed in order to return a natural level of species balance, canopy cover and ground illumination. Many of the trees that are removed are saplings. But because decades have passed since natural forces shaped our wooded land, large trees may need to be removed from selected preserves in order to restore a sustainable community.

Cutting a tree is not always sufficient to remove it as a problem on a site. Most species will grow back from a cut stump. The use of herbicides on cut stumps is therefore essential. But cutting is not the only option for restoring the balance of woody vegetation. Dead standing trees are a natural part of any wooded area. They are important habitat for many species of birds, mammals, wood-boring insects, and fungi. In many of our woods, dead trees are in short supply. Trees can be girdled and left standing. Girdling, which removes the phloem (the part of the tree trunk between the cambium and the bark) will kill most tree species without herbicide. Girdling does not disturb nearby vegetation, and results in crucial habitat for some species.

Management of invasive tree species must be accompanied by public education. While some people believe the healthiest woodland is the one with the most trees, wooded communities that are managed for biodiversity conservation need to have invasive trees removed so native trees and other plants—and the animals that depend on them—can survive and reproduce. Whether land managers use controlled burns, girdling or other methods to control invasive tree species, public education and support is crucial.

Control of other invasive plants

The restoration of a natural fire regime, hydrologic cycle, and increase in ground level light from tree thinning will sometimes be sufficient to help native plants, wildflowers, and grasses out-compete exotic invasives. However, once established, some exotics may be difficult to displace, and their dominance seriously diminishes ecosystem function and biodiversity. It may therefore be necessary to manually remove invasive plants or, in some cases, to control them with the application of herbicide.

The removal of plant cover—even invasive species—can result in erosion problems if the area is on a slope. To prevent erosion in these cases, seeds of a non-invasive “cover crop” or a mix of local native species that would interact well with those present should be planted to provide soil

stability. In high or very high quality wooded communities, an area of minimal slope should be set aside and left unseeded to allow for re-population by species already present on the site. In wooded communities with fair to poor quality plant layers, many managers believe that it is wise to plant the seeds of a wide variety of species that may have once populated the site and allow natural processes to determine which are best suited to that area. Many of the region's wooded communities have lost most of the species originally present, and at the same time, many populations of those same species are now surviving tenuously in other isolated and distant areas. Thus some managers believe that vigorous efforts should be made to restore these species to our poor and fair quality wooded lands.

Restoration of predator/prey balance

Through habitat fragmentation and loss, we have created imbalances in the natural predator/prey relationships in the region. Bison and elk no longer graze the savannas and woodlands. Most large predators such as mountain lions and bears have been gone for decades, and it is not feasible to return them to urbanized areas. Additionally, through our actions, we have suppressed populations of some species, while increasing others to damaging levels.

Following are considerations for species whose populations have been affected by the disturbance of their local natural habitats. In some cases, their populations have been reduced. In others, the populations have expanded to the extent that their numbers put the natural areas out of balance. This is not a complete list of such species, but rather a starting point for such a list, which should be included in site management plans and public education programs.

Coyotes play an important role in the ecology of wooded communities by controlling mid-sized predators and somewhat reducing numbers of white-tailed deer. Public education efforts are crucial to prevent conflict between people and coyotes, as unfounded fears may result in the removal of coyotes. There is no need to monitor coyote populations because coyotes will not breed if overpopulated.

Raccoons and other mid-sized "meso-predators" have, in the absence of larger predators, developed large populations. The unnaturally high meso-predator populations reduce populations of many small mammals, birds, amphibians, reptiles and other species. "Rehabilitated" urban predators should not be released in wooded preserves.

Cowbirds are serious nest parasites of some other birds; especially those most adapted to the middle of large forests. Cowbirds are also of concern to many open woodland bird species. Cowbirds forage in short or mowed grass adjacent to wooded areas. They breed by laying their eggs in the nests of other birds that nest in nearby wooded lands. In many areas, nesting birds fail to raise offspring of their own, instead raising one or more cowbirds. To decrease the habitat cowbirds prefer, an attempt should be made to minimize mowed grass near wooded preserves. Preserving large, contiguous wooded habitat is also beneficial.

