Lower Desplaines Watershed Plan

Prepared by the Lower Des Plaines River Ecosystem Partnership
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This *Watershed Plan* was made possible by a Planning Grant
from the Conservation 2000 Program of the
Illinois Department of Natural Resources.

Conservation 2000

Cover Page

Watershed planning is a type of systems analyses that tracks a broad range of variables including land use, hydrology, habitat, water quality, energy delivery, and biological interactions. The cover is intended to convey some of that complexity and to highlight some issues that are pertinent to the aquatic fauna of the Lower Des Plaines. The fish is a southern redbelly dace (*Phoxinus erythrogaster*). This was a species that at one time was common in the headwater reaches of the Lower Des Plaines. Sensitive fish species are disappearing and head water reaches are especially vulnerable to urbanization. The salamander mussel (*Simpsonaias ambigua*) which is pictured on the cover has an intermediate host which is a salamander. This relationship was discovered based on research work which was done on the Lower Des Plaines. Notably neither the salamander nor the mussel have been found recently. The Hines Emerald Dragonfly (*Somatochlora hineana*) is still found in the region and is among the most endangered dragonflies in the United States (U.S. Fish and Wildlife Recovery Plan, 2001). The stream riffles pictured on the cover have a deep green color to them due to luxuriant growths of algae. The algae is fed by nutrients associated with sewage treatment plants and urban run-off. Residential developments also contribute to stream sediment loads as they are built and to modifications of hydrologic regimes after they are in place. The collective influences of urbanization represent significant stresses within aquatic communities.

Despite these problems the Lower Des Plaines represents one of the most biological significant watersheds in Northeastern Illinois.

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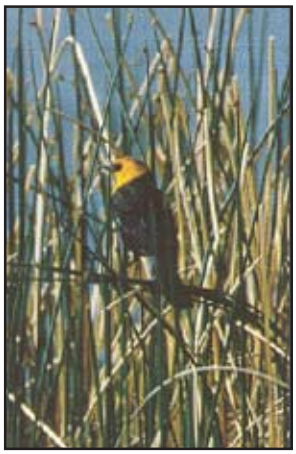
Lower Desplaines River Watershed Plan

Introduction

The Ecosystem Partnership Program is a major initiative of the Illinois Department of Natural Resources (IDNR) to create broad based coalitions across the state that will work towards protecting natural resources while at the same time fostering economic development and opportunities for recreation and education.



The yellow-headed blackbird (*Xanthocephalus xanthocephalus*) is a state endangered species residing in the watershed.

Prior to implementing this ambitious project, IDNR designated 30 watersheds as being Resource Rich Areas. Two Resource Rich Areas lie within the 357.5 square miles of the Lower Des Plaines River Basin. With the significance of its natural resources having been recognized, the Basin became home to a grassroots effort to form an ecosystem partnership. Beginning in late 1999, a group of varied stakeholders began the work that would eventually result in official IDNR designation of the Lower Des Plaines River Ecosystem Partnership.

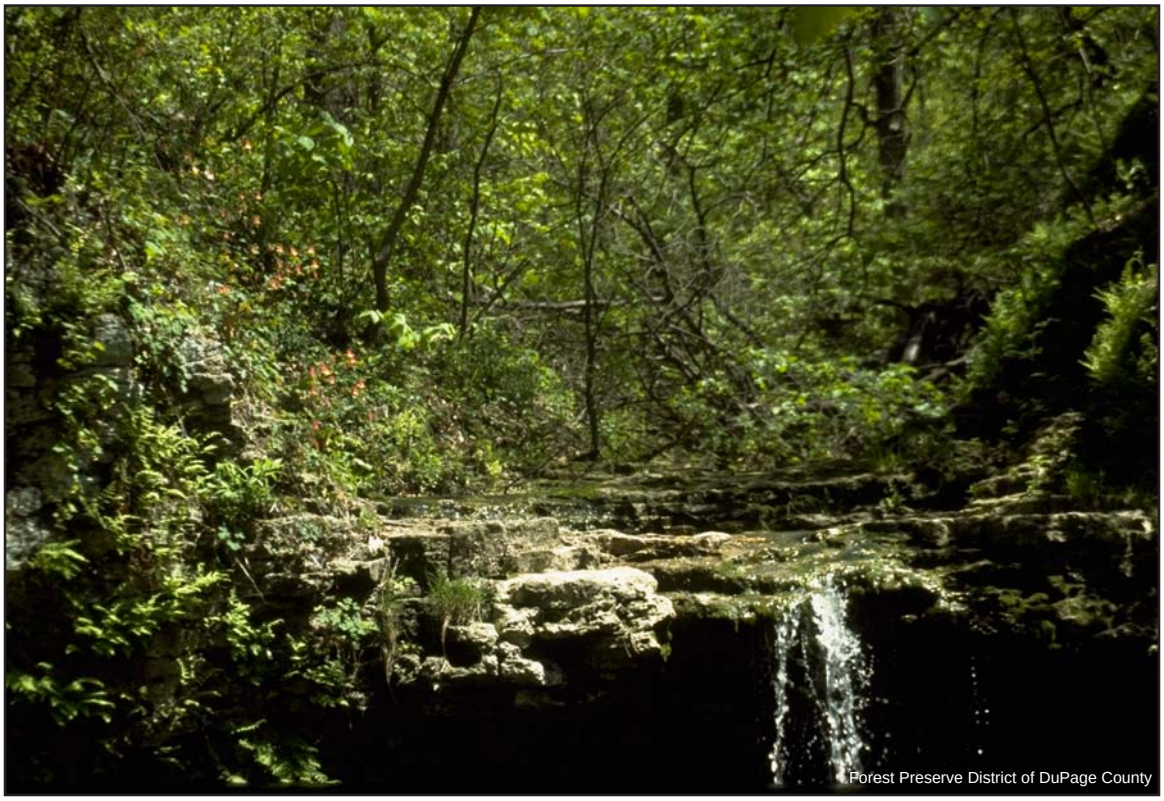
The partnership "territory" of the Lower Des Plaines Ecosystem Partnership includes all of the Salt Creek sub-basin and the lower Des Plaines sub-basin watersheds from the confluence of Salt Creek with the Des Plaines River (near 1st Avenue & Ogden Avenue) to Interstate 80 in Joliet.

The Lower Des Plaines Ecosystem Partnership provides a forum for units of local government, businesses, industry, environmental organizations, community groups, and interested citizens to coordinate management of natural resources across county boundaries on the watershed scale.

One of the important products of an Ecosystem Partnership is a watershed plan that identifies natural resource related issues and solutions. This plan is to be derived from input by the widest possible range of stakeholders.

