

ILLINOIS FOREST ACTION PLAN

A STATEWIDE FOREST RESOURCE
ASSESSMENT AND STRATEGY

2020 - 2030

*submitted 12/31/2020
Urban Forestry 5 year Plan -
updated October 2024*



Published by the authority of the State of Illinois

J.B. Pritzker, Governor

In cooperation with the Illinois Department of Natural Resources

Colleen Callahan, Director

and the Illinois Forestry Development Council

© 2020 All Rights Reserved



Illinois Forest Action Plan 2020 - 2030

A STATEWIDE FOREST RESOURCE ASSESSMENT AND STRATEGY.

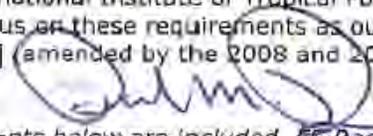
as Prescribed by
the Food, Conservation, and Energy
Act of 2008 (2008 Farm Bill)

Statewide Forest Resource Assessments and Strategies (State Forest Action Plans) Requirements Checklist for Illinois

State Forest Assessments and Strategies must be updated at least every 10 years and submitted to the relevant USDA Forest Service (FS) Region or International Institute of Tropical Forestry (IITF) with this checklist signed by the State Forester. Federal review will focus on these requirements as outlined in the [Cooperative Forestry Assistance Act](#) SEC. 2A, [16 U.S.C 2101a] (amended by the 2008 and 2014 Farm Bills).

Submitted by the State Forester:

State Forester certifies the required elements below are included. *Click above to e-sign if possible.*
FS Region or IITF fills out the checklist.

 - 12/31/2020

Statewide Forest Resource Assessment Includes:

- The conditions and trends of forest resources in the state Yes No
- The threats to forest lands and resources in the state consistent with national priorities Yes No
- Areas or regions of the state that are a priority Yes No
- Any multi-state areas that are a regional priority Yes No

Statewide Forest Resource Strategy Includes:

- Long-term strategies to address threats to forest resources in the state* Yes No
- Description of resources necessary for state forester to address statewide strategy* Yes No
- Strategy addresses national priorities for state and private forestry Yes No

* Can be presented in a strategies matrix with columns for (a) programs that contribute, (b) resources required, (c) national priority(ies), and (d) performance measure(s) that will be used for each strategy (optional).

Stakeholder Groups Coordinated with for the Statewide Assessment and Strategy:

Note: this can be identified in the body of the documents or in an appendix.

- State Forest Stewardship Coordinating Committee (required) Yes No
- State Wildlife Agency (required) Yes No
- State Technical Committee (required) Yes No
- Lead agency for the Forest Legacy Program (if not the state forestry agency) (required) N/A Yes No
- Applicable Federal land management agencies (required) Yes No
- Military installations (as appropriate and feasible) Yes No

Other Plans Incorporated in the Statewide Assessment and Strategy:

- Community wildfire protection plans (required) Yes No
- State wildlife action plans (required) Yes No
- Other Yes No

Forest Legacy Program (FLP) Requirements Included (for States with FLP) N/A Yes No

See [Forest Legacy Program Implementation Guidelines](#). Some options include:

- All required Forest Legacy components are integrated into the State Forest Action Plan (Assessment and/or Strategy), including Eligibility Criteria to Identify Forest Legacy Areas, delineation of Forest Legacy Areas, and outline of the State's project evaluation and prioritization procedures. These elements are reviewed by the FS Region or IITF FLP staff as part of the assessment and strategy certification process. It is helpful to provide a crosswalk to identify location of FLP components in the State Forest Action Plan.
- A separate Forest Legacy Assessment of Need document (with above Forest Legacy requirements) is included as an appendix of the State Forest Action Plan. This document has been previously approved by the FS Region or IITF Forest Legacy Program staff. Documentation of FS approval and most recent review by the State Forest Stewardship Committee review should also be provided.

Review by FS Regional Forester or IITF Director (as relevant):

Deemed Sufficient (all requirements met)

Comments: Pleased to recommend for approval. See additional requirements documentation in Pinyon.

Deemed Not Sufficient (missing one or more requirements) Corrective Action(s) Necessary to Meet Sufficiency Requirement:

Certified by Regional Forester or IITF Director: GINA OWENS Digitally signed by GINA OWENS
Date: 2021.02.02 10:18:27 -06'00'

Decision by Forest Service Deputy Chief for State and Private Forestry:

Approval authority delegated from the USDA Secretary.

Approve: Disapprove:

Forest Service, Deputy Chief for State and Private Forestry: JAE LITH HALL-RIVERA Digitally signed by JAE LITH HALL-RIVERA
Date: 2021.07.01 11:25:47 -04'00'

Acknowledgments

We would like to acknowledge and sincerely thank the following for their assistance and participation in the content and assembly of this Illinois Forest Action Plan.

Thanks to the Illinois Forestry Development Council (IFDC) and active subcommittee members for their support, comments, and revisions of this Illinois Forest Action Plan. The IFDC consists of 29 members representing the Illinois General Assembly, the Governor's office, state and federal agencies, universities, and a host of organizations that have an interest or stake in Illinois forests, forestry, forest products, forest industry, urban and community forests, forestry education, or forestry-related natural resources. The IFDC is represented with private forest landowners and farmers, and the Shawnee National Forest supervisor, and the Illinois Department of Natural Resources (IDNR) State Forester. IFDC also represents many subcommittee volunteers and relies on their valuable input and sweat equity. The IFDC originally met on April 30, 2010 to provide input, review, and approval of the state's first Forest Action Plan. The IFDC in 2012 authorized Urban Forestry and Forest Stewardship subcommittees to begin outlining additional updates and improvements to this plan through a focused effort with IDNR staff and guidance from the United States Department of Agriculture, Forest Service, Eastern Region State and Private Forestry (R9 S&PF). After five years of work, IFDC sent the revised plan through the vetting process and submitted a revised preliminary Forest Action Plan to the U.S. Forest Service, R9 S&PF in 2018. The 2018 plan has now been refined with much input to be submitted at year end 2020 as Illinois Forest Action Plan 2020-2030.

Thanks to Paul Deizman and Mike Brunk for leading this plan development process and the entire Illinois Department of Natural Resources (IDNR), Division of Forest Resources (DFR) for their assistance and coordination of stakeholder groups to develop and review this plan. The review and input also included that of the Illinois DNR Division of Wildlife Resources, Division of Farm Programs, the Division of Natural Heritage, and Colleen Callahan, the Director of IDNR.

Thanks to the USDA Forest Service, State & Private Forestry Branch, which provided leadership and technical resources across all of the core forest resource issues and forestry disciplines of concern to state forestry agencies. This Illinois Forest Action Plan includes the current USDA Forest Service Forest Legacy Program, Illinois Assessment of Need to authorize, guide and continue to implement important forest conservation and easements.

We are also grateful for the review and support of the USDA Natural Resources Conservation Service, State Technical Committee for the current assessment and strategies plan.

Thanks to Eric Holzmueller, John Groninger and other faculty and staff of the Southern Illinois University, Department of Forestry, Carbondale, IL who authored the original Statewide Forest Resource Assessment and Strategy (adopted 20, 2010) document which provided the framework for today's Forest Action Plan.

Thanks to Jay Hayek, University of Illinois Extension, for his leadership as the Illinois Forestry Development Council Chairperson and all Illinois active forestry leaders, active foresters, and authors of references cited in this plan.

And thanks to all Illinois Forestry Partners for their input, guidance and energy in developing this plan. Significant portions of documents, research, and plans found as references were either directly incorporated or referred to in the making of this and the original IFAP. Please take the time to peruse the volumes of expertise that drives this plan cited in the references and appendices.

Acknowledgments cont.

Illinois Forestry Summit 2018 / Illinois Forest Action Plan Input and Collaboration

The Illinois Forestry Development Council structured a well-planned Illinois Forestry Summit on June 12-13 2018, specifically to absorb input and collaborate on the Illinois's Forest Action Plan and gather perceived needs for Illinois Forests in the coming decade. As a part of this summit a survey for gathering input on the Illinois Forest Action plan was sent out through *Survey Monkey* to numerous individuals and organizations that included federal, state and local government, private industry, and non-profit organizations. The survey and invite to the Illinois Forestry Summit were sent to members of the Illinois Legislature, Shawnee National Forest, Illinois Fish and Wildlife refuges, Army Corp of Engineers, Illinois EPA, City of Chicago, Illinois Forestry Association, Openlands, The Morton Arboretum, all members and subcommittee participants of the Illinois Forestry Development Council and many others considered to be primary partners of Illinois forests (see Primary Partners page 4.)

A gathering representing over 40 organizations of government, industry, and non-profits from across the State, met at the I Hotel in Champaign Illinois on June 12th & 13th to discuss the major threats to Illinois forestry resources outlined in the Illinois Forest Action Plan (IFAP). Those threats: loss of Oak-Hickory forest type, fragmentation of large forest blocks, increasing forest-health threats, lack of trained forestry professionals, reduction of forest industries and mills, extreme pressure and challenges on urban and community forests, and insufficient forestry funding were discussed in a series of break-out sessions. The Council encouraged input and collaboration from the attending organizations on the direction and implementation of the IFAP, the Council's role, and the role of each organization. The input received from the summit, with all parties working toward common goals and understanding of stakeholder resources, guides substantive and positive change to improving forest resources within the State. The Illinois Forestry Development Council followed the summit with a strategic planning session and with the input gleaned from the summit and strategic planning session drafted revisions for creating the 2020-2030 Illinois Forest Action Plan.

Table of Contents

SECTION	PAGE
ACKNOWLEDGMENTS	ii
INTRODUCTION	1
EXECUTIVE SUMMARY	2
PRIMARY PARTNERS FOR FORESTRY AND ILLINOIS FORESTS.....	4
THREATS TO FOREST LANDS AND RESOURCES.....	5
CURRENT CONDITIONS AND TRENDS.....	18
PRIORITY FOREST AREAS OF THE ILLINOIS DEPARTMENT OF NATURAL RESOURCES, DIVISION OF FOREST RESOURCES	33
PRIORITY AREAS (AND PARTNERING) IN THE MIDWEST.....	40
NATIONAL PRIORITIES AND PRIORITY AREAS (USFS).....	46
ILLINOIS FOREST RESOURCE STRATEGIES AND ACTIONS.....	51
PRIORITIZING FOREST RESOURCE STRATEGIES AND ACTIONS.....	55
EXHIBIT A. URBAN FOREST STRATEGIC PLAN AGENDA	59
EXHIBIT B. ILLINOIS FOREST LEGACY ASSESSMENT OF NEED	68
REFERENCES.....	146
APPENDICES.....	147

Introduction

Illinois' forests offer remarkable benefits to our residents. While the role trees play in providing materials for building homes and for wood products are readily apparent, forests also protect the soil and preserve the quality of our air and water. Trees, typically credited with a quality of life value in urban settings, are known to be essential tools for storm water management and carbon sequestration. The relationship between our forests and the preservation of biological diversity or presence of animals and birds is as equally important. Illinois forests facilitate and play a vital role in a wide variety of outdoor recreation and aesthetic pursuits throughout the state. These interactions of the forests of Illinois and other natural resources range from quite simple to extremely complex and require ongoing scientific efforts. Most Illinois forests can provide these commodity and conservation roles, functions, and outputs with care and management.

Forests occupy about 15% of the state's surface area. Illinois' forests are home to 61% of the native flora and 75% of the state's wildlife habitat. Forestry, the science and skill of analyzing, nurturing, tending and protecting forests, is actively practiced by degreed foresters within Illinois among state, private, federal, academic, and other organizations or businesses. Southern Illinois University at Carbondale offers an undergraduate B.S. degree in forestry accredited by the Society of American Foresters. The University of Illinois and a number of other scientific and biological organizations promote the study and management of forests on state,

private, and federal forest land in Illinois.

The historic, pre-settlement landcover in Illinois was once 40% forest! Forests ranged from dense mesic forests to open forests and savannahs and covered about 14 million acres. Settlement, farming, and land development eventually reduced Illinois' forests to a low of less than 3 million acres. Today, Illinois' forests have expanded and regrown to 4.9 million acres — all of which are critical to people's health and well-being and essential to Illinois' natural environment.

This document takes a look at our current forest resources across Illinois. It identifies facts, trends and threats, as well as priorities, opportunities, and strategies for the future of Illinois forests. This document is critical in explaining the priceless forest resources that help balance human impacts and advances in this natural world. The document is inspired by the USDA Forest Service and state forestry departments throughout the U.S. The Illinois Forestry Development Council (IFDC), guided by the Illinois Department of Natural Resources (IDNR), serves as the state's Forest Stewardship Coordinating Committee. The IFDC and its committees have reviewed this document to assure it meets the purpose intended. The IDNR values the partnership and working relationship it shares with the USDA Forest Service and its State and Private Forestry branch as well as the IFDC's concerns for the forest resource across Illinois.

Executive Summary

INTRODUCTION

The historic, presettlement landcover in Illinois was once 40% forest! Forests ranged from dense mesic forests to open forests and savannahs and covered about 14 million acres. Illinois' forests now cover close to 5 million acres. This document takes a look at facts, trends, and threats, as well as priorities, opportunities, and strategies for the future of Illinois forests.

SEVEN THREATS TO FOREST LANDS AND RE-SOURCES

1. Oak-Hickory forests are threatened: Oaks in our forests are affected by both ongoing biological processes or inhibited functions and by human or livestock practices initiated by landowners, resource managers, and government decisions. Reductions in the frequency of beneficial disturbances, such as timber management and prescribed fire, have added to the suppression of oak seedlings and increased the frequency of nonoak seedlings and saplings (Crocker et al. 2009).

2. Fragmentation of large forest blocks: "Some of the harmful consequences of fragmentation are a loss of biodiversity, increased populations of invasive and non-native species, and changes in biotic and abiotic conditions (Hayes 2003)" (Crocker et al. 2009). The process of fragmentation is accelerated when more and more people seek to purchase tracts of forested land.

3. Forest health threats are increasing: Multiple factors affect forest health, particularly exotic invasive plants, insects, and pathogens. Damage from floods, ice storms, wind, or livestock grazing without remediation are also examples of forest health issues in Illinois.

4. Forestry professionals are too few: Early retirement and subsequent budget cuts to IDNR have reduced Forestry Division professional, technical, and clerical staff by as much as 86%. Strategic planning dating back to the 1990s, prior to staff loss, defined the need for additional districts and urban and traditional forestry field staff.

5. Forest industries and mills are shrinking: The number of sawmills within Illinois has decreased by 72% since 1961. This loss is partly attributed to higher

workers compensation rates, utility rates, and business taxes compared to neighboring states.

6. Urban and community forests face extreme pressures and challenges: Since 1990, there has been approximately a 7% increase in municipal lands statewide. Increased urbanization is outpacing reforestation efforts and the ability of most communities to manage urban forests.

7. Forestry funding and significant other threats: Illinois has failed to generate or legislate permanent funding for forest and natural resources conservation and remains in great need of doing so.

FOREST CONDITIONS AND TRENDS: (based on inventory data from the USDA Forest Service, FIA.)

— Illinois forest land is made up of 94% "timberland" or unreserved forest land that meets the minimum productivity requirement of 20 cubic feet per acre per year at its peak"(Crocker et al. 2017).

—Illinois' forest land has been on the rise since 1948 due to the decline of the U.S. farm economy in the 60's and 70's and success of national and state forestry programs, (Crocker et al. 2017).

— Illinois biomass has been increasing since 1985. Illinois forest land provides for an estimated 253.9 million dry tons of aboveground live-tree biomass. Live volume per acre of forest land has steadily increased to an estimated 1,878 cubic feet per acre (Crocker et al. 2017).

— Illinois' total forest ecosystem carbon stocks in 2015 were an estimated 324.4 million tons, a 5 percent increase since 2010. Live trees and soil organic carbon make up the largest pools of forest carbon at 86 percent (Crocker et al. 2017).

— Illinois' forest land is predominantly held by private landowners. An estimated 83 percent, or 4.1 million acres are owned by private families and individuals (Crocker et al. 2017).

— Since the 1960s, the rate of growing-stock mortality has continued to grow with each inventory. Increasing mortality reflects the growing maturity of Illinois' forests.

PRIORITY AREAS OF IDNR

Forestry Division: Forest resource priorities include forest health, forest planning, forest inventory and analysis, state forests, forest products, forest management, forest fire, urban and community forests, and forest protection.

Midwest Region: Illinois is a part of several other regional forestry priority areas in the Midwest. Within the Upper Mississippi Watershed of the Midwest region, several sub-watersheds have been classified as high priority by the Upper Mississippi River Partnership and the United States Department of Agriculture, Forest Service, Eastern Region State and Private Forestry (R9 S&PF). One-third of the multi-state priorities identified are *issues* that could benefit from collaboration among multiple states.

National: Forest Action Plans focus on three national priorities established by the USDA Forest Service, State, and Private Forestry section:

1. Conserve and manage working forest landscapes for multiple values and uses,
2. Protect forests from threats,
3. Enhance public benefits from trees and forests.

SEVEN FOREST RESOURCE STRATEGIES AND ACTIONS

1. Save and expand oak-hickory forests
2. Create more forest blocks of 500 or more acres
3. Mitigate forest health threats
4. Hire more forestry professionals
5. Focus on Illinois forestry industry
6. Expand urban and community forests
7. Find permanent funding for the State Forestry Division

PRIORITIZING FOREST RESOURCE STRATEGIES AND ACTIONS

Critical mass for widespread support, for stable, ample funding and for initiating forest resource strategies is absent in Illinois.

The primary year-in, year-out priorities for the Division of Forest Resources are often only those activities that meet the focus or requirements for federally supported “programs,” such as Forest Stewardship or Urban and Community Forestry.

Significant partnerships that supply material, physical, and financial assistance and projects that accomplish goals of more than one state entity are therefore prioritized. In order to best address the seven Illinois Forest Resource Strategies and Actions, the Division of Forest Resources will need to continue to seek assistance through various government, public, and private partnerships that can share in the material, physical, and financial needs of the program. These types of partnerships are vital opportunities that will be prioritized to help accomplish Illinois forestry goals.

Through a recently written Shared Stewardship Agreement with the USDA Forest Service, the Illinois Department of Natural Resources and the Division of Forest Resources have an extraordinary framework and opportunity to work together to set landscape-scale priorities, implement projects at the appropriate scale, co-manage risks, share resources, and learn from each other while building long-term capacity. This commitment will support healthier and more resilient forests, while also providing wood products, reducing catastrophic wildfire risks, controlling non-native invasive species, protecting special habitats, and supporting local economies. The available or created tools, programs and initiatives between the two parties to achieve these benefits will remain a priority to the forestry division and will further address important strategies outlined in this forest action plan.

Primary Partners for Forestry and Illinois Forests

Association of Consulting Foresters (ACF)
Chicago Wilderness (CW)
City of Chicago, Department of Forestry
Chicago Region Trees Initiative
Great Lakes Commission
Headwaters Invasive Plant Partnership (HIPPP)
Illinois Arborist Association (IAA)
Illinois Association of Soil & Water Conservation Districts (IASWCD)
Illinois Audubon Society
Illinois Consulting Foresters (ICF)
Illinois Department of Agriculture
Illinois Department of Natural Resources (IDNR)
 IDNR Office of Lands & Education
 IDNR Office of Resource Conservation (ORC)
 Division of Forest Resources
 Division of Wildlife
 Division of Farm Programs
 Division of Natural Heritage
 Division of Fisheries
 IDNR Office of Water Resources
Illinois Environmental Protection Agency (IEPA)
Illinois Farm Bureau (IFB)
Illinois Forestry Association (IFA)
Illinois Forestry Development Council (IFDC)
Illinois Green Industry Association (IGIA)
Illinois Invasive Species Council (IIPSC)
Illinois Landscape Contractors Association (ILCA)
Illinois Nature Preserves Commission (INPC)
Illinois Tree Farm System (TF)
Illinois Walnut Council (IWC)
Illinois Wildlife Society
International Society of Arboriculture (ISA)
Kaskaskia River Stakeholders
National Wild Turkey Federation (NWTF)
Natureserve
Northwest Illinois Forestry Association (NIFA)
Openlands
River to River Cooperative Weed Management Area (CWMA)
Society of American Foresters (SAF)
Society of Municipal Arborists (SMA)
Southern Illinois Prescribed Burn Association (SIPBA)
Southern Illinois University, Department of Forestry
The Morton Arboretum
The Nature Conservancy (TNC)
Tree Care Industry Association (TCIA)
Trees Forever
University of Illinois at Urbana Champaign
US Army Corps of Engineers
US Fish and Wildlife Service
USDA Animal & Plant Health Inspection Service (APHIS)
USDA Forest Service (FS)
USDA Natural Resources Conservation Service (NRCS)

Threats to Forest Lands and Resources

At present, 2020, there exist a number of significant threats to forests and critical forest resources in Illinois. Discussed throughout this document are seven issues that are considered serious threats to the resource and its social and economic functions. The Illinois Wildlife Action Plan of the Division of Wildlife Resources (Appendix A) also identifies a number of common threats and challenges facing forests.

The threats to Illinois’s forest resources were identified by natural resource leaders, researchers, practitioners, industry owners, land owners, and scientists through stakeholder activities sponsored by the IFDC over the last 30 years. Forest assessment factors, trends, and concerns were also identified by IDNR and the Division of Forest Resources, statewide forestry stakeholders, and partners. Significant stakeholders and partners include the Illinois Forestry Association, Forestry Extension, forestry schools and universities, the USDA Forest Service and Natural Resources Conservation Service, soil and water conservation districts, the American Tree Farm System, the state’s Urban and Community Forestry Committee, county governments, arboretums, and scores of individual Professional Foresters as well as other conservation organizations, foundations, and committees statewide.

It is important for the state’s future forest health and sustainability to promptly mitigate or reverse the seven threats summarized below. Addressing all seven threats simultaneously is an optimal strategy for the State of Illinois and its citizens, economy, and 5 million acres of forest resources. Historically, opportunities to apply solutions to any one of these threats have been rare. Opportunities to address threats are not frequent and not always predictable, and so any chance to address one or multiple threats is considered a priority. The seven threats are:

- 1. Oak-Hickory forests are threatened**
- 2. Large forest blocks are disappearing**
- 3. Forest health threats are increasing**
- 4. Forestry professionals are too few**
- 5. Forest industries and mills are shrinking**
- 6. Urban and community forests face extreme pressures and challenges**
- 7. Forestry funding and significant other threats exist**

Oak-Hickory Forests Are Threatened (Threat #1)

'According to Crocker et al. 2017: Oak/hickory, which occupies 68 percent of total forest area, is the most dominant forest-type group in Illinois. While total area has risen, increasing from 3.1 million acres in 2005 to 3.3 million acres in 2015, the age distribution of oak/hickory stands has become increasingly uneven (Fig. 1a). The area of older stands has increased in successive inventories, with 56 percent of stands 61 years of age or greater. The majority (77 percent) of the oak/hickory forest-type group is made up of large-diameter or sawtimber stands.

Within the oak/hickory forest-type group, oaks represent a relatively small percentage of total tree abundance (12 percent). Ash, elm, and hackberry seedlings (19 percent, 16 percent, and 10 percent, respectively) are the most dominant species in the understory, while oak seedlings make up a much smaller component (7 percent) (Fig. 1a). Among oak seedlings, white oak and black oak are most abundant. Since 2005, the number of American elm and sugar maple seedlings has significantly decreased, while hackberry and white ash have increased (Fig. 1b). Species composition among saplings has changed little since 2005 and remains largely American elm, sugar maple, and eastern hophornbeam (Fig. 1c). Shingle oak, white oak, and black oak are the most abundant oak saplings and represent 5 percent of total species. Oaks are more numerous in the large diameter classes; 48 percent of oaks (greater than or equal to 5 inches d.b.h.) in the oak/hickory forest-type group are 13 inches or greater (Fig. 2).

In contrast to abundance, oak species dominate the oak/hickory forest-type group by volume, totaling 3.1 billion cubic feet (in live trees greater than or equal to 5 inches dbh or 33 percent of volume. Mortality of live trees was greatest for American elm. Mortality of American elm was evenly distributed among diameter classes; in contrast, mortality of black, white, and northern red oak occurred primarily in large diameter trees, with 93 percent of mortality in trees 13 inches or greater.'

Many of the oak-dominated forest types are presently in decline due to a legacy of management that emphasized little disturbance and either no timber removal or highly selective removal of valuable timber. Reintroduction of fire into Illinois forests is increasingly gaining recognition as a key component of maintaining desired ecosystems. However, additional disturbances are also necessary under

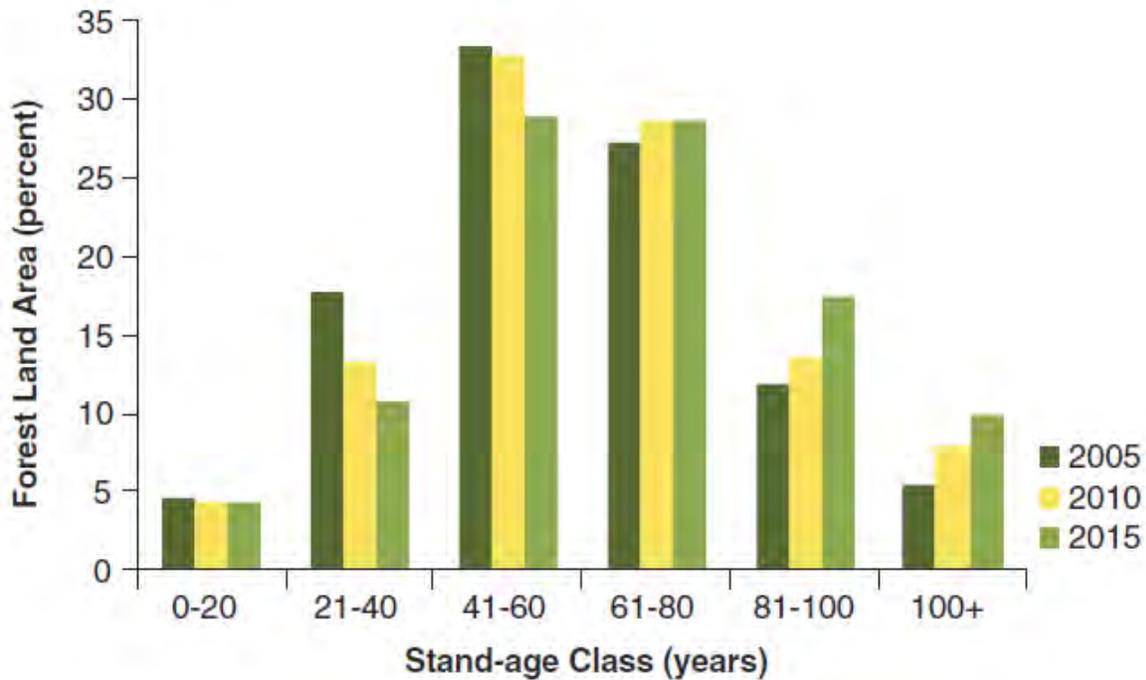


Figure 1a.—Stand-age class distribution of the oak/hickory forest-type group by inventory year, Illinois.

