Chicago Wilderness Green Infrastructure Vision

Final Report
March 2004

Project Overview

Goal/Purpose: A visionary, regional-scale map of the Chicago Wilderness region that reflects both existing green infrastructure -- forest preserve holdings, natural area sites, streams, wetlands, prairies, and woodlands – as well as opportunities for expansion, restoration, and connection. The broader goal of this effort is to bring the Biodiversity Recovery Plan to life in a more meaningful, visual, and accessible way for Chicago Wilderness members and outside audiences.

To state it another way, the Biodiversity Recovery Plan presents – in words – an ambitious, comprehensive set of recommendations to protect, preserve, restore, and manage biodiversity in the Chicago Wilderness Region. This project has developed a series of maps that are, in a sense, a visual interpretation of the BRP's broad recommendations for protection, preservation, and restoration at a macro scale.

Definition:

To summarize, it is important to reiterate in simple terms what this project is, and what it is not.

This project *is* an attempt to develop a first draft, map-based, regional-scale vision for biodiversity protection and restoration.

This project *is not* a detailed, site-specific acquisition or conservation design plan for the region. Nor is it an attempt to identify the numerous additional small scale opportunities for biodiversity conservation that exist at the municipal and neighborhood scale.

Background and Procedures

Background: This project builds upon a March 1, 2002 all-day workshop between Chicago Wilderness members and Metropolis 2020. Chicago Wilderness (CW) members identified a series of recommended regional-scale "resource protection areas" throughout northeastern Illinois and extending minimally into Wisconsin and Indiana. The project concept and preliminary results were presented to the CW Steering Committee which provided a very favorable response. Some viewed it as a visual "action plan" (first draft) for the Biodiversity Recovery Plan that ideally could ultimately be officially adopted by CW. Also, the integrated, region-wide database coming out of this project could serve as a database for subsequent, more in-depth CW resource protection planning for the *entire* CW region.

Principal Tasks/Objectives:
1) A three-state, Chicago Wilderness regional *map* that identifies on-the-ground, regional-scale opportunities for biodiversity protection and restoration. These opportunities are mapped as recommended "resource protection areas."
2) The identification of specific *protection techniques* for each resource protection area, including: acquisition, conservation easements, restoration, greenway connection, and conservation development.
3) The identification of simple *guidelines for conservation development*, recognizing that urban/suburban development inevitably will occur in or adjacent to many of the recommended resource protection areas.

Principal Investigators and Collaborators

The *principal investigators* were:
- Dennis Dreher, Project Manager and Principal Water Resources Engineer for the Northeastern Illinois Planning Commission
- Jennifer Welch, GIS Analyst for the Northeastern Illinois Planning Commission
- Laura Barghusen, Senior Environmental Analyst for the Northeastern Illinois Planning Commission

Several collaborators agreed to support and advise the project. These included:

Joyce O'Keefe, Openlands Project
Karen Hobbs, Senior Fellow, Center for Neighborhood Technology
Dale Engquist, Indiana Dunes National Lakeshore/National Park Service
Lucy Hutcherson, Director of Communications, Chicago Wilderness

Stephanie Folk, Media and Public Relations Representative,

Some specific recommendations from the BRP that guided the identification of terrestrial resource protection areas in this project included the following.

Woodland:
- In total, it is thought that approximately 50,000–100,000 acres of healthy forest and woodland complexes are needed in the region to meet BRP goals.
- Ideally, as many as 20 good-quality sites larger than 500 acres would provide a rich diversity of amphibians and other species. Several 800- to 1000-acre sites, with appropriate landforms (slope, soils, and hydrology), are needed to maintain a variety of plants and woodland types.

Savanna:
- Sites need to be large enough that landscape-scale processes can occur. Development of relatively complete savanna communities will be most cost-effective on larger sites, though smaller sites are also valuable and can be healthy if well managed.
- Viable amphibian populations require sites of 200 to 500 acres in size. As with all amphibian and reptile assemblages, multiple sites with functional connections for dispersal to sustain meta-populations are recommended.

Prairie:
- It is thought that ten to twelve large sites throughout the region, each approximately 3000–4000 acres in size, are needed to sustain viable populations of grassland birds and other prairie species.
- These large sites should consist of native vegetation in mosaics of grasslands, savannas, and wetlands, in order to contribute to the conservation of all prairie-community elements. Core areas of high-quality remnants need to be included in larger sites to provide a basis for recolonization by prairie plants and insects.
- To conserve all of the region's reptiles and amphibians, it is recommended that we create as many medium-sized (500- to 1000-acre) grassland sites as possible. These sites should consist of core natural areas within a landscape that allows them to function as breeding habitat. A priority should be to expand as many existing 80- to 200-acre prairie remnants as possible into 500- to 1000-acre sites.
- As there are so few examples of gravel and dolomite prairies, all remaining examples should be protected, no matter how small. Beyond the rare prairie types, all remaining good-quality prairie sites (such as INAI grade C or above) should be protected and improved where possible.

Wetland:
- Based on scientific knowledge of habitat requirements of wetland birds, reptiles, and amphibians, a natural-area complex of approximately 1000 acres, with several marshes of 100 acres or more and with smaller wetlands and ephemeral pools, appears to be appropriate. There is the potential to create and restore around fifteen of these large wetland complexes in the region, and this number should allow sufficient acreage and diversity of condition to meet the habitat needs of breeding and migratory waterfowl.
- In addition, many more relatively small wetland complexes are needed throughout the region, but particularly in the southern and western parts, to connect existing wetlands.
- In particular, fens, sedge meadows, bogs, pannes, and seeps require continued protection of currently designated natural areas and protection of newly identified sites. Wetlands, particularly those fed by groundwater, require protection of their recharge areas as well as protection of their

plants.

Protect high-quality streams and lakes through watershed planning and mitigation of harmful activities to conserve aquatic biodiversity. Much of the focus of the resource protection area identification proposed in this project is tied to sensitive watersheds and stream-based greenway linkages.

Adopt local and regional development policies that reflect the need to restore and maintain biodiversity. The BRP contains an extensive focus on the need to involve local governments and regional policy makers in the preservation, management, and restoration of land and water resources. The BRP also contains the following objectives for local governments: inventory sensitive habitats and identify opportunities for open space preservation and restoration; modify comprehensive plans, ordinances, and engineering practices to consider the impacts of development on biodiversity; incorporate provisions for biodiversity protection and restoration in the design plans for new development and redevelopment.

Coordination with Related Chicago Wilderness Work

Attempts have been made to coordinate this project with several related CW activities. While this project is not intended to replace the ongoing conservation design process, it is at least complementary. Further, the regional GIS database of green infrastructure coverages created by this project is the first of its kind for Chicago Wilderness. This database can be used for future CW assessments and inventories done at the regional scale. More specifically, the database work being done in this project is directly related to the CW-funded wetlands assessment/modeling project entitled Wetland Conservation Strategy Model Development that extends from southeast Wisconsin to northwest Indiana.

This project also complements the project from the Sustainability Cluster to develop regional indicators/report card that relies on the creation of a green infrastructure database. And this project has been coordinated with an ongoing project of Openlands and the Center of Neighborhood Technology to develop regional green infrastructure mapping.

This project also has incorporated, by reference, the principles from the sustainable development roundtable process.

This project also has been coordinated with CW Communications Team staff since the development of an effective message delivery mechanism is critical to the success of the project.

Finally, this project recognizes two ongoing, related activities involving CW and/or its members. One is an effort spearheaded by the Lake Michigan Federation to assess biodiversity protection opportunities in nearshore areas of Lake Michigan. This project may inform future versions of the green infrastructure vision and, as such, the project maps include the following language.

> "Chicago Wilderness member organizations are undertaking an effort to identify and prioritize sites for biodiversity protection and recovery along the Lake Michigan nearshore. This work will be proposed as an addendum to the Biodiversity Recovery Plan and is scheduled to be considered for adoption in 2004. Results should be integrated with a future version of the Green Infrastructure Vision."

Another is an effort being conducted by the City of Chicago to assess local biodiversity protection opportunities. The Chicago Biodiversity Recovery Plan process, informed by a number of Chicago Wilderness member organizations, involves an effort to identify sites for biodiversity protection and recovery in the City. The Chicago process is recommending the addition of a new zoning category to the Chicago Zoning Ordinance that will protect open spaces for nature preservation and restoration and has developed a Chicago Habitat Sites Inventory. Based on the City's draft work products, a meeting was held between Chicago and Chicago Wilderness representatives to assess the numerous large and small-scale habitat sites identified by the City. Based on this meeting, two additional regionally-significant biodiversity conservation areas were integrated into the Green Infrastructure Vision.

Work Methods

This project picked up directly on the work done in the CW/Metropolis 2020 workshop, expanded it geographically to the entire CW region, and developed several new products as indicated in the following task descriptions.