With financial assistance from IDNR, the Lower Des Plaines River Ecosystem Partnership secured the services of a professional facilitator for a two-day planning workshop held in early November 2001. Over thirty people representing governments, environmental organizations, businesses, and interested citizens participated in the proceeding. Their ideas, concerns, and suggestions are reflected in this Watershed Plan.

The completion of this plan is a major milestone for the Partnership. But for the plan to have life, much more needs to be done. The Partnership is committed to expanding the range of participating stakeholders. By working together, all the people who live, work, and play in the Basin can have the power to make natural resource decisions locally in order to ensure that the natural resources that so richly endow the area are protected and enhanced.



By expanding the range of participating stakeholders, all people in the Basin can have the power to ensure that the natural resources, such as this waterfall at Waterfall Glen Forest Preserve, are protected.

Natural Areas and Nature Preserves

Illinois Nature Preserves

- A Black Partridge Woods
- B Busse Woods
- C Cap Sauers Holdings
- D Cranberry Slough
- E Paw Paw Woods
- F Salt Creek Woods
- G O'Hara Woods
- H Lockport Prairie
- I Palos Fen
- J Sagawau Canyon
- K Romeoville Prairie
- L Wolf Road Prairie
- M Long Run Seep
- N Messenger Woods
- O Palatine Prairie
- P Santa Fe Prairie