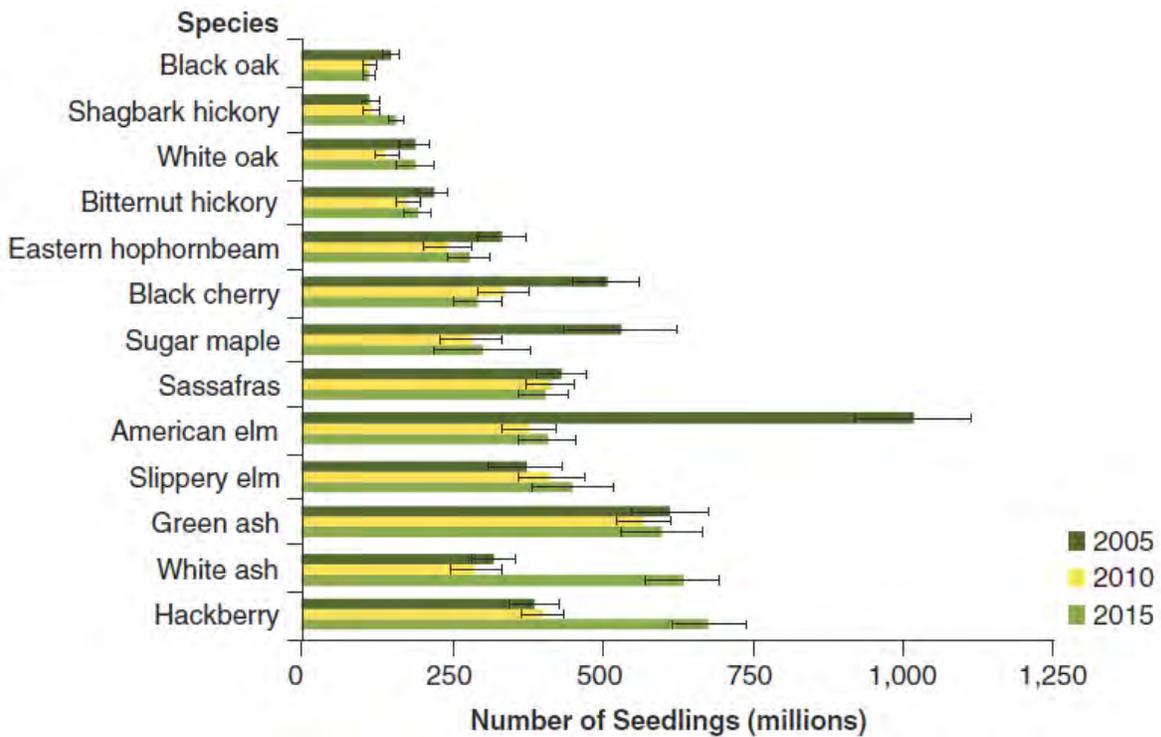


Figure 1b. Number of seedlings on forest land in the oak/hickory forest-type group by species and inventory year, Illinois. Error bars represent a 68 percent confidence interval. Source, USFS Resource Bulletin NRS -113, 2017

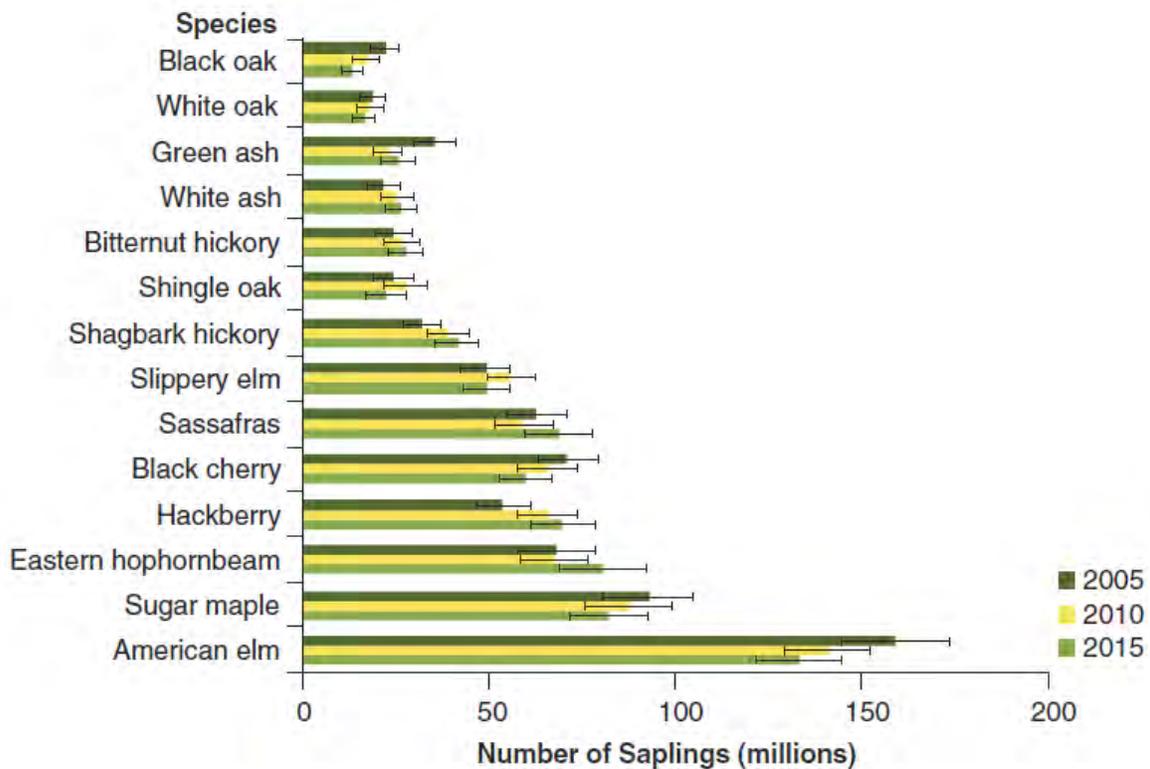


Figure 1c. Number of saplings on forest land in the oak/hickory forest-type group by species and inventory year, Illinois. Error bars represent a 68 percent confidence interval. Source USFS Resource Bulletin NRS -113, 2017

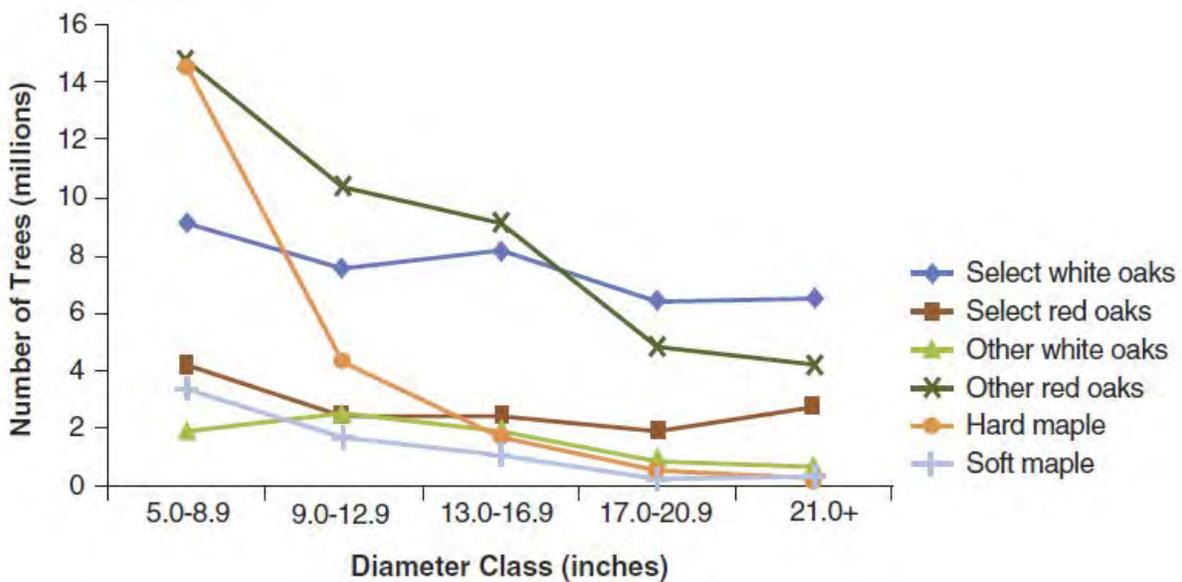


Figure 2. Number of trees on forest land in the oak/hickory forest-type group by diameter class for selected species groups, Illinois, 2015. Source USFS Resource Bulletin NRS -113, 2017

many circumstances. Any meaningful statewide strategies geared toward addressing declining tree species diversity must implement prescribed canopy, sub-canopy, and understory disturbances by foresters and land managers.

Another factor inhibiting successional processes are statewide and localized invasions of exotic species of certain trees, shrubs, and plants. Invasive-exotic species affecting woodlands are a number one concern of state foresters from the eastern US; north, or south. The presence of European buckthorn, bush-honeysuckles, tree-of-heaven, privet, stilt grass, and kudzu are only a few examples of species that occupy and/or shade an understory, inhibiting the survival of oak seedling individuals or seedling cohorts. Bush-honeysuckle appears to be the iconic invasive species for Illinois due to its quick take over and persistence in forest understories once it is established. Publications and lists discussing exotics are available to forest managers and the public. Most invasive-exotic species reported in current forestry/conservation publications are important factors to oak. The elimination or control of invasive-exotic species must occur to sustain and promote oak.

A long history of excellent markets for quality white oak and black walnut logs has contributed significantly to the reduced presence of oak in a majority of forest stands due to unplanned and unregulated harvesting favoring cutting only the best trees or the most valuable species. White oak trees are much more difficult to regenerate naturally than walnut and require many years of seed crops of acorns from ample numbers of mature seed trees. Landowners who do not consult a professional forester to designate proper harvest trees for cutting are likely to experience a timber buyer or cutter removing only or all of the best trees. Prevailing forestry silviculture dictates that cutting all of the worst specimens and poor species each time a harvest occurs yields a continuous higher quality, healthier, and more profitable forest, which can be sustainable over generations. The IDNR Division of Forest Resources estimates only 25% of timber sold involves professional foresters, while 75% of sales and harvests of timber on private lands lack professional consultation.

Oaks in our forests are affected by both ongoing biological processes or inhibited functions and by human or livestock practices initiated by landowners, resource managers, and government decisions.

Large Forest Blocks Are Disappearing (Threat #2)

'According to Crocker et al. 2009: Forman (1995) defines fragmentation as “the breaking up of large habitat or land areas into smaller parcels.” This results in a loss of interior forest and an increase in edge habitat, which has many negative effects on the remaining vegetation and wildlife. Some of the harmful consequences of fragmentation are a loss of biodiversity, increased populations of invasive and non-native species, and changes in biotic and abiotic conditions (Haynes, 2003).

Fragmentation occurs naturally from disturbances such as wildfire, wind, and flooding, or as the result of human activities such as conversion to agriculture or urban development/sprawl (Haynes, 2003). Analysis of fragmentation within Illinois classified 81% of the state as non-forest, 17% as forested, and the remaining 2% were identified as “water/barren land.” Further breakdown of forested areas shows that 7% were classified as interior forest, 7% as edge, and 3% as patch, implying that forest land in Illinois is heavily fragmented. The majority of interior forest land is concentrated in the southern tip of the state or in riparian areas along rivers. The remaining landscape contains a high proportion of edge habitat and many small, isolated patches of forest land. This type of fragmented landscape lacks the continuous forest habitat required by many species of plants and wildlife, and can result in loss of biodiversity and even extinction (Forman, 1995). While edge habitat may benefit certain species, it also has many negative effects, such as increased predation of bird nests and prey species (Heske et. al., 1999), and declines in native plant and wildlife populations (Collinge, 1996)'. Short-term forestry practices such as a regeneration opening or a silvicultural clearcut are not fragmentation if a forest canopy of new growth replaces the older canopy.

The process of fragmentation is accelerated when more and more people seek to purchase tracts of forested land. Greater numbers of people owning ever smaller tracts of land leads to a condition called “parcelization.” The median of forested acres privately owned is 25 acres; 33% of landowners own between 10-19 acres (FFO Illinois 2018, USFS NRS-199). Research shows that owners of smaller parcels are typically less aware of traditional forestry extension programs and less likely to manage their woodlands. While these small woodlots can certainly be attractive to live on, they are often too small to manage effectively and can be too small and too isolated to function as a healthy forest ecosystem. Urban areas within Illinois also

progressively grow larger as each year passes, significantly affecting adjacent natural resources. Growing, expanding urban areas is a phenomenon known as “urban sprawl.”

Collins and Buhnerkempe (1991) identified only 40 large forest blocks over 500 acres in size across Illinois. They are mapped on the IDNR biotic database. That size block is the threshold wildlife biologists often use. Protecting these forest blocks and creating new ones remains an objective in the Illinois Wildlife Action Plan. Those 40 blocks remain in the IDNR database, but there is no mechanism for regular confirmation of tract quality or status.

Forest Health Threats Are Increasing (Threat #3)

Multiple insect pest, disease, invasive plant species and abiotic issues are affecting Illinois forest health. Additionally, biotic and abiotic factors may interact to negatively impact forests in ways that are difficult to predict; and these effects can be relative to landscape-level conditions and use patterns. Dense, over-stocked forest stands and grazed forest stands, for example, have poor growth and vigor, making them highly susceptible to secondary biotic and abiotic stressors such as insect and disease infestations or herbicide spray drift. Damage from floods, ice storms, wind, or livestock grazing without remediation also affects Illinois forest health in this manner. Exotic insects and pathogens have been destructive to Illinois forests because many forest plants are not equipped with the appropriate natural defense mechanisms to protect themselves. Invasive plants species are becoming more of a forest health issue as it is becoming harder and harder to slow their spread let alone achieve eradication. It is noteworthy that many statewide non-native, invasive tree species problems (and many tree diseases) are first introduced in urban areas, threatening both the urban forest and eventually spreading to rural forests (American Forests, 2016).

Invasive plant species (IPS) 'are a major concern because they alter natural plant communities and processes, threaten biodiversity, and contribute to decreases in sustainability, productivity, and wildlife habitat (Crocker et al. 2009 and Pimental et al. 2000).' Data from 2015 FIA plots show that IPS are widely distributed across Illinois. Aggressive species, such as multiflora rose, non-native bush honeysuckle, Japanese honeysuckle, garlic mustard, autumn olive, reed canary grass, common buckthorn and black locust are the most common invasives in Illinois forests. It is important that the occurrence and spread of invasive species are monitored for public awareness.

Illinois has been through three significant insect pests in the last several decades, Gypsy moth, Asian, long-horned beetle,

and Emerald ash borer. Currently, gypsy moth, which was first reported in Illinois in 1973, has only become established in the northeastern counties of Illinois, and there is little discernible defoliation between 2001 and present. The expansion of gypsy moth has been dramatically slowed by the Slow the Spread program a multi-state partnership through the US Forest Service <https://gmsts.org/index.html>. Asian long-horned beetle, which was reported in 1998 also in northeastern Illinois, is believed to have been eradicated from Illinois in 2008. EAB was detected in Michigan in 2002, and Illinois in 2006, has spread throughout the United States and Canada. Ash trees attacked by EAB typically die within three to five years after attack. Ash has been an important component of Illinois Forest resources and an abundant species in woodland and riparian forests. Ash was also widely planted in urban and suburban streets, parks, and areas until 2010. At that point, Illinois contained approximately 146 million ash trees in the forests and rural landscapes plus another 30 million trees in cities and towns. The loss of Illinois' ash resource has come to fruition and changed Illinois's forest composition (Fig. 3).

Sudden Oak Death (SOD) affecting oak species and Thousand Cankers Disease (TCD) affecting walnut are diseases now potentially threatening Illinois. If these two diseases increase to epidemic levels, the forest health threat and imminent changes will be significant. SOD was found in Illinois in 2019. The pathogen was found in some rhododendrons and lilacs that were sold at certain retail outlets. SOD is caused by the fungal-like pathogen, *Phytophthora ramorum*. According to the Illinois Department of Agriculture positive confirmations have been made on a number of rhododendron and lilac varieties. The Illinois Dept. of Ag. also notes "that these varieties may not be the only plants affected as the disease can infect more than 100 different species. In general, most plants will get 'ramorum blight' as carriers, however oaks are considered terminal hosts as it can often be fatal." Thousand Cankers Disease has been found in the Midwest and its actual affect in Illinois forests is yet to be determined. The value of existing walnut as well as the normal regeneration of walnut for future use will be in jeopardy. The Illinois Department of Agriculture has established a walnut quarantine restricting imports of raw walnut wood and other regulated materials into Illinois.

Laurel wilt is a disease that is becoming a concern in Illinois. First detected in Georgia in the early 2000s, it is caused by the fungal pathogen (*Raffaelea lauricola*) and carried/spread by the redbay ambrosia beetle (*Xyleborus*

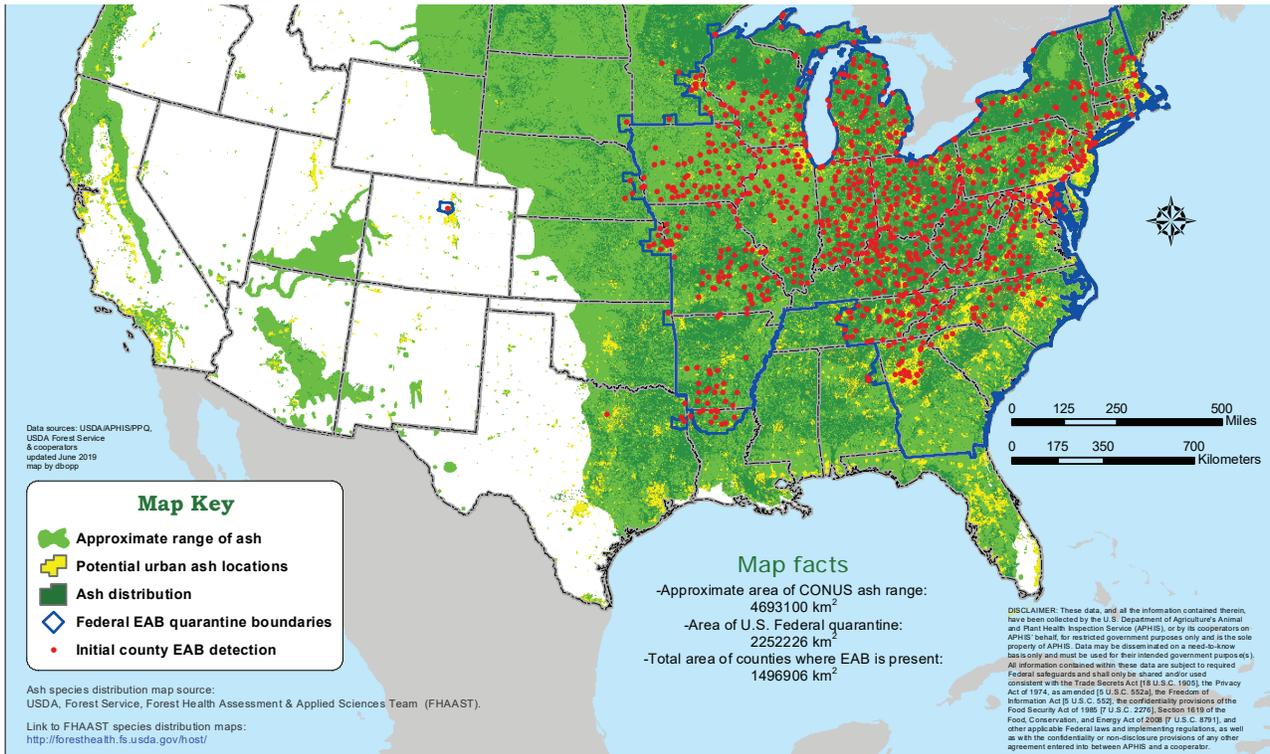


Figure 3. The federal quarantine boundaries of the emerald ash borer (EAB) as of June 3, 2019.

glabratus). Laurel wilt has not been detected in Illinois but it has been detected in Kentucky, and has the potential to infect Illinois sassafras (*Sassafras albidum*) and spicebush (*Lindera benzoin*) (Travis Cleveland, 2020). Herbicide drift incidents have been on the rise in Illinois over the last several years, (Hager, Wiesbrook, 2020) and forest managers and landowners should remain attentive with lands near or adjacent to agricultural crop lands to monitor and report issues.

According to Illinois' Forest Health expert, Dr. Fred Miller, Illinois' most pressing forest health issues for the immediate future in priority order are Spotted lanternfly, thousand canker disease-walnut twig beetle, herbicide drift damage, laurel wilt-redbay ambrosia beetle, continued monitoring of Sudden Oak Death, reintroduction of Asian long-horned beetle and resurgence of Emerald ash borer.

It is important to note the ongoing need to monitor and plan for emerging pests and diseases like Spotted lanternfly and laurel wilt not yet in Illinois. This highlights the state's need to secure a full-time forest health specialist to direct a statewide forest health program to best prepare Illinois landowners and forests for tomorrow.

Forestry Professionals Are Too Few (Threat #4)

Trained forestry professionals and technical staff of the IDNR Division of Forest Resources are responsible for the bulk of the state's forestry expertise and outreach to

landowners, tree nursery operations, communities managing urban forests, and others needing technical and practical advice. Lack of access to state forestry professionals seriously affects Illinois residents who own forested property within the state, for those who enjoy and visit Illinois' forests and natural areas, and industries that rely on a steady flow of raw wood material. The critical issue at hand is that the State of Illinois lacks a sufficient number of qualified experienced professional staff within the IDNR to meet the forest management needs of its citizens and of the state.

In fiscal year 2006, the Illinois state appropriation to the IDNR represented a 22% reduction from FY 2004 and a 28% reduction from FY 2002. Staff reductions have been exacerbated by retirements. Early retirements in 2002 and subsequent budget cuts to IDNR over the past several years have reduced the Forestry Division's professional, technical, and clerical staff by 39%, 67%, and 86%, respectively. In the early 2000s, five regional forester positions had foresters staffed and now, in 2020, only one regional forester exists. Currently, there are only 16 district foresters maintaining and operating field offices with virtually no clerical assistance. Two of those field office foresters have additional administrative and executive duties not allowing full attention to landowners, forests, or the active consultants. There is only one professional urban and community forester, who is the program's administrator, staffed for the entire

state. Not only are additional urban forestry and forestry staff needed but strategic planning, since the 90s, has called out the need for building forest district staff back to the historic 22 district office level maintained prior to the early 90's.

Illinois' Division of Forest Resources foresters are required to support consultants in approving management plans, management practices, and other critical habitat in addition to mandated environmental projects. Consultants for prescribed burning, timber stand improvement (TSI), and management plans are at times not available or not interested due to low rates, or inconsistent monetary incentives of the IDNR Forestry Division. It is essential that state IDNR foresters are in place to support the activity of consultants and to help consultants serve the forests in the best interests of the resources and those landowners who control 90% of the resource. The IDNR Office of Resource Conservation Farm Programs Division administers three other significant statewide conservation programs significantly tied directly to forestry. Those programs are the Illinois Recreational Access Program (IRAP), Illinois Conservation Reserve Enhancement Program (CREP), and the Illinois Conservation Stewardship Program (CSP). These programs employ two foresters and a number of biologists, yet they too are under-staffed and are in need of additional field staff and foresters to meet landowner needs.

Illinois ranks fifth in the nation in terms of population, ranks number one in the nation for local units of government with 6,963, and is one of the top states for number of municipalities. Illinois has over 1,300 municipalities in 102 counties. Yet the Illinois Urban and Community Forestry Program has only one dedicated full time equivalent administrative position. Surrounding states with fewer local units of government, municipalities, and citizens have had from five to 10 dedicated urban and community forestry staff for the last couple of decades. In the central United States, the state average is four dedicated State Urban and Community Forestry foresters. Illinois, where 88% of the citizens live in municipal areas, will require increased dedicated urban and community forestry field staffing. Efforts need to be made to increase the staffing level of the State Urban and Community Forestry Program and thereby strengthen program delivery opportunities to the local levels.

Forest Industries and Mills Are Shrinking

(Threat #5)

Forest product producers and manufacturing firms

comprise a small but important part of the state's economy, particularly in rural counties. The U.S. Bureau of Economic Analysis reports that the relative contribution of paper and wood products manufacturing to the 2003 Illinois Gross State Product has followed national trends in the manufacturing sector and declined 0.5% (\$2.5 billion current dollars). The 2004 Illinois Statistical Abstract reports that in 2002, Illinois forestry, logging, wood and paper manufacturing employed over 40,000 people, while agriculture and forestry activities support over 12,000, and furniture and related products manufacturing support over 20,000 people. The forestry, logging, wood and paper manufacturing categories combined, had a total annual personal income and earnings value of \$2.1 billion in 2002. A 2012 economic impact study authorized by the IFDC and conducted by Mississippi State University showed forestry and forest products in Illinois represent \$23 billion dollars in annual value.

Nearly all of the primary wood-processing facilities in Illinois are sawmills using state-grown logs. Wood processing facilities and sawmills in the surrounding states of Wisconsin, Iowa, Missouri, Kentucky, and Indiana also process a significant amount of Illinois-grown logs. Collectively, the mills offer Illinois woodland owners an outlet to sell timber and provide jobs in some of our state's rural areas. The demand for wood products is likely to increase, placing a greater demand on the state's forest resource. An important consideration for the economy of Illinois is that Illinois' primary wood-product markets, industries, and mills retain and expand their ability to process the industrial logs and round-wood harvested, leading to value-added production within this state. Currently, almost one-third of the industrial round-wood harvested in Illinois is sent to other states for processing, providing much less benefit to the Illinois economy. Additionally, there is currently no market for standing small-diameter timber (less than 10-inch trees) and few economically feasible options to collect this material if harvested in thinning operations. Current forest management practices, which often prescribe removing the small diameter trees from a forest stand in thinning scenarios, assume the prescribed trees will be culled without removal from the forest.

Overall, the number of sawmills within Illinois has decreased by 72% since 1961. This loss is partly attributed to higher workers-compensation rates, utility rates, and business taxes compared to neighboring states. According to the Illinois Sawmill Survey of 2005, there were 150 working sawmills compared to eight

years later, in 2013, when only 75 existed. This 50% reduction in mills over eight years is estimated to be closely related to the recession that began in 2007 and from which this country is still recovering. A fact that exemplifies the need for more Illinois forest industries is that during the closing and idling of half of the Illinois mills in the last decade, the amount of timber harvested from Illinois forests has remained constant and at the date of this publication is increasing.

Urban and Community Forests Face Extreme Pressures and Challenges (Threat #6)

Urban and community forests occur in nearly all communities throughout the Northeast and Midwest, from the most urban to very rural. The benefits of trees, forests, and other green infrastructure contribute to the quality of life in all Illinois communities. In an integrated approach, most states' [urban and community forestry programs] seek to help protect and maintain existing tree cover; implement best management practices; and engage local officials and the public in planning, sustaining, and improving forest resources in and around cities, suburbs, and towns (NASF, 2016).

The quality and quantity of Illinois urban forests is in jeopardy. Since 1990, there has been approximately a 7% increase in municipal lands statewide. Increased urbanization is outpacing reforestation efforts and most communities' ability to manage urban forests. There is a substantial need to further practices and policies, which can sustain and improve urban forests. The urban and community forest itself has multiple ownerships, multiple stakeholders, as well as neighbors. These interests need to be coordinated to mobilize effective forest management responses during natural disasters, emergencies, or insect and disease epidemics. Management strategies for urban forestry desperately need to be integrated at all levels—state and local government, regional planning, environmental organizations, and citizen-based groups.

Our urban forests face pressure and challenges from the following intertwined threats:

Shortage of Technical Staff/Expertise, Financial Assistance for Communities and Limited Access to Up to Date Information/Materials for Public Education

Illinois has the most local units of government, 6963, of any state in the nation and is ranked among the top states for the number of municipalities with over 1300 in 102 counties. Illinois also ranks fifth in the nation among states for state residents. However, Illinois' cur-

rent community and forestry program has only one dedicated full time equivalent administrative position. By comparison, surrounding states with fewer local units of government and citizens have between 5 to 10 times the dedicated urban and community forestry staff to meet program demands.

Since 1991, IDNR has provided cities, villages, and towns Urban and Community Forestry Assistance. This work has helped countless communities develop tree ordinances, establish local programs, inventory trees, and develop management plans. The results of the inventories helped local municipal managers and foresters fight for better budgets, sustain a safe tree environment for citizens, and manage healthy, sustainable forests. Assistance has also been directed towards tornado re-leaf projects with tree planting and other reforestation projects in our communities. The state uses the USDA Forest Service Urban and Community Forestry Funds provided as state core funding for supporting this assistance. Since community forest canopies have thinned and the health and integrity of our municipal forests have been compromised, the lack of state forestry funding remains a great concern.

In addition, there is a discrepancy between the growth and development of local urban and community forestry programs in the northern part of the state compared with those in the southern part. "Northeastern and Central Illinois seemed to have greater growth in the areas of dedicated staff, the number of positions, and formal education or training. It is apparent that smaller communities, especially non-Tree City USA communities, are still struggling to get educational and technical information to manage their local forest resources" (Sass, 2010). Fifteen percent of Illinois communities are Tree City USA (TCU) accredited.

With over 180 communities, Illinois is third in the nation for TCU participation; however, more communities could be reached if there were dedicated urban forestry field staff. Illinois uses federal funding for this program and lacks dedicated state funding for financial and technical outreach to local units of government for urban forestry program delivery. As our rural areas are converted to urban areas, the need for staffing to assist municipalities in sustaining the existing trees and integrating protected green spaces into a built environment also becomes greater.

Impacts of Invasive Species on the Urban Forest Canopy

In an ever-expanding global environment, our urban forests are being exposed to new insect, pathogens, and plant species. These pests can have a significant impact on the urban forest in a number of different ways from impacting tree health potentially leading to death, crowding out preferred species in natural areas, or redirecting limited resources to control measures.

Emerald Ash Borer is causing communities an increased need for funding due to treatments, removals, and new tree planting (Hauer and Peterson, 2016). Many communities have had to divert their spending from tree planting and tree care to ash tree removal (Hauer and Peterson (2016). 'According to Scott, L. 2019: In 2010, the Morton Arboretum and the U.S. Forest Service (USFS) completed an inventory and LiDAR analysis of trees in the seven-county Chicago region. The data told an alarming story of the state of trees in the region: 30 percent of the 157 million trees are the exotic invasive species, European buckthorn and Amur honeysuckle. Trees are not growing to maturity — 73 percent are less than six inches in diameter (Nowak et al. 2013). Native oak ecosystems are under threat from development, fragmentation, and lack of age diversity (Fahey et al. 2015). Eight percent of the region's trees are being killed by an exotic pest species, emerald ash borer (Nowak et al. 2013). Sixty percent of the region's trees are from only ten species, and this lack of species diversity provides an increased opportunity for ongoing catastrophic loss.'

Forest Resiliency and Limited Diversity - Species, Age and Climate Change

One of the most cost-effective means to a sustainable healthy urban forest, especially through times of climate change, is to ensure diversity of species and age. Unfortunately, when urban forestry funding is focused on crisis management, often there is a reduction in funding for tree replacement. In these cases, many times tree planting is non-existent, limited or left in the hands of untrained professionals. The result can lead to urban tree selection being limited to the economic preferences of retailers rather than studied selections for the resiliency of the urban forest. This compromises forest health and ability to adapt to change. Dialogue and education is critical to changing consumer behavior as an incentive for nurseries to grow a more diverse population of trees while at the same time sustaining their business. Without continued education and

outreach targeting the green industry, municipal leaders, and citizens, Illinois urban forests will be at risk of another epidemic of similar proportions to DED or EAB. Lack of species and age diversity seriously impacts our existing and future urban forests and rural forests that surround them.