White-tailed deer are an important part of wooded communities. However their numbers and their impact on the environment have grown tremendously over the past decades. Because of their impact on healthy wooded areas, they are discussed in more detail below.

Deer control

White-tailed deer are native to the Chicago region and a natural part of our wooded communities. For thousands of years, deer existed in balance with their environment, with wolves, mountain lions and hunting by Native Americans keeping the deer population in balance. As the region became urbanized, most deer predators vanished and settlement created habitat more favorable to deer. This has lead to unsustainable deer population growth.

In some areas, deer have all but removed most species from the herb layer, and most saplings and tree branches within reach have been eaten, resulting in a "browse line." Deer find certain plant species to be especially palatable, and have helped force these to the brink of local extinction. Overpopulation of the deer has also resulted in increases in deer-vehicle collisions and damage to landscape plantings in areas adjacent to deer habitat. The unsustainable deer densities are unhealthy for our wooded communities and for the deer populations as well.

For local wooded communities to be restored to health, a natural balance and density of deer needs to be re-established. Studies suggest that deer living in the habitats they most favor are in a sustainable ecological balance at rates of seven to 15 deer per square mile. In the Chicago region today, densities of over 150 deer per mile have been reported. Land managers have learned that densities of more than 30 deer per mile are clearly unsustainable for many species of animals and plants impacted by the deer. Sites that are especially sensitive to deer impact, such as highly fragmented sites or those that contain high concentrations of threatened or endangered plant species palatable to deer, tolerate even fewer deer per square mile. Other sites that are surrounded by other kinds of lands may be able to tolerate higher densities. Optimum deer density should be determined on a site-by-site basis. When deer are grazing other species out of existence on a site, they are not in balance with their habitat, and deer culling must be undertaken in conjunction with habitat monitoring. Deer densities should be reduced until populations of palatable plants are increasing or stable despite deer browsing, to ensure the availability of those plants to the other species that depend on them for food and habitat.

Gypsy moths

The front line of the spread of gypsy moths has moved into Chicago Wilderness. Some land managers are concerned that gypsy moths may damage the oak ecosystems of the region. There is also concern that measures to combat the moths may do more long-term ecological damage than the moths themselves. Proposed control measures are only temporary; they will not stop the spread of gypsy moths, only slow their progression. The response to gypsy moths should therefore be considered in light of the conservation value of species harmed vs. species aided by any decisions.

While the estimates of defoliation rates in an outbreak are high (up to 40 percent), the mortality rate on mature trees is predicted at less than one tenth of one percent. As discussed in the section on tree thinning, our oak woodlands are too shaded for many of the understory plants to reproduce or survive, and thus too dark to sustain many animal species that depend on these plants or on an open, sunny habitat. While the defoliation of a large number of trees during a part of one year may be aesthetically unpleasing, the extra light reaching the woodland floor may benefit some of the understory plants and associated species. The death of a small percentage of trees and higher light levels may have some impacts in common with those of periodic fires,

heavy use by elk or bison, or other processes now missing or uncommon in our fragmented landscape. Research is needed on the impact of both gypsy moths and gypsy moth treatments on many components of the oak ecosystem, including the oaks themselves, European buckthorn, garlic mustard, breeding birds, remnant-dependent butterflies and moths (and other lepidopteran insect species), and many others.

The most widely used methods of combating the spread of gypsy moths are broad-scale spraying of pesticides or the use of BT, a lepidoptera-specific bacteria. In either case, the principal methods of controlling gypsy moths require killing the other lepidoptera species that are caterpillars at the time of the treatment. Lepidoptera of conservation concern are found in a number of preserves throughout the region. Given the isolated nature and small numbers of these populations, once extirpated, there is little chance of the sites being re-colonized. If these sites are treated with BT or other broad-scale pesticides, the species of concern will likely be lost from those communities, or from the region.