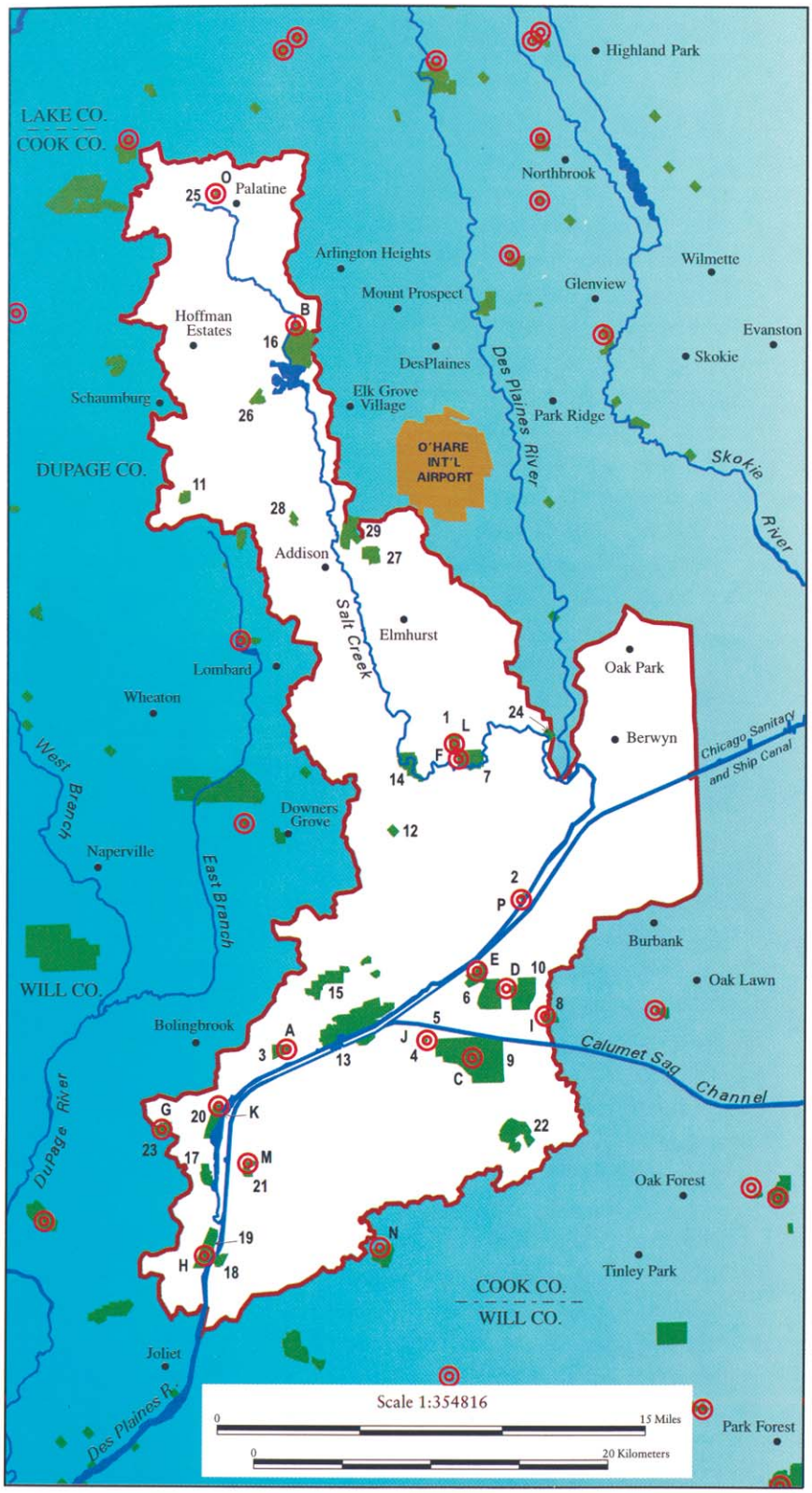
Illinois Natural Areas Inventory Sites

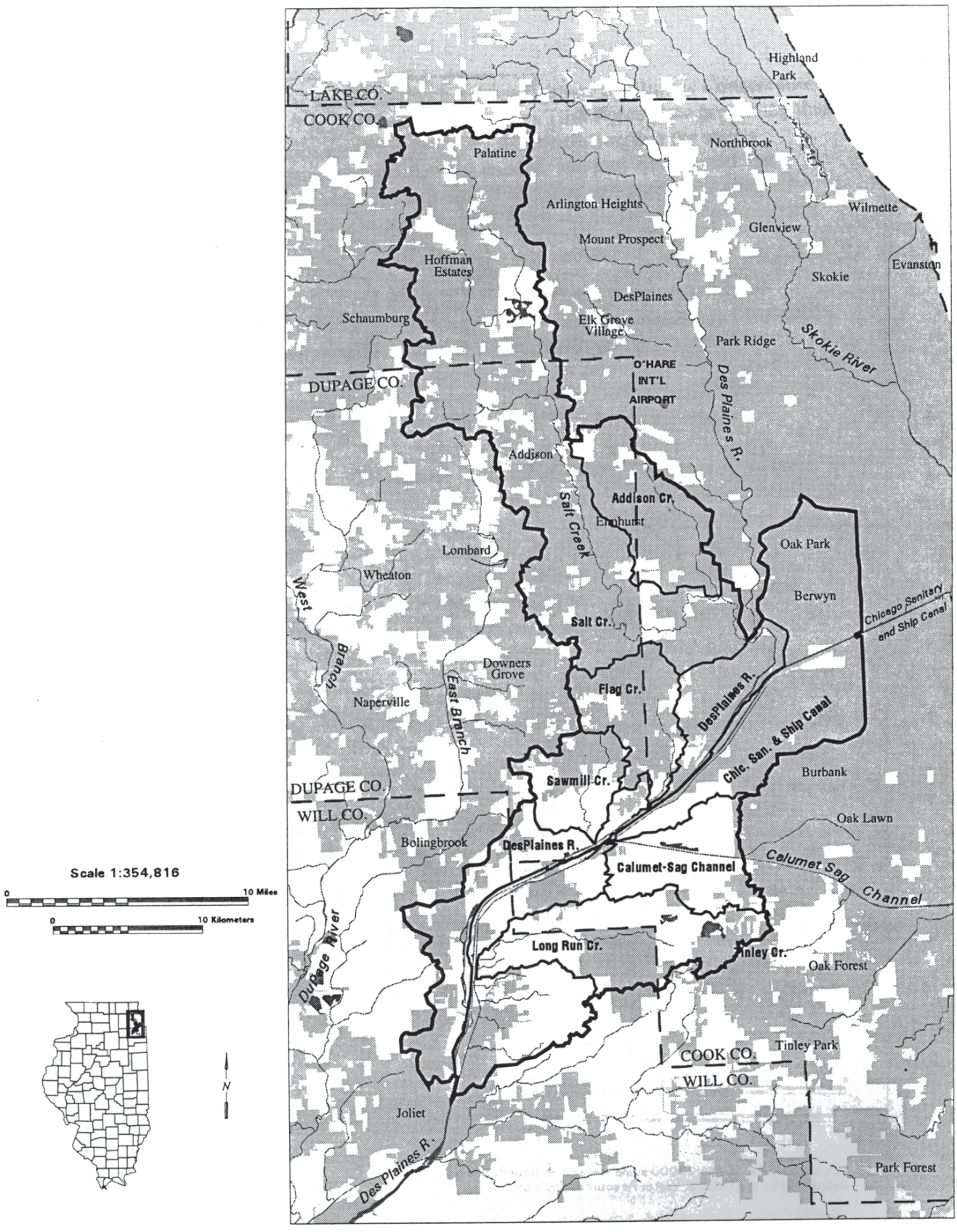
1. Wolf Road Prairie Nature Preserve
2. Santa Fe Prairie
3. Black Partridge Woods
4. Sagawau Canyon
5. Little Red Schoolhouse Nature Center
6. Paw Paw Woods
7. Salt Creek Woods Nature Preserve
8. Palos Fen Nature Preserve
9. Cap Sauers Holdings Nature Preserve
10. Cranberry Slough Nature Preserve
11. Meacham Grove
12. Hinsdale Prairie
13. Lemont East Geological Area
14. Fullersburg Woods Nature Center
15. Waterfall Glen
16. Busse Woods
17. Material Services Prairie
18. Lockport Prairie East
19. Lockport Prairie
20. Romeoville Prairie
21. Long Run Seep
22. McGinnis Slough
23. O'Hara Woods Nature Preserve
24. Brookfield Prairie
25. Palatine Prairie
26. WGN Marsh
27. Wood Dale Grove
28. Songbird Slough
29. Fischer Woods

Nature preserve

Natural area

N





Subbasins in the Lower Des Plaines River Assessment Area. Subbasin boundaries depicted are those determined by the Illinois Environmental Protection Agency.

Portrait of a Changing Landscape: The Natural Features of the Lower Des Plaines River Basin

The hallmark of the Lower Des Plaines River Basin is diversity, much of which can be attributed to the interplay of three principal factors. The first is climate, which is hospitable to a wide range of vegetation. The second is glaciation, as manifested by the great lobe of ice that covered the region until about 13,500 years ago. In its contractions and expansions, the glacier created the landforms and rivers that grace the basin. And the third force was fire, the product of both weather and human hands. The following sections describe the important natural resources of the Lower Des Plaines Ecosystem Partnership's watersheds.

Fire was a powerful force that shaped the landscape and its natural resources.

Prairie dominated 83% of the Lower DesPlaines River basin in the early 1800s.

Federal records based on surveys taken in the early 1800s provide a glimpse of what the Basin's vegetation was like at that time. Prairie (dominated by grasses on the wind swept plains and low ridges exposed to fire) comprised 83% of area, forest 16% (ranging from open savannas on dissected land somewhat sheltered from the full effect of fire to forests in ravines and the east side of rivers where fires rarely penetrated), and open water well less than 1%. Of the prairies and woods, an estimated 21% were wetlands.

In the course of the two centuries that followed, humans imposed their own mark on the Basin. Early settlers converted prairies into agricultural land and homesites, and harvested the timber for fuel, structures, and implements. The Great Lakes and the Mississippi River were connected by channels (I&M Canal, Cal-Sag Channel, and Sanitary and Ship Canal) dug through the Valparaiso Upland. More recently, intensive development has paved the land with cement and asphalt, and replaced open spaces with buildings devoted to industry, commerce, and living quarters for a burgeoning

The I&M Canal is a significant tributary to the DesPlaines River.

Although two-thirds of the Basin supports urban development, a tremendous amount of biological wealth still flourishes.

population. The result is that today 66% of the Basin's surface is devoted to urban land uses. In addition, 19% is in forest, 5 % is cropland, and the remaining 10% is open water, wetland, and grassland.

Twelve major waterways contribute to the Lower Des Plaines River. At 341 square miles, the drainage area of the Chicago Sanitary and Ship canal is the largest of any of the tributaries. Other significant tributaries include Cal-Sag Channel (391 square mile drainage), Salt Creek (150 square miles), Illinois and Michigan Canal (55 square miles), Long Run Creek (28 square miles), Addison Creek (24 square miles), Flag Creek (20 square miles), and Sawmill Creek (20 square miles).

Although two-thirds of the Basin supports urban development, a tremendous amount of biological wealth still flourishes. All three county forest preserve districts - Cook, DuPage, and Will - have extensive holdings in the Lower Des Plaines Valley. These holdings were acquired in part because so much of the area is intrinsically scenic with morainal bluffs and riparian forest. The primary purpose of the Districts, however, was to preserve important riparian buffers and high quality natural areas. Cook County Forest Preserve District, for example, owns almost 15,000 acres of land within the Palos region, which thousands of years ago was an island in the glacial precursor of Lake Michigan. These uplands, therefore, preserve some of the older ecosystems in the region.