Lack of Statewide Inventory Information and Analysis

There currently is not a detailed statewide urban forestry inventory and assessment of the tree canopy and tree resources within the municipal forests of Illinois. It is essential to establish this baseline data in order to create urban and community forest goals and management strategies for those cities, towns, and villages. A statewide inventory is desperately needed since most of the research we have conducted is only in the Chicago region. The establishment of the new Urban Forest Inventory and Analysis (Urban FIA), implemented by the USDA Forest Service across the nation, focuses on only the Chicago and St. Louis regions. Due to the geography and demographics of Illinois, urban and community inventory plots are specifically needed in the central and southern areas of the state.

Education and Training for Professionals and Nonprofessionals

Education of professionals and nonprofessionals needs to remain an ongoing priority to manage urban forests and enhance the available care for Illinois trees effectively and safely. Tree Care operations are among the most hazardous in the U.S. workforce. Standardized safety training for tree industry professionals, certified arborists, foresters and loggers, is available and should be supported throughout the state. There is also a need to educate and train other professions who work closely with the tree industry such as landscape and nursery workers. With a higher ratio of private to public urban trees the general public remains a significant resource for proper tree care in the state. Efforts should be given to expanding access to up-to-date information and materials on tree health, selection and care and relative issues.

Forestry Funding and Significant other Threats

Exist (Threat #7)

The last primary, significant threat is a group of important, historically documented critical concerns to the Illinois forest resource that are difficult to catego-

alize individually. The lack of permanent forestry funding (Threat 7a) summarized below is among the most significant of all the seven statewide threats within this action plan and the most significant within this group.

7a. Lack of Permanent Forestry Funding

Illinois has failed to generate or legislate permanent funding for forest and natural resources conservation and remains in great need of doing so. Forests are critical to the environment, quality of life, and the state and national economy. A specific legislative or voter-backed funding mechanism is needed to guarantee the critical funding required by the state forestry division within the IDNR to support the protection and sustainable management of all forests within Illinois. Lack of investment in forestry agencies, forest resources management, and other forest resource conservation protection negatively affects all forestry sectors including mills, forest landowners, professional services, and state university forestry programs. The forestry outputs and services from Illinois forests are currently estimated to be very low relative to the amount of forested land having technical management plans. The forestry outputs and services from our forests are also currently estimated to be very low relative to the total amount of forested land existing in Illinois. Seventy-nine percent of forested ownerships in Illinois over 10 acres in size do not have a professionally written forest management plan (Fig. 4). Fifty-five percent of owners having 10 or more forested acres are not at all familiar with a written forestry management plan, and only 15% of forest landowners having 10 or more forested acres that have forest management plans are actively engaged in full implementation of their plans (2018 Butler and Butler). Forestry division managers and foresters estimate only 30% of ownerships having formal plans make reasonable efforts or are actively working toward full plan implementation. There are not enough state service foresters, state program foresters, or consulting foresters to assure all existing technical forest management plans are implemented. The lack of permanent dedicated forestry funding remains one of the most significant threats to the forest resources of Illinois. Permanent funding for forestry could dramatically increase the output of rich, functioning wildlife habitat, the distribution of forest products into the economy, the preservation of clean water and soil resources, the availability of recreational opportunities, as well as all other services and benefits forestry provides to the citizens of Illinois and beyond.

7b. Need for Reforestation and Afforestation

Reforestation and afforestation in Illinois have always been important, based on the fact that the state once contained 14 million acres of forest but today has only 5 million acres. The remaining 9 million acres of once-forested land are in various uses today, and some are permanently “developed.” Relative to the excellent production and yield on most of Illinois farmland, less productive soils are often referred to as “marginal” in that they can produce better, more profitable alternate crops such as timber, orchards, small grains, or grasses than corn and soybeans. Hundreds of thousands of acres of “marginal” agricultural fields with relatively poor corn and bean yields continue to be farmed, and much of this acreage would be better suited for forest establishment and management. Additionally, some rich farmlands that once were forested remain environmentally sensitive. These exist mostly along the larger river systems throughout Illinois and continue to be farmed. For purposes of soil and water conservation and environmental quality, these sensitive acreages should be reforested. The CREP program estimated there are nearly 250,000 acres of sensitive riverine land in the Illinois River watershed alone. Approximately 400,000 acres of historic natural forests remain grazed and degraded. Those lands are in need of livestock restriction, as well as reforestation and restoration. The Illinois Wildlife Action Plan notes that a critical need of state wildlife is the statewide reforestation of over 300,000 acres. The significant need for additional reforestation for wildlife habitat; soil, water, and atmospheric conservation; recreation and timber production; and a host of other functions, is not being met and continues to be a threat to the forests of Illinois.

7c. Alternate Forest Management Objectives

Farm and nonfarm forest owners most often fail to assign realistic value to the timber in their woodlands. Historic and current surveys show timber proceeds and timber management is not a top reason most forest owners hold their land. Yet, owners of most tracts do actually harvest timber at some point. These owners fail to understand, in general, that timber and most all other forest management are interrelated. Realizing the objectives of management for aesthetics, wildlife, the environment, or recreation, for example, are dependent on the same healthy, vigorous forest that produces the eventual timber income (Fig. 5). The lack of an integrated management plan poses a threat to the forest resource, as landowners who have nontimber

ownership and management objectives often do not seek out a forester for assistance. Professional foresters are equipped to deliver any desired future condition for almost any landowner. A wide range of alternate forest management objectives are very commonly heard by foresters who continue to work closely with other natural resource specialists to address a wide range of desired conditions, such as habitat requirements for managed species, forest health, and various environmental outputs of particular forests. The results of unrealized management needs by landowners can be seen in the high percentage of unmanaged and degrading forests. Both alternate and traditional management of Illinois forests need to be channeled through professional foresters to manage individual forests and achieve robust, stand and landscape-level outputs.

7d. Lack of Support for IDNR-owned Nurseries

The IDNR Forestry Division’s Nursery Production Program sources, integrates, and produces native genetic materials for tree planting and reforestation. The program also provides stock for urban forest and other land covers such as prairies, savannahs, and wetlands. The need for native plant materials for restoration and reforestation is currently threatened by a pending shutdown of the IDNR Forest Nursery Program due to current statewide budgetary constraints. A nursery shutdown would threaten critical and mandated reforestation and habitat restoration projects and potentially impede financial revenue resources to IDNR’s Forestry Division. The Illinois State Nursery has huge potential, due to prudent planning and actions of the nursery staff and leadership, to expand production of high-demand materials, such as native herbaceous plants, prairie grasses, and pollinator species, as well as native genome stock for the robust Illinois nursery industry. When fully operational, the IDNR Forest Nursery Program can grow 6 million hardwood tree seedlings annually, which can stock 12,000 acres of land to new, young forest stands each spring with the guidance of a professional forester or contractor. A desired healthy Illinois landscape ensuring quality forests requires the state nursery to continue to produce high-quality, genetically sound stock to a level that supports annual reforestation, habitat restoration, and establishment of native plant species throughout Illinois.

7e. High-grading and Degrading Forests with Unplanned Harvests

Excellent markets for Illinois white oak, black walnut, and other fine hardwood logs have contributed signifi-

cantly to degraded forest stands because unplanned and unregulated harvesting favors cutting only the best trees or the most valuable species. Landowners who do not consult a professional forester to specify which harvest trees to cut are likely to experience a timber buyer or cutter who removes the best trees, negatively impacting forest health and productivity. Often, unscrupulous timber buyers misrepresent themselves as forestry professionals to make a deal favoring themselves. In most cases where woodlands are degraded, a landowner agrees to a timber cutting deal without the knowledge of which trees should be cut and what the trees are worth. Removal of the best trees or species often results in lack of suitable seed stock for future natural regeneration of the native hardwood forest. Wildlife habitat is also degraded when too many seed bearing hard mast (nut) trees are removed.

Prevailing silviculture dictates that cutting the worst trees (less those needed for specific habitats), each time a harvest occurs, yields a continuous higher quality, healthier, and more profitable forest, which can be sustainable over generations. Professional consulting foresters are available statewide and work only for landowners; they do not have interests or ownership in mills, markets, log sales, or industry businesses. The IDNR District Foresters are also available to give unbiased science-based recommendations and harvest advice to all landowners owning 10 acres of forest or more. The IDNR Division of Forest Resources estimates 75% of sales and harvests of timber on private lands do not involve professional assessment. High-grading timber stands means future harvests yield diminished returns or often are non-marketable. In some cases, many decades of repair and restoration may be required to return a high-graded forest to a full stocking of healthy, desirable hardwood tree species.

7f. Climate Change has to be a part of the forest planning process to ensure forest health and longevity

Global climate change and the degradation of forest health and resiliency is an important concern for Illinois. Illinois should prepare for climate change and become involved with other natural resource agencies within the region to collaborate and share in the planning and preparation for climate change impacts. A key resource for this planning is the *Central Hardwoods Ecosystem Vulnerability Assessment and Synthesis* report by the Central Hardwoods Climate Change Response Framework Project www.nrs.fs.fed.us/pubs/45430. The Northern Forests Climate Hub and Northern Institute of Applied Climate Science are also good resources for climate change preparedness. Other initiatives to note include The Wisconsin Initiative on Climate Change Impacts and The Regional Greenhouse Gas Initiative.

Figure 4 (2018; FFO, 10+).—Estimated area and estimated number of family forest ownerships (10+ acres of forest land) by written management plan familiarity and status, Illinois, 2018. See Appendix E. for link to full report.

	Totals				Percentages				n	
	Acres	SE ^a	Owner-ships	SE ^a	Acres	SE ^a	Owner-ships	SE ^a		
	----- thousands -----				----- percent -----					
Familiarity with written management plans										
Extremely familiar	440	50	6	<1	12	2	8	2	21	
Moderately familiar	591	56	6	<1	17	2	8	2	29	
Somewhat familiar	754	67	15	2	21	3	19	3	38	
Slightly familiar	437	47	9	1	12	2	11	2	20	
Not at all familiar	1,345	88	45	4	38	3	55	4	67	
Has a written management plan										
Yes	878	66	14	2	25	3	17	3	44	
No	2,469	108	65	4	69	3	79	3	119	
Don't know	220	35	3	<1	6	1	4	1	12	
Management plan writer										
Owner	58	21	<1	<1	2	<1	<1	<1	3	
Forester - private consultant	434	49	6	1	12	2	7	2	22	
Forester - forest industry	19	10	<1	<1	<1	<1	<1	<1	1	
Forester - state	277	37	6	<1	8	1	8	2	13	
Forester - federal	36	15	<1	<1	<1	<1	<1	<1	2	
Other	55	18	<1	<1	2	<1	<1	<1	3	
Not applicable	2,689	111	68	4	75	3	83	3	131	
Written management plan has been implemented										
Yes	842	65	12	1	24	2	15	2	42	
No	36	15	1	<1	1	<1	2	1	2	
Not applicable	2,689	111	68	4	75	3	83	3	131	

^a SE = standard error

Note: Data may not add to totals due to rounding.

Figure 5 (2018; FFO, 10+).—Estimated area and estimated number of family forest ownerships (10+ acres of forest land) by timber harvesting status, products harvested, reasons for harvesting, and use of a forester, Illinois, 2018. See Appendix E. for link to full report.

	Totals				Percentages				n
	Acres	SE ^a	Owner- ships	SE ^a	Acres	SE ^a	Owner- ships	SE ^a	
	----- thousands -----				----- percent -----				
Trees have been cut or removed									
Yes	2,507	111	58	4	70	3	71	3	124
No	1,060	69	23	2	30	3	29	3	51
Types of products cut/removed ^b									
Firewood	1,430	98	40	4	40	3	49	4	69
Logs	1,596	92	23	2	45	3	29	4	80
Wood chips or pulpwood	98	32	1	<1	3	1	2	1	6
Other	318	43	11	2	9	2	13	3	15
Not applicable	1,060	69	23	2	30	3	29	3	51
Reason for cutting/removal ^b									
Sale	1,378	89	19	2	39	3	23	4	70
Personal use	1,593	90	44	4	45	3	54	4	80
Other	546	60	15	2	15	2	18	3	26
Not applicable	1,060	69	23	2	30	3	29	3	51
Forester was used									
Yes	719	72	15	2	20	3	18	3	34
No	1,606	98	41	4	45	3	50	5	81
Don't know	182	29	3	<1	5	1	3	1	9
Not applicable	1,060	69	23	2	30	3	29	3	51

^a SE = standard error

^b Categories are not mutually exclusive.

Note: Data may not add to totals due to rounding.

Conditions and Trends of Illinois Forests ¹

Ecological Provinces of Illinois

'According to Crocker et al. 2017: Where trees grow, how they grow, and the types of forests they form are influenced by an array of ecological characteristics, such as terrain, soil type, geology, climate, and hydrology, which vary across the landscape. The concept of an ecoregion (e.g., McNab et al. 2007) integrates these factors in order to group areas that are likely to have similar natural communities. The ecoregion classification system is made up of several levels. At the broadest level, ecodevelopments use climate to identify ecologically uniform areas. Additional levels (e.g., ecodevelopments, ecoprovinces, ecoregions, and ecosections) represent successively smaller geographic areas based on similarities in factors mentioned previously. Ecoprovinces, or ecological provinces, are an appropriate level to broadly describe the ecology of Illinois. The State is home to three ecological provinces: the Eastern Broadleaf Forest, the Prairie Parkland, and the Lower Mississippi Riverine Forest (Fig. 6).

Forest land is concentrated along rivers and streams in the northern two-thirds of the State and is found throughout the southern third of Illinois (Fig. 7). Illinois forest land contains nearly 2.1 billion trees that are at least 1 inch in diameter at breast height (d.b.h., 4.5 feet above the ground). We do not know the exact number of trees because the estimate is based on a sample of the total population. Trees were measured on ~~1,038~~ forested plots. Full details of sample design and estimation procedures are available in Bechtold and Patterson (2005) and a summary explanation is included in the Statistics, Methods, and Quality Assurance document available at <https://doi.org/10.2737/NRS-RB-113>.'

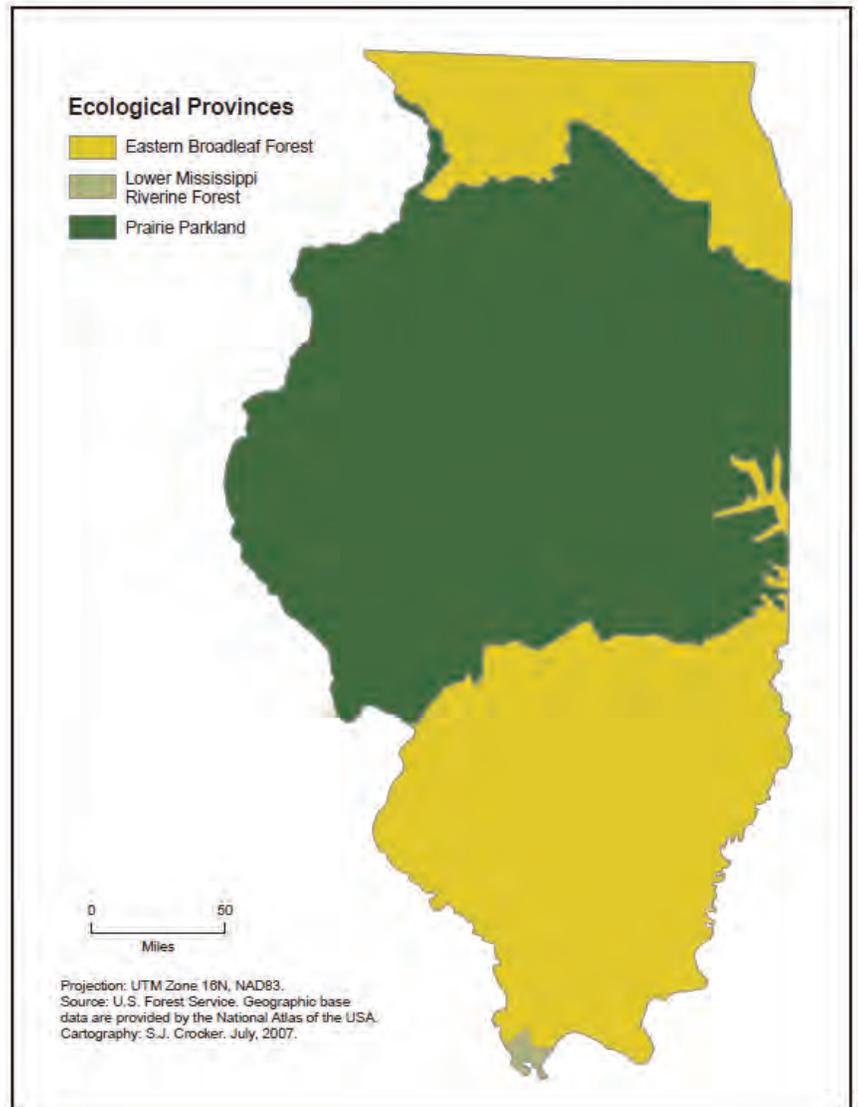
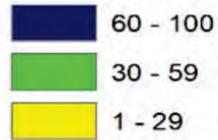


Figure 6. Ecological provinces of Illinois (McNab et al., 2007).

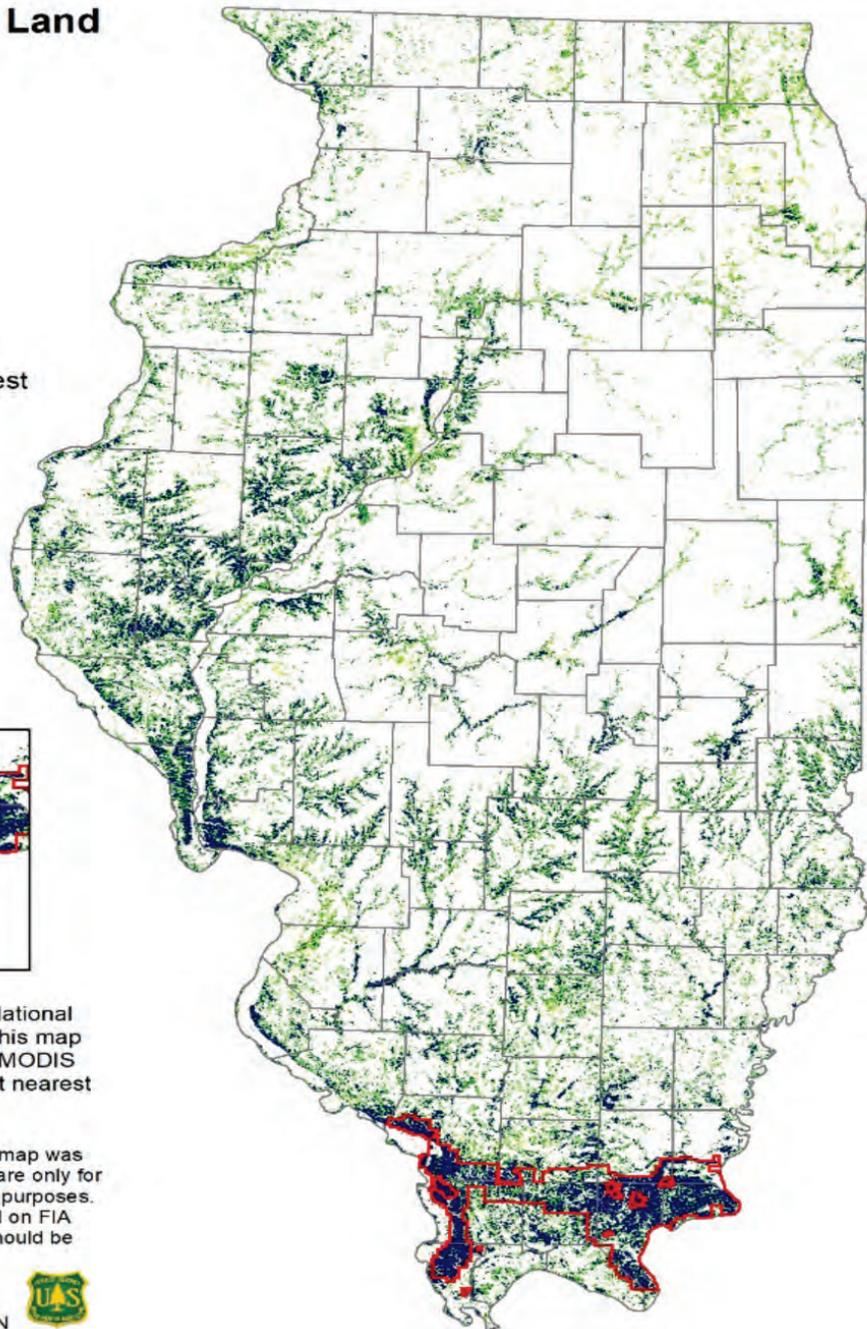
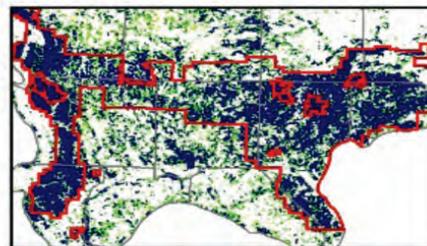
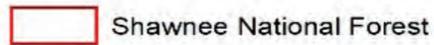
This plan reproduces text directly from Illinois Forests 2015 by Crocker et al. 2017. For additional information on the forest resources of Illinois please visit <https://www.nrs.fs.fed.us/fia/data-tools/state-reports/IL/default.asp>.

¹ Majority of text was excerpted directly from Illinois Forests 2015 NRS-113 Resource Bulletin (Crocker et al. 2017)

Proportion of Forest Land (percent)



Boundary



Sources: USDA-FS FIA 2009 data, National Atlas of the USA. Processing note: This map was produced by linking plot data to MODIS satellite pixels (250 m) using gradient nearest neighbor techniques.

Disclaimer: Information displayed on this map was derived from multiple sources. FIA maps are only for graphic display to meet general reporting purposes. Inquires concerning information displayed on FIA maps, their sources and intended uses should be directed to:

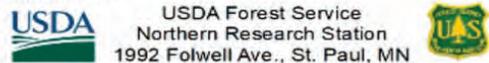


Figure 7. Distribution of forest land in Illinois, 2009.

Forest Area

Illinois forest land has been steadily rising since 1948 to its current estimated 4.9 million acres, or 14 percent of the State’s land base (Fig. 8). Illinois forest land occurs throughout the state but is heavily concentrated in the western half and southern third of the State, particularly within the Shawnee National Forest (Fig. 7). Timberland (forest land that meets the minimum productivity requirement of 20 cubic feet per acre per year at its peak) accounts for 94 percent of forest land, and the remaining 6 percent of forest land is reserved (land withdrawn from timber utilization through legislation or administrative regulation) or unproductive. Saw-timber, the predominate stand, makes up 76 percent of forest area while pole-timber stands comprise 15 percent. Seedling-sapling stands comprise 8 percent of forest land and 1 percent is non-stocked. Illinois forest stands age continues to increase; 49 percent of forest land is more than 60 years old (Fig. 9) (Crocker et al. 2017).

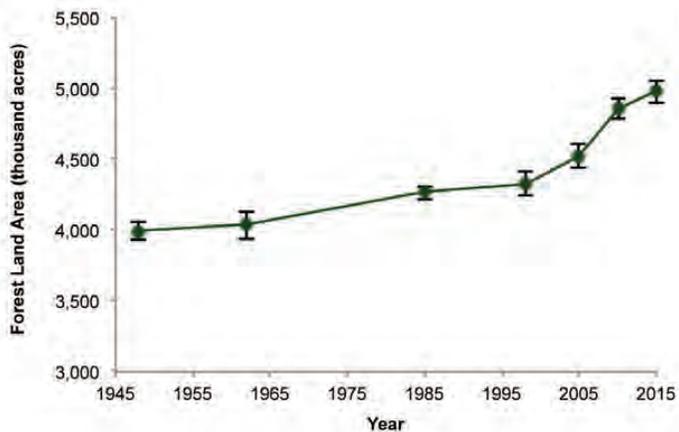


Figure 8. Area of forest land by inventory year, Illinois. Error bars represent a 68% confidence interval.

‘According to Crocker et al. 2017: For nearly 70 years, the area of Illinois’ Forest land has continued to expand. Major drivers of increasing forest land have included (1) a declining farm economy in the 1960s and 1970s, which led to a reversion of pastures and marginal agricultural lands to forest, and (2) the success of national and State programs, such as the Illinois Forestry Development Act of 1983, that were designed to promote well-managed forests and forest regeneration. Maintaining a diverse range of size and age classes will become increasingly important due to the largely mature forest resource,

which faces increased risk of forest health and sustainability issues.’

One area of concern is forest fragmentation which is high in the northern two-thirds of the state. Southern Illinois with the Shawnee National Forest maintains the most continuous forest land. Forest land will experience increased stresses from nonnative species and development as wildland-urban interfaces continue to increase. These pressures may very well produce long-term or permanent loss of forest habitat (Crocker et al. 2017).

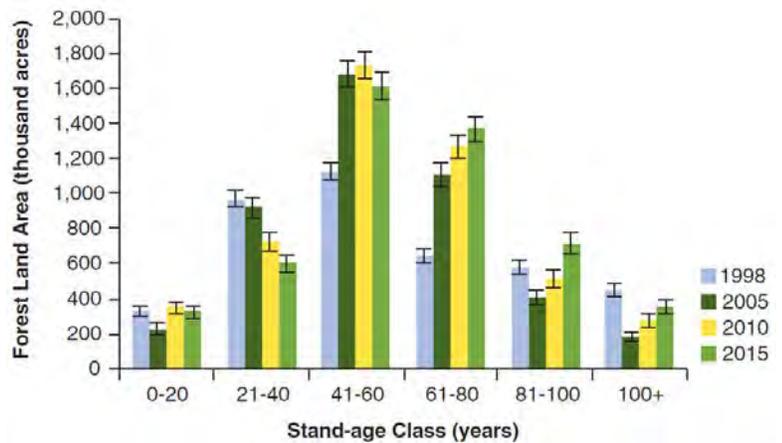


Figure 9.—Area of forest land by stand-age class and inventory year, Illinois. Error bars represent a 68 percent confidence interval.

Biomass

‘Illinois Forests 2015, Crocker et al. 2017, stated: Illinois forest land supports an estimated 253.9 million dry tons of aboveground live-tree biomass, held predominantly by private owners (82 percent). Although biomass on private forest land is about four and a half times greater than biomass on public forest land, there is more biomass per acre on public forest land (55 tons per acre on public forest land versus 50 tons per acre on private forest land). The distribution of biomass is similar to that of forest area, with the greatest amounts of forest biomass located in the southern tier of the State, primarily in the Shawnee National Forest (Fig. 10). Fifty-eight percent of statewide biomass is contained in the boles of growing-stock trees; 16 percent is in growing-stock stumps, tops, and limbs; 5 percent is in saplings; and 21 percent is in non-growing stock trees (Fig. 11).’

Illinois’ public and private landowners are an important part of supporting Illinois’ forest biomass, an important and valuable environmental and economic resource.

Aboveground Biomass of Live Trees on Forest Land (dry tons/acre)

- ≥ 40
- 20-39
- ≤ 19

Boundary

- Shawnee National Forest



Figure 10. Distribution of aboveground live-tree biomass on forest land, Illinois, 2009.

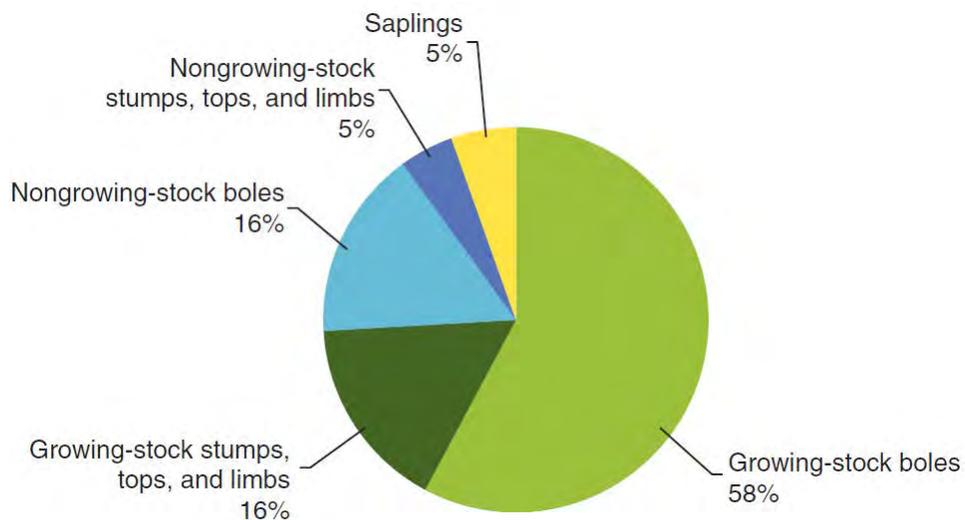


Figure 11. Forest biomass on forest land by tree component, Illinois, 2015.

With the majority of biomass contained in tree boles (trunks) forest management will be key to carbon storage and future wood availability. The monitoring of forest biomass will also become more important with the growing prevalence of bioenergy and desire for carbon storage and sequestration.