- *Extend the underlying natural resource database:* (done in cooperation with the previously mentioned Openlands/CNT project)

Relevant green infrastructure coverages and mapping were extended into the Indiana and Wisconsin portions of CW, as well as those relevant CW resource areas in Illinois beyond the six-county area. Base coverages included wetlands, floodplains, streams, rivers, lakes, woodland, grassland, natural areas, watersheds, publicly owned natural lands, major roads, and county boundaries

participate. In total, approximately 80 individuals participated in these workshops. Listings of workshop participants are contained in Appendix 2.

The workshop procedures, which are detailed in Appendix 3, generally entailed identifying biodiversity protection and restoration opportunities, at the macro scale, consistent with the recommendations of the Biodiversity Recovery Plan. The approach emphasized some basic priorities for resource protection derived from the BRP: remaining high-quality sites, land that will connect or expand existing natural areas, and any large sites with some remnant communities. In this "macro" scale context, the participants were asked to focus on landscape complexes and corridors of at least 500-1000 acres. For each recommended "resource protection area" participants also were asked to identify recommended biodiversity conservation approaches.

On a parallel track, participants in the CW/Metropolis 2020 workshop identified regional recommendations for conservation development, on the assumption that substantial new development is forecast in the CW region and will undoubtedly affect the integrity of identified resource areas. These recommendations for conservation development are included under "Results and Recommendations" below.

The resultant map information was digitized and combined for the broader, three-state Chicago Wilderness region. The maps were customized into a series of regional and state-scale poster maps and map images useful for a PowerPoint presentation. Draft maps and results were presented to Sustainability and Science/Land Management teams, and the Steering Committee. Final products will be presented to the full Council for review and "endorsement" at its March 2004 meeting.

- *Develop delivery mechanisms and begin to seek endorsement:*
While an attractive, illustrated poster version of the vision map was originally identified as a desirable end product, it was not included in the approved budget. Alternatively, a PowerPoint slide presentation was developed. We also investigated the option of placing maps on an interactive web site (e.g., in conjunction with the CNT/OLP green infrastructure database project and/or link to IDNR's Internet mapping servers) that will allow exploration of more detailed geographies and resources. Recommended options for internet access are made below but actual web site work will require additional funding in a future phase of this project.

Similarly, it will be desirable to encourage endorsement of the green infrastructure vision by other regional organizations such as NIPC, Campaign for Sensible Growth, Metropolis 2020, etc. While preliminary information sharing and discussions were begun with NIPC, NIRPC, and Metropolis 2020, it is strongly recommended that this be pursued in depth in a subsequent phase of this project.

Summary of Results and Recommendations

Based on the input of numerous Chicago Wilderness members and resource agencies, as described above, recommended resource protection areas were identified in a broad swath

24) Develop programs to minimize use of pesticides and fertilizers on municipal lands through Integrated Pest Management policies or other means.

Mechanisms to achieve recommendations:

25) Designation of lands with conservation easements or dedication to local government at the preliminary planning stage.

Subsequent to the development of these recommendations, a separate Chicago Wilderness project developed a draft set of "Sustainable Development Principles for Protecting Nature in the Chicago Wilderness Region." These principles, which are expected to be adopted in March 2004, are hereby adopted by reference.

The context for applying sustainable development principles is critical to the achievement of the goals of the green infrastructure vision. Three general situations should are addressed.

Development within recommended resource protection areas: For each identified resource protection area, specific recommendations were made regarding whether and how development should be accommodated. Where conservation development is the recommendation, the principles and techniques outlined above should be implemented to their fullest extent. In particular, development should be designed and tailored to the specific natural resource characteristics of the identified resource protection area. For example, if the resource protection area contains fens or other groundwater-fed aquatic ecosystems, particular emphasis needs to be placed on assuring the protection of pre-development groundwater quantity and quality conditions. A general recommendation for conservation development within resource protection areas is to limit development intensities, particularly impervious surfaces (lioj 4.5 0 TD

buffers along the periphery of stream, lake, and wetland edges – at least 100 feet on all sides – is critical.

All other development: Throughout the broader Chicago Wilderness region, in urban, suburban, and rural edge settings, there are strong arguments for conservation development. Beyond the obvious biodiversity conservation benefits, conservation development approaches generally cost considerably less than conventional design, enhance property values and quality of life, help protect groundwater aquifers, and reduce problems and costs associated with flooding and water quality degradation. Depending on the intended land use and site characteristics and constraints, appropriate elements of conservation design can and should be selectively tailored to each individual property.

Recommended Delivery Mechanisms for Digital Maps and Data: There are several options for making the maps from the green infrastructure vision project available over the internet. These range from very simple and inexpensive to more complex. Below are listed several options that could be considered. All would require a funding source in a future phase of this project.

1. The final project maps could be posted on the internet in Adobe Acrobat (.PDF) format, allowing anyone with Adobe Acrobat Reader (which is available for free download from the Adobe site) to view, download, and print the maps, as well as to zoom into areas of interest.

2. ArcPublisher, an extension of ArcGIS, could be used to produce a project viewable with the free ESRI software ArcReader. Projects produced with ArcPublisher and viewed with ArcReader are interactive to the extent that the user can zoom in and out on the map and click on map features to query the information held in the attribute tables of the GIS layers, and create and print map layouts zoomed to different extents of the map. In order to produce an ArcPublisher project, an ArcGIS license with the ArcPublisher extension is necessary. Also, posting an interactive project on the internet would involve getting permission from the agencies that contributed data that appears on the map product, and possibly omitting some of the underlying layers if permission is not granted.

3. An internet mapping server such as ArcIMS could be used. This would allow users to zoom in and out of the project, query information in the attribute tables associated with the different map layers, decide which layers they would like to display and which to omit, and create and print map layouts. As with the ArcPublisher option, this would involve getting permission from the agencies that contributed data that appears on the map product, and possibly omitting some of the underlying layers if permission is not granted.

4. The resource protection area GIS layer that was created for the Green Infrastructure Vision Project could be made available for download in shapefile, coverage, or geodatabase format so that that GIS users could download and use the layer in their own GIS systems. The Illinois Department of Natural Resources has a geospatial data clearinghouse site, and The Great Lakes Information Network (GLINDA) also has a site where data can be downloaded. These and other sites could be investigated as possible places to make the data available.

The first option is the simplest. In fact, PDF versions of the draft maps have already been sent

out as email attachments to various project participants, including mapping workshop participants and members of the Sustainability and Science and Land Management Teams. NIPT is currently exploring the placement of PDF files on the Commission's website (

Appendix 1: GIS Data Layers for Mapping Workshops

Appendix 1: GIS Data Layers for Southeastern Wisconsin

GIS Layers Used to Delineate Recommended Resource Protection Areas	Data Source
Watershed boundaries	Wisconsin Department of Natural Resources' 1992 DNR Watersheds (polygon features) Map, 1998
Streams and lakes	U.S. Geological Survey's National Hydrography Dataset
Wetlands	Wisconsin Wetlands Inventory
100 Year Floodplains	Federal Emergency Management Agency's National Flood Insurance Program Q3 Flood Data CD-ROM, Disc 6, September 1996
Special Designated Areas *(areas of environmental significance, but are not actively managed; may include state scenic and wild rivers, outstanding water resources and natural areas)*	U.S. Environmental Protection Agency, Region 5's 2001-2002 Rock River Special Designated Areas, Inland Sensitivity Atlas, Version 1, September 2002
Existing public open space	Conservation Easements from U.S. Fish and Wildlife Service's 1995 Wetland Management District Conservation Easements - Region 3 Map, April 2001; Kettle Moraine State Forest - Southern Unit from Wisconsin Department of Natural Resources; Managed Areas from U.S. Environmental Protection Agency, Region 5's 1997-200 Western Lake Michigan Inland Sensitivity Atlas, Version 1, December 2000 and U.S. Environmental Protection Agency, Region 5's 2001-2002 Rock River Managed Areas, Inland Sensitivity Atlas, Version 1, September 2002; Public lands for Walworth County from Southeastern Wisconsin Regional Planning Commission's 1990 Public Lands, Walworth County
Environmental Corridors	Southeastern Wisconsin Regional Planning Commission's 1995 Environmental Corridors and Planned Environmental Corridors
State Boundaries, County Boundaries and Major Roads	ESRI's 2000 Data & Maps Media Kit CD-ROM, CD 3, 2001

Appendix 1: GIS Data Layers for Northwestern Indiana

GIS Layers Used to Delineate Recommended Resource Protection Areas	Data Source
Watershed boundaries	U.S. Geological Survey's 1999 Vector Digital Dataset of 14-digit Hydrologic Units in Indiana map, Version 1.0.0, August 1999
Streams and lakes	U.S. Geological Survey's National Hydrography Dataset
Wetlands	U.S. Fish and Wildlife Service's National Wetlands Inventory, downloaded from Lake Rim GIS
100 Year Floodplains	Federal Emergency Management Agency's National Flood Insurance Program Q3 Flood Data CD-ROM, Disc 6, September 1996
Special Designated Areas *(areas of environmental significance, but are not actively managed; may include state scenic and wild rivers, outstanding water resources and natural areas)*	U.S. Environmental Protection Agency, Region 5, Great Lakes Commission's 1998-2001 Northern Indiana Inland Sensitivity Atlas,

