

### Chicago Nature and Wildlife Plan

a strategy to enhance natural habitats within the City of Chicago



14 142 01 80 10 22 132 18 26 OBJECTIVES INTRODUCTION PROTECT MANAGE MONITOR EDUCATE DIRECTORY APPENDICES ACKNOWLEDGEMENTS



#### PREPARED AND PUBLISHED BY

Chicago Department of Planning and Development and Mayor Daley's Nature and Wildlife Committee

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#### Introduction

By Richard M. Daley, Mayor

Nature is an integral and important part of Chicago's fabric and in that spirit I am proud to present this plan to help improve and increase habitats for nature and wildlife across the city.

Based on an inventory of city land, the Chicago Nature and Wildlife Plan identifies over 4,800 acres of prairies, savannas, dunes, woodlands, wetlands and potential restoration areas at 100 sites throughout Chicago. The plan lays out a framework to protect and expand these individual sites as well as the whole landscapes they belong to. It also suggests methods to make our environment friendlier to plants and animals native to northeastern Illinois.

One of the important roles Chicago plays for nature and wildlife is for birds. Endangered species breed in the wetlands of the Calumet Open Space Reserve and along the North Branch of the Chicago River. It is estimated that seven million birds migrate through and stop in Chicago each year. This plan enhances their chance of survival.

The Plan was prepared by the City of Chicago Department of Planning and Development and the Mayor's Nature and Wildlife Committee with support from over thirty conservation organizations. These citizen groups will also play an important role in the Plan's implementation, particularly in the areas of monitoring, research, education and coordination of volunteers. With approval by the Chicago Plan Commission, the Chicago Nature and Wildlife Plan will become a formal planning and development initiative. It is one important step along the path toward making our city a place where people and nature live in harmony.

Richard M. Daley, Mayor

	Biodiversity	Natural Area	Management	Restoration
OPEN SPACE TERMS*	Short for "biological diversity," which refers to the genes, species, and biological communities of a particular place.	Sites that are relatively undisturbed and possess high quality native plant and animal communities. The term is used more generically in the <i>Nature</i> & <i>Wildlife Plan</i> as a place that is of value to nature.	The act of planning and implementing maintenance techniques that help a natural area sustain and increase its populations of native plants and animals.	The process of improving the ecological health of a degraded natural area or creating a natural area where none existed before.

<sup>\*</sup> ADAPTED FROM A SUMMARY OF THE CHICAGO WILDERNESS BIODIVERSITY RECOVERY PLAN. (CHICAGO WILDERNESS, 1999.)

#### **Chicago Yesterday**

Chicago's natural environment has undergone many changes since glaciers retreated from the upper Midwest more than 14,000 years ago.

More than 90 percent of the land within the city limits was formerly Lake Michigan lakebed that over centuries evolved into gently rolling grasslands and marshes. At the time of European exploration in the late 1600s, tallgrass prairies and oak savannas characterized the area with dunes and marsh predominant near the lakeshore. Swells were distinguished by tall grass and wild quinine, and swales with cord grass, sweet plantains and wild irises. Slow, shallow rivers meandered between dry grass and soggy marsh before emptying in the lake.

With the arrival of permanent settlers in the 1770s, the area's prairies, savannas, and waterfronts underwent numerous manmade changes that coincided with two centuries of rapid population growth. Prairies were

reduced to vacant lots between buildings while forested areas dwindled to the outskirts of the expanding community.

Marshland was drained and filled to create suitable foundations for new construction.

The Chicago and Calumet rivers were dredged, straightened and/or reversed for industrial purposes and thes natural shorelines of Lake Michigan and Lake Calumet were completely replaced by landfill.

While the ecosystem, hydrology and natural habitat of Chicago was radically altered and degraded within the last 200 years, the City of Chicago remains dedicated to preserving and enhancing what's left.

Chicago's natural environment is visible throughout the city however the bulk of the urban area's natura assets are clustered into several distinct areas:

	Lake Michigan	Chicago River	Lake Calumet	Des Plaines River	
VARIED AND SIZEABLE HABITAT CLUSTERS	Bordered for 24 miles by public open spaces including over 2,500 acres of parkland, 29 beaches, 21 natural areas and 8 harbors.	Bordered by 850 acres of forest preserves, 260 acres of parkland and 25 natural areas, mostly along the North Branch and its tributaries.	Surrounded by the Calumet Open Space Reserve which includes approximately 4,000 acres of wetlands and uplands.	Flows for one mile within the city limits through 1,500 acres of forest preserves.	

#### Starting a Tradition of Landscape Conservation

More than a century ago, two progressive landscape gardeners began experimenting with the use of native plants in Chicago. In the late 1870s, Ossian Cole Simonds began using transplanted native shrubs and trees at Graceland Cemetery and, in 1888, Jens Jensen designed one of North America's first public native plant gardens in Union Park. Their efforts led to the creation of a "Prairie Style" of landscape architecture. Today, Jensen is considered one of the most influential founders of the conservation movement in the Midwest. In addition to his unprecedented use of Midwestern plants for his many privately commissioned projects,

he influenced the establishment of the Forest Preserve District of Cook County and he advocated protection efforts at Illinois Beach State Park and the Indiana Dunes. A disciple of Jensen's, Alfred Caldwell, used natural landscapes with his early 20th century designs for lakefront attractions like Promontory Point and Lincoln Park's Montrose Point and the Lily Pool that now bears his name.

»	Forest/Woodland	Aquatic	Wetland	Riparian/ Water Edge
OF HABITA	1,772 acres	982 acres	535 acres	290 acres
DISTRIBUTION TYPES WITHIN	An area possessing more than 50 percent tree cover.	A permanently wet area with rooted plants growing near the shore.	An area saturated with water for a sufficient part of the year that supports emergent reeds, grass and other aquatic plants.	A transitional area between dry and wet environments.

#### **Chicago Today**

The amount of city land that can be characterized as natural habitat was quantified in 2004 as part of a "Chicago Habitat Inventory" project conducted by the Chicago Department of Planning and Development (DPD) through a grant from the U.S.D.A. Forest Service.