Until the potential ecosystem damage from gypsy moths is shown to be greater than the damage caused by control methods, broad-scale pesticides, including BT, should not be used on those sites containing lepidoptera of conservation concern. To avoid accidental loss of species, sites scheduled for such treatment should first be surveyed at the appropriate times by trained personnel (staff or volunteer). If remnant-dependent lepidoptera are found, alternative control methods should be used, or the site should be left untreated.

Controlled Burns

Historically, the time between burn events may have varied greatly among wooded communities. However occasional fire shaped the structure and species composition of most wooded community types in the region. The frequency and intensity of the fires helped to determine the type of wooded community at a given site. The lack of fire has been a major factor in the development of the unnaturally high density of trees found in most wooded areas and the subsequent loss of habitat diversity. Original fire return intervals are thought to have ranged from nearly annual for some savannas, to five to 10 years for some types of woodlands, or even longer for a floodplain forest of swamp white oak.

Fire in woodlands and forests of the Chicago region are not like those of the evergreen forests or chaparral of the western United States. Rather than massive fires leaping from tree to tree and destroying everything from the ground up, the typical oak woodland fire creeps through the understory with flames mostly in the range of six to 18 inches. While these fires may not be visually impressive, they have been important for both woody and herbaceous species.

Every year in the region's wooded communities, billions of seeds germinate and new tree saplings begin to grow upwards towards the light. Under a natural fire regime, most of these saplings would experience fire early in life. Saplings adapted to these habitats would invest much of their resources in their roots and would be able to re-sprout after a fire. Non-adapted saplings would be killed outright, or gradually lose out in competition as the seasons advanced. Eventually, a period between fire events would be long enough to allow non-invasive saplings to develop insulating bark, another adaptation of species naturally found in these habitats. These individual trees would then grow to take their places in the canopy. This process of fire selection

kept the number of saplings low, allowing light to reach the ground. It also selected for species more resistant to fires, species historically typical of the canopy layer of this region's forests and woodlands.

The following are recommended frequencies for the use of controlled burns in different habitats in varying degrees of health:

Table 1. Recommended Controlled Burn Intervals

Habitat Type	**Poor Quality**	**High Quality**
Savanna	1-2 years	3-5 years
Woodland	2-4 years	3-7 years
Flatwoods	2-3 years	5-8 years
Forest – oak dominated	2-5 years	5-15 years
Forest – mixed oak, basswood, and maple	Occasional	Occasional
Forest - beech and maple	No burning	No burning

Restoring natural hydrology

The wooded communities of the region were profoundly shaped by their hydrology. Floodplain forests get their name from their proximity to rivers and their seasonal inundation. Flatwoods have an impermeable soil layer that typically causes standing water in spring and drought in summer (because the area that holds water and is available to roots is shallow). Upland woods and forests contained ephemeral pools that were crucial to the reproduction of numerous amphibian species. Many upland areas were also protected from flooding because most of the region functioned like a sponge that received and held most rain, most of the time. All of these natural hydrological features have been altered by human activity.

Drainage tiling and ditching have decreased the availability of water on many sites and shortened the duration of ephemeral ponds. Nearby construction has disrupted the lateral movement of groundwater, preventing the recharge of moisture lost due to drainage or transpiration. Storm water systems take rain and snow that would have remained in the soil for weeks or days and remove it from the area in hours. Paving of surfaces has increased the magnitude of water flows after rainstorms resulting in larger, shorter-lived floods. The loss of the herbaceous layer in many forests has often resulted in unnaturally high rates of run-off and soil erosion during rainstorms. All of these disruptions have negative implications for the health of many of our wooded communities.

To restore natural hydrology, tiles and drainage ditches should be removed, whether through destruction or plugging of the tiles, or filling of the ditches. Draining of standing water by mosquito abatement districts and other entities should be curtailed in high quality natural areas. Runoff from wooded lands will decrease once the understory vegetation has been reestablished.

Construction and development adjacent to wooded lands must also be modified so as not to adversely effect site hydrology. Excessively diminished and increased water are both concerns. For example, properties being developed adjacent to natural areas should utilize ground

infiltration and retention as the primary means of handling rain in order to maintain lateral groundwater flow into these natural areas. The standard practice of diverting rain into the storm sewer systems removes the water from the area. When water is not allowed to move laterally into the natural area, ephemeral ponds dry more quickly and animal species that depend on them are unable to reproduce. Zoning ordinances should be modified to require that development adjacent to wooded communities have a minimal impact on the natural groundwater processes of the wooded areas.