Appendix 2: Mapping Workshop Participants

Northeastern Illinois
List of Participants at Chicago Wilderness/Metropolis 2020 Workshop, Prairie Crossing, March 1, 2002

Jerry Adelmann – Openlands Project. Planning team coordinator and liaison to M2020
Steve Byers – Illinois Nature Preserves Commission (SLM Team)
Jim Anderson – Lake County Forest Preserves (SLM Team)
Steve Packard – National Audubon Society (CPC)
Stephen Pescitelli – Illinois Dept. of Natural Resources
Kent Taylor – Openlands Project
John Rogner – US Fish & Wildlife Service
Tim Sullivan – Brookfield Zoo
George Rabb – Brookfield Zoo
Lisa Haderlein – The Nature Conservancy
Suzanne Malec – Chicago Department of Environment (urban and Calumet perspective)
Kent Fuller – Biodiversity Recovery Plan "author" and local govt. official
Richard Mariner – Chicago Academy of Sciences
Ed Hammer – US EPA Region 5, Water Division
Dale Engquist - NPS/Indiana Dunes National Lakeshore
Wayne Vanderploeg - Forest Preserve District of Cook County
Leslie Berns - Forest Preserve District of DuPage County (cc: Dan Gooch)
Tom Hahn - Lake County Forest Preserves (cc: Steven Messerli)
Marcie DeMauro -- Forest Preserve District of Will County (cc: Mike Pasteris)
Ed Collins - McHenry County Conservation District

Dennis Dreher – Northeastern Illinois Planning Commission
Brook McDonald - Conservation Foundation
Ders Anderson - Openlands Project
Gerould Wilhelm – Conservation Research Institute
Jim Van der Kloot – US EPA (Sustainability Team)
Phil Bus - Kane County Development Department
Mary Ochsenschlager - St. Charles Park District
Will Humphrey, Conservation Fund

Jim Herkert – The Nature Conservancy
Maggie Cole – Illinois Dept. of Natural Resources
Jeff Mengler – US Fish & Wildlife Service
Jason Pettit – Kendall County Forest Preserve District
Nancy Williamson – Illinois Dept. of Natural Resources
Charlie Paine - Max McGraw Wildlife Foundation
Steve Albert – Naperville Plan Commission/Civil Design Group, Inc.
Jim Steffen – Chicago Botanic Garden
Judith Stockdale – Gaylord & Dorothy Donnelley Foundation
Chris Goebel – Geneva Lake Conservancy (WI)
Susan Greenfield – Caledonia Township Chairperson (Racine County, WI)
Laurel Ross – The Nature Conservancy
Steve Apfelbaum, Applied Ecological Services
Elizabeth Dietel, Liberty Prairie Reserve
Mike Sands, Liberty Prairie Reserve
Karla Kramer, USFWS
Christie Deloria-Sheffield, USFWS

City of Chicago Biodiversity Recovery Plan
List of Participants at Mapping Workshops and Meetings

A small group of volunteers from the Chicago Biodiversity Recovery Plan (CBRP) work group held a Chicago Green Infrastructure Mapping session on December 9, 2003. Proposals identified during this mapping session were approved by the CCRP on January 14, 2004.
Jerry Alderman – Openlands Projects
Kathleen Dickhut - City of Chicago Department of Planning and Development
Paul Heltne – Center for Humans and Nature
Anne Jaluzot - - City of Chicago Department of Planning and Development
Kristopher Lah – U.S. Fish and Wildlife Service
Eleanor Roemer – Friends of the Park

CBRP Work Group meeting, Chicago, January 14, 2004:
Jerry Alderman – Openlands Project
Judy Beck – U.S. Environmental Protection Agency
Joel Brown – University of Illinois
Robert Davis – Lincoln Park Zoo
Kathleen Dickhut – Department of Planning and Development
Don Hey – Wetlands Research Inc.
Pam Holy – Green Citizens
Martin Jaffe – Illinois- Indiana Sea Grant College Program
Kristopher Lah – U.S. Fish and Wildlife Service
Dick Lanyon – Metropolitan Water Reclamation District of Greater Chicago
Laura Perna – Illinois Department of Natural Resources
John Perrecone - U.S. Environmental Protection Agency
Becki Retzlaft – UIC, Great Cities Institute
Jill Riddell – Private Citizen
Joe Schuessler - Metropolitan Water Reclamation District of Greater Chicago
Sonja Tiegs – Shedd Aquarium
Mary Van Haaften – Chicago Park District
Catherine Werner – Chicago Department of Environment
Jeanne Zasadil – Wildflower Preservation Society

Finally, on February 6, 2004 a meeting was held to discuss proposed resource protection areas submitted by the Chicago Biodiversity Recovery Plan work group. This resulted in a narrowing of recommended areas to those having regional biodiversity significance. Participants included:
Laura Barghusen – Northeaster Illinois Planning Commission
Kathleen Dickhut – City of Chicago Department of Planning and Development
Dennis Dreher – Green Infrastructure Vision Project Manager, Private Citizen
Lucy Hutcherson –

Southeastern

Northwest Indiana
List of Participants at Mapping Workshop, October 20, 2003, Portage, IN

Diane Trgovcich-Zacok, Purdue University-Calumet
Young Choi, Purdue University-Calumet
Ed Pierson, Purdue University-Calumet
Jenny Kintzele, Indiana Department of Natural Resources
Tina Wilcox, Lake County Parks and Recreation Department
Joy Bower, Lake County Parks and Recreation Department
Chris O'Leary, The Nature Conservancy
Mark Reshkin, Northwest Indiana Forum Foundation, Inc.
Dale Engquist, Indiana Dunes National Lakeshore, National Park Service
Scott Hicks, Indiana Dunes National Lakeshore, National Park Service
Joy Marburger, Indiana Dunes National Lakeshore, National Park Service
Reggie Korthals, Northwest Indiana Regional Planning Commission
Dan Gardner, Northwest Indiana Regional Planning Commission, Little Calumet River Commission
Mitch Barloga, Northwest Indiana Regional Planning Commission
Jennifer Gadzala, Northwest Indiana Regional Planning Commission
Ken Dallmeyer, Northwest Indiana Regional Planning Commission
Leslie Dorworth, Illinois-Indiana Seagrant
Richard Acker, Openlands Project
Paul Labus, The Nature Conservancy
Forest Clark, U.S. Fish and Wildlife Service
Elizabeth McCloskey, U.S. Fish and Wildlife Service
Marge Hefner, farm owner and Northwest Indiana Regional Planning Commission
Alex da Silva, Indiana Department of Environmental Management
Herb Read, Save the Dunes Council
Sandy O'Brien, resident

Appendix 3: Workshop Mapping Instructions

Northeastern Illinois Sub-regional Work Groups

(The relevant aspects of the directions for the CW/Metropolis 2020 workshop are summarized below.)

Purpose: The overall purpose of this sub-regional workshop exercise was to identify natural community preservation and restoration opportunities, generally at the macro scale, consistent with the recommendations of the Biodiversity Recovery Plan. The BRP identifies three general priorities for resource protection: remaining high-quality sites, land that will connect or expand existing natural areas, and any large sites with some remnant communities. The BRP also identifies protection/expansion goals by community type (see below).

Workgroup participants: Each sub-regional work group has been assigned a leader/coordinator who is familiar with the intended workshop planning process. Several other individuals have been "assigned" to workgroups based on their familiarity with the sub-regional landscape. Each group also has been assigned a CW staff member who will serve as the recorder for the exercise. Finally, several "floaters" will circulate among the groups to respond to process questions and encourage consistency in approaches.

Approach: The sub-regional groups are asked to identify, at the macro scale, both potential and existing areas for <u>protection, expansion, restoration, and connection</u> within and adjacent to their sub-regional area. They should focus on the broad community types identified in the BRP – i.e., stream corridors, wetland complexes, prairie, savanna, and woodland. The groups are asked to perform the following tasks. (*Note: while "macro" scale is not explicitly defined, the groups generally should be focusing on landscape complexes of at least 500 acres, and perhaps somewhat smaller in more urban settings*.)

- <u>Initially, identify areas that have significant biodiversity components</u>, based on personal knowledge supplemented with information on the base maps and other resource maps. (E.g., remnant woodlands, clusters of INAI or T/E sites, wetland complexes.) These initially should be marked on tracing paper overlain on the base maps.

- <u>Next, identify protection, expansion, restoration, and connection areas</u> and mark directly on the base map. Use broad-tipped fluorescent markers to identify "fuzzy polygons," not specific ownership parcels. Identify the <u>predominant</u> community types (e.g., *woodland, savanna, prairie/grassland, wetland complex, and lake.)* and target large areas along the lines of the following rough guidelines derived from the BRP.

Woodland: >500 acres, >1000 acres

Savanna: >200 acres >20u0dr 12 Tf,k2046.75-14.25 TD,>200 acres ... savanna, oul be marked on tracing paper overlain on 7-0.05

community types, T/E presence, etc.
- What are the existing and/or expected site impairments to be protected against (e.g., existing or impending development-related threats)?
- What are the needed development controls and/or conservation management strategies for the polygon? (Note all that apply.)