DPD staff used mapping tools, aerial imagery, on-site visits and previous inventory studies to estimate total habitat space within the city. The study indicated that approximately 3,800 of the 146,240 acres within the city limits serves as habitat. Additionally, about 920 acres have been identified for habitat restoration. These acreages are distributed among 97 individual sites that are predominantly located along the Chicago River and on the shorelines of Lake Michigan and Lake Calumet.

Though natural habitat comprises less than three percent of the entire city area, all basic types of northeastern Illinois natural areas are represented within Chicago, particularly forests, aquatics and wetlands. The areas provide habitat for more than 400 species of mammals, birds, reptiles, amphibians and fish.

Natural habitats within Chicago are, in some cases, continuations of much larger landscapes that exist outside the city limits. Natural lands in Cook County and the counties surrounding it are referred to as "Chicago Wilderness" by a coalition of conservation agencies and organizations that collaborate on protecting the area's natural resources. The term refers both to the landscape and to the coalition itself, more formally known as the Chicago Region Biodiversity Council. Natural land and restorable open space in the Chicago area totals more than 200,000 acres, including one of the world's richest concentrations of prairies and oak woodlands.

In 1999, the Chicago Region Biodiversity Council published the *Chicago Wilderness Biodiversity Plan*. One of the key recommendations of the document was for local municipalities to develop policies "that reflect the need to restore and maintain biodiversity." The *Chicago Nature and Wildlife Plan* serves to fulfill this recommendation.

Prairie/Grassland	Savanna	Dune	Naturalistic Planting	Potential Habitat
170 acres	36 acres	22 acres	8 acres	921 acres
An area dominated by grasses or one possessing less than 10 percent tree cover.	An area with 10 to 50 percent tree cover and a grass understory.	A hill or ridge of sand, piled by the wind, that supports plant life.	A landscaped area designed to attract birds and insects.	A site that could be used for habitat restoration.

What Chicago
Offers to the Cause
of Conservation

Chicago has much to offer the cause of nature conservation, especially the habitat it provides for birds. Endangered and rare species, such as yellow-headed blackbirds and black-crowned night herons, nest in Chicago. Improved habitats could boost the numbers of these and possibly other bird species that are suffering population declines, such as red-headed woodpeckers, which require savanna habitat, and willow flycatchers and blue-winged warblers, which require shrubby areas.

Migrating birds are also attracted to Chicago. How migrating birds manage to find their way from nesting grounds in Canada to suitable habitat in South America remains a mystery. And why so many migrating birds come through Chicago during migration isn't clear, either. It is possible that birds use Lake Michigan as a navigational marker. Birds fly along the edge or over Lake Michigan and at dawn, many stop to rest in lakefront parks. "The green spaces in Chicago are very important to birds," writes Judy Pollock in *Birds of the Windy City*. "Some birds need trees;

others need shrubs and flowers. The city has a lot more variety than cornfields. To re-fuel on migration, birds find what they need right here in the parks, gardens, prairies, and wooded neighborhoods of Chicago." The sheer number of birds that pass through Chicago during the months of April and May, and again in September and October is staggering. About 7 million birds representing 300 different species migrate through the city in an average year.

While threatened and endangered flora and fauna already present in the city will always be given highest priority, an additional goal of the plan is for owners of natural areas to provide habitat protection and management for species that have declined, but aren't threatened with immediate extinction yet. Chicago natural areas, with their tendency towards small size and heavy human use are not the preferred place to relocate rare animals and plants. Some reptiles, amphibians, butterflies and other animals may require active reintroduction to suitable habitat if their populations are to be improved.

# O1 Protect natural habitat

The plan's number one priority is to protect remaining natural habitats in the city. Several methods are outlined, including efforts to:



- Designate the city's natural areas with the newly created "Parks and Open Space— Natural Areas" (POS-3) zoning district.
- Work with the State of Illinois Nature Preserves Commission to designate appropriate city parcels as Illinois Land & Water Reserves.
- » Acquire unprotected, privately owned habitat sites where possible.
- Lease unprotected, publicly owned habitat sites to conservation agencies or organizations that provide protection and management.

# O2 Manage existing open spaces

Management is critical for protected habitat spaces. The plan suggests a multi-pronged approach to:



- >> Implement or create management plans for all natural sites within the city.
- » Improve volunteer programs for management of local natural areas.
- Use the city's built infrastructure to improve biodiversity where possible.

# O3 Monitor sites and compile research

The plan recommends compiling existing research and conducting new research where necessary to set priorities for restoration and management. Efforts are being made to:  $\frac{1}{2} \int_{-\infty}^{\infty} \frac{1}{2} \int_{-\infty$ 



- Produce baseline inventories of all existing natural areas and of all sites slated to undergo restoration.
- Set up programs for all endangered and threatened species to monitor how populations are faring now and over the long term.
- Compile a list of research needs.

#### 04 Educate the public

The plan calls for disseminating useful information about the roles of habitat sites and where they are located. The plan includes recommendations to:



- Increase public awareness of the importance of biodiversity conservation to the environment.
- Coordinate partner organizations to focus on specific goals in the "Chicago Nature & Wildlife Plan."
- Develop outreach plans to particular population groups, such as homeowners, pet owners, gardeners and others.





#### **Immediate**

The City of Chicago's new zoning designation for public open space (POS-3) should be applied to habitat sites to prevent their redevelopment for other uses. Site owners, most notably the Chicago Park District, the Forest Preserve District of Cook County and the Illinois Department of Natural Resources, should adopt resolutions or other agreements that designate and preserve the natural area habitats within Chicago that they own. Natural areas that these agencies do not own should be acquired or leased. The State of Illinois' Land and Water Reserve designation should also be applied to select parcels to further reinforce their roles in support of wildlife.

#### Within 5 years

- » Acquire unprotected natural areas in the Calumet Open Space Reserve and along the western edge of Rosehill Cemetery.
- » Amend the city's 30-foot river setback requirement and the "Chicago River Corridor Design Guidelines" to require a naturalized riverbank wherever possible.
- » Promote riparian areas along the Chicago River through shoreline enhancements, specifically at Wolf Point, the North, South and Diversey turning basins, at the West Fork Remnant, along the North Branch and sections of the Chicago Sanitary and Ship Canal.
- » Reestablish in-stream habitats by prohibiting the use of motorized vessels along the Upper North Branch, North Branch Canal, Bubbly Creek, Collateral Channel and certain private slips.
- » Increase the number of areas along the lakefront where the primary use is natural habitat and recreate dunes and wetlands in these areas.