Species Composition

Illinois forest land contains almost 2.1 billion trees that are 1-inch DBH. or greater and with 99 different tree species represented (Appendix I). The total number of trees on forest land has remained consistent over the last decade. American elm, hackberry, sugar maple, and black cherry are the most abundant species (Fig. 12) and combined, they represent 28 percent of the total number of trees. Oaks are prolific throughout Illinois. Twenty species

‘The composition of Illinois’ forests and the dominance of individual tree species continue to evolve. Oaks are dominant in terms of volume, but American elm, sugar maple, and a host of predominantly understory species are the most abundant species by number. The difference in species composition by number and volume is reflective of oak dynamics, wherein large numbers of mature oak dominate the overstory and there is little oak regeneration in the understory. Disturbance, particularly from harvesting and fire management, promotes oak regeneration. The absence of disturbance has allowed shade-tolerant species to outcompete understory oaks. As oaks senesce, mortality will create canopy gaps that will most likely be filled by maples and elms, which now occupy the understory in large numbers (Crocker et al. 2017).’

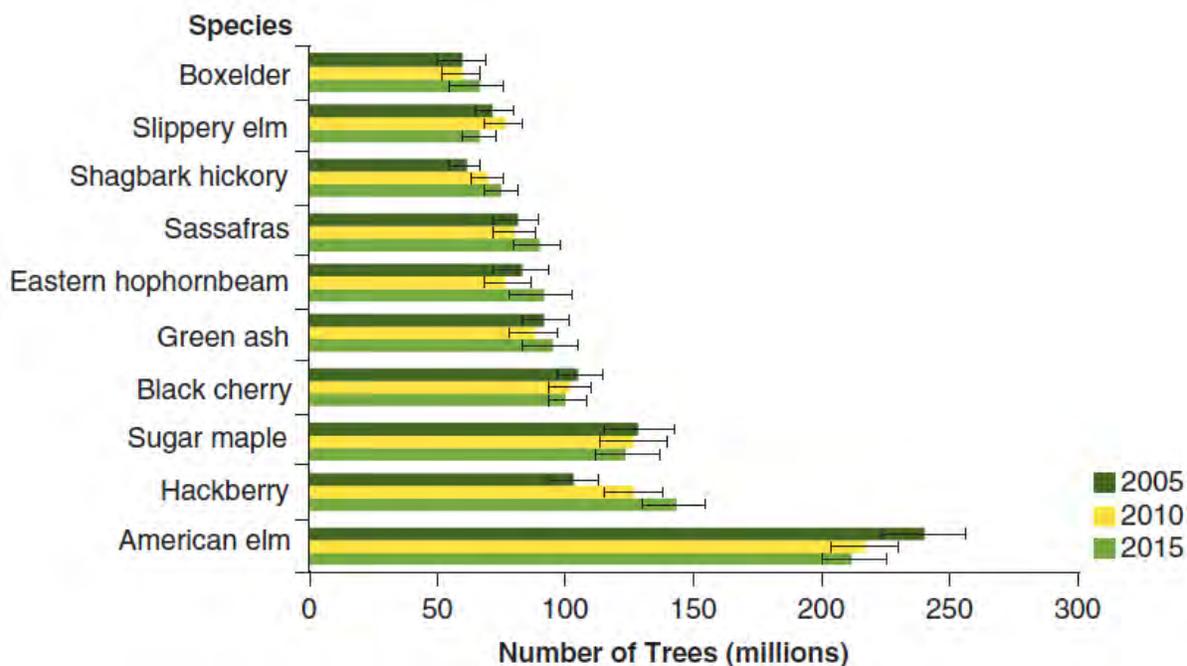


Figure 12. Number of live trees on forest land for the 10 most numerous trees in 2015, Illinois (error bars represent a 68-percent confidence interval).

of oaks were documented on forest land across the State and account for 10 percent of total species abundance. Tree abundance is stable but the volume of live trees on forest land has increased by 17 percent over the past 10 years. White oak, 10 percent of total live-tree volume, remains the most voluminous species on forest land, followed by silver maple, black oak, and northern red oak (Fig. 13). Oaks are 33 percent of total live volume. Several species have gained in volume since 2005, including silver maple, black oak, green ash, and black walnut (Crocker et al. 2017).

Forest Density

Illinois forest tree density has decreased since 2005, however, the average volume of live trees per acre of forest land continues to slowly increase. Total live-tree volume is estimated at 1,878 cubic feet per acre (Fig. 14). Only one percent of Illinois forest stands are non-stocked. Most stands are fully (42%) or moderately (41%) stocked and have remained fairly constant since 2005. Overstocked stands, representing 6%, contain too many trees to support adequate tree growth and development.

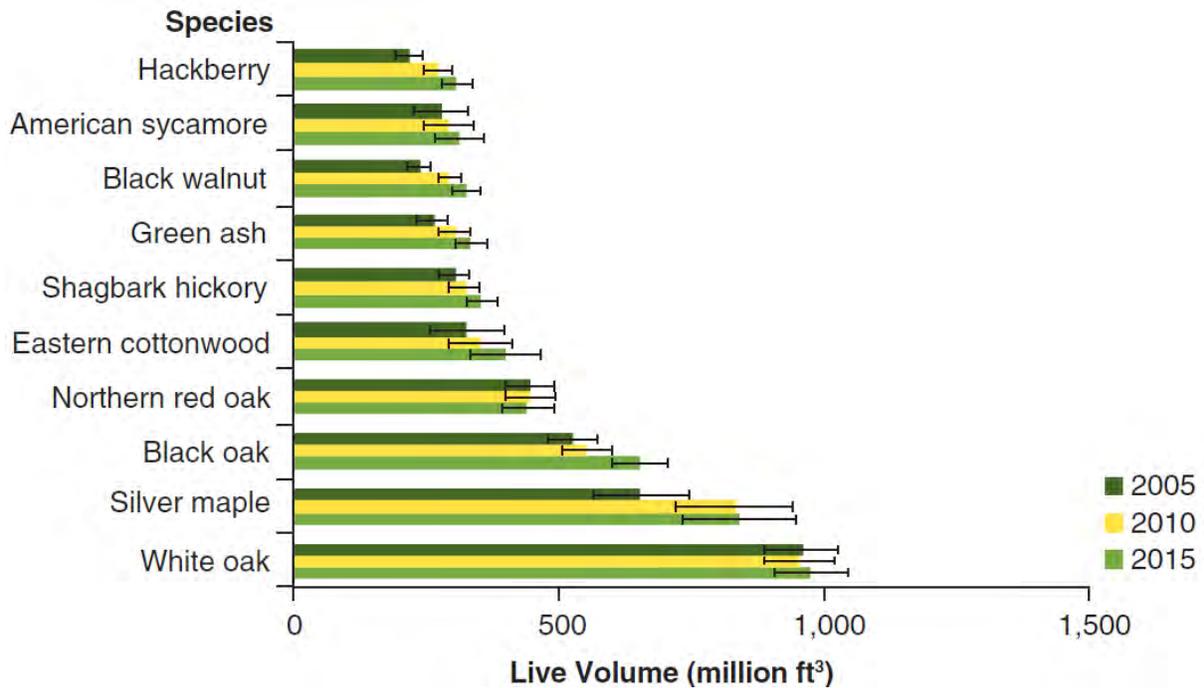


Figure 13. Volume of live trees on forest land for the 10 most voluminous species in 2015, Illinois. Error bars represent a 68 percent confidence interval.

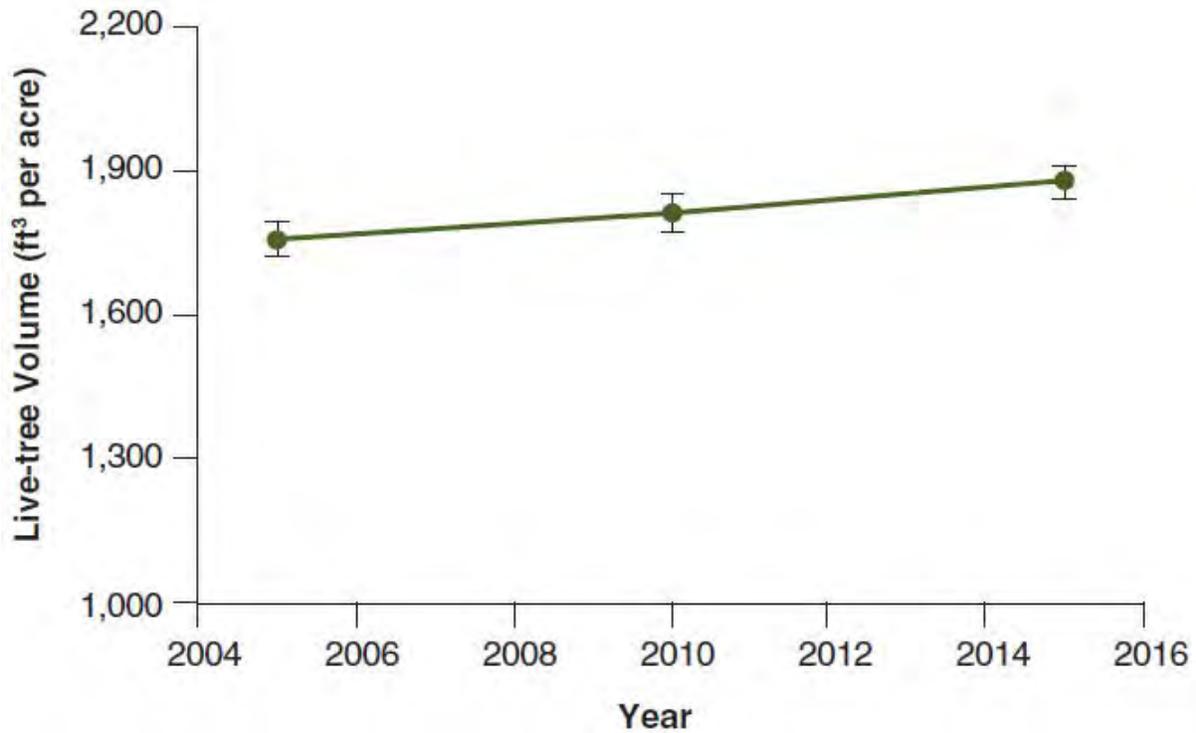


Figure 14. Live tree volume per acre on forest land by inventory year, Illinois, 2005–2015. Error bars represent a 68 percent confidence interval.

Poorly stocked stands, representing 10% of forest stands, do not contain enough trees to fully utilize a site. All stands containing ash species may experience lighter canopy stocking over a short time period, to the degree ash is present (Crocker et al. 2017).

Illinois forest composition is mostly made of oak/hickory forest types. Considering many wildlife species are dependent on oak/hickory forests for the food and habitat, changes in oak structure and abundance of this forest type will play an important role in the ecology of Illinois’ forests (Crocker et al. 2017).

Oak/hickory forest types occupy 68 percent of total Illinois forest area. The total area has increased from 3.1 million acres in 2005 to 3.3 million acres in 2015. However, the age distribution of oak/hickory stands has become increasingly uneven (Fig. 15a) with 77 percent of this oak/hickory forest-type group made up of large-diameter stands.

Ash, elm and hackberry seedlings (19%, 16% and 10% respectively) are the most dominant species in the understory while oak seedlings (7%) are a much smaller portion (Fig. 15b). Within the

among saplings since 2005 with American elm, sugar maple, and eastern hophornbeam rounding out the top three species. Shingle oak, white oak, and black oak are the most abundant oak saplings and represent 5 percent of total species (Crocker et al. 2017)

'According to Crocker et al. 2017: In contrast to abundance, oak species dominate the oak/hickory forest-type group by volume, totaling 3.1 billion cubic feet (in live trees greater than or equal to 5 inches DBH) or 33 percent of volume. Mortality of live trees was greatest for American elm, black oak, white, and northern red oak. Mortality of American elm was evenly distributed among diameter classes; in contrast, mortality of oaks occurred primarily in large diameter trees.'

Illinois’ oak/hickory forests is experiencing an emerging disparity among age classes. Less frequent disturbances, timber management and prescribed fires have contributed to suppression of oak seedlings and the growing abundance of non-oak seedlings and saplings. With a dominant non-oak species understory, including hackberry and white ash, and few oak saplings available to move into the medium-diameter classes, it seems likely that there will be a successional change in species dominance. Shade

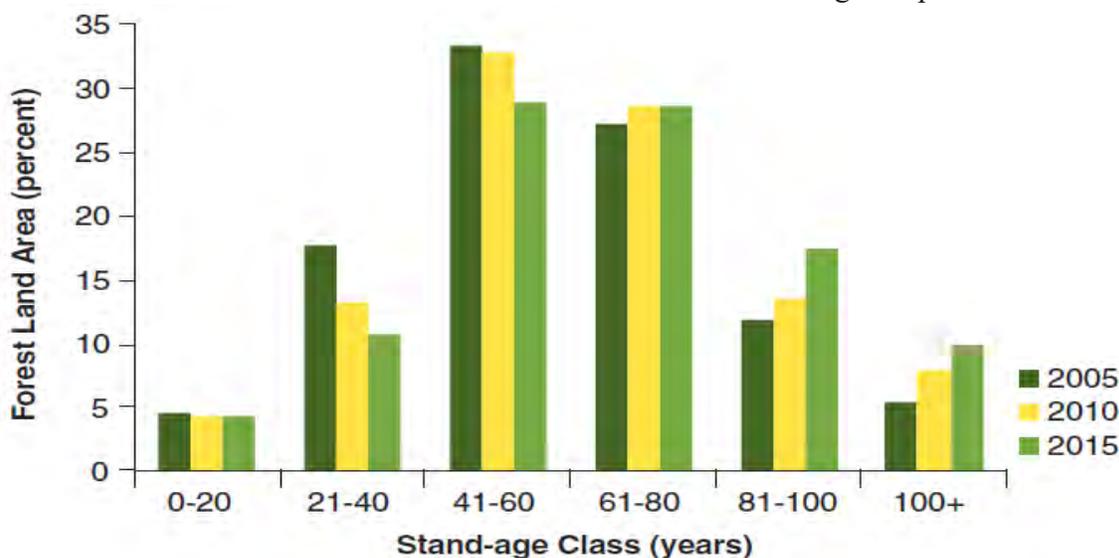


Figure 15a. Stand-age class distribution of the oak/hickory forest-type group by inventory year, Illinois.

oak/hickory forest-type group, oaks represent 12% percentage of total tree abundance with mostly white and black oak. American elm and sugar maple seedlings have significantly decreased since 2005 and hackberry and white ash have increased (Fig. 15b). There has been little change in species composition

tolerant species such as maples may eventually dominate oak stands. Sustaining a healthy oak resource will depend on successful seedling regeneration and sapling development. (Crocker et al. 2017)

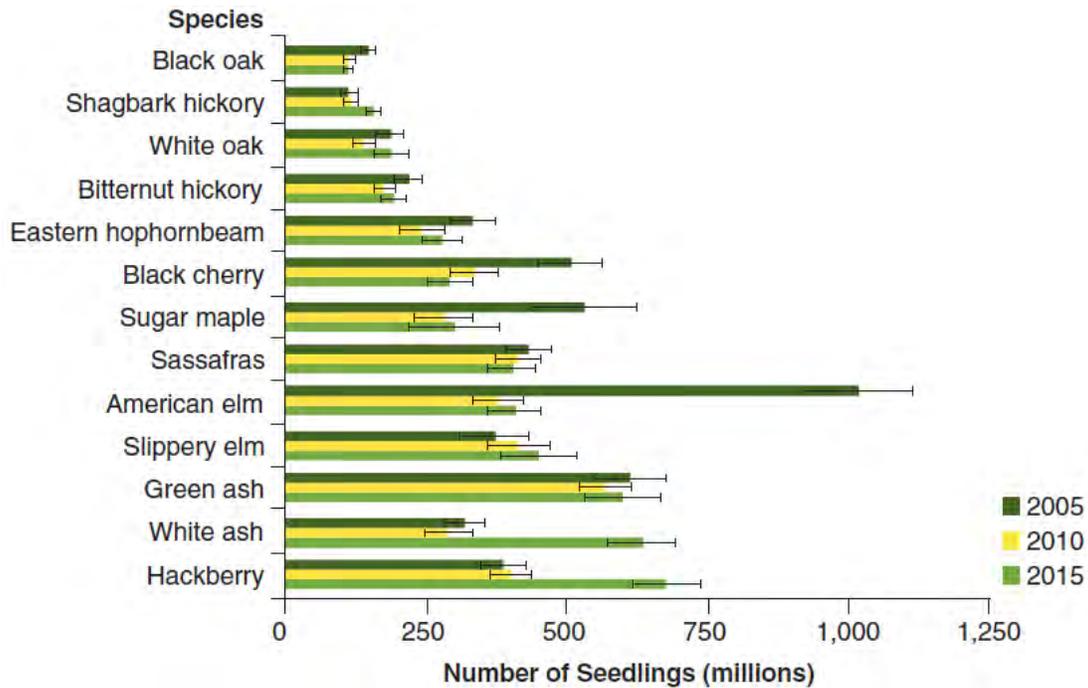


Figure 15b. Number of seedlings on forest land in the oak/hickory forest-type group by species and inventory year, Illinois. Error bars represent a 68 percent confidence interval.

Ownership

The majority of Illinois forest land is privately owned, 83 percent, or 4.1 million acres (Fig. 16a). The largest percentage of private forest land is held by family forest owners. Public forest acres are mostly Shawnee National Forest land and managed by federal agencies. Taking a closer look at private ownership, the majority of family owned forest land (3.4 million acres) is held by owners with at least 10 acres of forest land; the average forest holding is 45 acres. Seventy-six percent

of family forest owners hold between 10 and 49 acres of forest land (Fig. 16b). However, 60 percent of family-owned forest land in Illinois is in holdings of 50 acres or more. The principal reasons for owning forest land are related to aesthetics, wildlife, and nature. Hunting, hiking, cutting firewood and other personal recreation are the most common activities on family forest land. Most family forest owners do not have a management plan or have not received assistance in the past 5 years. Only 20 percent have received management advice.

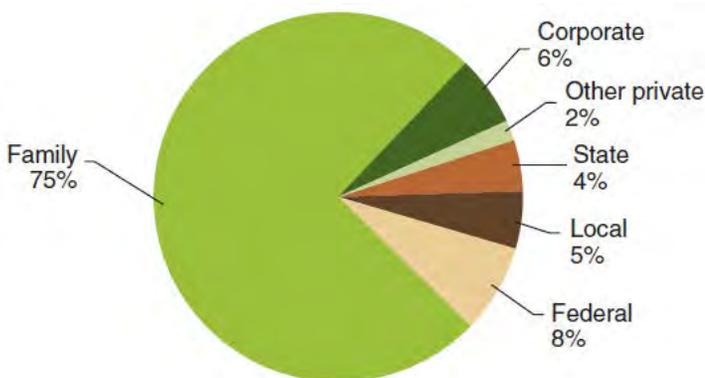


Figure 16a.—Distribution of forest land by ownership category, Illinois, 2015.

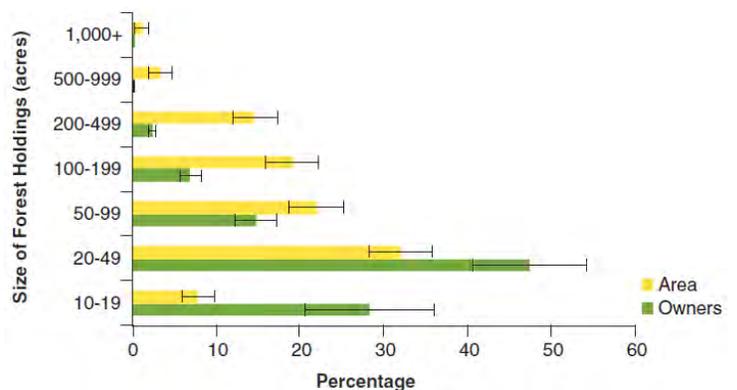


Figure 16b Area of family forest land and number of family forest owners by size of forest landholdings, Illinois, 2015. (Error bars represent a 68 percent confidence interval).

average age in Illinois is 61 years and 58 percent of family-owned forest land is held by people who are at least 65 years of age. (Crocker et al. 2017)

Cooperating Illinois Forestry Development Act (FDA) forest landowners having a 10-year forest management plan represent about one in eight eligible forest landowners, or 13%, who own 10 acres or more of forest land. Those FDA landowners manage over 600,000 acres of the 3.1 million privately held Illinois forest acres, which equates to 20% of private forest land parcels 10 acres or larger. Forest parcels 10 acres in size happen to be the general minimum operational threshold for a timber buyer seeking standing timber. Not having a written or FDA-approved plan does not mean owners do not work with a professional forester. Consulting foresters help landowners manage forests of all sizes everyday regardless of whether they have a written plan or are enrolled in the FDA as a cooperator. The best estimate from DFR forestry staff is about 25% of landowners owning 10 acres or more of timber have a plan written by a professional forester and/or work with a professional forester.

(Butler and Butler 2018)

Land-Use Change

Land-use change dynamics is important to know for monitoring the sustainability of Illinois’ forest resources. From 2010 and 2015 there was little

change in land use with only 1 percent of land having a forest loss or forest gain. Most of Illinois’s land use remained forest (13 percent) or non-forest (86 percent). In changed land use areas, non-forest that reverted to new forest land (182,000 acres, or 3.7 percent) marginally exceeded the amount diverted from forest to non-forest (161,000 acres, or 3.3 percent), providing a net gain of forest land (Fig. 17). ‘As stated by Crocker et al 2017: Sixty-six percent of forest gain was from agricultural land, primarily cropland (32 percent) and pasture (25 percent) that converted to forest land. More than half of the gross forest loss was due to diversion to agricultural land uses: cropland (28 percent), agricultural land including idle farmland (16 percent), and pasture (13 percent).’ (Crocker et al. 2017)

Agriculture is the dominant land use in Illinois and therefore, gains and losses in agriculture appear to drive land-use change in the State. A percentage of the diversion and reversion of forest land in Illinois is likely from marginal forest land moving into and out of the forest land base, as shown by the high rate of change within non-stocked forest. While similar rates of forest gain occur in small and large diameter size classes, forest losses are highest in the large diameter class and this reflects the abundance of mature stands. All in all, forest land gains have outpaced forest losses and Illinois is moving toward greater conservation and valuation of the State’s forest resources. (Crocker et al. 2017)

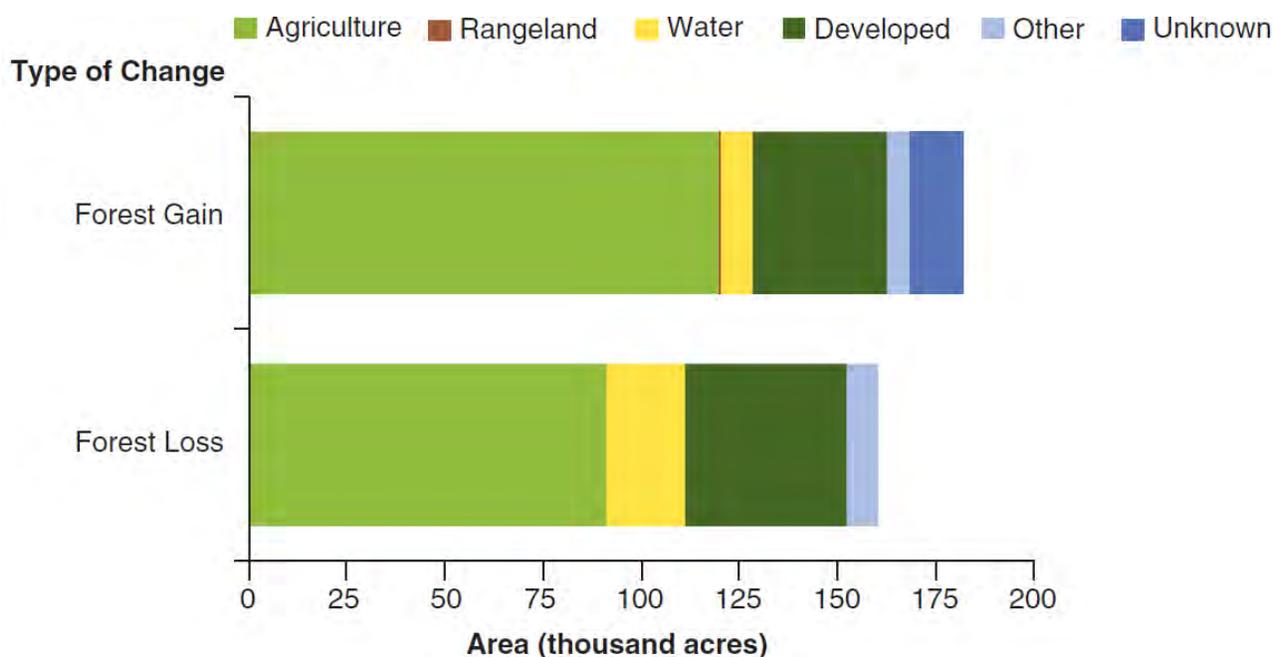


Figure 17. Gross area of forest loss and forest gain by land-use category, Illinois, 2010-2015. Error bars represent a 68 percent confidence interval.

Forest Growth

Illinois timberland overall rate of growing-stock growth has gradually climbed since 1962 and now has a net growth average of 146.1 million cubic feet per year or a growth-to-volume ratio of 1.9 percent. Fifty percent of this net growth is accounted for by four species groups: soft maple other eastern soft hardwoods, hickory, and other red oaks (Fig. 18). The majority of this growth was in the large diameter stand-sized class with 176.6 million cubic feet. Only a minor portion of this growth occurred in the small diameter stand-size class with 2.8 million cubic feet per year. The medium diameter class countered this growth with a net loss in growth of 33.5 million cubic feet of volume per year since 2010. Notable

changes over the last five years include the decrease in growth-to-volume ratio for white oak and an increase for bigtooth aspen, red maple, and hackberry. Even though the rate of growth has risen, the preponderance of growth is occurring within large diameter stands, which indicates that mature trees are continuing to add volume. While sustained growth of large diameter oaks increases its availability for commercial wood products, growth of other species in a variety of size classes suggests that the oak resource may not continue its current dominance (Crocker et al. 2017).

Tree Mortality

Since the 1960s, the rate of growing-stock mortality has continued to grow with each inventory (Fig. 19).

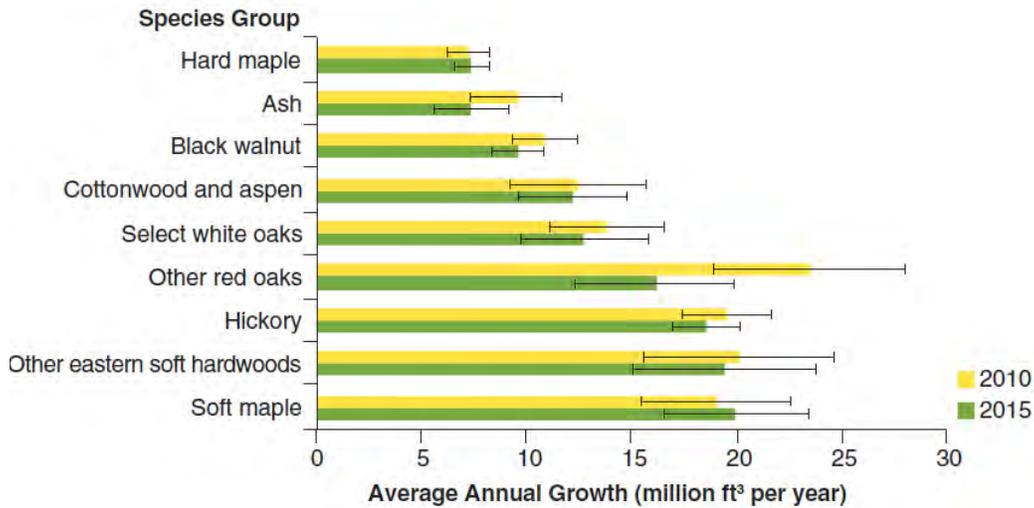


Figure 18. Average annual net growth of growing stocks on forest land for the 9 species groups with the highest growth in 2015, Illinois (error bars represent a 68% confidence interval).

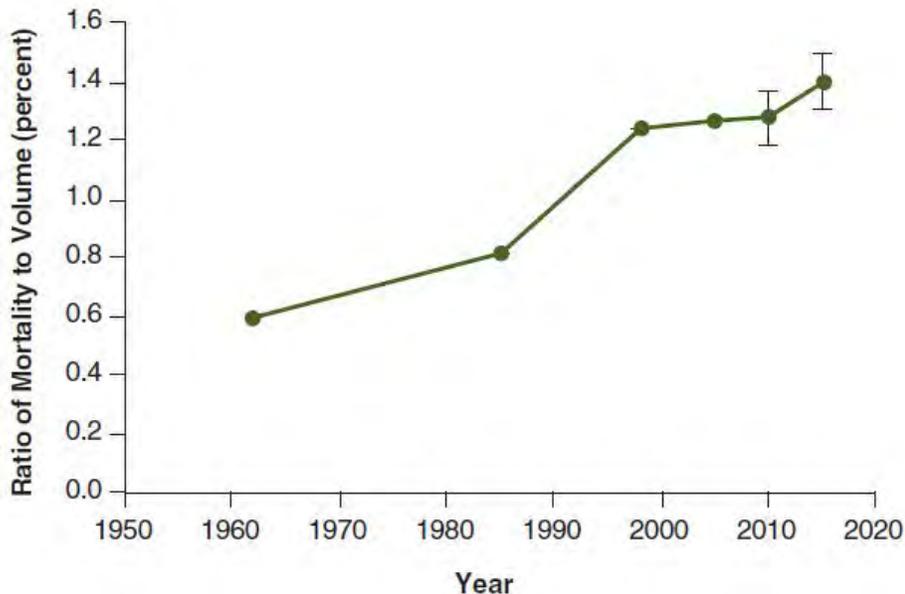


Figure 19. Average annual mortality of growing stock as a percentage of total growing stock volume on timberland by inventory year, Illinois. Error bars represent a 68% confidence interval.