A.) Development controls:

Category 1.) No new development can be tolerated within the polygon.

Category 2.) Some development can be tolerated in the polygon, but must be designed to have minimal impact.

Category 3.) Redevelopment is recommended in and around the polygon, incorporating conservation design principles.

B.) Conservation management approach. Choose among:

- *Protection*: when the identified area/site is comprised of at least 50% natural areas/remnants
- *Restoration*: when the area/site is comprised of less than 50% natural areas/remnants
- *Expansion/retrofit*: when a substantial area is being added or adjacent land uses are "buffered" at the periphery of an existing protected site
- *Functional Connection*: when a linkage is added between two natural areas

(*Note: for many sites, several of these categories will be met.)*

Wrap-up and Comparison: As the five sub-regional/regional sub-groups complete their assigned tasks, they should reassemble as a full group to present, compare, and coordinate their recommendations at the regional level. Sub-regional maps will be photographed, digitally linked, and overlain using GIS capabilities. Resultant images will be projected for review and comparison to the regional map. Sub-group recommendations should be coordinated both geographically and across community types. E.g., the cumulative recommendations for woodland, savanna, prairie, and wetland community types should be compiled and compared with BRP regional goals. Also, opportunities for inter-county land preservation and connections

Appendix 3 Continued: Workshop Mapping Instructions

City of Chicago

The work was conducted by volunteers from the Chicago Biodiversity Plan Workgroup with special knowledge and/or interest in mapping Chicago natural features.

Approach:
The Chicago work group was asked to identify, at the macro-scale, both potential and existing natural areas for protection, expansion, restoration and connection located within the City of Chicago boundaries. To achieve this goal, the group was asked to proceed as follows:

- Select from the Chicago Habitat Site Inventory provided by the City of Chicago Department of Planning and Development natural areas that are pertinent at a regional scale.
- Identify additional restoration and connection opportunities.
- Describe/categorize each resource protection area. The flowing information was recorded:
    - Name
    - Existing and/or potential conservation values of the site
    - Existing and/or potential site impairments/threats to be protected against
    - Site management recommendation
- Present the recommended resource protection areas to project managers and advisors of the Chicago Wilderness Green Infrastructure Vision project to identify additions that were consistent with project criteria (e.g., regional-scale opportunities).

Appendix 3 Continued: Workshop Mapping Instructions

Northwest Indiana and Wisconsin
October, 2003

Purpose: The overall purpose of this workshop exercise is to identify natural area preservation and restoration opportunities, generally at the macro/regional scale, consistent with the recommendations of the Chicago Wilderness Biodiversity Recovery Plan (BRP). The BRP identifies three general priorities for resource protection: remaining high-quality, biodiverse sites; land that will connect or expand existing natural areas; and any large sites with some remnant communities that could be expanded through restoration. These identified "resource protection areas" will be recommended to Chicago Wilderness and its members as special protection and growth management opportunities within a regional "green infrastructure vision."

Approach: The participants are asked to identify, at the macro scale, both potential and existing areas for protection, expansion, restoration, and connection within northwest Indiana, principally within Lake, Porter, and LaPorte counties. You also are asked to identify appropriate connections

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A.) Development controls. In particular, recommend (a) no new development can be tolerated within the polygon or (b) some "conservation" development can be tolerated in the polygon (e.g., clustering around critical natural areas).

B.) Protection/Conservation measures. Identify some combination of:

- *Acquisition*: i.e., use "traditional" acquisition to place natural areas land into public ownership
- *Conservation easements*: i.e., work with private land owners to protect land
- *Restoration*: e.g., recommend the conversion of cropland or pasture to natural communities present in adjacent areas
- *Functional connection*: e.g., identify critical linkage between two proximate natural areas
- *Other*: (describe)

(*Note: for most areas, several of these categories will be appropriate.)*

Appendix 4: Meeting Notes from Mapping Workshops

Principal Conservation Features and Recommended Conservation Approaches for Identified Resource Protection Areas

Northeastern Illinois, CW/Metropolis Workshop: Four Sub-regional Groups
Northeastern Illinois, Outer Counties
Southeastern Wisconsin
Northwestern Indiana

Northeastern Illinois

On to the base map

For each of polygons on the tracing paper we transfer and associate information with the polygons. Generally what is import, values to protect, general goal setting up for the polygon. Begin to ID general conservation strategy.

LIBERTY PRAIRIE AREA- existing high quality preserve. Category 1- no new development. Savanna and wetland complex with several E/T species. Needs additional protection.

MIDDLE-FORK SAVANNA: savanna, wetlands, and prairie, but mainly savanna. Mostly high quality. Acquisition and restoration opportunities. No new Development tolerated; Category #1.

LAKE BLUFFS (AND RAVINES) - Overall, low density development (Category 2) to protect lake bluff ravine community, but no new development (Category 1) immediately adjacent to ravines. Protection of lake shore and ravine. Little land acquisition opportunity in area. Restoration of ravines potential. Improve stormwater management.

KEMPER PROPERTY; Protect existing fen. Land acquisition opportunities. Sensitive wetland. Hydrology protection. Category #2 some development tolerated minimal impact. Protect recharge areas.

ROLLINS SAVANNA: Much is protected already but key parts needed to be added. Lots of savanna and wetland restoration going on. In non-protected areas there is potential high quality wetland, grassland, E/T species. Category #1, no new development allowed.

GRANT/SUN/CEDAR LAKES

Two of highest quality lakes in Lake county plus wetlands and savanna. These are glacial lakes with T/E species. Category 1; no new development *around lakes*. Additional acquisition to buffer existing holdings and to protect lakes is necessary

GRAYSLAKE

Not much existing protected, but excellent potential for wetland/grassland restoration. Want wetland and potential wetland sites protected. Limited development (Category #2) around them. Protect Liberty Prairie connection. Not high quality, but is an important corridor between Liberty Prairie and Black Crown area.

PISTAQUA (Formerly Black Crown cluster)

Wetlands, Savanna, Grasslands. Overall development recommendation is Category #2, with some exceptions. There are a number of existing protected sites: Moraine Hills, Black Crown State Park, and Volo Bog. Singing Hills is a new preserve added to the map (added above). Connecting up Moraine hills thru agricultural land. Functional connections. Wetland restoration

shallow water lake; tamarack bogs; fens and seeps; oak savannas; geologic features; large road less area. Target: 5-7K acre, fee simple.

Dev: NO Development in core zones; conservation commercial and residential in buffers. No further fragmentation by new roads; protection of geologic features from mining.

COON CREEK WETLAND COMPLEX

Category # 1 development. Large potential restorable wetland. Maintain rural farming and allow cluster development in non-sensitive portions of watershed.

KISHWAUKEE RIVER, PRAIRIE AND WETLAND MACRO SITE

Category #1 development. Site features large restorable sand prairie complex, grade A stream with silt intolerant fish; large road less area. Prairie/grassland 1,500-2,000 acres; wetlands 2,000-2,500 acres potential. Target is 5-7K acres fee simple in public ownership. Development-NO further industrial; retain farming in surrounding zone; no fragmentation by new roads.

KISHWAUKEE RIVER – UPPER CORRIDOR OF THE MAIN STEM

Development #2. Otherwise similar recommendations to lower Kishwaukee corridor.

MOKELER CREEK

Wetland restoration. Include buffers. Development #1.

Category #2 development. North branch Kishwaukee: Large potential woodland and wetland complex (1500 acres), potential dam removal: large extant wetlands. Development Strategies: continue rural agriculture with conservation residential.

NIPPERSINE SINK/LAWRENCE CREEK EPHEMERAL POND AREA

Development Strategies: No industrial development; small scale, low-intensity conservation residential only. In lower watershed, hydric soil zones, no development and encourage wetland restoration. In kettle hole recharge area (upper watershed), low-intensity conservation development only.

SQUAW CREEK

Wetland restoration. Development #1

QUEEN ANNE PRAIRIE MACROSITE

Category #1 development. Wooded and graminoid fens, high quality stream with endangered mussels; high quality woodland/savanna large restorable grassland/wetland complex; numerous tributary streams to Nippersink; silt intolerant fish.

Target: 2000-4000 acre, fee simple

Development Strategies: NO industrial; conservation development in surrounding zones. No fragmentation with new roads; widening of existing roads to facilitate species movement; protection of tributary streams

NIPPERSINK CREEK CORRIDOR, WEST

Zone 1, Category 1 development; Zone 2, Category 2 development.

B quality stream, endangered mussel species; otter; extant high quality streamside wetlands

Target: protect stream corridor and restore drained streamside wetlands

Development Strategies: continued rural agriculture; acquire streamside easements. No industrial development; limited conservation residential

NIPPERSINK CREEK CORRIDOR 2 EAST

Category 2 development. B quality stream; large mussel diversity extant streamside wetlands.

Target: protect stream corridor

Development Strategies: NO further commercial residential in immediate stream corridor; conservation residential.