#### **Immediate**

Existing management plans for habitat sites should be implemented while priorities, goals and plans for other habitat locations are developed through a collaboration of landowners, volunteers, community members and civic organizations. Management activities should be coordinated where possible, especially where several sites are in close proximity to each other, such as around Lake Calumet and along the North Branch of the Chicago River.

#### Within 5 years

- » Implement existing management plans for the largest, high quality natural areas, such as Powderhorn Marsh, Sauganash Prairie, Bunker Hill Prairie and Edgebrook Flatwoods.
- » Implement solutions to fish migration impediments caused by the North Branch Dam and Chicago Lock.
- » Utilize the "Calumet Area Ecological Management Strategy" as a model for wetland restoration across the city.
- » Utilize recommendations in the "Chicago River Master Plan" to improve habitat in and along the Chicago River.
- » Increase and improve garbage pick-up at beaches to discourage excessive gull populations that contribute to poor water quality.
- » Use the city's built infrastructure to improve biodiversity where possible and encourage architects to create designs that are safe for birds and other wildlife.
- » Ensure that sources for local seeds and plants are in place from suppliers, volunteer growers or a seed-sharing network. Also participate in and help publicize plant giveaways to community groups.

- » Help non-profit organizations continue to work with owners of public natural areas that do not have conservation as a part of their missions.
- » Publish management training manuals for volunteers through the cooperation of The Nature Conservancy, Chicago Wilderness, Openlands Project, Chicago Park District, Forest Preserve District of Cook County, and other appropriate partners.
- » Increase participation in Clean Air Count's "Household" program and Openlands Project's "Neighborhood Open Space Planning" and "Backyard Biodiversity" programs.
- » Encourage owners of private buildings to install "green roofs," "bat boxes," "nesting poles," "nesting pads," "artificial chimneys" and other structures used by various species for nesting purposes.
- » Encourage owners of public buildings that are commonly used by birds, such as bridge houses and beach structures, to maintain and design them in ways that are conducive to nesting.
- » Investigate the reintroduction of appropriate species to suitable water and lands.

- » Look for ways to encourage landowners adjacent to natural areas, both public and private, to use natural landscaping.
- » Establish environmental support teams that can help select plants, disconnect downspouts and perform projects related to improving biodiversity.
- » Ensure the viability of local sources used for the translocation of native species, such as butterflies and frogs, by coordinating with government authorities to create a stocking program or through other means.
- Explore ways to reduce the negative effects of Chicago's ambient light on nocturnal animals and insects.
- » Consider measures that discourage local activities that reduce biodiversity in other parts of the world, such as an ordinance that prohibits the use of rainforest hardwoods or other imported materials that aren't sustainable.

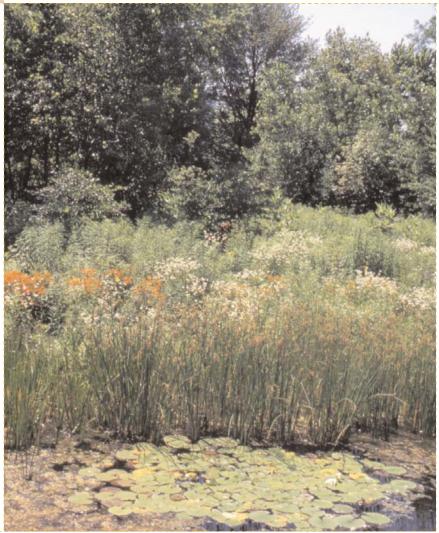
- » Launch a citywide campaign focused on how homeowners can improve the cause of biodiversity.
- » Create a program to identify plant and seed sources so buyers know if they are local.
- » Consider how architects and developers can be encouraged to explore building designs that are conducive to biodiversity and wildlife.
- » Expand local sources for rain barrels, native plants and other materials necessary for the success of management projects.
- » Encourage efforts to create, restore and manage landscape and habitat to benefit migratory and nesting birds of conservation concern with key landowners.

Long-Term

To increase the number of volunteers that help perform management activities at habitat sites, opportunities and responsibilities should be communicated through expanded on-site signage, mailings, brochures, workshops, the Internet and neighborhood events, especially near areas most in need of management assistance. Training activities offered from separate organizations should be coordinated and volunteers should be recognized for their accomplishments.

For Volunteers





(RECOMMENDATIONS CONTINUED)

As an essential ingredient to healthy habitats, Chicago's water resources should be improved according to the recommendations of "Chicago's Water Agenda 2003." As part of the process, landowners and agencies that regulate public waters should work together to incorporate habitat improvement practices into programs that remove debris and stabilize the banks of area waterways. They should also study the effects of regional dams and locks on fish migration, and whether in-stream oxygen levels warrant additional aeration to promote fish and other aquatic populations. Legislation that prohibits the sale of invasive and nuisance species should be coordinated through ordinances and publicized through informational materials printed in numerous languages. The Metropolitan Water Reclamation District should also include biodiversity in its ongoing study on the effects of varying water levels.

For the Water

Chicago's resident and transient bird population can be protected and enhanced through the implementation of techniques that foster their survival in an urban area. Among the most important are methods to diminish bird collisions with high-rise buildings.

While the number of annual bird collisions with Chicago high-rises is undetermined, it is well known that skyscraper windows pose a significant threat to birds that mistake reflections for air space. Existing data on fatal bird collisions, including the time and locations of strikes, along with related building features, should be analyzed and addressed in conjunction with ongoing research by the U.S. Fish & Wildlife Service and Chicago Department of Environment.

As part of the effort, the City of Chicago's "Lights Out" program should be more vigorously publicized to communicate environmental benefits from turning off decorative exterior lighting and utilizing interior shades. High-rises should be monitored and recognized for complying with efforts to reduce the problem.