The annual mortality of growing stock on timberland is presently averaging an estimated 96.8 million cubic feet per year or roughly 1.4% of total growing stock volume. The majority, 88 percent, of mortality occurred in large diameter stands. American and slippery elm, had the highest mortality, followed by the other red oaks and select white oaks (Fig. 20). Mortality has increased in the other red oaks and select white oaks species groups since 2010. Mortality rates increased for shingle and white oaks and decreased for red maple but otherwise mortality-to-volume ratios remained steady between 2010 and 2015 (Crocker et al. 2017).

All ash species are currently affected by EAB and mortality of all mature ash is evident throughout the northern two-thirds of the state. Most ash, now mixed in Illinois upland forests and a significant component of many riparian forests, will soon become standing dead or fallen snags. It is uncertain what the long-term prospects are for native ash through continuous, sporadic resprouting from existing root systems and already present seedlings. Dying trees do bear ample seed that is viable for one season.

The progressively increasing mortality rate and high mortality in large diameter stands are an indicator of a maturing forest resource. The annual loss of elm species, shingle oak, and white ash is greater than 2 percent of the statewide volume. Tree mortality is a key indicator of forest health and continued monitoring will help manage areas of concern in the future (Crocker et al. 2017).

Tree Removals

‘According to Crocker et al. 2017: One way to analyze forest sustainability is to assess change in tree volume as a result of removals. Removals include harvested trees and trees lost due to a change in land use, in other words, living trees previously on land classified as forest land now on land classified as non-forest land. Like forest growth, the rate at which trees are removed represents the annual average of removals that occurred between previous and current inventories.

The ratio of growing-stock removals to volume has declined since 1982 and the statewide removals rate is 0.5 percent. Growing stock is currently removed from timberland at an average of 53.9 million cubic feet per year; of this, 26 percent of removals occurred as a result of a change in land use. Total removals were highest in the other red oaks, select white oaks, soft maple, and hickory species groups (Fig. 21). Although removals of hickory and hard maple have increased since 2010, removals of other eastern soft hardwoods have decreased. Removals-to-volume ratios increased for many species, including bigtooth aspen, red maple, sugar maple, and shagbark hickory.’

Removals rates reveal both harvest and land-use change. Illinois’ removal rate of 0.5 percent is less than the mortality rate of 1.4 percent discussed previously under Tree Mortality. The rate of growth average of 1.9 percent exceeds both removals and mortality. Therefore, from a statewide perspective, removals seem to be in balance with forest growth and mortality, such that total volumes continue to increase. Note, this broad perspective may not follow suit with a more focused study at a smaller scale or for specific species (Crocker et al. 2017).

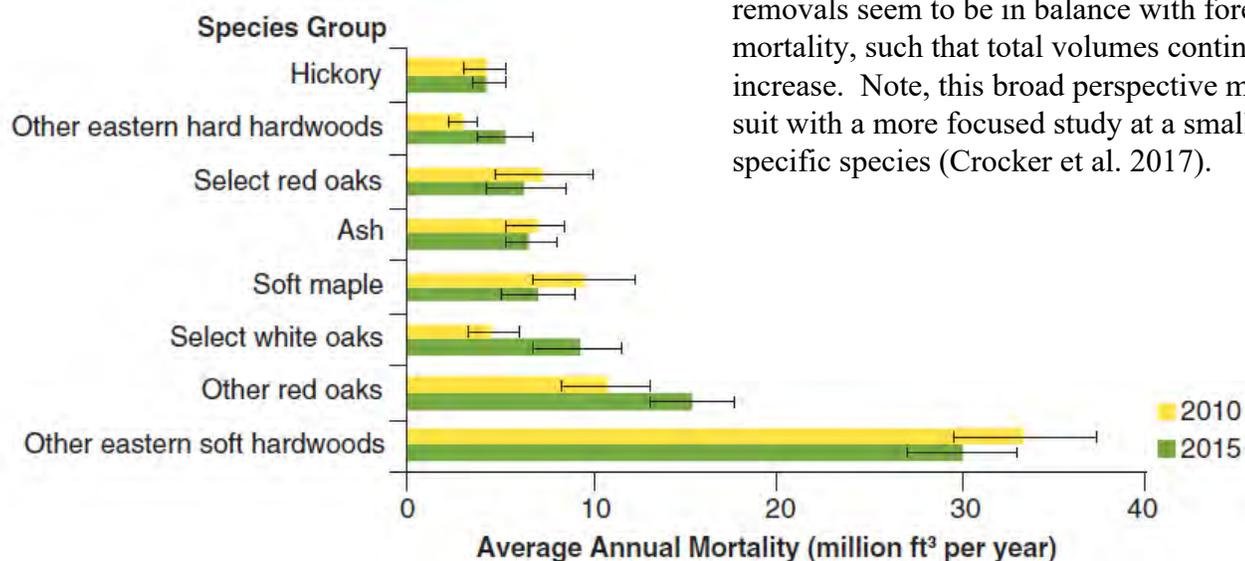


Figure 20. Average annual mortality of growing stock on timberland for the 8 species groups with the highest mortality in 2015, Illinois (error bars represent a 68% confidence interval).

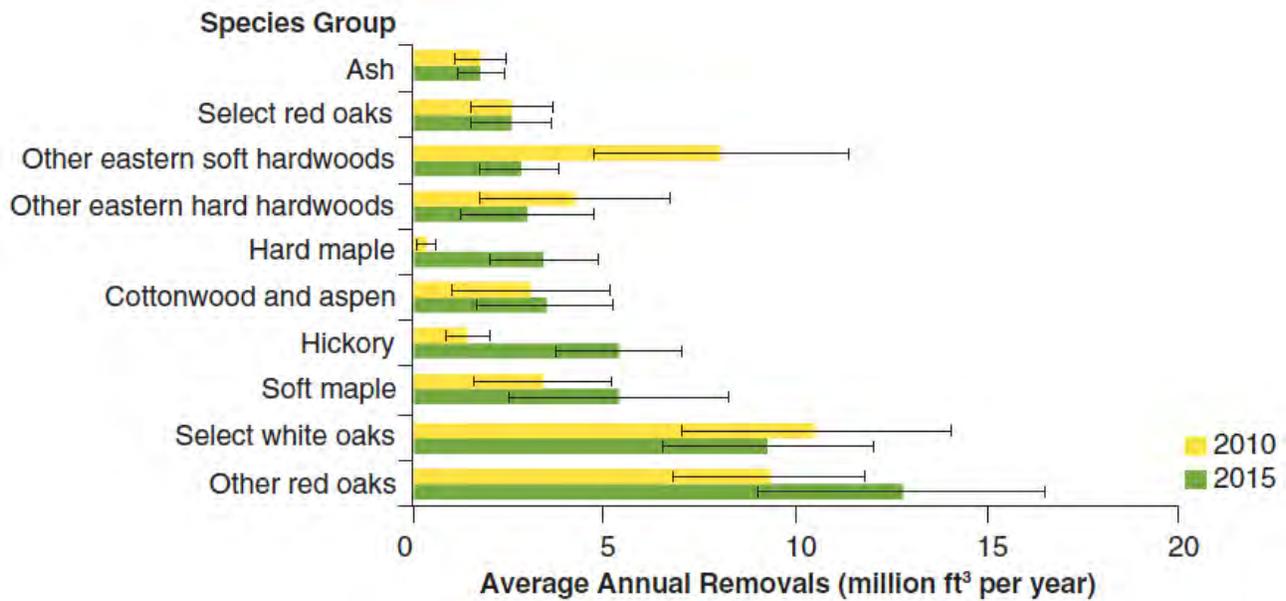


Figure 21. Average annual removals of growing stock on timberland for the 10 species groups with the highest removals in 2015, Illinois. Error bars represent a 68 percent confidence interval.

Urban Forests

Urban forests are exposed to more man-made disturbances than their rural counterparts, which can negatively affect their health, growth, and ability to survive and yield benefits (American Forests, 2016). The compelling reasons trees growing throughout urban forest areas have critical importance to the health and wellbeing of citizens is outlined in the Nowak, Hirabayashi, Bodine trees and human health research. (Nowak, Hirabayashi, Bodine et al. 2013 and 2014).

Urban and Community Forest Resources

According to the 2010 United States Census, 88% of Illinois residents live in urban areas in and around community forests. Trees in our urban areas and towns are located where people sit, stand, walk, run, bicycle, and drive their vehicles. These areas include trees along sidewalks, streets, rights of ways, parks, parking lots, backyards, natural areas, waterways and any other place trees grow in our communities. The trees in these urban and community forests provide significant economic, health, social, psychological, and environmental benefits to humans and wildlife

(Coder, 1996). Trees are an appreciating asset with quantifiable value. Mature, properly placed trees provide multiple, important economic benefits and services to the environment and residents. 'Illinois has an estimated 77 million trees on urban and community land, which store about 14.7 million metric tons of carbon (\$335.2 million), and annually remove about 484,000 metric tons of carbon (\$11 million) and 13,560 metric tons of air pollution (\$107.9 million)' from the environment (Nowak and Greenfield et al., 2009).

Stormwater infrastructure and management continues to be an expensive investment for communities. Absorption of rainwater by trees remains the least expensive approach for mitigating stormwater runoff. For every 5% of tree cover added to a community, storm water runoff is reduced by approximately 2%. (Coder, 1996). According to the American Planning Association, 'The Federal Clean Water Act provides one of the clearest examples of an external mandate impacting local government, and urban forestry and other elements of green infrastructure can be effective tools in meeting its requirements. Stormwater engineering solutions or "best management practices" can be expensive. Green infrastructure and trees can play a major role in reducing those costs, particularly when strategically located in stream buffers and floodplains where it also helps to minimize soil erosion.'

Illinois urban and community forests comprise both publicly and privately owned land and trees inter-faceted with patches of natural forest across a wide range of land uses. The urban forest has multiple owners including municipalities, park districts, forest preserve districts, water or sanitation districts, town-ships, corporations, organizations, private citizens, and others. The complexity of owners and infrastructure constraints makes growing and sustaining trees in our urban forest one of the most challenging tasks in forestry. To manage an urban or community forest today takes targeted actions, based on sound science and knowledge of tree physiology, tree insects and diseases, tree care standards, tree planting standards, local tree care policy, demographics, social dynamics, politics, and other factors. To fully affect urban forestry, the ecological, climatic, urban, political, and cultural conditions that foster or inhibit the growth and survival of trees must all be considered (Schwab, 2009).

Illinois urban and community forests provide both environmental and economic benefits to Illinois citizens. Tree canopy cover is directly related to positive tree benefits. Tree canopy cover, canopy green space, and tree cover per capita varied among communities, county subdivisions, and counties. Nowak and Greenfield et al. (2009) and others found that Illinois "averages 12.1% canopy cover with 96.7% total green space, 12.5% green space, and 1,397.9 square meters of canopy cover per capita." When Illinois is compared nationally for urban canopy cover, it ranks in the lower quadrants—especially versus the Northeast and Southeast United States. Illinois also ranks in the lower quadrant for urban canopy per square foot per person. Please see the Nowak et al., 2010 report, *Sustaining America's Urban Trees and Forests, NRS-62*.

Urban or community land use in Illinois continues to increase in acreage as more land continues to be annexed for development. The urban and community areas comprised about 8.7% of the state land area in 2000, an increase from 7.5% in 1990. It is projected that Illinois will lose from 250,001 to 500,000 acres or 10–20% of the contiguous forest cover due to urban development by 2050 (Nowak et al., 2010). With increasing urbanization, urban forest management will likely take on a relatively higher regional and national importance. As rural and exurban forest areas decline, the services of the remaining urban and non-urban forests will become even more critical to regional and national populations (Nowak et al., 2010).

Illinois has been through two major insect and disease epidemics—the DED era of the 1950s through the 1970s and the EAB epidemic of 2000 to current times. Illinois communities listened to the post-DED message to not plant monocultures of trees. However, at that point in time, only five to six easy-to-grow, intermediate/fast growing trees were available in the local nurseries. This meant that many communities still ended up with a high density of the same species, albeit less than the previous era of elm monocultures. The well-managed city forests improved their tree species diversification since the DED era, saving those communities significant dollars today during severe storms and insect and disease epidemics. In some cases, those well-managed, diversified, and maintained urban forests helped to pay for the entire forestry department expenditures to manage the municipal forest (Hildebrandt, 2008). As the USDA Forest Service and the State of Illinois provide leadership and assistance, more communities will create local municipal forestry programs with proper tree care and tree planting protocols.

Economic impacts for the U.S. green industry in 2002 were estimated at \$147.8 billion in output, 1,964,339 jobs, \$95 billion value-added spending, \$64.3 in labor income, and \$6.9 in direct business taxes. For the horticultural services sectors of landscape services and landscape architects, the impacts were \$57.8 billion in outputs and 753,557 jobs. "Illinois had 6.897 million in output impacts, 75,110 jobs with \$4.3 billion in value added impacts" and "for every dollar spent locally on trees by taxpayers received \$4 back in public benefits" (Hall, 2005).

Urban and Community Forest Management

Urban and community forestry is generally defined as the art, science, and technology of managing trees and forest resources in and around urban community ecosystems for the physiological, sociological, economic, and aesthetic benefits trees provide society.

Our urban and community forests face a myriad of current management challenges, (Nowak et al., 2010). These challenges include insect and diseases; natural catastrophic events such as floods, ice storms, high winds and snow events; invasive plants; environmental impacts such as pollution, road salts or chemicals; development pressures; climate change; and socio-economic impacts such as changing budgets.

Since 1991, the USDA Forest Service has provided funding for federal, state, local, urban and community forestry programs. This funding has allowed state, re-

gional, and local partners to integrate trees into sound planning practices to improve the environment and provide for connectivity of fragmented landscapes. Relative to the years preceding 1990, the state’s urban and community forestry programs have grown and expanded tremendously.

The Tree City USA Program has been the core program for getting communities involved in urban and community forestry management. In Illinois, Tree City USA (TCU) communities spent over \$94 million in 2016 on their local forestry programs (Hildebrandt, 2016a). These program expenditures include \$20 million for tree planting, trimming and removal; \$26 million for in-house staffing; \$7 million for EAB management; and \$6 million for utility clearance, volunteer input, and other various costs (Hildebrandt, 2016b). Since TCU communities represent only a sample of Illinois communities, the actual annual expenditures are greater for the entire state.

TCU is a national technical assistance and recognition program that helps communities create viable local forestry programs. It is a national partnership administered by the National Arbor Day Foundation in cooperation with the USDA Forest Service, the National Association of State Foresters, and the Illinois Department of Natural Resources Urban and Community Forestry Program. According to Sass, et al. (2010), when compared to nonTCU communities, the Illinois TCU communities:

- Held more positive attitudes about the benefits of their trees
- Had historic data on their trees
- Had staff with higher levels of education
- Were more likely to have cost-share programs on public lands with a few also having a cost-share program on private lands
- Included tree care and tree planting standards in their tree ordinances
- 75% had at least a basic tree inventory and were more likely to have a management plan

The combination of TCU recognition and an active state grant program has helped to grow participation in urban and community forestry in Illinois. From 1992 to 2002 the Urban and Community Forestry Grant Program was funded at the level of \$100,000 to \$400,000 annually and during that period the number of TCU communities doubled. Those grants have helped to develop over 27 successful tree boards/committees, 31 different municipal tree ordinances, 60 urban forest management plans, 100 street tree inventories, 79 tree planting projects, 48 educational outreach projects, and 42 forestry staff development projects.

Tree diversity is extremely important in sustainable urban and community forest management. Illinois has been successful for the most part in diversifying the urban and community forests since the DED days. The common reference of professional urban foresters for pursuing tree diversification is known as the “30-20-10 rule” or more recent 20-10-5 rule. This tree diversity goal means any tree family, genus, or species should not exceed 20%, 10%, or 5%, respectively, of the total urban forest.

Species selection is critical to the sustainability of our urban and community forests. Matching species to site is another key concept in reforestation efforts. Nursery growers, tree suppliers, and local decision makers all need to plan for the diversity of soil conditions and site types that exist in our municipal areas. The IDNR Urban and Community Forestry Program has compiled and posted resources online including “Tree Selection and Planting Guidelines.” The challenge is to get these tools into the hands of the practitioners and decision makers. Statewide partnerships are valued and greatly assist the IDNR Urban and Community Forestry Program with producing and sharing resources.

Urban and Community Forest Socio-economic and Political Issues

In spite of the many complex political, social, developmental, and environmental pressures of our urban and community forests, Illinois is fortunate to have a group of strongly dedicated urban and community foresters at all levels. The American Planning Association identified multiple tiers of stakeholders as: 1) forestry and park professionals who are often degreeed foresters, landscape architects, or horticulturalist or International Society of Arboriculture Certified Arborists; 2) allied professionals providing programmatic support such as state and federal forestry agencies,

plant health professionals, and regional planners; 3) public, developers and elected officials; and 4) other advocacy groups. In a successful program, all of these people are involved at different levels, and all bring something vital and necessary to the process (Schwab, 2009). Forestry professionals and practitioners face many individual groups who prefer to create with concrete, wood, and steel or prefer increased impervious surfaces in our urban areas for a perceived ease of maintenance. These facts solidify the important role for public education and outreach for green infrastructure as well as continued professional development opportunities.

Politics is a constant in our world and in urban forest management as well. When bad things happen to good programs in local government, it is most often because the public or its elected officials, or both, do not fully appreciate the program's value and benefits. Public works managers have the daunting task of balancing the recommendations of experts, the wishes of council members and other elected officials, the needs of citizens, the pressures of local economics, the concerns for liability issues, the physical aspects of trees, the forces of nature and severe weather events, and the desire for all of these factors to be met simultaneously (American Public Works Association, 2014). Often there is no advocacy group available to assist the tree and forestry professionals with securing adequate budgets and staffing.

There are considerable socioeconomic differences among and within communities in various parts of this state. Past research has focused on environmental injustice as indicated by the fact that there were fewer trees in low-income areas. Some biologists fear that global urbanization causes an "extinction of experience" in which, as the biodiversity in cities diminishes, so too does our appreciation for and connection with nature (Pyle, 1978; Turner et al., 2004). This can have far-reaching negative consequences for both biodiversity conservation and human quality of life. From a conservation perspective, people who experience less biodiversity may have lowered expectations about environmental quality and be apathetic about the natural world, which can in turn lead to even more environmental degradation (Miller, 2005). On the other hand, local biodiversity has the potential to foster conservation awareness in urban residents (Miller and Hobbs, 2002). From a human quality of life perspective, people often experience physical and mental benefits from natural environments (Ulrich, 1984; Kuo, 2001) and diversity of wildlife (Fuller et al., 2007). Therefore, if certain socioeconomic groups are less exposed to biodiversity,

then a self-reinforcing feedback loop may occur wherein individuals from a group become more and more detached from nature and are thus benefiting less. It is critically important to manage the complex socio-economic and political nature of urban and community forestry issues so we can add to the sustainability of the forest and not distract from it.

Priority Forestry Areas of the Illinois Department of Natural Resources, Division of Forest Resources

Priority Forestry Areas for the Division of Forest Resources (DFR) are in part determined by the natural resources themselves as well as mandates from Illinois conservation law and cooperative program agreements with federal partners. The forestry division also aligns its priorities with the other resource conservation priorities of the allied IDNR resource conservation divisions. Implementing forest campaign goals and objectives of the Illinois Wildlife Action Plan (IWAP) cannot be understated as is the case for most north-eastern states partnering their efforts and common forest resource objectives among the wildlife and the forest action plans. The IWAP is Appendix A to this forest action plan document. The IWAP is a required reference and guidance for developing wildlife habitat sections and considerations within all forestry plans initiated by USDA Forest Service, USDA Natural Resource Conservation Service, American Tree Farm System, and the IDNR Forestry Development Act.

Division of Forest Resources programs that are core, ongoing forest resource priorities include forest health, forest planning, forest inventory and analysis, state forests, forest products, forest management, forest fire, urban and community forests, and forest protection. In general, these ongoing core priority programs are all statewide in nature and have no particular specific prioritization, geography, or conditions. Some specific programs within the DFR core programs do have high priority and are governed by specific resource types, specific geography, or specific conditions. These are Forest Stewardship (management), Urban and Community Forests (u&cf), Wild and Prescribed Fire (fire), Forest Legacy (protection), State Forests, and Forest Health.

Forest Stewardship

Forest Stewardship priority areas within Illinois were classified by the IFDC using the USDA Forest Service State and Private Forestry (S&PF) Forest Stewardship Program’s Spatial Analysis Project methodology. The GIS layering resulted in a map of the state shown in (Fig. 22). The priority-setting was based on 12 core data layers, representing important aspects and outputs of forest resource conservation, using a weighted ranking system for each data layer (Tables 1 a&b). As a primary example, the low amount of forest land

remaining after significant losses of Illinois’ forests over the past centuries resulted in all intact, original forest area as a high priority area. The map (Fig. 22) shows both water and urban/developed areas as white. Though the subtleties of layering weighted priorities are not seen from the panned-out view, High Priority Stewardship areas are, in general; “all the existing forest in Illinois” plus “forest land that was once forest cleared for agriculture and having forest soils.”

Table 1A. Layer and corresponding weight used to develop original Stewardship Priority areas.

Layer	Weight (%)
Private Forest	15.32
Riparian Corridors	12.73
Forest Patches	11.31
Wetlands	9.60
Priority Watersheds	9.09
Developmental Pressure	8.59
T & E Species	6.97
Drinking Water Supply	6.87
Proximity to Public Land	6.67
Forest Health	6.46
Topographic Slope	5.45
Fire Risk	0.91

100.0

Table 1B. The spatial analysis tool layers and weights were relayered in 2013 and the priority areas simplified to be either High Priority Stewardship or Priority Stewardship for Illinois’s forest stewardship efforts. The four Forest Legacy Areas were overlain as High Priority. Participation in the USDA Forest Service grants to help fund the Illinois Forest Stewardship Program recognizes only the High Priority (dark green) Stewardship areas.

Layer	Orig. Weight (%)	Revised Weight 2013
Fire Risk	0.91	1.01
Topographic Slope	5.45	5.85
Forest Health	6.46	6.94
Proximity to Public Lands	6.67	7.16
Drinking Water Supply	6.87	
T&E Species	6.97	7.48
Developmental Pressure	8.59	9.22
Priority Watersheds	9.09	9.76
Wetlands	9.60	10.31
Forest Patches	11.31	12.14
Riparian Corridors	12.73	13.67
Private Forest	15.32	16.45
Total	100.00	100.00

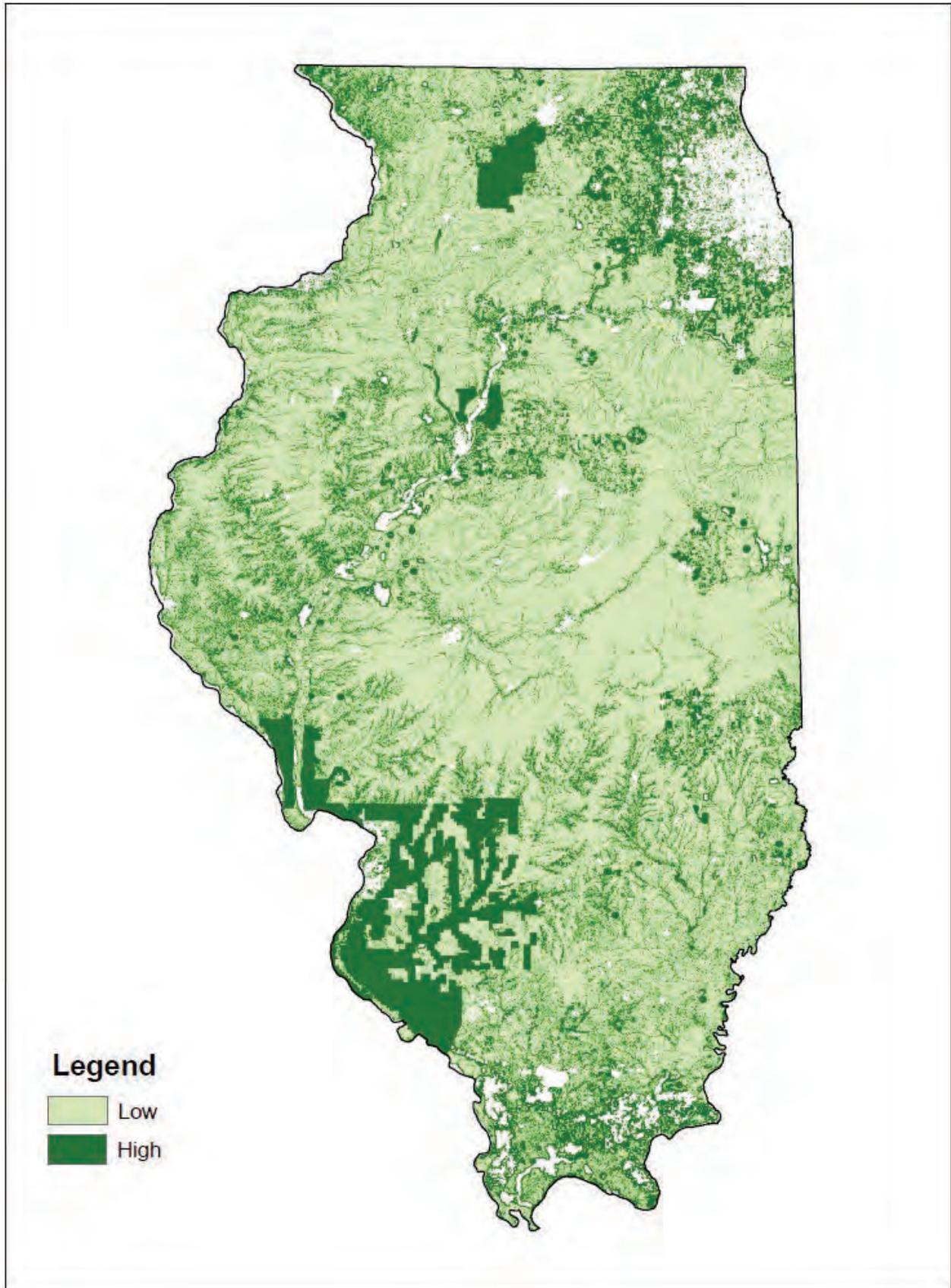


Figure 22. Priority areas within Illinois as determined by the IFDC and the Illinois DFR. Dark green is High Priority Stewardship; Light green is Priority Stewardship.

Urban and Community Forestry

The IDNR Urban and Community Forestry Program (iUCF) is a part of a nearly 5-billion-dollar economic engine in Illinois. The program mission is to provide leadership to create and enhance self-sustaining local urban and community forestry programs that preserve, plant, and manage forest ecosystems for public safety, benefits, and quality of life. With 87.8% of Illinois citizens living in urban and community areas, this program seeks to initiate public understanding concerning the important amenity values of the local forest ecosystems. These ecosystems provide important environmental services including improved energy conservation, air quality, economic activity and vitality, reductions in storm water runoff, carbon sequestration, and psychological benefits/stress reduction.

The iUCF is funded in part through the USDA Forest Service Urban and Community Forestry Program as authorized by the amended Cooperative Forestry Assistance Act of 1978, Public Law 95-313. That federal program provides one-half million plus dollars annually to iUCF as core funding. In order to receive these funds, the state must meet the muster of the law which includes having: 1) a full time State Urban Forestry Program Administrator; 2) an urban and community forestry council (IFDC—Urban & Community Forestry Committee); 3) a strategic plan (see Exhibit A, page 59); and 4) volunteer capacity (typically contractual in Illinois). The iUCF Program is authorized by the Illinois Forestry Development Act (525 ILCS 15/; from Ch. 96 1/2, par. 9101). There is only one professional staff with full-time assignment to this program, serving as the federally required State Urban Forestry Program Administrator.

The iUCF priority areas include: 1) technical assistance and training for communities and tree care professionals; 2) financial assistance to communities and nonprofits; 3) public education in support of planting trees in urban environments; and 4) volunteer coordination assistance to encourage participation at the local level. Central to the iUCF Program services is a partnership between IDNR and the Arbor Day Foundation in administering the national TCU Technical Assistance and Recognition Program. The TCU program has four standards for sustainable local community forestry programs: 1) designating a tree authority; 2) developing a tree care ordinance that addresses tree authority and tree care standards; 3) spending \$2 per capita; and 4) holding a public Arbor Day/tree planting event where the mayor signs an Arbor Day proclamation. The iUCF services include:

helping Illinois municipalities to develop local municipal programs through the TCU standards; creating local management programs with management plans based on tree inventories; sustaining municipal forests through reforestation, proper tree maintenance and insect and disease mitigation such as DED, gypsy moth and EAB; and developing volunteer capacity.

Throughout history, the iUCF Program has employed several strategies for technical outreach to constituents. These strategies include the TCU Program annual conferences; an extensive IDNR website, the *TCU Newsbits* (weekly e-blasts and quarterly newsletters); regional urban forestry council assistance; plus educational outreach through training and workshops. Annual funding for educational sessions at the Illinois Arborist Association Annual Conference has also been provided. Program delivery for volunteer capacity has been contracted over the years with organizations such as the Illinois Arborist Association, University of Illinois, Southern Illinois University, Heartlands Conservancy, Morton Arboretum, Openlands, and Trees Forever. These contracts serve to provide assistance regionally to municipalities, forestry professionals, arborists, and citizens concerning the trees in their neighborhoods. Recently, there is a growing demand for natural disaster assistance in the form of the new Urban and Community Forestry Strike Team. That team can assist in identifying high risk trees as a part of the response process, conducting tree inventories after storms, assisting with tree planting efforts, and creating programs to increase community preparedness for future natural disasters.