Twenty-six areas (almost all of which are protected as forest preserve land) are designated natural areas, meaning that they have natural features of statewide significance. Lockport Prairie (East and West) and Romeoville Prairie represent two of the finest examples of the extremely rare dolomite prairie, a unique assemblage of plants that grows on bedrock along the Lower Des Plaines River. Perhaps rarer still, at least in Illinois, is Santa Fe Prairie, one of the state's only two surviving "mesic gravel" prairies (formed where

Several prairies in the basin contain natural features of statewide significance.

blacksoil loam has developed over gravel). Blacksoil prairies were originally the most common type of local prairie, but because of their exceedingly rich soil, very few high quality examples were spared the plow. One of the best of these is Wolf Road Prairie.

Spring wildflowers such as Virginia Bluebells (*Mertensia virginica*) can be found in high quality forests.

Other natural areas consist of high quality forests, many offering stunning displays of spring wildflowers. Busse Woods, on the east side of Salt Creek, harbors the unusual forest type known as "northern flatwoods," marked by the presence of swamp white oak. Meacham Grove preserves a prairie grove, an island of trees persisting in the midst of prairie because the uneven morainal landscape buffered it from fire. The beautiful bluff, ravine, and floodplain forests of the Palos area include Paw Paw Woods and Black Partridge Woods.

Rounding out the variety of natural areas are several kinds of wetlands. Marshes are the most common type, being present at McGinnis Slough, Songbird Slough, Waterfall Glen, Cranberry Slough, as well as most of the prairie sites already mentioned. They are nurtured by rainwater and the overflow of streams. Occurring much more sparingly are the similar fen and seep. Fens are distinguished by the presence of both peat and calcium rich water that has percolated through limestone, while seeps are fed by groundwater of varying chemistry and without peat accumulation. One or both of these wetland types can be seen at Palos Fen, Waterfall Glen, and Long Run Seep Nature Preserves.


The Lower DesPlaines River basin is one of the few places in the country where breeding populations of Hines Emerald Dragonfly (*Somatochlora hineana*) are found.

Twenty-five species of plants deemed to be state threatened or endangered grow within the Partnership area (four of these are also federally threatened or endangered). Of the 263 birds species that are thought to regularly occur in the Basin, 24 are threatened or endangered in Illinois. Other animals residing within the Basin include 45 species of mammals (one state threatened), 16 species of amphibians, 22 species of reptiles (two state threatened and one state endangered), 49 species of fish (two state endangered), 33 species of mussels (5 state threatened and 3 state endangered), and 18 species of dragonflies (one federally endangered....the Hines Emerald Dragonfly, *Somatochlora hineana*).

The People of the Basin And The Ecosystem Partnership

A full appreciation of the Lower Des Plaines River Basin requires knowing something of its people and institutions. The Basin is home to 1,050,335 people, all but 13,000 of whom live within the urban portion. A quarter of them are aged 25 or under, while 12% are over 64. The population is somewhat richer and better educated than other Illinoisans: median household income of $46,317 (versus $37,565 statewide) and 25% of those over 25 completed four or more years of college (versus 21% statewide). Minority composition mirrors statewide figures at 18%.

Illinois leads the nation with more taxing bodies than any other state. The Basin reflects that fact with many layers of government within its borders. It encompasses parts of Cook, DuPage, and Will Counties. Also sharing the Basin are over 70 municipalities, and numerous townships, mosquito abatement districts, park districts, among many other agencies that have some effect upon, if not direct responsibility for preserving, protecting, and restoring habitat; managing storm and flood water; protecting and maintaining water quality; preserving open space, and providing recreational opportunities.

In addition to the layers of federal, state, regional, county, township and local agencies and governments, the region is home to bulk and petrochemical industries that depend on the cheap water borne transportation provided by the Sanitary and Ship Canal, the Cal-Sag Channel and the Illinois Waterway. Many of these industries have significant positive and negative impacts on natural resources. Some have preserved original landscapes by reserving them for future use. Other industries use the waterways for cooling and for “process-water,” and to discharge industrial wastes.

The region is also rich in the number of local, statewide, and national organizations that focus on promoting environmental, economic, historical, recreational, and cultural issues.

Homeowners and real estate developers also depend on the quality of life within the Lower Des Plaines Ecosystem Partnership territory. Many easily understand that a local lack of flooding, nearby high quality natural areas, sufficient open space, and a variety of easily accessible recreational opportunities are assets enhancing not only their quality of life, but the value of their investment. Collectively, these businesses and institutions are natural partners in making local resource decisions. These are the groups of people and interests this plan addresses and is meant to engage for its support, endorsement, adoption, and implementation.

Homeowners depend on the quality of life within the Lower DesPlaines Ecosystem Partnership territory and value the open space, quality natural areas, and easily accessible recreational opportunities.

Protecting Quality of Life

Those who live, work, and play within the Lower Des Plaines River Basin are fortunate that so much of the area is forest preserve land. These lands represent some of the most biologically important and scenic sites in the region and offer many opportunities to hikers, cyclists, paddlers, anglers, birders, equestrians, and others who enjoy outdoor recreation. However, even though these lands have formal legal protection, threats to their well-being continue to grow.

Some of these threats are the direct result of official decisions. Many see the protected areas as land banks to solve other problems. Thus, those who advocate roads, utility easements, reservoirs, and other development will often look to forest preserves as the cheapest land available on which to locate their projects.

Other threats to the viability of our living landscape are biological. Invasive non-native species like purple loosestrife and garlic mustard crowd out less aggressive native species. If allowed to become too abundant, even indigenous species like white-tailed deer can damage the ecosystems of which they are a part. Some terrestrial communities like prairies will be shaded into oblivion if they are not regularly burned.

Purple loosestrife (*Lythrum salicaria*) is an invasive, non-native species which can crowd out native wetland plants.

Perhaps the most vulnerable ecosystems in the Basin are rivers and streams. They can be degraded by dams, erosion, stormwater runoff, sewage treatment facilities, and discharges from business and residences. Indeed, any activity that influences energy sources, habitat, biological interactions, stream flow, or water quality can affect the myriad of creatures that have adapted to the many niches within moving water. Of course, it also affects those who live outside the stream, particularly people who find

themselves the victims of flooding, a hazard becoming ever more frequent as watersheds become more impervious through development.

Fortunately, more and more citizens and officials understand the importance of protecting local natural resources. It is imperative, however, that environmental education and awareness be increased to reach all the stakeholders within the Basin. Even that is not enough since many of the critical challenges cross jurisdictional lines and can only be effectively addressed through coordinated efforts. It is the purpose of the Lower Des Plaines River Partnership to help foster the changes necessary to protect the natural features that contribute so much to the quality of life enjoyed by the people of the Basin.

The Lower DesPlaines River Partnership helps foster the necessary changes to protect the natural features that contribute so much to the quality of life enjoyed by the people of the Basin.

Goals and Objectives:

The heart of this Watershed Plan emerged during the November 2001 workshop, where participants identified five critical goals and the specific objectives that would lead to their attainment:

Goal I: Protect, restore, and enhance the diverse habitats and natural resources.