HEBRON PEAT LANDS/ GOOSE LAKE

Zone 1, Category #1 development. Zone 2, Category #2 development. Large restorable and extant wetland and grassland complex 1000-1500 ac; endangered wetland birds; declining grassland bird pops. Large road less blocks Target: 1000-1200 Ac fee simple acquisition.

Development Strategies: limited conservation development for residential; NO industr

Development Strategies: continued rural agriculture; acquire streamside easements. No industrial development; limited conservation residential

LAKE ELIZABETH WISCONSIN/ILLINOIS WETLANDS

Category #1 development. Large extant wetlands; high quality lake. Endangered bird and plant and fish cluster; oak woodlands, archaeological feature cluster.

Target: 500-1000 Ac fee simple

Development Strategies: no Development in core. Conservation residential in outer zones.

WISCONSIN (note there was no Wisconsin base map at the workshop). These sites were

Northeastern Illinois

NW Cook, DuPage, and Kane Counties – 3/1/02

Group members:

- Leader: Lisa Haderlein (lhaderlein@tnc.org)
- Leslie Berns
- Mary Ochsenschlager
- Steve Pescitelli
- Jason Pettit
- Maggie Cole
- w/ input from Wayne Vanderploeg, Steve Byers, Phil Bus
- Note taker: Rebecca Blazer (rblazer@tnc.org)

Site categorization and description:

SITE #1: BIG ROCK CREEK

1. Existing and/or potential conservation values of the site:
   -

	▪ Potential herps. ▪ Opportunities still exist for preservation.
2. Existing and/or expected site impairments/threats to be protected against:	▪ Development, especially due to stormwater runoff. ▪ Possible bad agriculture practices? ▪ Highway corridor.
3a. Needed development controls: 1. no new development 2. some minimal impact development 3. redevelopment using conservation design principles	▪ #2: Some low-density development.
3b. Needed conservation management strategies: 1. protection 2. restoration 3. expansion/retrofit 4. functional connection	▪ #1: Protect the corridor along Nelson Lake/Lake Run Creek. ▪ #2: Restoration. Potentially 1500 acres of wetland, grassland, stream restoration. ▪ #3: Encourage agriculture BMPs. ▪ #3: Cherry Hills could be re-developed.
Notes	▪ Important for downstream protection in Kendall Co. ▪ Dam removal needed downstream.

SITE #3: WESTERN AGRF298 T,bTURmt.75 0.552 0.75 0.7ooEc -0.1 Tcval needed dgcf -0.

3. redevelopment using conservation design principles	
3b. Needed conservation management strategies: 1. protection 2. restoration 3. expansion/retrofit 4. functional connection	▪ #1: Some additional protection of wetlands. ▪ #2: Wetland and stream restoration in upper watershed. ▪ Will need to pay special attention to new sewer discharge – nutrient controls.
NOTES	▪

SITE #5: FOX RIVER FEN COMPLEX	
1. Existing and/or potential conservation values of the site:	▪ High quality streams (Poplar Creek, Brewster Creek, Ferson Creek, Stoney Creek). ▪ Lots of streamside wetlands. ▪ Currently there is low-density development. ▪ Oak woodlands ▪ Morrison Woods Nature Preserve ▪ Fens, unique fen plant communities. Endangered species and/or crane nesting; Blanding's turtles in Brewster Creek
2. Existing and/or expected site	

design principles	
3b. Needed conservation management strategies: 1. protection 2. restoration 3. expansion/retrofit 4. functional connection	▪ Restoration of hydrology on existing protected land. ▪ Add new protected land. ▪ Restoration of most communities: woodlands, wetlands, grassland, mixed communities.

SITE #7: EAST & WEST BRANCH DUPAGE RIVER CORRIDOR	
1. Existing and/or potential conservation values of the site:	▪ Connection to Fox River Fen complex. ▪ Lots of wetlands. ▪ High quality oak woodlands. ▪ Oak savanna. ▪ Morainal wetlands. ▪ High quality streams on lower part of West Branch. ▪ Fens along West Branch. ▪ Some poor quality aquatic communities, but buffers are already protected. ▪ Spring Brook preserve – 1000 acre grassland.
2. Existing and/or expected site impairments/threats to be protected against:	▪ Development. ▪ Water quality. ▪ Sewage treatment plants on stream.
3a. Needed development controls: 1. no new development 2. some minimal impact development 3. redevelopment using conservation design principles	▪ Some areas of protection where there is no development. ▪ Some compatible development to protect water quality – low-density development.
3b. Needed conservation management strategies: 1. protection 2. restoration 3. expansion/retrofit 4. functional connection	▪ Purchase and protection. ▪ Stream restoration on East and West Branches. ▪ Dam removal, modification, reconnection to West Branch. ▪ Woodlands, grassland, wetland restoration.

SITE #8: FERMI	
1. Existing and/or potential conservation values of the site:	▪ Large grasslands, with some woodlands & some wetlands. ▪ Macrosite potential. ▪ Grassland bird habitat. ▪ Publicly owned.
2. Existing and/or expected site impairments/threats to be protected against:	▪ Proposed road will cut through land. ▪ Potential change in land use by Fermi. ▪ Potential building of cell towers, etc.
3a. Needed development controls: 1. no new development 2. some minimal impact development 3. redevelopment using conservation design principles	▪ No additional commercial development. ▪ Big Woods south of Fermi – should encourage low-density development with emphasis on strong woodland habitat and urban forestry.
3b. Needed conservation management strategies: 1. protection 2. restoration 3. expansion/retrofit 4. functional connection	▪ Protection of woodland area adjacent. ▪ Continue restoration of natural communities, esp. prairies.

SITE #9: BUSSE/SALT CREEK	
1. Existing and/or potential conservation values of the site:	▪ Corridor to connect existing preserved areas: Busse & Beemis. ▪ Salt Creek Greenways plan already developed. ▪ Already funded redevelopment plan for stream restoration.

. Existing and/or expected site impairments/threats to be protected against:	▪ Already very polluted. This is almost a brownfield redevelopment project.
a. Needed development controls: 1. no new development 2. some minimal impact development 3. redevelopment using conservation design principles	▪ No additional development. ▪ Redevelopment using conservation design principles.
b. Needed conservation management strategies: 1. protection 2. restoration 3. expansion/retrofit 4. functional connection	▪ Retrofit Salt Creek. ▪ Stream restoration/dam removal. r1

4. functional connection	

SITE #12: AUX SABLE CREEK (Kendall Co.)	
1. Existing and/or potential conservation values of the site:	▪ INAI site. Portions of creek are Class A, the rest are Class B. ▪ Important fish, mussels. ▪ Biologically significant stream.
2. Existing and/or expected site impairments/threats to be protected against:	▪ Stiff development pressure. ▪ Potential sewage treatment plant.
3a. Needed development controls: 1. no new development 2. some minimal impact development 3. redevelopment using conservation design principles	▪ #2: Minimal conservation design development.
3b. Needed conservation management strategies: 1. protection 2. restoration 3. expansion/retrofit 4. functional connection	▪ Preserve creek corridor. ▪ Minimize stormwater runoff. ▪ Selected stream restoration.

Northeastern Illinois

North Cook, Chicago, Indiana – 3/1/02

Group leader: Suzanne Malec <smalec@cityofchicago.org>. Recorder: Stephanie Folk <STFOLK@brookfieldzoo.org>.

Notes on how the map is marked:

Areas recommended for conservation-compatible development are contained within the polygons and indicated by crosshatching.
Red crosshatching indicates compatible industrial development.

General recommendations

Work with major land-owners on compatible land uses. This particular applies to cemeteries, golf courses, and MWRD land.

Work with owners of golf courses and cemeteries to make them more compatible with habitat and protect against re-development to intensive urban use.

More, higher-level protection in existing forest preserves and other protected lands.

Work with major landowners on transition landscape types—pay particular attention to MWRD.

Look for opportunities to un-develop land in flood plains, particularly the upper Des Plaines and Des Plaines.

Look for opportunities for in-fill development (compatible industrial development) that is compatible to surrounding ecology. Particular issues are stormwater, landscape contributions to adjacent ecological spaces.

Recommendations and issues in particular areas

North Branch Cluster

This area contains significant, high quality remnant/restored communities (woodland, savanna, prairie, wetland, and stream corridor) and major opportunities for restoration.

Recommendations
Continue/expand ongoing restoration work in Forest Preserve District and related public holdings.
Use golf course and cemeteries, working with private landowners for biodiversity benefits.
Protect land through methods such as zoning areas as environmentally sensitive.
MWRD property, cemeteries, and golf courses, other private lands are key opportunity areas.
The entire North Branch needs to be looked at as a whole.
There are not many new acquisition/protection opportunities, so the focus should be on management and work with private land owners and preservation/restoration of currently protected lands.

Issues
Needed forest preserve restoration work has been constrained in recent years by resources and rules.
Cemeteries can be developed as open space.
Connections will be very fine scale.
These areas cross political boundaries.

Questions

Check ownership of the golf courses

Who owns this land, how can we do enhanced management?

Look for ways that residential neighborhoods can support conservation goals.