Additionally, city lighting codes for high-rise construction sites, along with Leadership in Energy and Environmental Design (LEED) standards, should be reviewed and possibly amended to further promote design elements that protect birds, such as the use of frosted or fritted glass, downward-angled panes, decorative markings, and boldly-colored interiors and decorations.

For the Birds

Montrose Beach Dunes in Lincoln Park and South Shore Nature Sanctuary Wetland (Jin Lee)



# MONITOR The Challenge: Limited understanding of the impact of ecological restoration of habitat sites

in an urban area.

**The Vision:** An increase in scientific data that helps to make responsible decisions and to set priorities for habitat improvement efforts.

#### **Immediate**

To increase understanding about native plant and animal species in Chicago and the ecological conditions they require, monitoring and research must coincide with the protection and management of the city's natural habitats. Local universities and other research institutions should help investigate issues and set priorities for ongoing management goals. Because much remains unknown about native plant and animal species, the ecological conditions they require and what impact Chicago's human population has upon their survival, research should serve to resolve immediate goals and anticipate long-term needs.

#### Within 5 years

- » Produce baseline inventories of all existing natural areas and sites slated to undergo restoration in order to compare current and future conditions.
- » Expand and integrate research among institutions, agencies and individuals based on a central record of the research needs of Chicago Wilderness' monitoring taskforce.
- » Utilize, distribute and support data collection from volunteers and measure progress using indicators developed for Chicago Wilderness' "Biodiversity Recovery Plan."

- » Set up programs for all endangered and threatened species to monitor how populations are faring now and over the long term.
- » Compile a prioritized list of research needs from Chicago Department of Environment, Chicago Park District, Forest Preserve District of Cook County, Illinois Department of Natural Resources, other appropriate government agencies, and private sources.









- » Participate in regional, national and international studies, such as monitoring species or groups of animals that are not endangered or threatened but subject to global concern.
- » Determine how pollutants in and around Lake Calumet impact birds that feed in the area.
- » Research how water and sewage treatment processes could better benefit wildlife, particularly shorebirds.
- » Explore how restoration efforts benefit migratory birds.
- » Compare how isolated natural areas compare with those near a cluster of small sites like private yards and school habitat gardens.
- » Determine habitat size requirements for certain targeted animal species.

- » Determine risks to the genetics of native plants when seeds and plants from other areas are introduced.
- » Determine what effect natural areas have on nuisance species and vice versa.
- » Study how use by people and domesticated animals affects the biodiversity of selected natural areas.
- » Study the relationship between coyotes and diminishing populations of nuisance species.
- » Determine how waterway sediments can be safely remediated.
- » Assess the knowledge and attitudes of Chicago residents regarding biodiversity and landscape issues.

Long-Term

Volunteers at Montrose Point Bird Sanctuary (Chicago Park District)











#### **RECOMMENDATIONS**

#### **Immediate**

Numerous government agencies, non-profit organizations and educational institutions that already promote the roles of city natural areas could be more effective through new and expanded public-private partnerships. While education needs are numerous, priorities center on an increased awareness among students regarding the importance of biodiversity conservation to the local, regional and global environment. Adults should be enlightened about how their behavior and consumption habits affect wildlife and how relatively simple efforts around the home and workplace can benefit nature, such as eliminating harmful pesticides and invasive plants, replacing pavement with more porous surfaces, and controlling pets that threaten wildlife.

#### Within 5 years

- » Appoint a liaison to work with Chicago Public Schools to promote outdoor nature activities and provide "service learning credits" to students that take part in these activities.
- » Reach out to the Catholic Archdiocese and other parochial, private, and independent schools to promote outdoor nature activities.
- » Improve teacher access to existing habitat curricula and develop a new teacher certificate or endorsement for use of such curricula.

- » Improve and expand Chicago Wilderness' "Teacher Training Hub" on the Internet by including gardening, biodiversity and related information.
- » Work with the City of Chicago's "After School Matters" and "Gallery 37" programs to include workshops that focus high school students' attention on local nature, biodiversity, greening and gardening.
- » Use the "Calumet Stewardship Initiative" as a model for focusing partner organizations on a specific goal in a certain location. The effort would serve to concentrate resources for quickly demonstrated environmental benefits.

#### Long-Term

- » Create a resource center where teachers can locate educational materials and participate in workshops. Possible locations include North Park Village Nature Center, the proposed Ford Calumet Environmental Center, the Chicago Center for Green Technology, and the Chicago River Center at the Michigan Avenue Bridge House.
- » Target information to owners of large tracts of land, homeowners, landscape and garden-related businesses, elected

- officials, religious organizations, community gardeners, and pet owners about the importance of biodiversity conservation.
- » Increase awareness of Chicago's visitors about urban habitats and the importance of biodiversity conservation through media outreach and informational materials placed at select tourist destinations.
- » Build on existing educational programs at Chicago public libraries.

#### **Books and Articles**

Bachrach-Sniderman, Julia. <u>The City In a Garden:</u>
<u>A Photographic History of Chicago's Parks</u> (Santa Fe, New Mexico: Center for American Places, 2001)

Borror, Donald J., Charles A. Triplehorn, and Norman F. Johnson. <u>An Introduction to the Study of Insects</u>, Sixth Edition (Saunders College Publishing and Harcourt Brace College Publishers, 1989)

Carpenter, Lynne and Joel Greenberg. <u>A Birder's</u> <u>Guide to the Chicago Region</u> (DeKalb, Illinois: Northern Illinois University Press, 1999)

Cronon, William. <u>Nature's Metropolis: Chicago</u> <u>and the Great West</u> (New York: W.W. Norton, 1991)

De Vore, Sheryl. <u>Birding Illinois</u> (Helena, Montana: Falcon Publishing, 2000)

Gobster, Paul and R. Bruce Hull. <u>Restoring Nature:</u>
<u>Perspectives from the Social Sciences and Humanities</u> (Washington, D.C.: Island Press, 2000)

Greenberg, Joel. <u>A Natural History of the Chicago</u>
<u>Region</u> (Chicago: University of Chicago Press, 2002)

Hurlburt, Harry. Chicago Antiquities (Chicago, 1881)