Goal II: Protect and improve water quality and aquatic ecosystems.

Goal III: Reduce stormwater runoff and alleviate flooding and its damages.

Goal IV: Improve public access to the watershed for public enjoyment and recreation.

Goal V: Integrate environmental education and public outreach programs that facilitate and promote the activities of the Lower Des Plaines River Ecosystem Partnership.

Sawmill Creek in Waterfall Glen Forest Preserve.

Goal I : Protect, Restore, and Enhance the Diverse Habitats and Natural Resources

The Lower Des Plaines River Watershed is home to a large number of threatened and endangered species. In fact, a majority of the state and federally listed species in Illinois occur within the watershed. Much of this biological wealth has persisted because large tracts of watershed are under public ownership. But along with legal protection comes the responsibility of proper stewardship and management.

Objectives :

A. The Lower Des Plaines River Ecosystem Partnership will develop and promote a volunteer stewardship network to augment and complement the natural resource management efforts of the conservation agencies and other entities who own the land. To accomplish this objective, the Partnership will:

1. Identify, contact, and assist current stewardship groups so as to maximize the effectiveness of their land management efforts and to avoid any duplication that might arise with the creation of new groups.

A volunteer stewardship network is a critical component in assisting with management efforts.

2. Identify areas in need of stewardship and, with landowners, work towards the establishment of new groups, or the expansion of existing groups; this would include pairing existing master gardeners, senior citizens, and students with specific sites.

3. Assist existing and new stewardship groups by increasing the availability of educational and reference resources.

4. Develop an “adopt-a-stream” program with appointed “stream leaders” who shall be combined to form the Partnership’s Strategic Watershed Action Team (SWAT), an entity focusing on local watershed issues that also affect the entire watershed.

Pickerel weed (*Pontederia cordata*) is a native plant that forms beds in shallow waters.

5. Develop a program for the propagation of local native plants that can be used in watershed restoration projects.

6. Develop with landowners long-term viability plans for each natural area that include a) additional land acquisition needs; b) needed land management; c) hydrologic restoration; and d) a the establishment of appropriate buffers along boundaries.

B. The Lower Des Plaines River Ecosystem Partnership will suggest and support statutes, ordinances, regulations, policies, and practices that promote biodiversity and ecosystem health. To accomplish this objective, the Partnership will:

1. Encourage the development and enactment of tax incentives for businesses and developments to adopt programs that protect and enhance the aquatic and terrestrial natural features under their control.

2. Support the development and implementation of enactments that protect and restore wetlands.

3. Facilitate the adoption of policies that further the biological health of riparian corridors.

4. Propose and promote the establishment of natural areas conservation districts through local advocacy and legislation.

5. Seek to reform golf course practices so that they: a) depend less on chemicals by adopting integrated pest management; b) conserve and protect water; c) preserve and better manage wildlife habitat; d) utilize more comprehensive and effective environmental planning; and e) increase public and member involvement.

C. The Lower Des Plaines River Ecosystem Partnership will work to offset habitat fragmentation by supporting and facilitating the acquisition of rights to property with significant natural attributes. To accomplish this objective, the Partnership will:

1. Work with not-for-profit and government agencies to identify and remedy key gaps in land acquisition efforts by contacting landowners, and urging the donation or sale of land in fee or, where appropriate, lesser estates such as conservation easements, right of access, etc.

2. Work with transportation and public works agencies to install wildlife underpasses where needed.

3. Encourage the dedication of deserving properties as Illinois Nature Preserves.

4. Support the creation of township land trusts.

Wildlife underpasses are needed in some areas because of habitat fragmentation.

Goal II : Protect and Improve Water Quality and Aquatic Ecosystems

Topographically, streams represent low points in the landscape. They integrate hydrology, water quality, habitat and substrate, energy sources, and biological interactions in order to sustain biotic integrity. Sustainable streams require that all of these factors be addressed simultaneously.

Objectives :

A. The Lower Des Plaines River Ecosystem Partnership will work towards reducing the number of low-head dams in the region because they represent a barrier to upstream fish migration and, in many cases, partition the stream system. To accomplish this objective, the Partnership will:

1. Compile technical literature that addresses faunal and floral impacts of low-head dams.

2. Compile a list of regional examples where low-head dams have been removed.

3. Identify the low-head dams within the Lower Des Plaines River and characterize their structure, spillway elevations, width, flood control volume, and other attributes.

4. Prioritize, with the aid of local shareholders and others, which low-head dams are most appropriate for removal.

5. Obtain funding and regional support for the removal of a select number of low-head dams.

B. The Lower Des Plaines River Ecosystem Partnership will foster the creation of a permanent institutional presence that maintains the focus on conservation, water quality, and responsible advocacy. To accomplish this objective, the Partnership will:

1. Establish a public education program for lay people that addresses the technical, social, and cultural aspects of watershed issues by emphasizing the “systems” character of watershed planning and water quality assessment.

2. Develop public advocacy programs for citizens living along the Lower Des Plaines River and its tributaries; ensure that these groups have adequate technical, legal, and financial support to be effective agents of change within their communities.

3. Create community and partnership-wide watershed events that serve as recruitment for more sustained public involvement.

C. The Lower Des Plaines River Ecosystem Partnership will initiate new, and support on-going research and data gathering activities that contribute to long-term regional watershed planning. To accomplish this objective, the Partnership will:

Hines Emerald Dragonfly researchers at Lockport Prairie.

1. Solicit local universities for on-going involvement in watershed planning activities.

2. Coordinate efforts with Chicago Wilderness and make them aware of research needs for the Lower Des Plaines River Basin.

D. The Lower Des Plaines River Ecosystem Partnership will strive to improve the performance of sewage treatment plants in the region and to modify the regulatory programs that control their performance. To accomplish this objective, the Partnership will:


The performance of sewage treatment plants is something the Partnership hopes will improve.

1. Prepare and distribute recommendations to reform sanitary sewer treatment policy as it pertains to the Lower Des Plaines River Basin.

2. Develop a strategic plan for upgrading the performance of sewage treatment plants; the plan will consider such options as tertiary treatment of effluent, land banking for waste water management, incentive systems for improving state Water Quality Standards, wetland finishing lagoons, ultra-violet disinfection technologies, and land application technologies.

3. Prepare a review of existing effluent records for sewage treatment plants within the Lower Des Plaines River Basin that documents impacts on ambient water quality.

4. Establish a link/network with local area sewage treatment plant professionals.

E. The Lower Des Plaines River Ecosystem Partnership will implement the restoration and rehabilitation of in-stream habitats, streambanks, and riparian zones as preferred methods for protecting streams. To accomplish this objective, the Partnership will:

1. Identify and prioritize stream reaches that could most benefit from the application of techniques to restore their banks, instream portions, and riparian zones.