Tinley to Indian Boundary Prairies

Recommendations
Look for opportunities to connect these preserves.
The creek is a key corridor.

There are areas that do not have infrastructure so there are opportunities to create green infrastructure/environmentally sound infrastructure in these areas.

Calumet region/Burnham greenway
Look for redevelopment opportunities
Improve management and use of existing open spaces and ensure that these continue to be managed for conservation purposes.
Acquire developed properties and use these for recreational facilities instead of converting natural habitat to recreational parks.

Create Grand Calumet corridor connections into Indiana.

Wolf Lake/Lake George

Notes:
The management of this area is divided between IN and IL.
This area has great ecological significance.

Recommendations:
Protect a greenway connection from Wolf Lake IN to IL and north to Egars and Powderhorn (forest preserves).
Address conservation issues along Indian Creek.

Indiana

Lake County IN
North and east of Hobart Prairie grove is the Hobart Marsh west of I-65. 800 to 1000 acres of major marsh and wetland restoration as mitigation planned and starting. This owned by nature preserves and private conservation organizations.

Moraine Nature Preserve/ Coffee Creek
There is a conservation development in that area.
This is an area of ecological significance that deserves attention.

Valporaiso Moraine
This area includes perched kettle lakes and significant undeveloped land.

Boreal Flatlands
This area contains 800 to 1000 acres of significant, unique habitat.
It is flat and has poorly drained soils and includes boreal forests with beach and maple trees.

Important watersheds in Indiana that connect to Illinois conservation areas
Some drainages in Indiana
Grand Calumet River
Little Calumet River
Salt Creek (Tributary to the Little Calumet in Porter County IN) This is mostly agricultural and needs protection.
There is potential for habitat restoration along the little calumet river along the border of Lake and Porter Counties in IN.

Dune Swale area near Hammond
This area contains a variety of unique species and habitats.
Ivanhoe and Clark and Pine preserved areas currently exist in this area.
Look at post-industrial areas for in-fill development.

Lake Michigan Shoreline

Management is the key issue but there could also be redevelopment opportunities.
This is key habitat for migratory birds.

Recommendations
Look for Redevelopment opportunities at Meigs Field, USX and south along the lakeshore.
Preserve bird habitat along the lake front.
Look for a diversity of landscape types along the lakeshore.

Northeastern Illinois

South Cook and Will Counties - 3/1/02

Group leader: Steve Byers < ***sbyers@dnrmail.state.il.us****>. Recorder:* ***Diane Trgovcich-Zacok*** ***zacok@calumet.purdue.edu***

Post-Workshop Map Comments/Clarifications

AREA: Southern Cook County/Will County-

1. *Italic comments are from the Workshop March 1, 2002*
2. Marked in red are the additions:
    a. Stream corridors were identified as important and state as such in the text. The red overlays are an attempt to show these corridors on the map.
    b. Omission: ground water protection zone for Lockport Prairie
    c. Omission: linkage area in the Southwest quadrant to Goose Lake Prairie
    d. Clarification: linkage Southeast of Palos

A. Palos Region/Waterfall Glenn- Woodland/Savanna/Wetland)

1. Forge connection along Des Plaines River Corridor
2. Protect groundwater recharge/discharge zones along river (Hines Emerald Dragonfly habitat)
3. Maintain current levels of residential development along borders that still retain mature oak overstory and thereby buffer large woodland components.
4. Eliminate/reduce fragmentation in publicly held lands.

B. Lockport/Romeoville Prairie - High-quality prairies, watershed and groundwater protection

1. Identify/Woodland/Savannda

- All tributaries of the Kankakee are A/B quality –should ensure stay that way provisions development in watershed, amount of impervious surface, best management practices, protect headwater region, maintain contact zone Valporaiso moraine, large buffer zones, wetland restoration
- Valporaiso moraine high biodiversity
- Indiana Corridor drains into Kankakee
- Raccoon Grove NP: grassland birds, short eared owls, northern harriers greater than 500 acres

Recommendations:

- 15% max impervious surface development
- implement best management practices
- protect headwater region
- protect and restore streams through watershed efforts (e.g., Thorn Creek watershed planning committee)
- maintain contact zone Valporaiso moraine
- have large buffer zones
- opportunities for wetland restoration
- maintain large agricultural areas

Southwest Quadrant

T/E Jackson Creek: Slippershell
Midewin, Mickey Woods, Prairie Parklands

- Forked creek Will C. focusing on prime quality
- Manhattan Creek
- Jackson Creek
- Prairie, Manhattan, Jackson, Grant Creeks
- Forked and Jackson are higher quality
- Midewin watershed includes Jackson, Manhattan, and Prairie
- Midewin acquiring more land
- Forked Creek Greenway
- Ravine systems that go into lower DuPage, Ma King Woods
- Des Plaines river conservation areas
- Wetland opportunities along the DuPage -Rock Run, existing corridor open space already
- Provides foraging for rookery
- Spring Brook/DuPage west branch

Recommendations

- 15% max impervious surface development
- Wetland opportunities along the DuPage -Rock Run
- Far SW corner sand prairie and sand savanna complex goal is to link 4 state nature preserves
- Protected corridors extending out of Midewin
- protect and restore streams through watershed efforts (e.g., Prairie Streams watershed planning committee)
- protect Grade A streams

Polygon Identifiers and Descriptions

Identify sub watersheds
Prioritize (reference Recovery Plan) sub watershed, apply recommendations listed above, id hydric soils

1. Stream Corridor Polygon encompasses SE and SW quadrant for high quality stream corridor ~20,000 acres

2. Laughton Forest Preserve for Prairie Grove ~1000 acres

3. Raccoon Grove Polygon for grassland avifauna ~500 acres

30. Upper Mainstem DuPage River: connectivity issues, outlines existing, protected or in need of protection and potential connections ~1000 acres

NE Illinois Outer Counties

from December 3-4, 2003 Meetings

Meetings were held with CW members representing the outer collar counties of NE Illinois. The principal participants were Jason Pettit of the Kendall County Forest Preserve District, Steve Byers of the Illinois Nature Preserves Commission, and Nathan Hill of the Natural Land Institute and Kishwaukee River Ecosystem Partnership. The geographic focus of these meetings was on the ring of counties immediately outside the NIPC region: Boone, De Kalb, Kendall, Grundy, and Kankakee. The focus in terms of resource protection area identification was on extending to a logical bio-geographic (vs. political) terminus those corridors and areas initially identified in the CW/Metropolis 2020 workshop, as well as the Wisconsin and Indiana workshops. Several new resource protection areas also were identified. In a few instances, there were opportunities to extend recommended resource protection corridors out into another tier of counties –

Conservation development
Acquisition, conservation easements, greenway connection, and restoration

Beaver Creek – Boone County

Principal Conservation Features and/or Community Type(s):
High quality creek, riparian wetlands

Recommended Conservation Approaches:
Conservation development
Acquisition, conservation easements, restoration, greenway connection

Fern Hill Complex – Boone County

Principal Conservation Features and/or Community Type(s):
Woodland, savanna, grassland

Recommended Conservation Approaches:
Conservation development
Acquisition, conservation easements, greenway connection to Coon Creek

South Branch Kishwaukee River – De Kalb County

Principal Conservation Features and/or Community Type(s):
River, riparian wetlands, and woodland

Recommended Conservation Approaches:
Conservation development
Acquisition, conservation easements, restoration, greenway connection

Little Rock Creek – De Kalb, Kane, and Kendall Counties

Principal Conservation Features and/or Community Type(s):
High quality creek, woodland

Recommended Conservation Approaches:
Conservation development
Acquisition, conservation easements, restoration, greenway connection

Hollenback Creek – Kendall County

Principal Conservation Features and/or Community Type(s):
Creek, riparian wetlands, woodland

Recommended Conservation Approaches:
Conservation development

Acquisition, conservation easements, restoration, greenway connection to Fox River

Reservation Woods Complex – Kendall County

Principal Conservation Features and/or Community Type(s):
Woodland, wetland, and grassland (Bobolink habitat)

Recommended Conservation Approaches:
Conservation development
Acquisition, conservation easements, restoration (esp. wetland), greenway connection

Aux Sable Creek – Kendall and Grundy Counties

Principal Conservation Features and/or Community Type(s):
High quality creek, riparian wetlands, woodland
Class A stream

Recommended Conservation Approaches:
Conservation development
Acquisition, conservation easements, restoration, greenway connection to Illinois River

Nettle Creek – Grundy County

Principal Conservation Features and/or Community Type(s):
High quality creek, riparian wetlands

Recommended Conservation Approaches:
Conservation development
Acquisition, conservation easements, restoration, greenway connection

Kankakee River Tributaries – Kankakee County

Several Kankakee River tributaries originating in Will County were extended to their terminuses with the Kankakee River. These included (from west to east) Rock Creek, Black Walnut Creek, Exline Slough, and Trim Creek. Brief descriptions and recommended conservation approaches are contained in the notes for the South Cook/Will sub-group.