Jordan, William R., III. <u>The Sunflower Forest:</u>
<u>Ecological Restoration and the New Communion</u>
<u>with Nature</u> (Berkeley: University of California
Press, 2003)

Mills, Stephanie. In Service of the Wild (Boston: Beacon Press, 1995)

Robbins, Jim. "Native Grounds," New York Times Magazine (May 16, 2004)

Wiggers, Raymond. <u>Geology Underfoot in Illinois</u> (Missoula, Montana: Mountain Press Publishing Company, 1997)

Wille, Lois. Forever Open, Clear and Free:
The Struggle for Chicago's Lakefront (Chicago:
University of Chicago Press, second edition,
1991). Originally published in 1972 by Henry
Regnery Company in cooperation with the
Metropolitan Housing and Planning Council

Publications by Government Agencies and Non-Profit Organizations An Atlas of Biodiversity (Chicago: Chicago Region Biodiversity Council, 1998)

Birds of the Windy City (Chicago: Chicago Department of Environment, Chicago Park District, U.S. Department of Interior's Fish & Wildlife Service, and Chicago Audubon Society, 2001)

<u>Calumet Area Land Use Plan</u> (Chicago: Chicago Department of Planning and Development, 2002).

Calumet Area Ecological Management Strategy (Chicago: Chicago Department of Environment and Illinois Department of Natural Resources, 2002)

<u>Chicago River Master Plan: Connecting People</u> <u>to the River</u> (Chicago: Chicago Park District, 2002)

Chicago River Corridor Development Plan and Chicago River Corridor Design Guidelines (Chicago: Chicago Department of Planning and Development, 1999) Chicago Wilderness Biodiversity Recovery
Plan and A Summary of the Chicago Wilderness
Biodiversity Recovery Plan (Chicago Region
Biodiversity Council, 1999)

CitySpace: An Open Space Plan for Chicago (Chicago: Chicago Department of Planning and Development, Chicago Park District and Forest Preserve District of Cook County, 1998)

Natural Landscapes for Public Officials: A Source Book (Chicago: Northeastern Illinois Planning Commission, 1997)

Illinois Natural Areas Inventory Technical Report (Urbana: Illinois Department of Conservation, 1978)

Illinois Natural Areas Plan to Preserve and

Protect Our Heritage (Springfield, Illinois: Illinois

Department of Natural Resources, 1980)

<u>Land Acquisition Plan</u> (River Forest, IL: Forest Preserve District of Cook County, 1994)

<u>Life Along the Boulevards</u> (Chicago: Chicago Department of Planning and Development, 1989)

Lincoln Park Framework Plan: A Plan for Management and Restoration (Chicago: Chicago Park District and Lincoln Park Steering Committee, 1995) Protecting Nature in Your Community:

A Guidebook for Preserving and Enhancing
Biodiversity (Chicago: Northeastern Illinois
Planning Commission for Chicago Region
Biodiversity Council, 2000)

Restoring and Managing Stream Greenways:

A Landowners Handbook (Chicago: Northeastern Illinois Planning Commission, 1998)

Special Places in the Lake Calumet Area: <u>Final Report</u> (USDA Forest Service, North Central Research Station, 2003) Publications by Government Agencies and Non-Profit Organizations (continued)

 ${\it Chicago \ Park \ District} \\ www.chicagoparkdistrict.com$ 

 $\label{lem:chicago} \begin{tabular}{ll} Chicago & Department of Environment \\ www.cityofchicago.org/environment \\ \end{tabular}$ 

 $\label{lem:chicago} \mbox{ Chicago Department of Planning \& Development } \\ www.cityofchicago.org/dpd$ 

Chicago Wilderness www.chiwild.org

Web Sites

Chicago Park District

#### **Junior Earth Team**

Helps young people develop an awareness and connection to the natural environment by encouraging teens to perform stewardship projects in local parks and providing work experience and exposure to environmental careers.

#### **Nature Oasis**

Helps residents experience nature within an urban environment by offering nature-based science activities, restoration work, fishing, kayaking, nature crafts, campfires, after-school programs and overnight camping. As of summer 2005, Nature Oasis sites were at Gompers, Humboldt, Jackson and Washington parks.

#### **Outdoor and Environmental Education Initiative**

Incorporates programs in every park in the city to serve toddlers through seniors. The programs develop awareness, appreciation, knowledge and stewardship of natural resources.

#### Mayor Daley's Fish 'N Kids

Provides summertime fishing instruction for 6- to 16-year-olds. Rods, reels, bait, fishing locations and instructors are provided free of charge.

#### **Outdoor Explorers**

Introduces outdoor and environmental activities to 8- to 12-year-olds during the school year. Children record weather patterns, use compasses, read maps, and study geology, urban wildlife and other aspects of nature in city parks.

#### Stewardship Days

Emphasizes the exploration of city parks by engaging young people in hands-on, daylong learning experiences in the parks.

#### **Urban Campers**

Introduces 9- to 12-year-olds to nature, teaches technical outdoor skills and provides an opportunity to apply the knowledge during a 24-hour camping experience in a local park.

#### **Under Illinois Skies**

Provides participants with a rustic camping experience and immersion in nature through a three-day camping trip to an Illinois state park. Operated in conjunction with the Illinois Department of Natural Resources.

Chicago Department of Environment

#### **Bird Habitat**

A preservation policy program that works toward bird habitat development and support.

#### **Calumet Stewardship Initiative**

Provides stewardship and programming opportunities to help people get involved in comprehensive ecological rehabilitation efforts within the Calumet Open Space Reserve.

#### **Greencorps Chicago**

Provides horticultural instruction, materials and employment as part of a community landscaping and job training program.

#### Green Roof/Green Buildings

Provides information on sustainable development techniques for developers, architects and building owners and managers.

#### Stormwater Management

An educational campaign that produces and distributes publications such as "Plant a Rain Garden in Your Yard" and "Guide to Stormwater Best Management Practices."