2. Monitor stream reaches that have undergone one or another restoration techniques to determine effectiveness of the activities.

3. Develop a technical guide that lists such best management practices for stream systems.

Streambank restoration projects help reduce sediment loss and restore riparian habitat along river banks.

F. The Lower Des Plaines River Ecosystem Partnership will influence decision makers to adopt policies, practices, and land use planning that protects and enhances water quality. To accomplish this objective, the Partnership will:

1. Influence the creation of local ordinances that have a bearing on the routing and infiltration of water across the regional watersheds.

2. Work towards the establishment of demonstration projects that use building practices better able to protect water quality than those currently in vogue.

3. Hold workshops that expose elected officials to the progressive building methods already in use in the Chicago area.

4. Facilitate the dissemination of technical references and transfer of technology so that innovations become available to the staff of local planning agencies.

5. Begin dialogue and create partnerships with industrial neighbors to specifically address clean water issues.

G. The Lower Des Plaines River Ecosystem Partnership will advocate the aggressive enforcement of existing water quality management laws, and the improvement of such laws. To accomplish this objective, the Partnership will:

1. Encourage the Illinois Environmental Protection Agency to confer greater protection on the Lower Des Plaines River by upgrading the designated uses of the river from Hoffman Dam to Brandon Locks.

2. Plan and implement workshops with local environmental organizations to train local stewards concerning sewage treatment plant issues.

3. Create a document for the Lower Des Plaines River Basin that reviews the regulation of sewage treatment plants with respect to standards, performance, and enforcement actions.

4. Assist state environmental agencies in increasing their funding and staff so they may expand and improve programs of benefit to the Lower Des Plaines River Basin.

5. The Lower Des Plaines River Ecosystem Partnership shall collaborate with the Illinois Environmental Protection Agency and other state and federal agencies to qualify for and develop funding from those agency's grant programs, in order to implement appropriate objectives of this plan.

Goal III : Reduce Stormwater Runoff and Alleviate Flooding and Its Damages

In the six counties of northeastern Illinois, it is estimated that over 40 million dollars of flood damages occur annually. The low topography and broad floodplains that are characteristic of the region make for unique challenges in the management of stormwater and the control of flooding. Perhaps the most critical of these challenges is to replace traditional development methods that decrease land infiltration and increase stormwater runoff with methods that enhance infiltration and reduce runoff.

Objectives :

A. The Lower Des Plaines River Ecosystem Partnership will work towards the creation of county based stormwater management commissions. To accomplish this objective, the Partnership will:

White water lily (*Nymphaea tuberosa*).

1. Clarify responsibility for waterway channel maintenance.

2. Help in the creation and modification of county based stormwater ordinances.

3. Review new and existing developments for the management and control of stormwater.

4. Promote innovative stormwater management technologies, particularly those of a non-structural nature.

5. Oversee grant development for the management of water quality and quantity.

6. Propose that tax credits be awarded for wetland/prairie restoration.

7. Oversee the updating of floodplain maps and flood damage reporting.

8. Work with existing agencies to improve both the monitoring of construction and the enforcement of erosion control ordinances.

9. Work with existing organizations to develop technical assessments of watershed performance.

10. Monitor the protection of isolated wetlands.

B. The Lower Des Plaines River Watershed Partnership will work towards the modification and updating of local ordinances so that they more effectively address flood control within the Basin. To accomplish this objective, the Partnership will:

1. Encourage that local ordinances incorporate the protection of isolated wetlands, including a review and enforcement function.

2. Promote the use of non-structural flood control techniques.

3. Promote the comprehensive adoption of the Northeastern Illinois Planning Commission's (NIPC) *Model Stormwater Ordinance* across the entire Partnership territory.

4. Work to limit the expansion of impervious surfaces via strict zoning regulations and enforcement.

5. Advocate restricting zoning changes that lead to harmful development.

6. Promote sustainable development techniques.

7. Develop parking lot ordinances that more adequately control runoff.

Wetlands reduce flooding by increasing filtration and storing enormous amounts of rainwater.

8. Promote landscape ordinances that encourage the use of natural landscaping, treatment trains, and increases in infiltrative Best Management Practices (BMPs).

9. Encourage conservation easements.

10. Support the upgrading of floodplain maps and their incorporation into zoning decisions.

11. Promote ordinances that encourage the greening of detention basins.

12. Advocate the placement of limits on the generation of runoff such that there will be no net increase above historic conditions.

13. Encourage the acquisition of open space in flood plains.

C. The Lower Des Plaines River Ecosystem Partnership will support conducting background research necessary to alleviate local problems of stormwater management. To accomplish this objective, the Partnership will:

1. Support a university based assessment of local data needs for stormwater management.

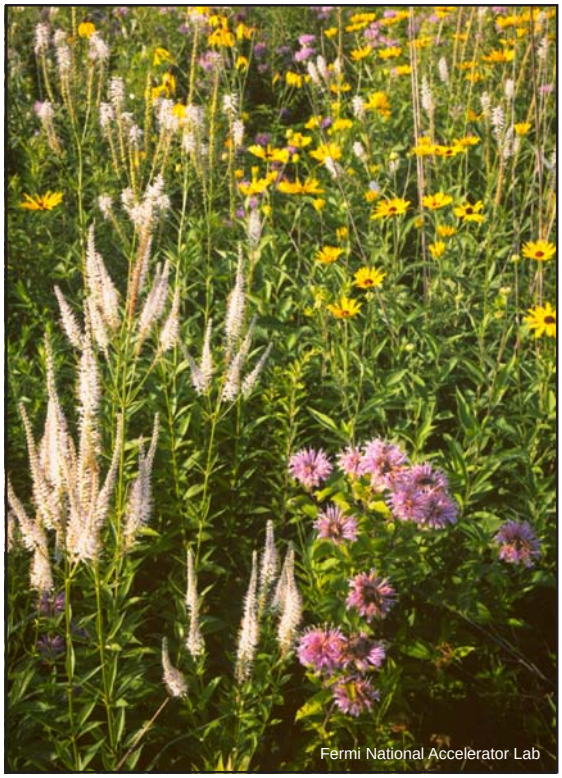
2. Compile existing background data from local planning agencies.

3. Investigate the available capability of Geographic Information Systems (GIS) for entry and storage of map based data.

4. Conduct a *Consumer's Guide to Water Modeling* seminar for regional planning entities and partnership participants.

5. Compile and index best management practices and sustainable development projects that promote infiltration, water detention, natural landscaping, and stream channel improvements.

6. Develop a *Strategic Stormwater Runoff Plan* that identifies key problem areas, provides implementation steps, and lists cost allocations needed to address problems of the Lower Des Plaines River Basin.