Kankakee River/Momence Wetlands – Kankakee County

Principal Conservation Features and/or Community Type(s):
River, wetlands, woodland

Kankakee Sands Complex – Kankakee, Iroquois, and Newton Counties

Principal Conservation Features and/or Community Type(s):
Woodland, savanna, prairie macrosite
Numerous natural areas

Recommended Conservation Approaches:
Conservation development
Acquisition, conservation easements, restoration, greenway connection (to Kankakee River)

NE Illinois – City of Chicago Additions

from Chicago Biodiversity Recovery Plan Process

Chicago River/Canal System

- Existing and/or potential conservation values

The Chicago River provides a greenway from outlying forest preserves into the inner core of the city and to Lake Michigan. As such, it provides habitat for fish and other aquatic species, and it provides a migratory path for birds, mammals, amphibians and other animals that use either the water or the shoreline or both.

- Existing and/or potential site impairments/threats to be protected against

Erosion, pollution, poor water quality, development, locks and dams (which block migration of fish), and inadequate amounts of shallow water and other natural river features necessary for wading birds and other species.

- Site management recommendations

Chicago Lakefront

- Existing and/or potential conservation values

The continuous succession of parks that borders Chicago shoreline connects a valuable series of natural communities such as the dunes and swales at Montrose Point, 63rd St. Beach, South

Southeast Wisconsin

from October 2, 2003 Workshop, Elkhorn, WI

Several resources were extremely valuable in the identification of resource protection opportunities in southeast Wisconsin. These included:

- *Wisconsin Land Legacy Report: An Inventory of Places Critical in Meeting Wisconsin's Future Conservation and Recreation Needs*. Presented to the Wisconsin Natural Resources Board, February 2003. Wisconsin Department of Natural Resources, Madison.

In this report, over a dozen sites in the Chicago Wilderness workshop area were designated as State Legacy Places. All are recommended below as resource protection areas.

- *A Regional Natural Areas and Critical Species Habit Protection and Management Plan for Southeastern Wisconsin*. 1997. Southeastern Wisconsin Regional Planning Commission (SEWRPC), Waukesha.

This plan identifies natural area and critical species habitat sites throughout southeast Wisconsin and also designates areas as *primary environmental corridors*. The vast majority of the following recommended resource protection areas are at least partially designated as primary environmental corridors by SEWRPC.

Delavan Lake and Wetlands, S. Walworth County

Principal Conservation Features and/or Community Type(s):
Primary environmental corridor: lake, wetlands, prairie, fishery
Two designated natural areas

Recommended Conservation Approaches:
Conservation development
Acquisition and conservation easements

Turtle Creek Corridor/Oak Woods, S. Walworth County

Principal Conservation Features and/or Community Type(s):
State Legacy Place
Primary environmental corridor: stream, woodland, wetland
Major recent/ongoing WDNR acquisitions
Several designated natural areas

Recommended Conservation Approaches:
No development or some conservation development
Acquisition, conservation easements, and continued restoration

Southern Kettle Moraine, Walworth County

Principal Conservation Features and/or Community Type(s):
State Legacy Place
Primary environmental corridor: lakes, wetlands, woodlands (incl. Whitewater, Rice, and Turtle Lakes)
Several natural area and critical species habitat sites

Recommended Conservation Approaches:
Conservation development
Public acquisition and conservation easements

Kettle Moraine, Southern Unit, Walworth, Jefferson, and Waukesha Counties

Principal Conservation Features and/or Community Type(s):
State Legacy Place
Primary environmental corridor: woodland, prairie, wetland
Major ongoing restoration efforts
Numerous natural area and critical species habitat sites

Recommended Conservation Approaches:
Conservation development
Acquisition, conservation easements, continued restoration

Petite Lake/Wetlands, S. Walworth County

Principal Conservation Features and/or Community Type(s):

Designated natural area
Recommended Conservation Approaches:
No development or some conservation development
Acquisition, conservation easement, and greenway connection to McHenry Co. Conservation District

Four Seasons Prairie/Wetlands, S. Walworth County

Principal Conservation Features and/or Community Type(s):
State Legacy Place
Primary environmental corridor: prairie, sedge meadow, diverse wetland communities
Several designated natural areas and critical species habitat sites

Recommended Conservation Approaches:
No development
Acquisition and conservation easements

Ivanhoe and Pell Lakes Wetland Complex, S. Walworth

Principal Conservation Features and/or Community Type(s):
State Legacy Place
Primary environmental corridor: diverse wetland communities/aquatic habitat
Several designated natural areas and critical species habitat sites

Recommended Conservation Approaches:
No development or limited conservation development
Acquisition and conservation easements

Geneva and Como Lakes Watersheds, S. Walworth County

Principal Conservation Features and/or Community Type(s):
Primary environmental corridor: lake, wetlands, fishery, woodlands, prairie, and headwaters of White River
Several designated natural areas

Recommended Conservation Approaches:
Conservation development
Acquisition and conservation easements

White River Corridor and Tributaries, S. Walworth County

Principal Conservation Features and/or Community Type(s):
State Legacy Place
Primary environmental corridor: stream and wetlands

Recommended Conservation Approaches:

No development or some conservation development
Acquisition and conservation easements

Sugar Creek Corridor, Walworth and Racine Counties

Principal Conservation Features and/or Community Type(s):
State Legacy Place
Primary environmental corridor: stream, various wetland communities, woodland
Numerous natural area and critical species habitat sites

Recommended Conservation Approaches:
No development or conservation development
Acquisition (Price County Park exists), greenway/trail connections to Turtle Creek corridor and Kettle Moraine south

Lauderdale Lakes, Walworth County

Principal Conservation Features and/or Community Type(s):
Primary environmental corridor: lakes, wetlands, woods
Several designate natural areas, critical species habitats, and critical lakes (Wandawega and Pleasant)

Recommended Conservation Approaches:
Conservation development
Acquisition and conservation easements

Mukwonago River/Jericho Creek Corridor, Walworth and Waukesha Counties

Principal Conservation Features and/or Community Type(s):
State Legacy Place
Primary environmental corridor: river, wetland, woodland
Numerous natural areas and critical species habitats
Outstanding river designation (largest assemblage of native mollusk species in WI)

Recommended Conservation Approaches:
No development or conservation development
Acquisition, conservation easements, and greenway connections

Beulah Lake/Bog – Walworth County

Principal Conservation Features and/or Community Type(s):
Primary environmental corridor: lake and various wetland communities
Several natural areas and critical species habitats

Recommended Conservation Approaches:
No development or conservation development
Acquisition and conservation easements

Spring Lake, Waukesha County

Principal Conservation Features and/or Community Type(s):
Primary environmental corridor: lake, wetlands, woodlands
Designated natural area and critical species habitat

Recommended Conservation Approaches:
No development
Acquisition

Vernon Marsh, Waukesha County

Principal Conservation Features and/or Community Type(s):
Primary environmental corridor: various wetland communities, prairie, woodland
Several designated natural areas and critical species habitats

Recommended Conservation Approaches:
No development or conservation development
Acquisition, conservation easements, and greenway connection

Twin Lakes (Elizabeth and Marie), S. Kenosha County

Principal Conservation Features and/or Community Type(s):
Primary environmental corridor: lake, wetlands, woods
Two designated natural areas or critical species habitat sites

Recommended Conservation Approaches:
Conservation development
Acquisition and conservation easements

Fox River – Kenosha, Racine, and Waukesha Counties

Principal Conservation Features and/or Community Type(s):
State Legacy Place
Primary environmental corridor: river, wetlands, woodland
Some segments rated outstanding waters
Numerous designated natural areas and critical species habitats, 7 E&T species

Recommended Conservation Approaches:
Conservation development
Acquisition, conservation easements, and numerous corridor connections

Trevor Creek Complex – Kenosha County

Principal Conservation Features and/or Community Type(s):
Primary environmental corridor: creek, wetlands, lakes, wet prairie
One critical species habitat area

Recommended Conservation Approaches:
Conservation development
Acquisition, conservation easements, and corridor connection to Chain O'Lakes

New Munster State Wildlife Area, Kenosha County

Principal Conservation Features and/or Community Type(s):
Primary environmental corridor: wetland, lake
Two designated natural areas and critical species habitats

Recommended Conservation Approaches:
Conservation development
Acquisition, conservation easements

Burlington Woods, Racine County

Principal Conservation Features and/or Community Type(s):
Primary environmental corridor: woodland, prairie
Two designated natural areas and critical species habitats

Recommended Conservation Approaches:
No development or conservation development
Acquisition and conservation easements

Dyer Lake/Bohner Lake, Kenosha and Racine Counties

Principal Conservation Features and/or Community Type(s):
Primary environmental corridor: lake and various wetland communities
Several designated natural areas and critical species habitats

Recommended Conservation Approaches:
No development or conservation development
Acquisition, conservation easements, greenway connection

Des Plaines River Corridor, Kenosha and Racine Counties

Principal Conservation Features and/or Community Type(s):
State Legacy Place
Primary environmental corridor (in lower reaches): river, wetland, prairie
Several designated natural areas and critical species habitats