Other Issues

Following are recommendations of the Chicago Wilderness consortium on other issues that affect wooded community health and restoration in this region.

Land acquisition
Because woodland restoration takes decades of work, it is critical that any unprotected, forested land of moderate to high quality be targeted for acquisition. Conservation agencies should inventory the existing wooded areas not currently protected. These areas should be prioritized based on quality, size, and proximity to existing wooded communities.

Unmanaged wooded communities
With over 70,000 acres of wooded communities in Chicago Wilderness and limited resources for management, some substantial part of the region's wooded areas will be left unmanaged for the foreseeable future. While the amount of unmanaged area should be minimized, it will be valuable to have some control plots for comparisons with the wooded communities that are being restored. Leaving five percent of wooded land unmanaged for comparison with managed areas is recommended, at least for the short term. Unmanaged forests provide some ecosystem services and have value for some species of wildlife, but they are of relatively little value for biodiversity conservation in comparison with areas where natural processes are restored.

Planting wooded communities
Most ecologists believe that the longterm prospects for wooded community restoration are good, especially when there is adjacent high quality wooded land. A healthy herb layer is an essential component of a healthy wooded community. But it will not be successful to plant the species that will live under mature trees while those trees are small. Ecologists recommend planting oaks, hickories, and associated tree species and spending the first few decades assuring that the planted species are not overtopped and shaded out by invasive species.

It is also possible to restore forests by leaving land fallow and relying on invasive trees. Such forests provide many benefits for air and water quality and for some species of wildlife. They would not likely be of substantial importance for biodiversity conservation.

Wooded communities: A Regional Conservation Plan

As a result of the conservation design process of Chicago Wilderness, a regional action plan for the conservation of forested lands is under development. This plan will set goals for the amount of protected land of various forest types, amounts of land under different kinds of management, and the level of woodland related education and research efforts in the region.

Sources for More Information

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Chicago Wilderness Executive Council Approval

This model policy paper was approved by the Executive Council of the Chicago Region Biodiversity Council (Chicago Wilderness) on November 19, 2003.

Members of the Executive Council as of October 7, 2003
Audubon-Chicago Region
Brookfield Zoo
Center for Neighborhood Technology
Chicago Academy of Sciences/Peggy Notebaert Nature Museum
Chicago Botanic Garden
Chicago Park District
Chicago Wilderness Corporate Council
City of Chicago, Department of Environment
Conservation Research Institute
DePaul University
Field Museum
Forest Preserve District of Cook County
Forest Preserve District of DuPage County
Forest Preserve District of Kane County
Forest Preserve District of Will County
Friends of the Chicago River
Geneva Lake Conservancy
Illinois Nature Preserves Commission
Illinois Dept. of Natural Resources
Illinois Endangered Species Protection Board
Illinois Natural History Survey
Indiana University Northwest
Kendall County Forest Preserve District
Lake County Forest Preserves (IL)
Lake County Parks & Recreation Dept. (IN)
Lincoln Park Zoo
Max McGraw Wildlife Foundation

McHenry County Conservation District
McHenry County Conservation Foundation
Morton Arboretum
Nature Conservancy - Illinois Chapter
NiSource Environmental Challenge Fund
Northeastern Illinois Planning Commission
Northwestern University Environmental Council
Openlands Project
Purdue University - Calumet
Shedd Aquarium
Sierra Club, Illinois Chapter
University of Illinois at Chicago
US Army Corps of Engineers
US Dept. of Energy, Argonne National Laboratory
US EPA, Region 5
US EPA Great Lakes National Program Office
USDA Forest Service
USDA Natural Resources Cons. Serv.
USDI Fish and Wildlife Service
USDI National Park Service
Village of Lake Barrington
Village of Lincolnshire
Waukegan Citizen's Advisory Group
Wheaton Park District