Native plants help reduce erosion, decrease stormwater runoff, and improve water quality.

D. The Lower Des Plaines River Ecosystem Partnership will promote restoration activities and watershed awareness with municipal officials, developers, and the stewardship community. To accomplish this objective, the Partnership will:

1. Create an educational campaign to promote watershed awareness.

2. Sponsor seminars to facilitate the dissemination of innovative technologies related to watershed improvement.

3. Promote the development of rain gardens for residences and schools.

4. Create bumper stickers, regional signage, and stormwater stenciling that identifies “home” watersheds.

5. Sponsor regional demonstration projects.

6. Create formal and informal networking with regional officials and technical staff.

7. Develop a case study, including the compilation of technical literature, that addresses scientific issues to pertinent stormwater management within the region.

Education helps promote restoration activities and watershed awareness.

Goal IV : Improve Public Access to the Watershed For Public Enjoyment and Recreation

Adorned with the rugged morainal landscapes of the Palos preserves, and many miles of flowing water, lakes, prairies, forests, and wetlands, the Lower Des Plaines River Basin is an area of singular beauty that is not exceeded elsewhere in northeastern Illinois. This mix of landscapes provides unusual opportunities for outdoor recreation that should be maximized, but only in a manner that sustains the very features which make the area so special. As more people partake of outdoor recreation, they will become increasingly familiar with the natural features of the watershed and, hopefully, advocates for conservation.

Canoeing can be an enjoyable way to experience the Lower DesPlaines Watershed.

Objectives :

A. The Lower Des Plaines River Ecosystem Partnership will promote recreational opportunities within the watershed. To accomplish this objective, the Partnership will:

1. Identify, contact, and work with local organizations whose members engage in specific outdoor activities within the watershed in order to address needs, opportunities, and challenges.

2. Seek funds to prepare a recreational/ ecotourism plan based on input from the broadest array of stakeholders to ensure that recreational opportunities are maximized without harm to the people and natural features of the watershed.

3. Encourage and assist the development of private enterprises to provide recreation and tourism within the watershed by: a) offering incentives for developers to invest in recreational activities; b) foster expansion of water based recreation such as canoeing; and c) increase water transportation where appropriate.

4. Develop and promote a *River Recreation Network*, a collaboration between grass-roots groups, business, and government to further river-based recreation.

5. Encourage provision where appropriate of non- or low-skill water recreation such as gondolas and "water-bikes."

Safe trails encourage outdoor recreation.

B. The Lower Des Plaines River Ecosystem Partnership will work towards providing safe, legal, and appropriate access to trails and facilities within the watershed. To accomplish this objective, the Partnership will:

1. Work with landowners to provide portage trails at dams on waterways where such an amenity is warranted.

2. Work with the Metropolitan Water Reclamation District to increase access points to their waterways.

3. Work with public transportation agencies to extend service to open space sites.

4. Work with the appropriate government bodies to acquire property rights necessary for development of, or access to, recreational amenities.

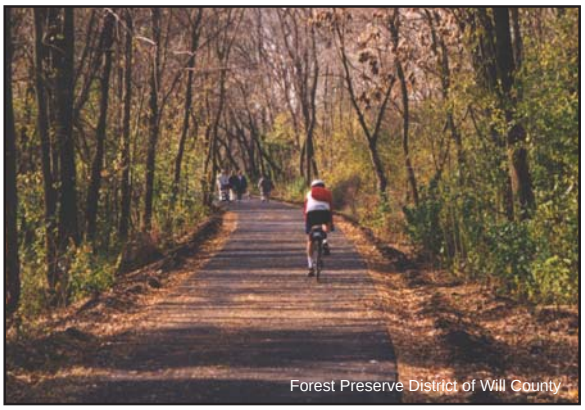
5. Work with landowners to develop camping areas, particularly along waterways, where possible and appropriate.

6. Encourage the development of safe and legal access to the Des Plaines River in Lemont.

C. The Lower Des Plaines River Ecosystem Partnership will develop materials and promote events to increase awareness of trails and other recreational opportunities throughout the watershed. To accomplish this objective, the Partnership will:

1. Create maps, brochures, signage, and events that promote the use of recreational amenities.

2. Develop materials and programs that integrate education and recreation such as signs, organized events, and brochures.



Creating links between existing and proposed trails is one of the objectives of the Partnership.

D. The Lower Des Plaines River Ecosystem Partnership will create links between existing and proposed trails. To accomplish this objective, the Partnership will:

1. Encourage the incorporation of paths and recreation areas within new subdivision plans that link to other area paths and sites.

2. Work to implement the Salt Creek Greenway Plan and the Northeast Illinois Regional Greenway Plan, which creates additional trails (including completion of the Centennial Trail and its links with other trails) and puts into effect the Water Trails Plan.

3. Work to create more multi-functional access points linking bicycle/hiking trails to canoe trails.

Trail users in the watershed can enjoy wildlife sightings such as a great blue heron (*Ardea herodias*) hunting along the shoreline.

Goal V : Integrate Environmental Education and Public Outreach Programs That Facilitate and Promote the Activities of the Lower DesPlaines River Ecosystem Partnership

The keystone of any effective and sustainable environmental program is an informed citizenry, including government officials, who understand and support the need for a healthy environment. It is important, therefore, to integrate environmental education and public outreach programs that facilitate and promote the activities of the Lower Des Plaines River Ecosystem Partnership.

Education plays a key role in informing citizens and government officials the need for a healthy environment.

Objectives :

A. The Lower Des Plaines River Ecosystem Partnership will strengthen and expand communication between educators and partnership members to better link educators to resources that support watershed education. To accomplish this objective, the Partnership will:

1. Coordinate with environmental education organizations active within the watershed.

2. Identify opportunities for environmental education training occurring within the watershed and the State of Illinois.

3. Subscribe to the Environmental Education Association newsletter.

4. Develop exhibits for environmental education workshops and conferences.

5. Develop and distribute a teachers' resource packet that lists sites teachers can visit to conduct watershed education with their students and people who teachers can contact within the partnership.

6. Identify and utilize existing environmental education curricula such as *Project Wet*, *State Soil Education*, and *State Groundwater* programs.

7. Develop a web site.

B. The Lower Des Plaines River Ecosystem Partnership will integrate strategies that address partnership goals and objectives into programs and opportunities that foster public awareness. To accomplish this objective, the Partnership will:

1. Provide resources and opportunities for continuing the watershed and environmental education of public officials.

2. Develop guidelines and mechanisms to enable the public to better communicate with public officials.

3. Publicize local watershed issues by sponsoring field trips throughout the year, including a three-day watershed tour specifically for public officials.