The State of Illinois has legislation authorizing the Urban and Community Forestry Grant Program through (30 ILCS 735/) the Urban and Community Forestry Assistance Act. The Urban and Community Grant Program funding has led to more effective and efficient management of urban and community forests. During the period of 1991 to 2002, due in part to the Urban and Community Forestry Grant Program, the number of Tree City USA communities doubled. As detailed earlier in this action plan, iUCF helped local units of government develop successful tree boards/committees, ordinances, management plans, inventories, tree planting projects, educational outreach projects, and staff development projects. In 2000, iUCF grant cycles were reduced then eventually eliminated. In lieu of the state grant program cycles, communities were instead provided assistance through IDNR staff and partners. To date, the combination of both the Tree City USA Program and the IDNR staff

and partner assistance have helped maintain participation in local urban and community forestry programs in Illinois.

Urban and community forestry often affects natural forests within the state. In order to help preserve remnants of our native, rural forests near population centers, we need to actively advocate for protecting or preserving these areas as a part of our future living environment. Illinois' Urban and Community Forestry Program supports and assists local units of government in ecosystem planning, natural resource management, and public education to help create healthy urban and community forests which enhance the quality of life for all Illinois citizens.

Wild and Prescribed Fire

Overall, Illinois has a relatively low wildfire risk and this is reflected in the weighted ranking system for high priority areas analyzed for forest stewardship. Nevertheless, IDNR favors local wildfire protection planning. Several county governments and communities have begun to assess wildfire risk through the development of Community Wildfire Protection Plans or CWPPs (Fig. 23).

Makanda Township in Jackson County, Illinois, was the first area with a community wildfire protection plan; Hardin, Johnson and Pope counties have followed with their own CWPPs. The Chicago Wilderness organization also developed a CWPP plan for six Chicago collar counties (Cook, DuPage, Kane, Lake, McHenry and Will) in 2013. Prescribed fire is used frequently in those Chicago collar counties to manage public and private lands and forests. Counties, districts, and other localities having a recognized wildfire protection plan are encouraged and given priority to participate in IDNR fire funding opportunities and other grants. The development of Forest Fire Prevention Plans remains an ongoing priority for IDNR fire programs and is encouraged for any and all township and county wildfire protection districts.

The Illinois Forest Fire Prevention Districts Act affects all of Illinois by law. By proclamation of the IDNR, during

certain drought-fire risk conditions, the seven southern counties of Jackson, Pope, Hardin, Johnson, Union, Alexander, and Pulaski can require burn permits for any and all open burning which are to be issued by a fire warden designated by the IDNR. The peak fire hazard months of February, March, April, October, and November are the usual months that fire wardens and permits would be instituted. The seven counties mentioned in the state act are a priority for INDR forest fire prevention programs.

IDNR fire programs require approved prescribed burn plans, approved and implemented by a Certified Burn Boss. IDNR issues the Burn Boss certifications and, together with other agencies, restricts prescribed fire burning to “burn seasons” when natural fuels are most combustible and smoke is minimal. The prescribed fire plan and Burn Boss programs do not carry internal or

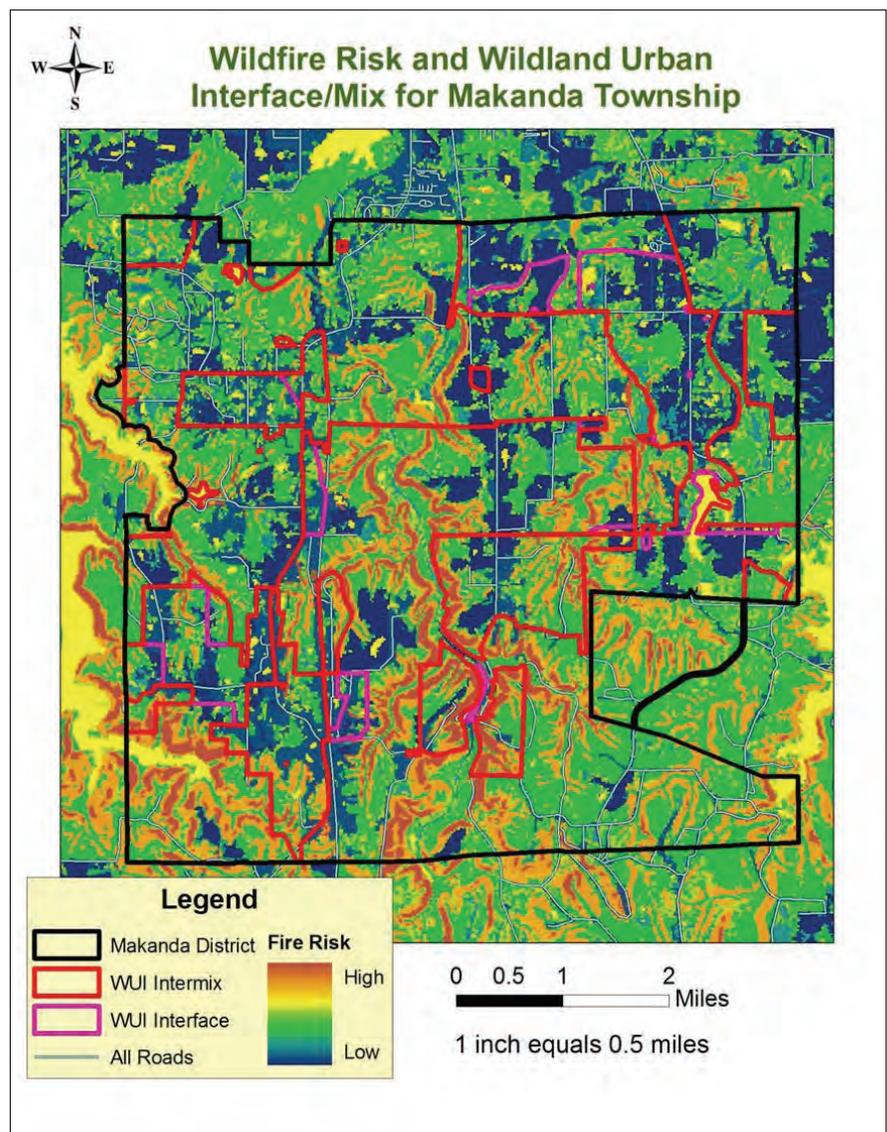


Figure 23. Current map of Makanda Township Wildfire Protection Plan. The color red represents areas with the greatest fire risk.

external priorities and are offered state-wide.

Forest Legacy

The Illinois Forest Legacy Program Assessment of Needs is found on page 68 of this 2020 Forest Action Plan document. The Assessment of Needs outlines the basis and necessity for the Forest Legacy Program in Illinois and identifies four Forest Legacy Areas (Fig. 24) where permanent forestry conservation easements or critical fee-simple acquisitions may be purchased and owned by the IDNR. The Forest Legacy Program exists between IDNR, via the Division of Forest Resources, and the USDA Forest Service, State and Private Forestry section.

Acquisitions of permanent conservation easements and critical fee-simple purchases of lands may only be targeted by the DFR through the Forest Legacy Program if the land is within one of the four Forest Legacy Areas designated cooperatively by the IDNR Division of Forest Resources, conservation groups and constituents, the IFDC, and the USDA Forest Service, as well as the local public via public meetings.

Historically, since 1993, the Forest Legacy Program has been available in Illinois with four initial Forest Legacy Areas. Nationally, since that period, the program has conserved over 1 million acres of important, strategic, and threatened working forests. The amended Assessment of Needs for Illinois adds one new Forest Legacy Area in the lower Kaskaskia River known as the Southwestern Illinois Lower Kaskaskia Forest Legacy Area. New Forest Legacy Areas can be added or the existing areas removed, reduced, or expanded by consensus of the IDNR Forestry Division, the State Forest Stewardship Coordinating Committee, the public, and the USDA Forest Service.

The current Forest Legacy Areas are the priority of the IDNR for important permanent easements or strategic fee-simple acquisitions of working forest lands. Existing committees of the IFDC (the group comprising the Forest Stewardship Coordinating Committee) and forestry program managers favor future prioritization for two additional Forest Legacy Areas to be designated for Forest Legacy Eligibility. Designation requires

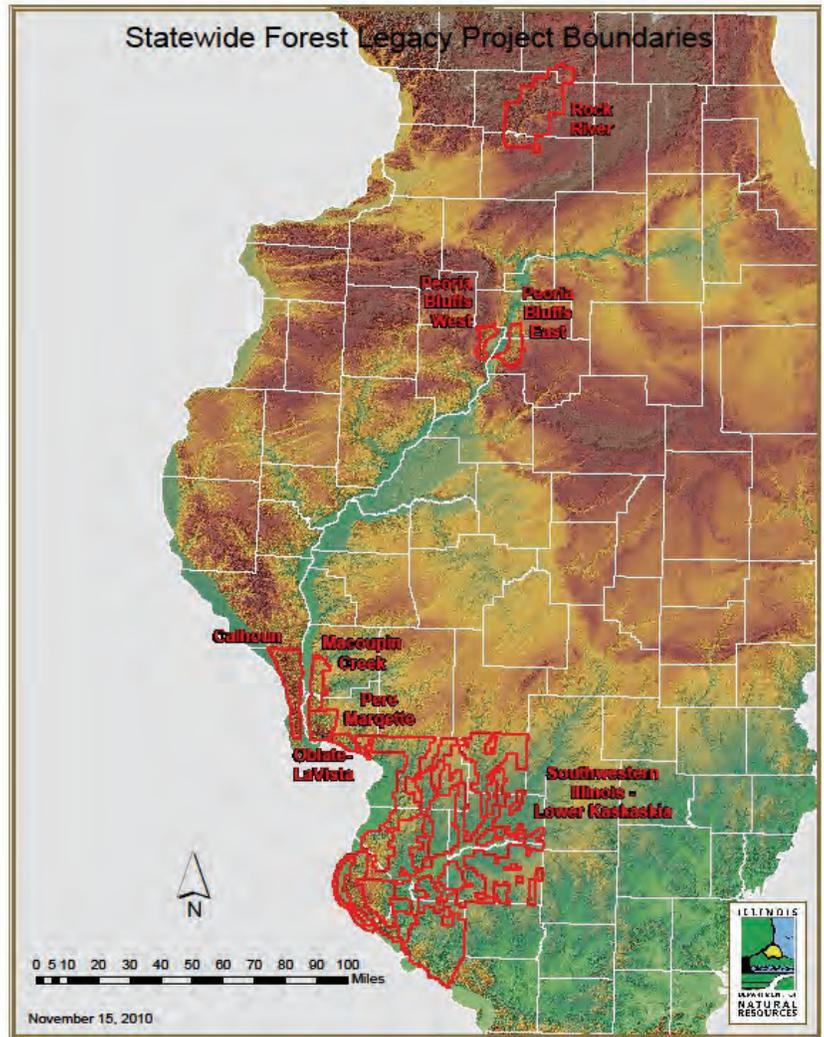


Figure 24. Designated Forest Legacy Areas for Illinois.

a public process and the consensus of all parties—the Illinois Forestry Development Council last discussed FLAs for the Illinois “Driftless Area” (Carroll County) and the greater Shawnee National Forest areas (Williamson County).

State Forests

Illinois’s seven State Forests have been designated by law (525 ILCS 40) and mandated to be operational as forest management and demonstration areas to exhibit the sciences of forestry and the application of silviculture. State Forests total 22,000 acres and represent 8% of state-owned lands and ½ of 1% of the total forest land in Illinois. Annual management affects about 1% or less of State Forest acreage and 1/200th of 1% of total forest land in Illinois. Forest management will yield commercial forest products at an occasional frequency available for procurement by Illinois’ family and small businesses in the primary wood market. In keeping with the mission of the IDNR, the

Office of Resource Conservation and the Division of Forest Resources, the State Forests will integrate managing timber with wildlife habitats, site ecology, soil and water resources, outdoor recreation, aesthetics, and forest health.

All seven State Forests share oak and central hardwood forest types with similar ranges of forest conditions, including some aging, planted pine stands. Forest management and silvicultural options for managing and regenerating healthy, sustainable native forests will be employed over time to achieve sustainable, high-quality oak-hickory forests of both old growth and new young growth. The physical forest resources themselves dictate annual and near-term forest planning options as well as considerations 50 years into the future. Each forest will use best management and adaptive management approaches and will include resource inventories, applied research, and monitoring. Forest management outputs will include longer lived high-quality oak stands, young oak-hickory regeneration, favorable forest tree composition, increases in native forest plants and groundcover habitats, important vertical roosting, nesting, and feeding habitats, protected water quality, improved hunting and recreation, and income from sale of forest products. The State Forests outlined below remain a high priority for the IDNR and the Division of Forest Resources.

Big River State Forest (2900 acres)—Henderson Co.

Big River Forest sites are largely sandy soils growing hardwood stands containing mostly blackjack oak with associate central hardwoods including ash, bur oak, black oak, black cherry, walnut, and others. Small acreages of Mississippi River bottomland forest contain mostly silver maple and cottonwood. Older stands of planted pines exist in areas subject to past and present wind erosion. Hunting and equestrian recreation use is moderate to high and a designated Natural Area exists.

Hidden Springs State Forest (1200 acres)—Shelby Co.

Hidden Springs Forest sites contain a range of soils growing upland hardwood stands containing many species of native oak, hickories, and black walnut with other central hardwoods. Hundreds of acres of established pine forest and are now being thinned. Bottomland forests are also extensive throughout the forest.

Fishing, camping, and hiking recreation use is low to moderate.

Lowden-Miller State Forest (2400 acres)—Ogle Co.

Lowden-Miller Forest sites contain a variety of quality forest soils and extensive oak-hickory and central hardwood forest containing white, red, and black oak with shagbark hickory as well as elm, ash, cherry, walnut, and many others. Hundreds of acres of pine plantations, a recently abandoned Christmas tree field, and some bottomland forest also exist. Hunting, fishing, hiking/skiing, and equestrian use is moderate to high. A Boy Scout camp and Castle Rock State Park are adjacent to the forest.

Sand Ridge State Forest (7200 acres)—Mason Co.

Sand Ridge Forest sites are all sand-based soils growing thousands of acres of black oak-dominated, oak-hickory forest needing regeneration and an equal acreage of planted pine forests needing thinning and management. Most oak stands are over-mature and of low-quality timber. Hunting, hiking, fishing, horseback riding, camping, and recreation use is moderate. Designated Natural Areas exist.

Spoon River State Forest (1680 acres)—Knox Co.

Spoon River Forest sites are rich, heavy forest soils growing oak-hickory and mesic central hardwood species. Fourteen hundred acres of hardwood forest with a history of forest management harvests exist. No pine stands exist. Spoon River has no camping or picnic areas. Hiking, hunting, fishing, and boating use is low to moderate.

Trail of Tears State Forest (5200 acres)—Union Co.

Trail of Tears Forest sites have soils growing high-quality oak-hickory forests dominated by white and black oak and associate central hardwood species. Small acreages of maturing planted southern pines exist. Hunting, camping, and equestrian recreation use is low to moderate. The 222-acre Trail of Tears Forest contains Ozark Hills Nature Preserve with Union State Nursery occupying 120 acres of the forest.

Wildcat Hollow State Forest (700 acres)—Effingham Co.

Wildcat Hollow Forest sites are rich soils growing high-quality oak-hickory forests dominated with white

oak and associated central hardwood forest species. The oak-dominated, hardwood forests lack the necessary oak regeneration and recruitment to assure future forests of oak. Hunting and recreation use is moderate to high and a designated Natural Area exists.

Forest Health

Forest Health is a priority program itself that affects and is intertwined with all core forestry programs and priority programs in Illinois. Forest Health is also a funded cooperative program with the U.S. Forest Service. Illinois currently contracts most state obligations that are tied to the grant funding to university-based entomologists and pathologists via contracts with the IDNR. The priority for this program is to hire a permanent IDNR full-time staff position that is the state's forest health specialist. The forest health specialist would be a program manager within the Office of Resource Conservation Forestry Division. That degreed professional is required to be a division employee according to the federal grant for Forest Health to Illinois. That specialist will be more effective than contracted minimum surveys since they can interact directly with the IDNR foresters, biologists, and staffs who are each seeing thousands of acres of private forest annually.

Priority Areas (and Partnering) in the Midwest

Illinois is a part of several other regional forestry priority areas in the Midwest. Regional considerations can result in projects benefiting Illinois forests and forestry. States can partner to accomplish mutual goals or compete for funding. Border areas of most states do have similar issues and usually share biological and geographical similarities.

There are many overlapping state-level forestry priorities identified by state planners from 2010 and 2020. For example, within the Upper Mississippi Watershed of the Midwest region, several sub-watersheds have been classified as high priority by the Upper Mississippi River Partnership and the U.S. Forest Service, R9 State and Private Forestry. These watersheds were selected because they showcase needed forest stewardship practices that improve water quality and wildlife habitat important to neighboring states and river conservation. In Illinois, the Cache and Lower Illinois-Lake Chautauqua watersheds were ranked at the highest priority level, while the Apple Plum and Cahokia-Joachim were ranked at the second highest priority level (Fig. 25).

The 2008 Farm Bill (PL 110-246) required State Forest Action Plans to include “any multi-state areas that are a regional priority.” As requested by state foresters, the U.S. Forest Service, R9 State and Private Forestry facilitated a process to help states identify and share all Eastern Region multi-state priority areas and issues. There are 69 unique multi-state priorities and issues identified by the 20 states and the District of Columbia. Over half of these priorities are existing efforts though the detail about multi-state priorities varied widely. For example, some states included a simple list of “potential” multi-state priorities while others provided detailed information about each multi-state priority they intend to pursue. One-third of the multi-state priorities identified are issues that could benefit from collaboration among multiple states. Two-thirds of the multi-state priorities are specific landscape areas such as the

Mississippi River watershed.

The multi-state priorities and issues listed in (Tables 2 and 3) from the 2020 U.S. Forest Service R9 S&PF multi-state meetings and 2010's listings from multi-state Forest Action Plans can be considered for focused projects and collaboration to further the regional, landscape scale conservation approach. Multi-state priorities that were cited in the 2010 State Forest Action Plans can be found in the compendiums on the USFS Landscape Scale Conservation webpage: <https://www.fs.usda.gov/naspf/programs/sustainability-and-planning/landscape-scale-conservation-northeast-and-midwest>

It is important to recognize that there are landscape-scale areas that are located fully within one state. It is also important to recognize there may be issues impacting landscape scale conservation that are best addressed by states individually. In addition, these tables do not necessarily include every area, issue, or effort that states might address or coordinate individually or together.

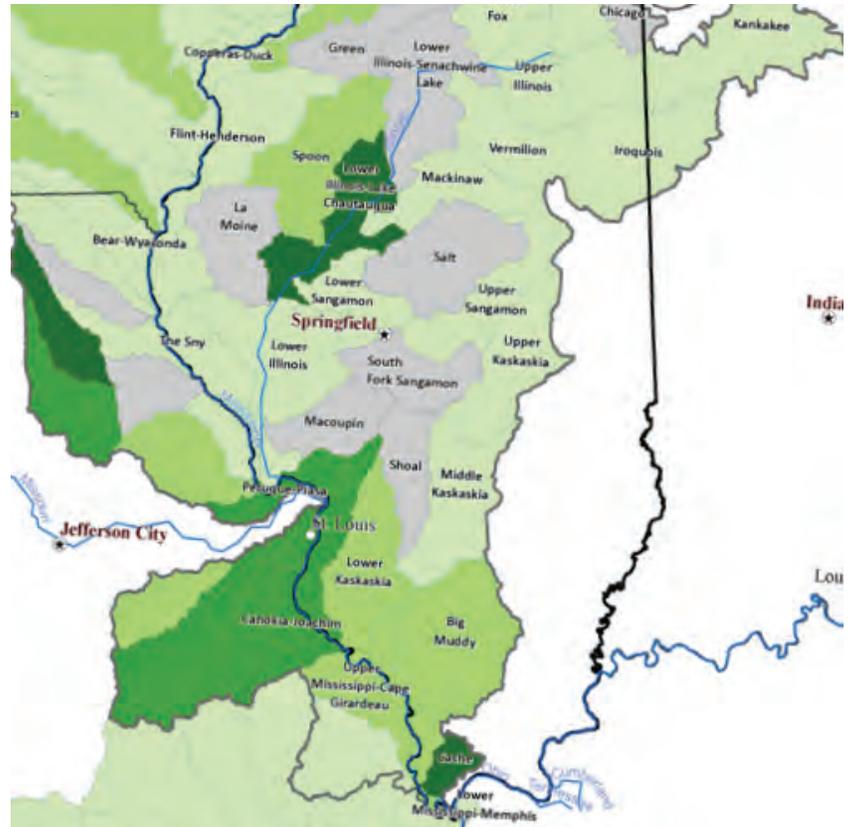


Figure 25. Current priority areas within the Upper Mississippi Watershed as determined by the Upper Mississippi River Partnership and the U.S. Forest Service, R9 S&PF.

Table 2. Multi-State Priorities across the Northeast and Midwest 2020. Illinois Interests in Bold and marked with an asterisk.

Multi-State Priority Area	States the Area Includes
Allegheny Plateau (new or part of the OH River Basin)	NY, OH, PA, WV
Allegheny Forest Health Collaborative	PA, NY (w/ Allegheny NF)
Appalachian Forest Region, including Upper OH River Appalachian Forests (WV includes focus for maintaining markets in this region) Also Appalachian Mountain Joint Venture (OH) Follow the Forest (new) Initiative (Housatonic Valley working with Appalachian Trail, and others) (CT considering)	MD, NY, OH, PA, WV, GA, KY, MS, NC, SC, TN, VA
*Big Rivers Forest Fire Management Compact	IA, IL , IN, MO
Boreal and Temperate Forest Systems (might be up and coming partnership; climate change focus)	MN
*Central Hardwoods Region / Bird Conserv. Joint Venture / Partners in Flight	IL , IN, MO, AL, AR, KY, O K, TN
Chesapeake Bay	DE, DC, MD, NY, PA, WV, VA
*Chicago Wilderness	IL , IN, WI
Connecticut River Watershed	CT, MA, NH, VT
Delaware Water Gap	NJ, PA
Delaware River Watershed	DE, NJ, NY, PA
Delmarva Peninsula & Mid-Atlantic Coastal Plain	DE, MD, NJ, VA
*Driftless Area / Initiative	IA, IL , MN, WI

Table 2. cont

Multi-State Priority Area	States the Area Includes
Forest Ecosystem Monitoring Cooperative	MA, NH, NY, RI, VT
Great Bay	NH, ME
*Great Lakes Watershed: Great Lakes Regional Collaborative Strategy and Great Lakes Restoration Initiative	IL, IN, MI, MN, OH, NY, WI
Green Mountain-Berkshire (MA, VT); Berkshire-Taconic Landscape (CT, MA, NY, VT); Regional Conservation Partnership	CT, MA, NY, VT
Kansas City Metro Urban Area	MO, KS
*Karst Topography (also part of Driftless area)	IA, IL, IN, MI, MN, MO, WI, NE, SD
Highlands Region of CT, NJ, NY, & PA	CT, NJ, NY, PA
Interstate 95 Corridor	CT, DE, DC, ME, MA, MD, NH, NJ, NY, PA, RI, VA
Increasing Oak resiliency in Southern New England Forests	CT, MA, RI
Hudson-Housatonic Valley	CT, NY
Lake Champlain Basin	NY, VT, Quebec
Lake Erie Allegheny Partnership (LEAP)	OH, PA, NY
Loess Hills	IA, MO, KS, NE
*Lower Mississippi Bottomland Area	MO, IL, TN, A R, KY
Mahoosuc	NH, ME
*Midwest Glacial Lakes Fish Habitat Partnership	IA, IL, IN, MI, MN, OH, ND, SD, WI

Table 2. cont.

Multi-State Priority Area	States the Area Includes
Missouri River Corridor and Watershed	MO, IA, NE, ND, SD, WY, CO, KS
*Missouri and Mississippi Rivers Confluence	IL, MO
Northern Forest Lands	ME, NH, NY, VT
Oak Openings Region / Green Ribbons	OH, MI
*Ohio River Basin (and Wabash River Valley)	IL, IN, KY, PA, T N, WV, OH
Oil & Gas Marcelles Shale Region	PA, WV
*Northern Long-Eared Bat (and tri-colored and little brown bat) Initiative through US FWS	IA, IL, IN, KY, MI, MN, MO, OH, WI
Quabbin-to-Cardigan Partnership	MA, NH
Red River Basin Watershed	MN, ND, SD
Southern New England Heritage Forest (RI); The Last Green Valley (CT & MA) (Quinebaug Highlands taken over by Last Green Valley)	CT, MA, RI
Staying Connective Initiative (USFWS)+	NH, NY, ME, VT
*St. Louis Metro Urban Area	MO, IL
Surface Water Watersheds for Urban/Metro Populations: Evitts Creek, Waynesboro Reservoir, Edgemont Reservoir, Gunpowder River, Monocacy River, and Octoraro Creek.	MD,
Upper and Lower Grand River and Grand Rapids (Urban Waters Federal Partnership)	MI
*Upper Mississippi Watershed	IA, IL, IN, MN, MO, WI
Weston Bend Conservation Opportunity Area / Fort Leavenworth	MO, KS

Table 3.

Multi-State Priority Issues/Goals Identified by Illinois and Regional Neighbor States

-
- Address Threats to Forests Along Highway Corridors
-
- Biodiversity and Forest Habitats for Wildlife (restoring forests for diminished species)
-
- Biomass and Renewable Energy
-
- Climate Change
-
- US Climate Alliance
-
- Regional Greenhouse Gas Initiative
-
- Climate Change Response Frameworks
-
- Enhance Access to Recreational Activities on Private Forest Lands
-
- Flood Resiliency
-
- Keeping Forests as Forests and Intergenerational Transfer of Land
-
- Manage Insects, Diseases, & Invasive Plants
-
- Outreach and Conservation Education
-
- Promote Sustainable, Active Private Forest Management
-
- Reduce Wildfire Risk
-
- Fire Compacts (Big Rivers, Great Lakes..)
-

Table 3. cont.

➤ Reforesting Previously Mined Lands

➤ Sustain Forest Industry and Diversify Markets NH specified as “Regional (new) markets for low-grade wood”

➤ Urban and Community Forestry and Green Infrastructure

➤ Valuing Ecosystem Services

➤ Water Quality and Forested Watersheds

➤ Collecting FIA Data in Urban Areas

National Priorities and Priority Areas (USFS)

Illinois Forest Action Plan Achievements Work Along Side USFS National Priorities

The 2008 Farm Bill amended the Cooperative Forestry Assistance Act of 1978 to require each state and territory to develop a long-term, statewide assessment and strategies of their forest resources. These assessments and strategies are referred to as Forest Action Plans and they focus on three national priorities established by the 2008 Farm Bill for the U.S. Forest Service, State and Private Forestry:

1. Conserve and Manage Working Forest Landscapes for Multiple Values and Uses
2. Protect Forests from Threats
3. Enhance Public Benefits from Trees and Forests

Illinois Forest Action Plan Fuels Success (National Priorities 1, 2 & 3)

The Illinois Forest Action Plan (IFAP) and its assessments have been noticed and remain within the focus of most significant forestry partner organizations in Illinois. Each year Illinois has been awarded one or more competitive U.S. Forest Service, R9 S&PF Grant project(s) based on their forestry merit and their alignment with the assessments and/or strategies of the IFAP. Grants have included a good mix of urban and community projects, fire, forest health, and stewardship-based private forest management. All grants have been aligned with the assessments and Illinois’s seven priority concerns outlined in the IFAP. A list of these projects and those from other states and organizations can be found on the U.S. Forest Service, R9 S&PF website.

Universal Illinois Forest Management Plan cements commitment to wildlife habitat (National Priorities 1, 2 & 3)

The Illinois Forest Management Plan (IFMP) was greatly influenced by the IFAP assessments and the historical commitment to expanding forestry and wildlife habitat by the Division of Forest Resources. In 2010, the IDNR Forestry Stewardship Forester, the Illinois Extension Forester, the Illinois Tree Farm Director, and USDA NRCS State Forester tasked

themselves with developing, outlining, and approving universal forest management plan standards that all Illinois forest management plans will follow so that each meets all the standards of the Tree Farm System, USDA NRCS EQIP 106, Forest Stewardship, and the Illinois Forestry Development Act (tax-law) programs. Making the management plan universal allows consultants to write more and better plans and allows IDNR to be efficient in their review and implementation of Forest Stewardship and other plans. Illinois plans, since the winter of 2011/2012, now require wildlife habitat considerations and alignment with the principles found within the Illinois Wildlife Action Plan.