#### Appendix 3

#### Volunteer Opportunities

Calumet Stewardship Initiative

For more information call the City of Chicago Department of Environment at 312. 744.5959

Chicago Audubon/Wilderness Habitat Project www.habitatproject.org, or call Chicago Wilderness at 847.965.1150, ext. 12

- Calling Frog Survey
- Bird Conservation Network census
- Woodland Audit
- Butterfly Monitoring Network
- Dragonfly Monitoring Network

Chicago Bird Collision Monitors and Rescue www.birdmonitors.net, or call 773.988.1867

Chicago Botanic Garden

www.chicagobotanic.org, or call 847.835.5440

- Plants of Concern

Chicago Department of Environment www.cityofchicago.org/environment, or call 312.744.7606

Chicago Park District

 $www.chicagoparkdistrict.com, \, or \, call \, 312.742.PLAY$ 

- Volunteer Stewardship Program
- Nature Oasis

Chicago Wilderness

www.chicagowilderness.org, and www.chicagowilderness.org/involve/volunteer/index.cfm

- Volunteer Stewardship Network
- Citizen Scientist Programs

Forest Preserve District of Cook County www.fpdcc.com, or call 708.771.1008

- Preserve Keepers Corps

Friends of the Chicago River
www.chicagoriver.org, or call 312.939.0490

Illinois Department of Natural Resources http://dnr.state.il.us/orep/ecowatch

- EcoWatch program

The Nature Conservancy

www.nature.org/wherewework/northamerica/states/illinois/volunteer, or call 312.580.2100 or 866.876.5463

- Volunteer Stewardship Network
- Mighty Acorns

North Branch Restoration Project
www.northbranchrestoration.org, or call 773.631.1790

Openlands

www.openlands.org, and www.openlands.org/volunteer.asp, or call 312.427.4256

- TreeKeepers
- Stewardship Teams

Peggy Notebaert Nature Museum

 $www.naturemuseum.org,\,or\,call\,773.755.5100$ 

Shedd Aquarium

www.sheddaquarium.org, and www.shed-daquarium.org/volunteering, or call 312.939.2438

Sierra Club

http://illinois.sierraclub.org/chicago, and http://illinois.sierraclub.org/chicago/volunteer, or call 312.251.1680 recruit and train volunteers to work on biodiversity restoration projects in Chicago

Organizations that

Alliance for the Great Lakes www.lakemichigan.org

Chicago Herpetological Society www.chicagoherp.org

Chicago Mycological Society www.ilmyco.gen.chicago.il.us/

Chicago Ornithological Society www.chicagobirder.org The Field Museum of Natural History www.fieldmuseum.org

Fort Dearborn chapter of Illinois Audubon Society www.illinoisaudubon.org/chapters

Chicago Audubon Society www.chicagoaudubon.org

Midwest Ecological Landscape Association www.melaweb.org Other Groups

Government agencies, nonprofit organizations, community organizations and other groups developed the following plans. The plans laid the groundwork for the city's current habitat restoration activities and the development of the *Nature and Wildlife Plan*.

#### 1977

Illinois Natural Areas Inventory is published by the Natural Land Institute and the State of Illinois. It determines that only .07 percent of the state remains in its natural condition.

#### 1980

Illinois Natural Areas Plan to Preserve and Protect Our Heritage is published by the Illinois Department of Natural Resources in advance of other documents involving the management of grasslands, forests, and wetland birds, amphibian conservation, and control of invasive plants.

#### 1989

Life Along the Boulevards is published by the City to increase awareness of and improve the use of the city's historic boulevards. The plan finds that one out of every six Chicagoans lives within three blocks of the 28-mile system.

#### 1992

Northeastern Illinois Regional Greenways Plan is published by Openlands Project and Northeastern Illinois Planning Commission. The plan lays out an initial network of 1,593 miles of existing and potential greenways and trails throughout the Chicago region, later expanded to include 4,169 miles.

#### 1993

CitySpace, a plan to increase the amount of public open space in Chicago, is initialed by the City. In finding that two of every three residents live in areas that fall short of citywide open space minimums, the report provides a catalyst for creation of the Campus Parks Program, NeighborSpace, the Chicago River Corridor Development Plan, Calumet Area Land Use Plan, and creation of the Calumet Open Space Reserve (Published and adopted in 1998).

#### 1994

Land Acquisition Plan for the Forest Preserve
District of Cook County is printed and released.
The plan sets the stage for natural area and open
space acquisition throughout the county.

#### 1995

Lincoln Park Framework Plan, the city's first comprehensive plan for natural resources within Chicago's largest park, is published by the Chicago Park District. Framework plans for other large parks follow, including Garfield Park, Jackson Park, South Shore Cultural Center, Grant Park, Washington Park, and Burnham Park.

#### 1996

Campus Park Program, an initiative to transform paved schoolyards into playgrounds, parks and gardens, is launched. More than 100 schools benefit from the program as of 2005.

#### 1997

Natural Landscapes for Public Officials:
A Source Book is published by the Northeastern
Illinois Planning Commission. It provides background
on the benefits of natural landscaping and specific
information and sources for implementation by
municipalities and other government agencies.

#### 1998

Restoring and Managing Stream Greenways: A Landowners Handbook is published by the Northeastern Illinois Planning Commission with funding from Chicago Wilderness.

#### 1999

Chicago Wilderness Biodiversity Recovery Plan is published by the Chicago Region Biodiversity Council. It identifies the ecological communities for the Chicago region, assesses their condition, and provides recommendations for restoration and protection.

Chicago River Corridor Development Plan and the Chicago River Corridor Design Guidelines and Standards are adopted by Chicago Plan Commission. The documents provide goals to improve the river as a natural habitat and its banks as a valuable source of open space for people.

Handbook of Bank Restoration Designs for the Chicago River and other Urban Streams by Friends of the Chicago River, Northeastern Illinois Planning Commission, and City of Chicago Department of Planning and Development is released. It presents property owners, developers and city planners with concept designs for landscaping river edges.

#### 2000

Urban Conservation Treaty for Migratory Birds is signed between City of Chicago and the U.S. Fish & Wildlife Service. It commits the city to incorporate bird habitat in its parks and to launch a campaign to educate homeowners about improving back yard habitat.

Protecting Nature in Your Community:

A Guidebook for Preserving and Enhancing
Biodiversity is released by the Northeastern Illinois
Planning Commission and Chicago Wilderness
as a tool to help local governments protect and
enhance regional biodiversity.