4. Link the Partnership with appropriate special events that occur within the Lower Des Plaines River Basin.

5. Promote watershed education and advocacy by both utilizing existing and creating new programs.

6. Develop outreach programs that promote the responsible use of pesticides.

7. Work cooperatively with golf course management to promote practices that are environmentally beneficial, including the responsible use of pesticides.

8. Develop watershed education programs that advance community decision making.

9. Increase Eco-Watch sites within the watershed.

Public awareness will hopefully ignite advocates of conservation who want to preserve the natural and scenic beauties of the Lower DesPlaines River Watershed.

Appendix I

Watershed Planning Participants

Gerry Adelman, Canal Corridor Association
Steve Aultz, Forest Preserve District of Will County
Cindy Bakkom, Forest Preserve District of Will County
Jon Beck, Local Resident (Clarendon Hills)
Barbara Birmingham, Des Plaines Valley Volunteers
Jim Bland, Integrated Lakes Management
Steve Byers, Illinois Nature Preserves Commission
Marcia DeVivo, Long Run Creek Watershed Planning Council
Dax Dugaw, Illinois Eco-Watch
Phyllis Ellin, I&M Canal National Heritage Corridor
David Eubanks, Eubanks and Associates
Bill Eyring, Des Plaines Watershed Team
Cathy Geraghty, Forest Preserve District of Cook County
Larry Gramm, Local Resident (Countryside)
Alexander Green, Golfview Hills Park District
Donald Hey, The Wetlands Initiative
Tom Hintz, V3 Consultants
Dan McCain, Local Resident (Willow Springs)
Jack MacRae, Forest Preserve District of DuPage County
Dave Mauger, Forest Preserve District of Will County
Gary Mechanic, Des Plaines Watershed Alliance
Jeffrey Mengler, U.S. Fish and Wildlife Service
Jason Navota, Northeastern Illinois Planning Commission
Nick Nicola, Salt Creek Watershed Network
Mike Pasteris, Forest Preserve District of Will County
Steve Pescitelli, Illinois Dept of Natural Resources
Doug Short, Eubanks & Associates
Dennis Streicher, City of Elmhurst
Kent Taylor, Openlands Project
Bill White, Illinois Dept of Natural Resources Ecosystems Program
Nancy Williamson, Illinois Dept of Natural Resources Ecosystems Program

APPENDIX II

STATE THREATENED AND ENDANGERED SPECIES LOWER DES PLAINES WATERSHED

Birds (24)

Pied-billed Grebe *(Podilymbus podiceps)*	ST
American Bittern *(Botaurus lentiginosus)*	SE
Least Bittern *(Ixobrychus exilis)*	ST
Snowy Egret *(Egretta thula)*	SE
Little Blue Heron *(Egretta caerulea)*	SE
Black-crowned Night-Heron *(Nycticorax nycticorax)*	SE
Yellow-crowned Night-Heron *(Nyctanassa violacea)*	SE
Osprey *(Pandion haliaetus)*	SE
Bald Eagle *(Haliaeetus leucocephalus)*	ST, FT
Northern Harrier *(Circus cyaneus)*	SE
Red-shouldered Hawk *(Buteo lineatus)*	ST
Swainson's Hawk *(Buteo swainsoni)*	SE
Peregrine Falcon *(Falco peregrinus)*	SE
King Rail *(Rallus elegans)*	SE
Common Moorhen *(Gallinula chloropus)*	ST
Sandhill Crane *(Grus canadensis)*	ST
Upland Sandpiper *(Bartramia longicauda)*	SE
Wilson's Phalarope *(Phalaropus tricolor)*	SE
Common Tern *(Sterna hirundo)*	SE
Forster's Tern *(Sterna forsteri)*	SE
Black Tern *(Chilidonias niger)*	SE
Brown Creeper *(Certhia americana)*	ST
Henslow's Sparrow *(Ammodramus henslowii)*	SE
Yellow-headed Blackbird *(Xanthocephalus xanthocephalus)*	SE

Mammals (1)

River Otter *(Lontra canadensis)*	ST

Reptiles (3)

Spotted Turtle *(Clemmys guttata)*	SE
Blanding's Turtle *(Emydoidea blandingii)*	SE
Kirtland's Snake *(Clonophis kirtlandii)*	ST

Insects (1)

Hines Emerald Dragonfly *(Somatochlora hineana)*	FE, SE

Fish (2)

Blacknose Shiner *(Notropis heterolepis)*	SE
Greater Redhorse (Moxostoma valenciennesi)	SE

Mussels (8)

Spectaclecase *(Cumberlandia monodonta)*	SE
Slippershell Mussel *(Alasmidonta viridis)*	ST
Salamander Mussel *(Simpsonaias ambigua)*	SE
Purple Wartyback *(Cyclonaias tuberculata)*	ST
Elephantear *(Elliptio crassidens)*	ST
Spike *(Elliptio dilatata)*	ST
Sheepnose *(Plethobasus cyphyus)*	SE
Black Sandshell *(Ligumia recta)*	ST
Rainbow (Villosa iris)	SE

Plants (26)

Bearded Wheat Grass *(Agropyron trachycaulum)*	SE
Shadbush *(Amelanchior interior)*	SE
Tennessee Milk-vetch *(Astragalus tennesseensis)*	SE
American Slough Grass *(Beckmannia syzigachne)*	SE
Northern Grape Fern *(Botrychium multifidum)*	SE
Grass Pink Orchid *(Calopogon tuberosus)*	SE
Bent-seeded Hop Sedge *(Carex tuckermanii)*	SE
Pretty Sedge *(Carex woodii)*	ST
White Lady's Slipper Orchid *(Cypripedium candidum)*	ST
Leafy Prairie-clover *(Dalea foliosa)*	SE, FE
Beaked Spike-rush *(Eleocharis rostellata)*	ST
Lakeside Daisy *(Hymenoxys acaulis)*	SE, FE
Prairie Bush-clover *(Lespedeza leptostachya)*	SE, FT
Blazing Star *(Liatris scariosa)*	ST
Slender Sandwort *(Minuartia patula)*	ST
Small Sundrops *(Oenothera perennis)*	ST
Heart-leaved Plantain *(Plantago cordata)*	SE
Prairie White-fringed Orchid *(Platanthera leucophaea)*	SE, FT
Purple-fringed Orchid *(Platanthera psycodes)*	SE
Dwarf Raspberry *(Rubus pubescens)*	ST
Early Dark Green Bulrush *(Scirpus hattorianus)*	SE
Mountain Blue-eyed Grass *(Sisyrinchium montanum)*	SE
Earleaf Foxglove *(Tomanthera auriculata*)	ST
Slender Bog Arrow-grass *(Triglochin palustris)*	ST
Marsh Speedwell *(Veronica scutellata)*	ST
Canada Violet *(Viola canadensis)*	SE

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