IFDA — IFA Partnership: Forestry Communication Initiative (National Priorities 1 & 2)

Each year the Illinois Forestry Development Council manages a budget authorized under the Illinois Forestry Development Act (IFDA) to forward and promote forestry across Illinois. In Illinois fiscal year 2015, the IFDC awarded a project grant to the Illinois Forestry Association (IFA) as a forestry communication initiative. This project collects and builds an email database “group” for real-time forestry communication in Illinois that will be used by both the association, to email information, news, or issues; or by the forestry division, to email business and communications. In the past, important communication on a forestry issue or opportunity was done by inefficient, time-consuming word of mouth, phone calls, and US mail and was so burdensome the effort was rarely undertaken. The initial target is the 11,000 landowners already participating in Illinois’s IFDA Private Land Forestry Management Program. Continuation of this partnership is ongoing. Thousands more forestry-minded landowners—especially those participating in other IDNR land management programs—will hopefully be added. There are approximately 200,000 nonindustrial private forest landowners in Illinois. The forestry communications email group will not be limited to forest landowners and can include anyone with an interest in forestry or forestry issues. Ultimately, this type of forestry communication in Illinois results in connecting the IFAP itself and all related current issues to landowners, stake-holders, and citizens at large.

Wood Utilization and Marketing Program Forester

(National Priorities 1, 2 & 3)

The IFAP noted the decline of the forest industry and lack of professional foresters in Illinois as huge concerns. Our State Forester was, appropriately, one of the first persons to take action on the IFAP to address these two concerns and in 2011 began the efforts which resulted in hiring in 2013 a Wood Utilization and Marketing Forester position at IDNR headquarters that had been vacant since year 2000. A number of positive effects have resulted in the two-year period since hiring that forester, with many essential and important projects ahead. Because the IDNR has less than 20 professional foresters within the division, each head-count added or replaced is significant to our operations and our responsibilities.

Fire Program and Prescribed Burn Associations

(National Priorities 1, 2 & 3)

The IFAP documented the changing dynamics and loss of the Illinois oak-hickory forests due to lack of disturbances. Fire and harvesting are the primary stand and landscape disturbances that promote oak-hickory forest types in Illinois. The Illinois IDNR Fire Program, which is two-faceted, has grown in response. The staff of IDNR and other related divisions outside and inside IDNR are now required to have minimum annual class-work, physically pass an annual refresher, and carry a Prescribed Burn Managers card. The IDNR Forestry Program Manager has expanded the Illinois fire program to train hundreds of rural fire district personnel and more division foresters. The fire program also maintains an entire Illinois crew of re-carded firefighters available for NWCG fire duty and has been, for the last decade, active every season. The prescribed burn and wild land fire training programs and grants have expanded the capacity for the IDNR, its partners, and allied agencies to be better geared and more efficient in their expanded use of fire on the landscape. Noteworthy is a prescribed fire project partially funded by a competitive U.S. Forest Service, R9 S&PF Grant. The Southern Illinois Prescribed Burn Association (SIPBA; www.sipba.org), a multiple county burn association, functions like a cooperative to deliver prescribe fire to mostly private forest land in Illinois's most important forest region in southern Illinois. The association was formed in 2006. The organization conducts prescribed burns to restore over 1,000 acres of habitat each year, with the partnership of IDNR, Southern Illinois University, the National Wild Turkey Federation, University of Illinois Extension, and the Shawnee Resource Conservation and Development Area.

Cooperative Weed Management Areas (CWMAs) and Invasive Plant Partnerships (National Priorities 1, 2 & 3)

There are three nonprofit organizations across Illinois, which organize invasive plant initiatives in cooperation with state, federal, and other nonprofit organizations to work with the public across jurisdictional boundaries. The first of these, The River to River Cooperative Weed Management Area (CWMA; www.rtrcwma.org) in southern Illinois was established in 2006 to coordinate invasive species control across the southernmost 11 counties in Illinois. The CWMA was inspired by the IFAP assessment, and received a U.S. Forest Service, R9 S&PF Grant to survey and map bush honeysuckle, Illinois's worst forest understory invader between the Ohio and Mississippi rivers. The mapping project was successful and the CWMA remains active in battling the invasion of this unwanted forest shrub, as well as coordinating many other invasive species control and outreach projects. The Northeastern Illinois Invasive Plant Partnership (NIIPP; www.niipp.net) organizes invasive plant control and outreach projects across the northeastern 18 counties in Illinois. The newest nonprofit organization, the Headwaters Invasive Plant Partnership (HIPP; www.ilhipp.org), was established in 2015, and includes 11 counties in east-central Illinois, where the headwaters of the watersheds of the Embarras, Kaskaskia, Little Vermillion, Mackinaw, Sangamon, and Vermillion rivers are located. These organizations seek to supplement the ongoing efforts of their partners in protecting forest resources from invasion.

IL CREP 1400 Conservation Easements and Required Timber Harvest Plans (National Priorities 1 & 2)

The State of Illinois Conservation Reserve Enhancement Program (CREP) has developed approximately 1,400 permanent conservation easements with private landowners owning forest and non-forestland in river bottoms and directly adjacent lands across Illinois' two biggest watersheds. Owners in the Illinois and Kaskaskia River basins are eligible if they have active federal CRP or CREP contracts in or adjacent to a floodplain and after detailed property inspection and an internal technical review. The IFAP illustrated how important the need for professional foresters is across Illinois, and so CREP program managers are now working with the forestry division to approve timber harvest plans for any CREP easement landowners who wish to cut timber on their easement. Approval of a harvest involves either a qualified forestry consultant and/or a state

service forester to review, further develop, and/or approve timber harvest plans, assuring each addresses silvicultural management and forest regeneration principles.

Tree City USA Builds Healthy Resilient

Communities (National Priorities 1, 2 & 3)

Tree City USA, TCU, and its companion Growth Award are a significant part of the statewide IDNR Urban and Community Forestry Program. Tree City USA is sponsored by the Arbor Day Foundation, the U.S. Forest Service, and the National Association of State Foresters. Nearly 7.5 million people live in a Tree City USA designated community. Since 2005, the Tree City USA participation, administered by IDNR Urban and Community Forestry Program staff, has been sustained with participation going from 173 to 184 communities in 2018. Illinois' ranking of third in the nation (for community participation) gets harder to sustain each year as other states out staff Illinois on average by 3 to 1 and are adding more dedicated urban and community forestry staff each year as their programs grow. The Tree City USA program provides IDNR with an opportunity to provide technical outreach directly to communities and has remained a primary responsibility of the IDNR Urban and Community Forestry Program.

Urban and Community Forestry Partnerships Enhance Services; Protect Our Local Forests

(National Priorities 1, 2 & 3)

Strong urban and community forestry education, action, and partnerships have been established in Illinois. These partnerships have always been used to create positive energy, projects, and progress throughout the state. Active stakeholders assist IDNR on the important urban and community forestry program goals and objectives as outlined in the Forest Action Plan and use the document as guide for some of their actions and initiatives. As a collective effort, Illinois' Forestry Development Council Urban and Community Forestry Committee compiled and synthesized previous work to create a five year Urban and Community Forestry Strategic Plan Agenda for to the 2020 IFAP (See Exhibit A pg. 59). The Urban and Community Forestry Committee continues to meet regularly to monitor, assess, and plan on this work and on current issues. Significant partners to the IDNR Division of Forest Resources Urban Program include the U.S. Forest Service, National Arbor Day Foundation, the

Illinois Arborist Association/International Society of Arboriculture, Trees Forever, Morton Arboretum, Openlands, U of I Extension, Heartland Conservancy, and Illinois Association of Soil and Water Conservation Districts.

Urban Forestry STRIKE-TEAM Helps Natural

Disaster-impacted Communities (National Priorities 1, 2 & 3)

A new initiative since the development of the Forest Action Plan is technical assistance through the Urban and Community Forestry Strike Team. This initiative has gained momentum through a partnership with the U.S. Forest Service and Trees Forever. Severe weather in 2014, 2017, 2019 and 2020 has given IDNR the opportunity to deploy a highly trained U.S. Forest Service-certified team of Illinois arborists, urban foresters, and municipal leaders known as Illinois Urban Forest Strike Team Specialists. Their goal was to assess the residual tree risk after the initial debris was removed from the communities. These actions help to protect citizens from hidden damages and also conserve the communities remaining forests when they pose no visible threat. After the rapid tree risk assessment that uses FEMA guidelines, Trees Forever, working with IDNR, provides additional technical assistance to build a more resilient community forest for the future. Illinois is the first state model in the northeastern USA and serves as a positive solution across all interests for other states and regions in providing assistance when urgent needs arises from natural disasters or storms.

Be a Hero Transport Zero Campaign

(National Priorities 1, 2 & 3)

The Illinois Division of Fisheries has been working with the Illinois-Indiana Sea Grant Program on the aquatic message of the “Be a Hero” campaign since 2014. The grant team asked IDNR for volunteers to develop a companion land message to address primarily, invasive, and exotic plants and insects. Due to the IFAP, and it confirming the threat of changing forest dynamics and forest health issues, the Stewardship Forester of the Illinois Division of Forest Resources volunteered to assist. The IDNR Invasive Species Coordinator (also a forester) volunteered as a second. Both worked with sea grant specialists on a message and main points to create a parallel icon for terrestrial land threats and invaders affecting forests. For more information visit TransportZero.org and ReleaseZero.org. To learn more about becoming a Be a Hero partner, contact Pat Charlebois at charlebo@illinois.edu.



Illinois's Forest Action Plan threats and strategies align with USFS National Priorities:

The 2020 Illinois Forest Action Plan identifies seven main threats and strategies concerning forest resources. The following state and private forestry objectives, listed and numbered under each federal forestry concern (in bold), are all addressed in Illinois.

Conserve and Manage Working Forest Landscapes for Multiple Values and Uses

Identify and conserve high priority forest ecosystems and landscapes (Objective 1.1).

Actively and sustainably manage forests (Objective 1.2).

Protect Forests from Threats

Restore fire-adapted lands and reduce risk of wildfire impacts (Objective 2.1).

Identify, manage, and reduce threats to forest and ecosystem health (Objective 2.2).

Enhance Public Benefits from Trees and Forests

Protect and enhance water quality and quantity (Objective 3.1).

Improve air quality and conserve energy (Objective 3.2).

Assist communities in planning for and reducing forest health risks (Objective 3.3).

Maintain and enhance the economic benefits and values of trees and forests (Objective 3.4).

Protect, conserve, and enhance wildlife and fish habitat (Objective 3.5).

Connect people to trees and forests; engage them in environmental stewardship activities (Objective 3.6).

Manage trees and forests to mitigate and adapt to global climate change (Objective 3.7).

The following seven Illinois forest resource threats provide strategies that align with national, state and private forestry concerns and objectives.

1. *Oak-Hickory Forests*

- **Conserve and Manage Working Forest Landscapes for Multiple Values and Uses**
- **Protect Forests from Threats**
- **Enhance Public Benefits from Trees and Forests**

SPF Objectives 1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7

2. *Large Forest Blocks*

- **Conserve and Manage Working Forest Landscapes for Multiple Values and Uses**
- **Protect Forests from Threats**
- **Enhance Public Benefits from Trees and Forests**

SPF Objectives 1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7

3. *Forest Health Threats*

- **Conserve and Manage Working Forest Landscapes for Multiple Values and Uses**
- **Protect Forests from Threats**
- **Enhance Public Benefits from Trees and Forests**

SPF Objectives 1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7

4. *Forestry Professionals*

- **Conserve and Manage Working Forest Landscapes for Multiple Values and Uses**
- **Protect Forests from Threats**
- **Enhance Public Benefits from Trees and Forests**

SPF Objectives 1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7

5. *Illinois Forest Industry*

- **Conserve and Manage Working Forest Landscapes for Multiple Values and Uses**
- **Protect Forests from Threats**
- **Enhance Public Benefits from Trees and Forests**

SPF Objectives 1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7

6. *Urban and Community Forests*

- **Advance Health and Wellness of Forests, Ecosystems, and People**
- **Maximize Community and Ecosystem Sustainability**
- **Ecosystem Resilience**

SPF Objectives 1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7

7. *Other Threats*

- **Conserve and Manage Working Forest Landscapes for Multiple Values and Uses**
- **Protect Forests from Threats**
- **Enhance Public Benefits from Trees and Forests**

SPF Objectives 1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7

Because of present and future threats to Illinois forests, key stakeholders as well as a diverse range of conservation specialists conclude the strategies listed below are the most important priorities for Illinois forests and forest resources. Many of the strategic forest resource actions, and the threats that necessitate

these strategies and actions, were derived from the research and assembly of this 2020 Illinois Forest Action Plan and its 2010 predecessor. In addition, many goals and action items from the 1999 IFDC publication *Realizing the Forests' Full Potential: Assessment and Long-range Action Plan for Forest Resources in Illinois* are included in the strategies that follow. The 1999 planning document continues to be relevant and is found as Appendix C. It is available on the reports page of the IFDC website: <http://ifdc.nres.illinois.edu/reports>

These statewide forest resource strategies must ultimately be addressed if Illinois is to achieve and sustain long-term health and productivity of forests. Illinois forests are environmentally and socially important. Addressing threats by employing these core strategies will yield healthy, productive future forests which are of critical importance.

These seven strategies are not in priority order and are numbered and lettered for reference only. Implementation is of equal importance to all seven strategies. Prioritizing forestry actions is discussed in the following section *Illinois Forest Resource Strategies and Actions*.

Illinois Forest Resource Strategies and Actions

Strategy 1. Assess, Plan and Prepare for Oak-Hickory and other Hardwood Forest Resiliency

- A. Intensify canopy disturbances, mid-story control, and reintroduce fire into the forest system.
- B. Forest disturbances of canopy, subcanopy, and understory that address declining tree species diversity must be front and center of our efforts.
- C. Timber stand improvement (TSI) practices are necessary to favor bottomland and upland oak forests.
- D. Favor impacted oak species through forest disturbance. Forest disturbance also benefits shortleaf pine and other desirable native hardwood species.
- E. Full funding of forestry incentive programs is needed to encourage private landowners to undertake TSI, prescribed burning, and other beneficial stewardship activities.
- F. Funds collected from the 4% state timber fees must be made available to cooperating forest landowners.
- G. Pioneer cooperative efforts, such as the South-eastern Illinois Prescribed Burn Association, among nonindustrial private forest landowners and state agencies to help reverse declines in plant biodiversity.
- H. Enhance tree biodiversity and climate change adaptation planning for the benefit of forest resiliency and wildlife habitat management.
- I. Strengthen markets for small, poorly formed, or decadent trees that interfere with regeneration to benefit development of oak species in forest understories.
- J. IDNR should serve as a statewide leader by demonstrating stewardship practices that enhance biodiversity in state forest lands and other IDNR land.

- K. Develop educational programs on the essential role of disturbance, including fire, in Illinois forest ecosystems that target private forest landowners. Emphasize the importance of disturbance in the maintenance and restoration of desired forest traits.
- L. Incorporate a full appreciation in education curricula at all levels for the legacy of human activities on forest ecosystem function and composition.
- M. Partner and co-develop wildlife and forestry efforts to keep oak as critical wildlife habitat.
- N. Convert marginal farmland to forests having a mix of oak, native forest, and timber species.
- O. Practice active oak forest management in state forests.
- P. Fund and implement invasive species control especially for bush honeysuckle on all forest land Early control prior to reaching epidemic levels is most effective.
- Q. Resilient oaks should be planted in city, state, county parks, and open spaces.
- R. Assess future vulnerability and adaptation strategies for oak-hickory forests.

Strategy 2. Save Existing and Create More Forest Blocks of 500 Acres or Greater

- A. Programs geared toward encouraging voluntary coordinated management across ownerships could increase the positive impacts of forest management.
- B. Property tax and zoning policies that encourage good forest stewardship need to be developed and propagated to encourage sound utilization and stewardship practices in critical areas to keep more forest in “forest” land type.
- C. Encourage, promote and practice riparian buffer tree planting and the use of forest land and tree planting as tools in watershed

- planning and stormwater management.
- D. In urbanizing areas, preserve and enhance amenity values of forests through regional land-use planning that encourages conservation of greenways, riparian areas, and, where appropriate, wildlife travel corridors.
- E. Strengthen the forest products industry to maintain forestry as a preferred land use and to reduce fragmentation.
- F. Expand outreach programs to respond to the evolving interests and priorities of the land ownership base.
- G. Conserve, expand, and connect working forest landscapes to retain all existing Illinois forests, improve their management, and convert 300,000 acres of marginal cropland to forest-cover.
- H. Connect forests via reforestation to create 500-acre and larger contiguous forest lands.
- I. State tree nurseries must remain open to produce genetically sound planting stock.

Strategy 3. Mitigate Forest Health Threats

- A. Invasive species management is a concern among natural heritage, wildlife, and forestry interests. Cooperative weed management programs like the River to River Cooperative Weed Management Area should be replicated throughout the state.
- B. Invasive plant species management will go hand in hand with other forest management practices.
- C. Prioritize the hiring of a forest health specialist to help prevent further invasions by continued early detection and intervention efforts including information dissemination to public employees, private enterprises, and the public.
- D. Research, educational materials, and volunteer coordination by Illinois Natural History Survey scientists play critical roles in this effort. Adequate funding and staffing must continue for the interdisciplinary IDNR Invasive Species Working Group.

- E. Integrate approaches to exotic species control tailored to local conditions.
- F. Landowners who harvest timber should be able to recoup severance tax payments to support invasive species management practices in situations where both exotic and native invasive species threaten the long-term sustainability of timber production.
- G. Eradicate, control, and prevent the introduction of invasive exotic species to new areas.
- H. Proactively manage ongoing forest adaptation to increase forest resiliency and better prepare Illinois forests for future forest health threats.

Strategy 4. Hire More Forestry Professionals

- A. As awareness of forest stewardship and incentive programs grow, the demand for a professional state support system will be greater than ever.
- B. Secure Urban Forest professionals to keep pace with growing community forest program needs and maximize available federal core dollar assistance. Retain traditional forest professionals for outreach to educate and guide forest management decisions and outputs such as oak regeneration, prescribed burning, habitat fragmentation, water quality relationships, ecosystem services, or enrollment in private forestry management programs.
- C. Increasing the number of state forestry professionals and technical personnel must be the first step in reestablishing a win-win relationship that ensures the vitality and productivity of Illinois forests. Without adequate levels of staffing, forest resource conservation in our state will suffer serious setbacks.
- D. The Illinois Forestry Association has advocated for full staffing of IDNR district forestry personnel, increased support for forestry extension, and improved collaboration among state, local, and federal natural resources management agencies and organizations.
- E. Initiatives to encourage partnerships among agencies and organizations within the forestry community will be necessary to address this need and prevent duplication of effort.

- F. State support for university-based outreach and extension efforts, such as the Illinois Virtual Forest, must be maintained because educated citizens become land stewards. By educating Illinois citizens about forest health and sound management practices, we protect both market and nonmarket values of Illinois forests for citizens, communities, and the state now and in the future.
 - G. Illinois forest landowners would benefit from an expanded pool of knowledgeable individuals to provide forest management services to effectively undertake active stewardship and its attendant economic benefits.
 - H. Illinois' increasing number of private forest landowners has also created a situation in which many landowners are unaware of the value of their timber and how, with a professionally prepared management plan, it can be harvested in an environmentally responsible manner.
 - I. Pursue cooperation with land management agencies and interests and promote environmental education programs and educators such as the American Forest Foundation's Project Learning Tree, Environmental Education Assoc., STEM educators and others to broaden public understanding of forest management.
 - J. Expand cooperation among state, other public lands, and private owners to demonstrate good land stewardship practices as a key resource for private landowners.
- C. Institutional technological and marketing support for the forest products industry is at an all-time low from the failure to replace retired wood products faculty in the forestry programs at University of Illinois and Southern Illinois University.
 - D. Many Illinois secondary wood-using firms remain unaware that quality Illinois hardwoods are available and no central market exists to bring buyer and seller together.
 - E. State and county economic development programs should increase support for forest-based industries. Assistance to increase marketing capacity, improve access to financing and capital, and revised taxation formulas will be necessary to stimulate entrepreneurial business development in the Illinois forest products industry.
 - F. To add value to material once regarded as waste, Illinois will need to investigate new technologies and markets for waste wood, including urban wood waste, as a commercial/institutional heating fuel.
 - G. Initiate partnering with public agencies, private enterprises, and university researchers to demonstrate the potential of portable band sawmills and dehumidification dry kilns to produce high grade lumber from trees removed from urban forests.

Strategy 5. Statewide Focus on Illinois Forest Industry

- A. Illinois is forfeiting most of its forest-generated wealth to adjacent states by discouraging the development of a vibrant wood products sector. Legal and institutional supports are needed in order to develop an industry that matches the quality of the resource.
- B. The number of primary wood-using firms in Illinois has sharply declined due to comparatively high workers' compensation and unemployment insurance rates, as well as energy and transportation costs—all equaling an unfavorable business climate for wood products.
- I. Improve and expand the capacity and marketing potential of Illinois wood-products industries so that the available forest resources can be used most effectively and the increased demand for forest products can be met.

Strategy 6. Expand Urban and Community Forests

and Forestry (Urban Forestry Plan Agenda in Exhibit A was updated in 2024)

- A. There is a need to understand the composition of the urban forest and the operations capacity of those who own and manage the forest. With appropriate data and analysis, landowners and managers across the state will be able to make informed decisions for urban forest management. See Exhibit A 1 for Urban Forestry Strategic Plan Agenda 2020-2025.
- B. A sustainable Illinois urban forest promotes trees as part of urban infrastructure delivering many benefits. Work to integrate adaptation strategies into maintenance practices, improved species lists based on environmental impacts, and infrastructure features to help support the urban forest in a time of change. See Exhibit A 2 for strategic plan detail.
- C. Increase the number of credentialed individuals performing work in Illinois along with supporting and adding incentives for additional tangential training for Best Management Practices, American National Standards, regulatory issues and building program capacity. Additionally, engage elected officials to build awareness and advocacy potential of state forestry goals and educate and engage developers, contractors, and utilities professionals who construct or manage facilities in the urban forest. Providing and expanding opportunities for youth education and engagement prepares this demographic to become forestry professionals and advocates. See Exhibit A 3 for strategic plan detail.
- D. Invasive pests, plants, and diseases threaten the health of Illinois’ urban trees. Ongoing education and outreach to professionals and residents must be provided to ensure the highest level of awareness and engagement statewide. See Exhibit A 4 for strategic plan detail.
- E. Public and private sector partnerships throughout Illinois are needed to develop statewide urban and community forestry needs. Partnerships provide research, development, and dissemination of urban and community forestry information and promote best management practices. See Exhibit A 5 for strategic plan detail.
- F. Key to success of urban and community forestry in Illinois is recognition of the importance and benefits of urban trees to the state and its citizens. Urban and community forestry needs to receive support and assistance from state legislators and policy makers. See Exhibit A 6 for plan detail.
- G. The Urban and Community Forestry Committee and the IFDC should work with the IDNR to identify dedicated funding for the State Urban and Community Forestry Program and to support continued funding from the U.S. Forest Service. See Exhibit A 7 for strategic plan detail.
- H. It is critical for the continued success of the state Urban and Community Forestry Program that additional dedicated Urban and Community Forestry field staff be hired. See Exhibit A 8 for strategic plan detail.
- I. Assimilate the seven action plan goals of the NUCFAC Ten-Year Urban Forestry Action Plan 2016-2026 into Illinois's urban forestry program. See Exhibit A 9 for strategic plan detail.

Strategy 7. Realize Other Unmet Critical Forest Resource Needs

- A. Initiate legislation for permanent forestry and forest conservation funding (like the State of Missouri and others have). This is one of the most critical strategies for Illinois.
- B. Ensure solid funding for the Illinois Forestry Development Council (IFDC).
- C. Maintain six regular meetings and full attendance to IFDC meetings annually.
- D. Strengthen and expand conservation education programs that instill a stewardship and forest management ethic that results in economic, productive, attractive, and healthful forests throughout the state.
- E. Update and amend ginseng conservation laws and improve reporting systems.
- F. Disseminate proven information about how increased water quality and water conservation benefit from actively managed forest land.
- G. Contact all new Illinois forest landowners of 10 acres or more via assessors and/or real estate lawyers.
- H. Actively engage with all stakeholders to reduce the incidence of timber harvests that remove all or only the best trees or best species in a forest, a practice known as “high-grading.”

Prioritizing Forest Resource Strategies and Actions

While the magnitude of Illinois forestry professionals, forestry funding, and forestry activity support pale in comparison to the more heavily forested states and territories; the quality, experience, expertise, and longevity of forest resource professionals here in both the private and public sector is outstanding. Forestry funding is often scarce or unstable in Illinois. Funds generated by the Division of Forest Resources to support IDNR professional foresters and forestry programs are about 10% of the division’s annual expenditures (at the current staffing level and assuming annual forestry cost-share spending). Though forestry support and partnering is slowly expanding statewide, critical mass for widespread support, for stable, ample funding and for initiating forest resource strategies is absent in Illinois.

To date, leveraging on grants and partnering forest dollars on mutual or urgent concerns have had some success in addressing Illinois priority forest resource concerns. Priority projects and actions usually occur infrequently and at a slow pace. Partnering of multiple organizations and forestry dollars on priority environmental concerns has become a common federal, state, and local practice. The Division of Forest Resources has, due to fiscal necessity, trended toward prioritizing only projects that have funding mechanisms or leveraged dollars. The division currently, due to funding issues, barely meets its vital State of Illinois missions and mandates. Priorities should all be set due to importance and outcomes

The **primary year-in, year-out priorities** for the Division of Forest Resources are often only those activities that meet the focus or requirements for federally supported programs such as Forest Stewardship or Urban and Community Forestry, without the luxury of additional or expanded initiatives. In addition to meeting mandates from several state acts related to

forests and forestry programs the division prioritizes Illinois community and county fire plans, urban and community forestry assistance, state forests, private forest management on priority lands, eligible Forest Legacy Program proposals (Fig. 24), forest health, a nursery and forest utilization programs.

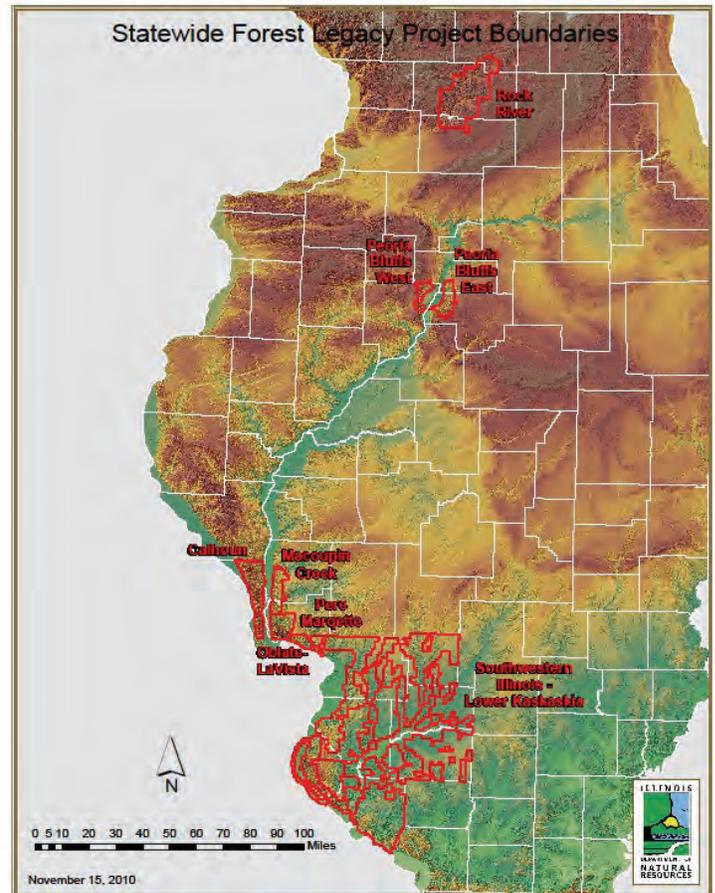


Figure 24. Designated Forest Legacy Areas for Illinois. (referenced from page 37)

Secondary priorities (for the Division of Forest Resources or IDNR) are subject to material or financial support of active, significant partners. A simple measure of how much significant partners materially, physically, or financially participate should gauge decisions between similar projects and efforts or other secondary priorities. Since so many important forestry strategies exist beyond the federally supported programs and state mandates, the forestry division and the resource itself need significant funding and/or partners to initiate additional strategies. The second priorities exist from a broad range of interests and exist at different scales. When a

project or an effort is also of significance to important conservation and forestry partners, such as the IDNR Division of Wildlife, the USDA, a neighboring state government or significant forestry organization and has funding; then it may become a priority. For example, if a project is in a Light Green Priority Stewardship Area (Fig. 22), it is ranked as a low priority. If project is in a Dark Green, High Priority Stewardship Area, it is ranked as a high priority. If a project has active/significant partners, the project ranking will increase. The more partners, the higher the ranking and higher weight a project has if it is an important needed action.