Recommended Conservation Approaches:
No development or conservation development
Acquisition, conservation easements, greenway connections, restoration

Bong Recreation Area, Kenosha and Racine Counties

Principal Conservation Features and/or Community Type(s):
State Legacy Place
Primary environmental corridor: prairie (one of the largest contiguous grasslands in SE Wisconsin), wetland, and woodland
Several designated natural areas and critical species habitats

Recommended Conservation Approaches:
No development or conservation development
Acquisition, conservation easements, greenway connections to Fox and Des Plaines River corridors

Chiwaukee Prairie, Kenosha County

Principal Conservation Features and/or Community Type(s):
State Legacy Place
Primary environmental corridor: prairie, wetland, creek, Lake Michigan dunes (swell and swale)
Numerous designated natural areas and critical species habitats

Recommended Conservation Approaches:
Conservation development
Acquisition, conservation easements, greenway link to Illinois

Pike River, Kenosha and Racine Counties

Principal Conservation Features and/or Community Type(s):
State Legacy Place
Primary Environmental corridor (in lower reaches): river, woodlands, wetlands
Several designated natural areas and critical species habitats

Recommended Conservation Approaches:
Conservation development
Acquisition, conservation easements, greenway connections

Root River, Racine and Milwaukee Counties

Principal Conservation Features and/or Community Type(s):
State Legacy Place
Primary environmental corridor: river, woodlands, wetland
Numerous designated natural areas and critical species habitats

Recommended Conservation Approaches:
No development or conservation development
Acquisition, conservation easements, greenway connections, restoration

Lake Michigan Lakefront/Seminary Woods, Racine and Milwaukee Counties

Principal Conservation Features and/or Community Type(s):
Primary environmental corridor: lake, ravines, woodland, fens
Numerous designated natural areas and critical species habitats

Recommended Conservation Approaches:
No development or conservation development
Acquisition, conservation easements, and restoration

Oak Creek/Root River Connector, Milwaukee County

Principal Conservation Features and/or Community Type(s):
State Legacy Place
Primary environmental corridor: creek, woodland, wetland
Several designated natural areas and critical species habitats

Recommended Conservation Approaches:
Conservation development
Conservation easements, greenway connection

Wind Lake/Fox River Floodplain, Racine County

Principal Conservation Features and/or Community Type(s):
Primary environmental corridor: lake, wetlands
Numerous designated natural areas and critical species habitats

Recommended Conservation Approaches:
No development
Acquisition, conservation easements

Big Muskego Lake, Waukesha County

Principal Conservation Features and/or Community Type(s):
State Legacy Place
Primary environmental corridor: lake, wetland, and grassland
Designated natural area

Recommended Conservation Approaches:
No development or conservation development
Acquisition, conservation easements, greenway connection to Wind Lake area, restoration

Northwest Indiana

from October 20, 2003 Workshop, Portage, IN

One specific information source was particularly valuable in identifying resource protection area opportunities. The Sensitive Species Inventory (from the Inland Waterways Spill Response Mapping Project, Natural Heritage Programs) identified locations of sensitive aquatic, terrestrial, and multiple species. The presence of clusters of such species locations greatly improved the likelihood that areas would be identified within the recommended resource protection area polygons that are described below.

Hammond Marina (connected to Wolf Lake/Lake George/Eggers polygon) – Lake County

Principal Conservation Features and/or Community Type(s):
Migratory bird trap, Black Crown Night Heron
Several sensitive species sites

Recommended Conservation Approaches:
No new development
Conservation easements and greenway connection (to Illinois)

Grand Calumet Corridor – Lake County

Principal Conservation Features and/or Community Type(s):
Stream, dune and swale, prairie, wetland, and savanna complex
Numerous sensitive species sites

Recommended Conservation Approaches:
Conservation development
Acquisition, conservation easements, restoration, and greenway connection (to Illinois)

Lower Little Calumet Corridor – Lake and Porter Counties

Principal Conservation Features and/or Community Type(s):
River, sedge meadow, white oak swamp, marsh, and fen
Several sensitive species sites

Recommended Conservation Approaches:

Hoosier/Oak Ridge -- Lake County

Principal Conservation Features and/or Community Type(s):
Prairie, wetland, savanna complex; remnant lake plain
Numerous sensitive species sites

Recommended Conservation Approaches:
Limited conservation development
Acquisition, restoration, greenway connection

Deep River/Hobart Marsh and Prairie Grove -- Lake County

Principal Conservation Features and/or Community Type(s):
River, riparian corridor, climax forest, savanna, prairie, and wetland
Several sensitive species sites, two state nature preserves

Recommended Conservation Approaches:
Limited conservation development
Acquisition, restoration, greenway connections

Oak Savanna Trail – Lake County (connecting Oak Ridge Prairie to Deep River/Hobart Marsh and Prairie Grove – no polygon)

Principal Conservation Features and/or Community Type(s):

Recommended Conservation Approaches:
Greenway connection

West Creek Corridor – Lake County

Principal Conservation Features and/or Community Type(s):
Creek, wetland, woodland
Several sensitive species sites

Recommended Conservation Approaches:
Conservation development

Lemon Lake/Cedar Lake/Hawkinson Marsh – Lake County

Principal Conservation Features and/or Community Type(s):
Lake, wetland, woodland

Principal Conservation Features and/or Community Type(s):
River, wetlands, prairie, floodplain forest, woodlands
Several sensitive species sites, T&E species

Recommended Conservation Approaches:
No development
Conservation easements, greenway connection (fish and wildlife management and flood mitigation)

Kankakee River/Kingsbury Fish and Wildlife Area – LaPorte County

Principal Conservation Features and/or Community Type(s):
River, wetlands, woodland, prairie
Several sensitive species sites and T&E species

Recommended Conservation Approaches:
Conservation development
Acquisition, conservation easements, greenway connection, restoration/flood mitigation

Kankakee River/Little Kankakee/Mill Creek – LaPorte County

Principal Conservation Features and/or Community Type(s):
River, wetlands, woodland, fen
Numerous sensitive species sites and T&E species

Recommended Conservation Approaches:
Conservation development
Acquisition, conservation easements, greenway connection

Indiana Dunes – Lake, Porter, and LaPorte Counties

Principal Conservation Features and/or Community Type(s):
Dune and swale, forest, savanna, prairie, and wetlands
Numerous sensitive species sites
Indiana Dunes National Lakeshore, Indiana Dunes State Park, and Little Calumet River connections

Recommended Conservation Approaches:
Limited conservation development
Conservation easements, greenway connection

Upper Little Calumet River Corridor – Porter and LaPorte Counties

Principal Conservation Features and/or Community Type(s):
River, wetlands, sedge meadow, woodlands, fen, and lakes
Several sensitive species sites and T&E species

Recommended Conservation Approaches:
Limited conservation development
Acquisition, conservation easements, restoration, and greenway connections

Salt Creek Corridor – Porter County

Principal Conservation Features and/or Community Type(s):
Creek and wetlands
Several sensitive species sites

Recommended Conservation Approaches:
Limited conservation development
Acquisition, conservation easements, and greenway connections

Upper Salt Creek – Porter County

Principal Conservation Features and/or Community Type(s):
Creek, lakes, wetland, grassland, woodland
One sensitive species site

Recommended Conservation Approaches:
Conservation development
Conservation easements, greenway connections

Coffee Creek Corridor – Porter County

Principal Conservation Features and/or Community Type(s):
Creek, wetlands, woodlands, and grassland
Numerous sensitive species sites

Recommended Conservation Approaches:
Limited conservation development
Acquisition, conservation easements, restoration, and greenway connections

Galien River Headwaters – LaPorte County

Principal Conservation Features and/or Community Type(s):

Principal Conservation Features and/or Community Type(s):
Stream corridor, wetlands, woodland
Several sensitive species sites

Recommended Conservation Approaches:
Conservation development
Acquisition, restoration, greenway connection (to Lake Michigan)

Trail Creek Watershed East/West – LaPorte County

Principal Conservation Features and/or Community Type(s):
Stream, woodland, and wetlands
Numerous sensitive species sites

Recommended Conservation Approaches:
Conservation development
Acquisition, conservation easements, restoration, and greenway connections

White Ditch/Amber Flatwoods Complex – LaPorte County

Principal Conservation Features and/or Community Type(s):
Boreal flatwoods, wetlands
Numerous sensitive species sites

Recommended Conservation Approaches:
Conservation development
Acquisition, conservation easements, restoration, and greenway connections

LaPorte Urban Forest – LaPorte County

Principal Conservation Features and/or Community Type(s):
Woodland, wetlands, and lakes (Soldiers Memorial Park)
Numerous sensitive species sites (former black tern nesting)

Recommended Conservation Approaches:
Conservation development
Acquisition, conservation easements, greenway connection

Horseshoe/Fishtrap Lakes – LaPorte County

Principal Conservation Features and/or Community Type(s):
Lakes, wetland (bog), and woodland
Numerous sensitive species sites (former black tern nesting)

Recommended Conservation Approaches:
Conservation development
Acquisition, conservation easements, greenway connection