Chicago Habitat Inventory, a Geographic Information System-based database of existing city habitat, is initiated by the City with funding from a grant from the U.S. Department of Agriculture Forest Service. The project represents the first comprehensive effort to identify habitat sites in the city.

Lakefront Bird Habitat Guidelines, are adopted by the Chicago Park District Board of Commissioners. The guidelines identify and map existing bird habitat areas and recommends special management practices. Birds of the Windy City, a booklet describing Chicago's birds, their habitat needs and how residents can help protect birds, is published by the City of Chicago Department of Environment, Chicago Audubon Society, and U.S. Fish & Wildlife Service.

#### 2002

Chicago River Master Plan: Connecting People to the River, a plan created by the Chicago Park District, is released. The plan reviews each of the six reaches of the river within the city, and provides recommendations for improving lands along the Chicago River for nature and people.

Calumet Area Ecological Management Strategy is produced by the City of Chicago Department of Environment, Chicago's Environmental Fund, and the Illinois Department of Natural Resources. It lays out a unified strategy for land managers to rehabilitate properties within the Calumet Open Space Reserve.

Calumet Area Land Use Plan, a comprehensive plan developed for the Southeast Side, is adopted by the Chicago Plan Commission. It calls for a 4,000-acre open space reserve and design guidelines for industry that make businesses compatible neighbors with nature.

#### 2004

Migrant Bird Habitat Study, a research study conducted by Audubon Chicago Region in conjunction with other partners collected data on which trees and shrubs were used most by migrating birds in Chicago.

#### Appendix 5

#### Bird, Mammal and Fish Species

This is not an inclusive list of all wildlife species that are found within the City of Chicago. Some are non-native species that are considered nuisances.

#### **Birds**

Acadian flycatcher Alder flycatcher American avocet American bittern American black duck American coot American crown American golden plover American goldfinch American kestrel American pipit American redstart American robin American tree sparrow American white pelican American wigeon American woodcock Baird's sandpiper Bald eagle Baltimore oriole Bank swallow Barn swallow Barred owl Bay-breasted warbler Bell's vireo

Black tern
Black-and-white warbler
Black-bellied plover
Black-billed cuckoo
Blackburnian warbler
Black-capped chickadee
Black-crowned night heron
Black-legged kittiwake
Blackpoll warbler

Belted kingfisher

Black scoter

Black-throated green warbler

Blue jay

Blue-gray gnatcatcher Blue-headed vireo Blue-winged teal Blue-winged warbler Bobolink

Bonaparte's gull Broad-winged hawk Brown creeper Brown thrasher Brown-headed cowbird

Buff-breasted sandpiper Bufflehead Canada goose

Canada warbler
Canvasback
Cape may warbler
Carolina wren
Caspian tern
Cattle egret
Cerulean warbler

Chimney swift Chipping sparrow Chuck-will's- widow

Chestnut-sided warbler

Clay-colored sparrow

Cliff swallow
Common goldeneye
Common grackle
Common loon
Common merganser
Common moorhen
Common nighthawk
Common redpoll
Common snipe
Common tern
Common vellowthroat

Common yellowthroat Connecticut warbler Cooper's hawk

Dickcissel

Dark-eyed junco

Double-crested cormorant Downy woodpecker

Dunlin
Eared grebe
Eastern bluebird
Eastern kingbird
Eastern meadowlark
Eastern phoebe
Eastern screech owl

Eastern towhee
Eastern wood-pewee
Eurasian wigeon
European starling
Field sparrow
Forster's tern
Fox sparrow
Franklin's gull
Gadwall
Glaucous gull

Golden-crowned kinglet Golden-winged warbler Grasshopper sparrow

Gray catbird
Gray partridge
Gray-creeked thrush
Great black-backed gull
Great blue heron
Great crested flycatcher

Great egret Great horned owl Greater scaup

Greater white-fronted goose

Greater yellowlegs
Green heron
Green-winged teal
Hairy woodpecker
Harlequin duck
Henslow's sparrow
Hermit thrush
Herring gull
Hooded merganser
Hooded warbler
Horned grebe

Horned grebe
Horned lark
House finch
House sparrow
House wren
Iceland gull
Indigo bunting
Killdeer
King rail
Lapland longspur
Laughing gull
Le Conte's sparrow
Least bittern
Least flycatcher

Least sandpiper

Lesser black-backed gull

Lesser scaup Lesser yellowlegs Lincoln's sparrow Little blue heron

Little gull

Loggerhead shrike Long-billed dowitcher Long-eared owl

Louisiana waterthrush Magnolia warbler

Mallard

Marbled godwit Marsh wren Merlin

Monk parakeet Mourning dove Mourning warbler

Mute swan Nashville warbler

Nelson's sharp-tailed sparrow

Northern bobwhite
Northern cardinal
Northern flicker
Northern goshawk
Northern harrier
Northern mockingbird
Northern parula
Northern pintail

Northern rough-winged swallow

Northern saw-whet owl Northern shoveler Northern shrike Northern waterthrush

Oldsquaw

Olive-sided flycatcher

Orange-crowned warbler

Orchard oriole
Osprey
Ovenbird
Palm warbler
Pectoral sandpiper
Peregrine falcon
Philadelphia vireo
Pied-billed grebe
Pileated woodpecker

Pine siskin
Pine warbler
Piping plover
Prairie warbler
Prothonotary warbler

Purple finch
Purple martin
Purple sandpiper
Red crossbill
Red knot

Red-bellied woodpecker Red-breasted merganser Red-breasted nuthatch Red-eyed vireo

Redhead

Red-headed woodpecker Red-necked grebe Red-shouldered hawk

Red-tailed hawk Red-winged blackbird Ring-billed gull Ring-necked duck Ring-necked pheasant

Rock dove

Rose-breasted grosbeak Rough-legged hawk Ruby-crowned kinglet Ruby-throated hummingbird

Ruddy duck Ruddy turnstone

Ruff

Rusty blackbird Sanderling Sandhill crane Savannah sparrow Scarlet tanager Sedge wren

Sedge wren
Semipalmated plover
Semipalmated sandpiper
Sharp-shinned hawk
Short-billed dowitcher
Short-eared owl
Snow bunting
Snow goose
Snowy egret
Snowy owl

Solitary sandpiper

Song sparrow

Sora

Spotted sandpiper Stilt sandpiper Surf scoter Swainson's hawk Swainson's thrush Swamp sparrow Tennessee warbler Thayer's gull Tree swallow

Tufted titmouse Tundra swan Turkey vulture Upland sandpiper

Veery

Vesper sparrow Virginia rail Warbling vireo Western grebe Western meadowlark Western sandpiper

Whimbrel Whip-poor-will

White-breasted nuthatch White-crowned sparrow

White-eyed vireo

White-rumped sandpiper White-throated sparrow White-winged scoter

Wild turkey Willet

Willow flycatcher Wilson's warbler Winter wren Wood duck Wood thrush

Worm-eating warbler Yellow warbler

Yellow-bellied flycatcher Yellow-bellied sapsucker Yellow-billed cuckoo Yellow-breasted chat Yellow-crowned night heron Yellow-headed blackbird Yellow-throated vireo

Yellow-throated warbler

**Mammals** 

Beaver

Big brown bat

Black rat (common rat)

Common vole

Coyote

Deer mouse

Eastern chipmunk

Eastern cottontail rabbit

Eastern mole

**Evening Bat** 

Fox squirrel

Franklin's ground squirrel

Gray fox

Gray squirrel Hoary bat

House mouse

Keen's myotis

Least weasel Little brown bat

Long-tailed weasel

Masked shrew

Mink

Muskrat

Norway rat

Pipistrelle

Prairie vole

Raccoon

Red bat

Red fox

Short-tailed shrew

Silver-haired bat

Southern flying squirrel

Striped skunk

Thirteen-lined squirrel

Virginia opossum

White-footed mouse

White-tailed deer

Woodchuck

Fish

Alewife

American eel

Bigmouth shiner

Black buffalo

Black bullhead

Black crappie

Bluegill

Bluntnose minnow

Bowfin

Brassy minnow

Brook silverside

Brook stickleback

Brook trout

Brown trout

Bullhead minnow

Carp

Central stoneroller

Channel catfish

Chinook salmon

Coho salmon

Creek chub

Emerald shiner

Fathead minnow

Freshwater drum

Gizzard shad

Golden shiner

Goldfish

Grass carp

Grass pickerel Green sunfish

Hornyhead chub

Iowa darter

Johnny darter Lake trout

Largemouth bass

Longnose dace Madtom catfish

Mosquitofish

Mottled sculpin

Mudminnow

Ninespine stickleback

Northern pike

Orangespotted sunfish

Oriental weatherfish

Pugnose minnow

Pumpkinseed

Quillback

Rainbow smelt

Rainbow trout

Rock bass

Round goby Sand shiner

Smallmouth bass

Spotfin shiner

Spottail shiner

Threespine stickleback

Trout-perch

Warmouth

White bass

White crappie

White perch

White sucker

Yellow bullhead Yellow perch

Sources: Dr. Joel Brown, University of Illinois/Chicago;

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Reclamation District of Greater

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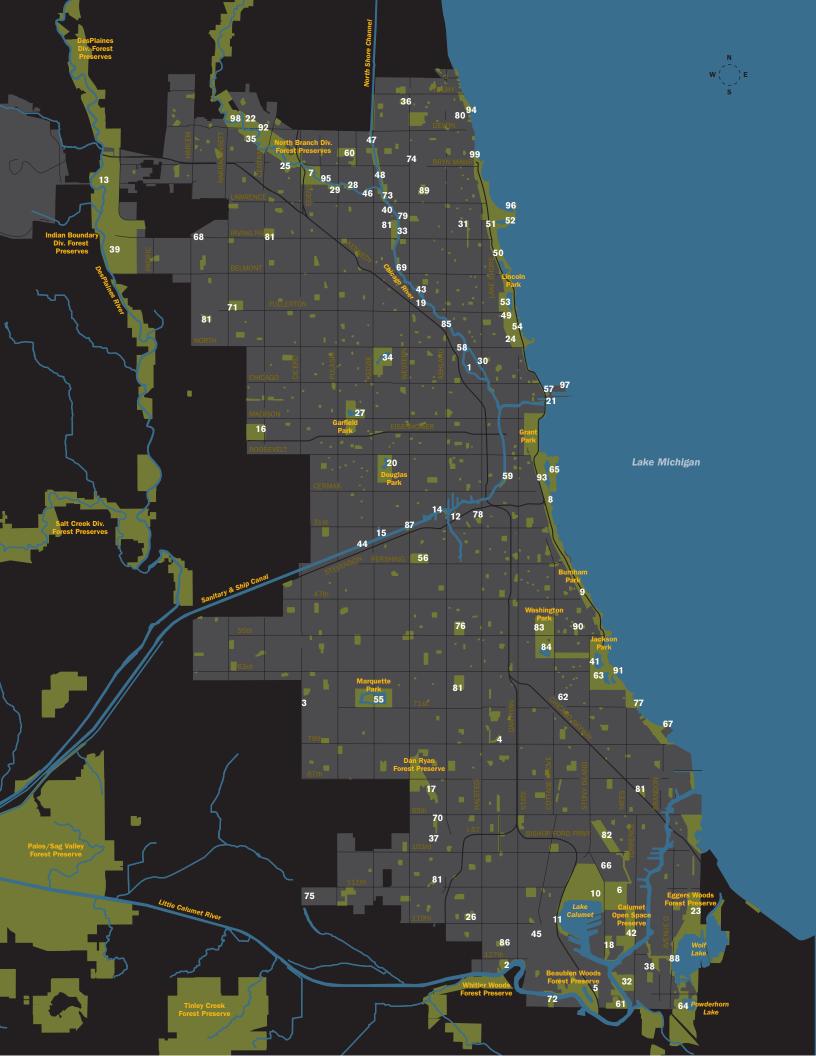
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		* Added to Chicago Nature Areas Directory after Plan approval by Chicago Plan Commission on February 16, 2006.	