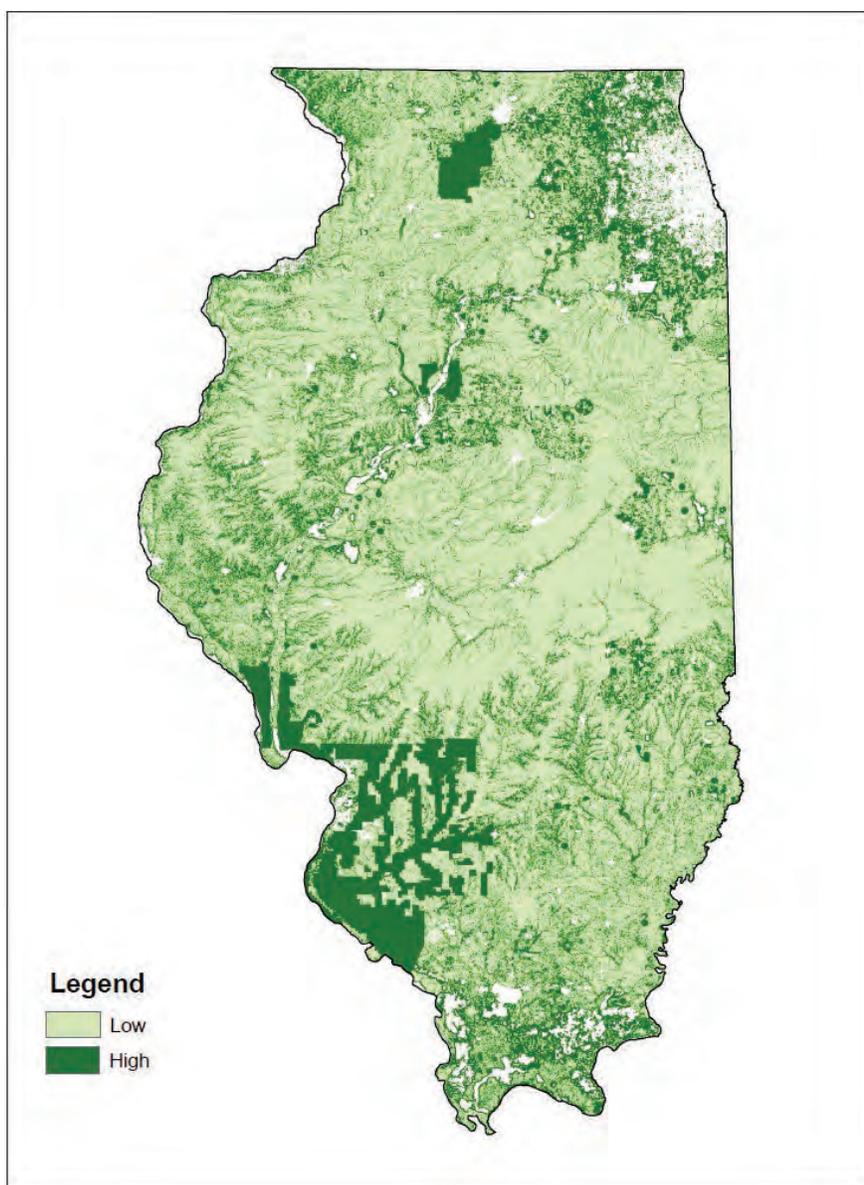


Figure 22. Priority areas within Illinois as determined by the IFDC and the Illinois DFR. Dark green is High Priority Stewardship; Light green is Priority Stewardship. (referenced from page 34)

Illinois Forestry Development Council

Table 4. Strategic matrix of Illinois Forest Resources.

Threat to Forest Resources	Strategies to Mitigate Threats	Necessary Resources	National Objective
Oak Forests Threatened	TSI and Disturbance	Federal Funding, IDNR Forestry Funding	Objective 1.1 Objective 1.2 Objective 2.1 Objective 3.5
Large Forest Blocks Now Critical	Tax Relief for Forest Landowners, Reforestation	Federal Funding, IDNR Forestry Funding	Objective 1.1 Objective 3.1 Objective 3.5
Forest Health Threats High	Cooperative Weed Management Programs, Forest Monitoring	Federal Funding, IDNR Forestry Funding	Objective 2.2
Forestry Professionals Disappearing	Increase IDNR Forestry Hiring, Incentivize professional consultants	Federal Funding, IDNR Forestry Funding	Objective 3.6
Illinois Forest Industry Decline	Lower Tax Rates & Workman Compensation, Research and Applied Technology	New Legislation	Objective 3.4
Urban and Community Forest Very Important	Increase IDNR Forestry Funding Incentives for U&CF	Federal Funding, IDNR Forestry Funding	Objectives 3.1-3.7 Objectives 1.1, 2.2
Historic, Critical Forest Resource Needs Still Exist	Re-evaluate Past Long-range Plans	Council and IDNR Forestry Critique	Objective 1.2 Objective 3.1 Objective 3.2

Table 5. Challenges of the IDNR according to the 2015 Implementation Guide to the Illinois Wildlife Conservation Plan and Strategy, Forests and Woodlands Campaign.

The actions included within the forest/woodlands campaign section are provided to help guide the next 10 years of implementation. While other actions may be needed and larger goals could be set, the campaign prioritizes the actions below as realistic, achievable, and most needed to aid in reaching the overarching goals of for Illinois forest and woodland wildlife resources:

1. Establish desired number and distribution of viable populations for each Species of Greatest Conservation Need (SGCN).
2. Manage habitats through promoting natural processes, desired structure, and disturbance regimes for the benefit of native species.
3. Develop resiliency and connectedness into habitats so species can adjust to landscape and environmental changes.

Table 6. Goals for improving forest habitat according to the 2015 Implementation Guide to the Illinois Wildlife Conservation Plan and Strategy, Forests and Woodlands Campaign.

-
1. Implement sustainable forestry practices, including forest stand improvement, prescribed fire, timber harvesting, and invasive species control to enhance oak dominance and maintain understory and herbaceous layer diversity on 1 million acres of forest and savanna barren open woodland habitat. Restore and manage small woodlots as open woodlands/savannas as appropriate.
 2. Increase statewide forestry and woodland acreage by 350,000 acres, emphasizing restoration of floodplains and riparian corridors, increasing ecological connectivity among forests and other habitat patches, and reducing fragmentation of forests 500 acres and larger..
 3. Develop high-quality examples of all forest communities, including all Grade A and B Illinois Natural Area Inventory sites, restored and managed within all natural divisions in which they occur.
 4. Manage healthy and well-maintained urban forests and woodlands.

Table 7. State and Private Forestry Priorities and Objectives, U.S. Forest Service and National Association of State Foresters, September 2008, June 2019.

1. Conserve Working Forest Landscapes

- 1.1. Identify and conserve high priority forest ecosystems and landscapes.
- 1.2. Actively and sustainably manage forests.

2. Protect Forests from Harm

- 2.1. Restore fire-adapted lands and reduce risk of wildfire impacts.
- 2.2. Identify, manage, and reduce threats to forest and ecosystem health.

3. Enhance Public Benefits from Trees and Forests

- 3.1. Protect and enhance water quality and quantity.
 - 3.2. Improve air quality and conserve energy.
 - 3.3. Assist communities in planning for and reducing wildfire risks.
 - 3.4. Maintain and enhance the economic benefits and values of trees and forests.
 - 3.5. Protect, conserve, and enhance wildlife and fish habitat.
 - 3.6. Connect people to trees and forests and engage them in environmental stewardship activities.
 - 3.7. Manage and restore trees and forests to mitigate and adapt to global climate change.
-

Exhibits

A. Urban Forestry Strategic Plan Agenda 2025-2030 and B. Illinois Legacy Program

Exhibit A

Urban Forest Strategic 5-Year Plan Agenda 2025-2030

Expanding Urban and Community Forests and Forestry

1.0 Improve and Expand Forest Composition and Health

1.1 Improve understanding and assessment of the Illinois Urban Forest—State and Local

1.1.1 Conduct state, regional, and local urban forest assessments through local inventory work, and canopy studies using geographic information systems (GIS), LIDAR, or other technology to understand tree health, species matrix, age classifications, locations, planting opportunities, and their changes over time. Make this information accessible to state, regional, and local forestry managers and individuals to develop a strategy for managing, planting, and protecting the urban forest at all scales. Incorporate and utilize cloud-based technology for information sharing.

1.1.2 Identify key areas in the state where canopy enhancement is needed. Prioritize support and assistance in underserved and or disadvantaged populations.

1.1.3 Work with local communities and landowners to complete/update tree inventories and seek to include such data as GIS locations, condition, species, size, tree maintenance needs and potential planting spaces.

1.1.4 Understand that the urban forest is comprised of all trees located on public and private property. Work with communities that have a public property tree inventory to conduct a stratified sample of private property trees to determine community-wide forest composition and health. Utilize this information to:

- Educate property owners on maintenance, diversity, risks, etc.
- Educate the public about tree benefits, trails, and history.
- Develop or improve tree protection and preservation ordinances with a goal to include public and private property trees.
- Bring awareness of and protection of important trees such as witness trees, trees of significant size, trees of historical significance, memorials, etc.

1.1.5 Collect data from all public and quasi-public agencies such as park districts, forest preserve districts, arboreta, golf courses, educational properties, corporate campuses, and hunt clubs.

1.1.6 Monitor the long-term health and integrity of Illinois urban and community forests through an every 10-year statewide urban forest assessment and other municipal capacity type cyclical surveys. Correlate the data with human and ecosystem health, heat, water quality, flood potential, air quality, wildlife, and other ecosystem services that provide habitat and improved quality of life.

1.1.7 Provide education and support for the eradication and management of exotic invasive species.

1.1.8 Encourage education focusing on the benefits of native species.

1.1.9 Support ongoing dissemination of information on the differences, benefits and drawbacks of planting and growing exotics, natives, cultivars, nativars and invasives. And support the progression of understanding the positive and detrimental connections between trees and climate change to help enhance forest and community resilience.

1.2 Enhance the Urban Forest Canopy

1.2.1 Increase opportunities to integrate trees as part of green infrastructure and natural climate solutions in the replacement or augmentation of gray infrastructure to:

- Reduce fragmentation of forest canopy.
- Improve climate and environmental conditions.
- Provide habitat. Support on-the-ground removal of impervious surfaces and replacement with nature-based solutions – including trees.

1.2.2 Utilize tree inventories and other data to improve understanding and management of species diversity, age diversity, tree risks, and the value and importance of establishing regular maintenance, management, and planting strategies.

1.2.3 Promote the importance of focusing on the conservation of biological diversity at urban or community forest, urban park, and/or street-tree levels.

- Support / promote diversity of native tree and/or forest types including a diversity of ages and/or sizes that enhance biological diversity at the urban and/or community scale.

1.2.4 Support community tree planting and mature tree preservation programs, especially where genus, species and age diversity are encouraged.

1.2.5 Enhance and support preservation and care of important Illinois community trees, through public education, local government motivators, marketing, supported outreach and assistance and or other creative means yet to be determined.

1.2.6 Prioritize key canopy areas and develop a long-term strategy to plant trees in key areas - especially in areas where tree canopy is low, and populations are underserved.

1.2.7 Work with state agencies that impact the urban forest canopy to improve canopy cover, native species, and age diversity in their management strategies. Disseminate specifications, based on industry standards, to these agencies and provide training on how to properly select, grow, plant, maintain, and protect trees.

1.2.8 Work with state partners to assist in production and communication between nurseries and tree purchasers to ensure the availability and quality of diverse species for public and private urban landowners. Look for collaborative opportunities to assist the nursery industry in forecasting and producing future diversity and quantity needs.

1.2.9 Identify and recommend incentives for landowners who actively work to improve and increase their tree canopy (including diversity, age, native and climate adaptable species) and access to underserved populations. These could include tax credits, funding assistance, etc. This might also include looking at how other states, counties, regions, or local governments provide credits for stormwater fees, green infrastructure improvements, etc. Identify local resources as well as those of the regional and state including public and private.

1.2.10 Identify methodologies to capture and share information regarding the monetary value of public and private tree canopies.

1.2.11 Provide local government tools for assessing urban tree damage and developing tree protection incentives and tree damage penalties.

1.3 Identify and Quantify the Benefits of Trees

1.3.1 Provide up-to-date data on the benefits of trees to public and private landowners, land managers, foresters, developers, contractors, designers, planners, elected officials, and decision-makers. These could include:

- Providing climate solutions
- Enhancing community resilience and vitality
- Improving human health
- Providing human and natural habitat and supporting biodiversity
- Fueling economic development
- Reducing crime
- Improving water quality
- Improving air quality
- Carbon sequestration and storage
- Reducing gray infrastructure costs
- Reducing erosion
- Providing oxygen
- Increasing property values

1.3.2 Recommend incentives and resources for those who integrate the benefits of trees to improve our climate, the environment and quality of life, e.g., stormwater reduction, energy reduction, etc., at the local and regional levels.

1.3.3 Utilize the statewide urban forest assessment and regional and local tree inventory data to quantify the economic, social, health, and environmental benefits of urban trees. Share this information with state officials, elected officials, and decision makers. Teach regions and communities how to calculate this information and assist them in conveying this information to their constituents.

1.3.4 Develop a statewide marketing campaign directed to multiple audiences on the benefits of trees, tree advocacy, and the growing, care and management of public and private community

trees. Include in this campaign outreach materials that are easily downloadable. This would include brochures, articles, promotional materials, and educational materials, both hard copies and electronic files for websites and social media.

1.3.5 Strive to

- increase Illinois urban canopy cover each year.
- meet or exceed more new urban tree plantings vs. urban tree removals (invasives not included) on a rolling five-year window.
- achieve a 5% increase in state urban tree canopy every twenty years as viewed per rolling five-year window. Canopy growth will be based on Tree City USA reported data, random community tree inventory data, other tracked tree or canopy data a combination thereof and or any viable upcoming technology that becomes available.

2.0 Achieve Widespread Illinois Urban Forestry Sustainability and Management

2.1 Improve urban forestry professionalism statewide

2.1.1 Support and increase funding for urban forestry at the state and local levels.

2.1.2 Increase access to canopy and green resources by under resourced and disadvantaged communities and engage these communities to seek green strategies and goals most important to members disproportionately impacted by climate change.

2.1.3 Encourage communities and public and private land managers to utilize professionally trained or educated forestry staff to oversee administration and management of the urban forest.

2.1.4 Increase professional training opportunities and access to these opportunities across the state.

2.2 Promote Best Management Practices. Best management practices are those that are the best means, methods, processes or activities for the care, management, planting, placement, or selection of trees.

Many of these practices are detailed in International Society of Arboriculture Best Management Practice manuals and ANSI standards including but not limited to A-300 Tree Care, Z60.1 Nursery Stock, and Z133 Safety.

2.2.1 Enhance the production and performance of nursery stock and native nursery stock for community selection and planting based on the latest version of American Standard for Nursery Stock, ANSI Z60.1.

2.2.2 Provide guidelines and best management practices for selection, planting, risk management, and preventative and routine tree care on the state website and in other approved forestry sponsored resources to assist urban forestry professionals, nonprofessionals, and tree owners.

2.2.3 Review and utilize industry “Best Management Practices” to continually update practices as new information becomes available.

2.2.4 Provide resources and education to private landowners on the need to employ professional arborists and how to incorporate Best Management Practices in their own practices on their properties. Distribute these resources through forestry partners.

2.3 Secure Trees as Critical Infrastructure

Trees as green infrastructure provide important ecological and environmental services. They are the only component of a community's infrastructure that appreciates in value over time. The benefits provided by trees are not always recognized until it is too late. Due to the current infestation, mortality, and removal of ash trees, it is becoming increasingly more evident to citizens of Illinois that trees provide critical infrastructure. These infrastructure benefits include reducing the effect of urban heat island, reducing building heating and cooling costs, increasing property values, improving air quality, reducing stormwater runoff and flooding, improving water quality and reducing nutrient loading in waterways. Partners across the state should support and increase the use of green infrastructure.

2.3.1 Build interdisciplinary partnerships and collaboration for the integration, care, and planting of trees as part of the design and management processes of the urban environment (ecosystem). Recognize the partnerships that benefit green and gray infrastructure.

2.3.2 Build volunteer support (Forest Watch, TreeKeepers, Tree Stewards, Tree Ambassadors, youth training programs, etc.) for trees and an understanding of their green infrastructure services.

2.3.3 Provide planned and integrated support for tree planting and systemic, long-term support to improve the environment and provide connectivity to fragmented landscapes.

2.3.4 Support efforts to provide credits for trees in stormwater and carbon offset programs.

2.3.5 Support efforts to integrate tree BMPs into the stormwater regulatory framework. This would include credits for BMP implementation, clear design standards for engineers and designers, addressing trees in municipal stormwater manuals and all levels and programs MS4, TMDLs, watersheds, city ordinances, IL/DOT.

2.3.6 Promote that urban trees should be included as assets on municipal balance sheets to better ensure ongoing funding mechanisms for tree care. Trees appreciate allowing municipalities to bond or raise money in a Community Trust to ensure appropriate levels of long-term maintenance for established MATURE trees.

2.3.7 Build upon collection of tools to help consumers identify, value and care for trees on their own private property.

2.3.8 Partner with utility vegetation managers to promote the importance and usefulness of trees, and need for their management, to reduce heating and cooling costs, provide individual and community flood relief, provide other climate services, and protect human health.

2.3.9 Support and encourage similar protections and budgeting for trees as is currently undertaken for traditional infrastructure.

2.4 Ensure Climate Adaptation

Recognize the increased frequency and severity of storms, droughts, flooding, and heat events. Integrate adaptation strategies into maintenance practices, improved species lists based on environmental impacts and adaptive capacity, and infrastructure features which will support the urban forest in a time of change. Trees experiencing these events will require the best possible growing conditions and care.

2.4.1 Improve specifications to provide optimal soil content and volume for trees. Include design features that include adequate space in planting pits, suspended pavement, root paths, watering resources, and connected infrastructure to improve growing conditions. Encourage incorporating consideration for native trees and input from urban forestry/arboriculture professionals earlier in the design process of new or redeveloped properties.

2.4.2 Review and evaluate tree species that perform well in a changing climate and tolerate a wide range of conditions. This would include a review of species vulnerability at the southern end of a species range and adaptability at the northern end of a species range.

2.4.3 Recommend stormwater management strategies and designs using trees and green buffers to improve water and soil conditions for extended periods of flood and drought. Promote the establishment of increased canopy to offset the installation of impermeable surfaces.

2.4.4 Recommend assessments and management practices to reduce risk. Coalesce and distribute the different resources that might aid these issues in the urban setting.

2.4.5 Disseminate ongoing updates of invasive trees that should be avoided in the urban ecosystem.

3.0 Improve Education and Training for Professionals and Nonprofessionals

3.1 Increase the number of certified individuals in urban and community forestry

This could include professional practitioners, e.g., arborists certified through the International Society of Arboriculture (ISA), Tree Care Industry Association (TCIA), Certified Tree Care Safety Professional (CTSP), etc.

3.1.1 Increase program content, locations, and number of opportunities for arborist training leading to certification and for continuing education units to maintain certification.

3.1.2 Support the training, certification, and advancement of professional credentials of state urban forestry program volunteers.

3.1.2 Provide funding opportunities for underserved and disadvantaged communities to elevate individuals interested in becoming certified arborists.

3.1.3 Provide incentives and assistance to encourage local governments and land management organizations to have at least one certified or credentialed urban forester / arborist professional on staff or on retainer. Promote consideration of shared services with adjacent municipalities or counties for personnel and equipment where capacity and resources are thin.

3.1.4 Increase opportunities for partnerships among state agencies, non-state organizations, not-for-profits, and local governmental entities to better achieve state urban and community forestry goals, share organizational expertise, and to enhance the networking and cross training of a variety of organizations, professionals, and non-professionals.

3.1.5 Build on professional training of forestry professionals through opportunities such as registered forestry apprenticeship, internships, paid on-the-job work training programs and similar programs.

3.1.6 Improve the selection and specification process to reduce urban forest issues and tree injuries related to tree selection and care through the professional expertise of credentialed urban foresters and arborists. Establish the critical need for securing community tree protection ordinances and enforcement. Consider incorporation of a Qualification Based Selection process versus low bid to ensure that qualified individuals are providing this work.

3.2 Seek opportunities to expand education in diverse languages for the working class in the landscape, nursery and arboriculture industry.

3.2.1 Expand on Spanish arboriculture training and opportunities for certification in various areas of the state where there is need. Provide information in a physical, visual, and audio format to educate those who may not read.

3.2.2 Provide communities with training information for contractors.

3.2.3 Develop incentives to encourage best management practices.

3.2.4 Collaborate with the Illinois Arborist Association, International Society of Arboriculture, The Morton Arboretum, Openlands, Urban and Community Forestry Society, Arbor Day Foundation, American Forests, Illinois Landscape Contractors Association, and other professional organizations to offer basic arboriculture training and workshops. Offer grants or scholarships to allow training. Encourage training sessions and outreach to non-certified participants in these fields to encourage early participation and eventual certification.

3.2.5 Provide educational opportunities to urban forestry personnel on the basic best management practices of nursery production and landscape installation. These materials should be directed to different audiences—the general public, schools, state and local governmental entities, elected officials, land managers, developers, contractors, etc.

3.3 Educate and Engage Stewards and Volunteers

One of Illinois's greatest assets is its people. Individuals wanting to learn about trees and help support their community by volunteering their time and talents have a significant impact on the health and management of the urban forest.

3.3.1 Train communities, landowners, and managers on how to develop strong urban forest stewards. This would include training municipal foresters to utilize volunteers effectively so that they can expand their resources.

3.3.2 Provide training and access to urban forestry volunteer opportunities. Partner with existing tree advocacy programs to expand exposure and participation. Provide incentives for communities that have strong volunteer forestry programs.

3.3.3 Provide training and resources for tree boards and commissions.

3.3.4 Train volunteer coordinators to develop volunteer organizations and provide training on proper tree planting and care.

3.3.5 Provide education and training opportunities for volunteers through partner programs such as TreeKeepers, Tree Ambassadors, Trees Forever, etc.

3.4 Educate and engage youth in urban and community forestry related opportunities.

3.4.1 Work with program partners, local schools and youth organizations to teach youth about career opportunities and job skills in forestry.

3.4.2 Provide volunteer and training opportunities for youth in arboriculture such as through Openlands TreeKeepers, Tree Ambassadors, etc. These opportunities should be available to youth within their communities and in support of their local urban forest. These opportunities may include community service.

3.4.3 Work with colleges and universities to incorporate urban forestry into their appropriate programs. Look for opportunities to partner with organizations, agencies, or communities for internships and other learning opportunities.

3.5 Educate and Engage the General Public

Community forestry staff, forestry personnel, land managers, landscape contractors, and landowners, as a basic service, need to teach their constituents about the importance of the urban forest, the need to manage the forest professionally and engage these residents in volunteering and advocacy for trees.

3.5.1 Provide culturally relevant education and outreach on the benefits of trees including their role in increasing climate resilience on a block-by-block basis.

3.5.2 Provide culturally relevant education and outreach on all levels of tree care. Customize existing resources such as the Forest Service Tree Owners Guide for Illinois. Update or replace the “Under the Canopy” publication with new material.

- How to select the appropriate plant for the appropriate space
- What to look for in the nursery
- How to plant correctly
- How to water
- How to care for the tree through maturity

3.5.3 Strengthen the connection between community forestry staff and trained volunteers to build community volunteer tree programs and advocacy for urban trees.

3.6 Educate and engage elected officials on urban and community forestry

It is critical that officials are supported for their public service and provided the necessary tools and knowledge to act on behalf of the state and the individuals whom they serve.

3.6.1 Become a resource for elected officials and decision makers on trees, to elevate trees as a go to resource for, slowing climate change, adding community value and building and/or protecting the structure (forests) to protect our environment, natural resources, wildlife, and our quality of life.

3.6.2 Elevate trees as an easy go to resource for slowing climate change, building urban ecosystems, managing storm water, and enhancing human health.

3.6.3 Provide elected officials with information on how trees protect property values, improve business activity, and are a vital part of urban economies.

3.6.4 Provide education on the significance of proactive tree management and the financial benefits of maintaining healthy trees including the value of tree inventories in budget projections, tree management plans, and routine regular maintenance and planting for a diverse age and species forest.

3.6.5 Educate on the importance of a forestry professional managing the urban forest — a valuable and substantial asset.

3.6.6 Provide examples and templates for communities of tree ordinances, inventory-based forestry management plans, tree inventories, and budgets.

3.6.7 Advocate to the state and local governments the importance of trees to our climate, community functionality, living environment and human health and the need to fund urban tree care and planting as is done in other states.

3.6.8 Promote enactment of tree protection ordinances on public property and encourage protection of trees on private property.

3.6.9 Expound on the high cost of invasive species removal and the benefits of proactive management.

3.6.10 Work with elected officials to pass a model ordinance for buckthorn removal on private land. Then, use the passage of that ordinance to educate the public on the problems with the spread of buckthorn in their community.

3.6.11 Provide education on community health benefits from urban forests, physical and mental, and impact on constituents, reductions in public health spending, etc.

3.7 Educate and engage developers, contractors, utilities and the public

Educate professionals who utilize, construct or manage utility facilities in the urban forest on how to reduce negative impacts and protect the forest by focusing on existing tree preservation and the importance of mature canopy to our climate, stormwater management, human health and living environment. Also educate

professionals and the public on Right Tree—Right Place principles.

3.7.1 Provide, as part of the permitting process at state, regional and local levels, education, and outreach material packets that will teach the developer, contractor, and/or utility provider how to reduce negative impacts to trees and invasives. Provide examples of municipal specifications that include inspection and penalties for violations. Show the benefits of following preventative tree care standards and examples of cost savings from implementing tree friendly practices. Promote the cost effectiveness of proactive invasive species management.

3.7.2 Work with professional associations to build partnerships and incentives for proper tree care and develop an incentive program that will encourage forest preservation and tree protection.

3.7.3 Develop a subcommittee within the Urban Forestry Committee to work with and outreach to utility companies and state departments concerning ROW tree maintenance and utility line clearance and provide resources to ensure practices follow latest professional guidelines.

3.7.4 Strengthen local cooperative agreements between municipalities, utilities, and DOTs with respect to arboricultural specifications (e.g., tree trimming).

4.0 Increase understanding, awareness, and management of Urban Forest Plants, Insects and Disease, and Invasive Species

4.1 Emerald Ash Borer (EAB) and other Potential Catastrophic Tree Loss

Emerald ash borer infestation has been a significant problem for the urban forest, resulting in the loss of millions of ash trees and is a prime example of exotic pests or pathogens that can compromise urban forest systems due to poor cultural practices. It is extremely important that Illinois communities maintain a diverse tree population. The role of the State Urban Forestry Program needs to be a recognized resource to local community forestry program development and outreach to address this type of issue.

4.1.1 Provide a consistent and uniform marketing message on how MATURE trees are the key to a thriving and safe community and urban ecosystem.

4.1.2 Provide information to and work with property owners and managers to understand and implement options for management of EAB and other pests or pathogens that can result in catastrophic tree loss.

4.1.3 Promote the importance of biodiversity in the planting, management and replacement of urban trees to landowners, managers, and nurseries to create a more sustainable forest.

4.1.4 Repurpose biomass created from tree loss when safe and permissible. Encourage distribution of information on wood

processing and utilization for higher purposes. Develop connections between sawyers and potential wood resources.

4.1.5 Support and encourage land/homeowners, contractors and managers to develop management plans that address issues such as EAB. Develop templates to provide guidance.

4.1.6 Promote awareness of ethical and professional forestry and arboriculture consultation during catastrophic forest loss events. Raise awareness of professional forestry and arboriculture credentials and assist communities/landowners in identifying things to be watchful of so that they are not scammed or provided fraudulent service.

4.1.7 Encourage collaboration, group rates, or inclusion of small landowners in larger contracts for tree care related to EAB or other catastrophic loss to provide for economies of scale.

4.1.8 Identify and designate state and/or federal funds to assist communities in reforestation after catastrophic losses.

4.2 Educate and disseminate information to the public on potential new invaders

This requires attention to and collaboration with the USDA and surrounding states. Emphasis should be on transportation facilities and corridors and distribution centers for the potential import of new invaders.

4.2.1 Support the monitoring for regional invasive threats and creation of technical and management solutions for preparation to contain and manage potential regional threats.

4.2.2 Provide education, outreach and resources to landowners and managers on potential new invaders. Include in this education for early detection rapid response training.

4.2.3 Partner with and provide information and resources to organizations that can be an extension of state, regional, and local personnel in early detection and rapid response, such as local birding, hiking, restoration, biking, picnicking, boating, and other groups that may be able to assist in quick identification of potential new invaders.

4.2.4 Distribute new invaders information and resources to professionals and nonprofessionals---including homeowners.

4.3 Educate and disseminate information on potential invasive plant species

The presence of woody invasive plant species in our urban areas costs millions of dollars every year to control. These species inhibit the ability of more desirable species to grow and thrive. The Illinois Invasive Species Council is a statewide authority and resource that can be utilized to provide education and direction.

4.3.1 Work with landowners and managers to provide education and resources to identify, remove, control, and replace invasive woody species with species that will not adversely impact other plants and wildlife, including native ecosystems.

4.3.2 Develop species lists to assist landowners and managers in replacing invasive woody species with native or non-invasive species that will provide similar screening and other aesthetics.

4.3.3 Evaluate woodlands where woody invasive species are present for regeneration of other tree species. Manage sites for opportunities to support natural regeneration and/or encourage planting of replacement species.

4.3.4 Collaborate with organizations with expertise in invasive species identification and/or management (e.g., Illinois Invasive Species Council) to develop and distribute a statewide awareness initiative on woody and other invasive species that impact the urban forest. Work collaboratively with landscape architects, nurseries, researchers, landowners, and land managers to track characteristics and plants that should be monitored and identified as possible threats for colonization to natural areas.

4.3.5 Provide support to protect important natural areas. Reduce possible impacts from invasive species that might impair the ecological function and resiliency of these important areas.

4.4 Educate and disseminate information on pathogens

It is important to be aware of pathogens that might impact the urban forest in Illinois. This requires a collaborative effort with resources, inside and outside the state, which can help identify potential threats and treatment options.

4.4.1 Provide education and outreach to landowners and managers on typical and potential new pathogens. Include early detection rapid response training.

4.4.2 Partner with organizations that can be an extension of state, regional, and local personnel in early detection and rapid response, including local birding, hiking, restoration, biking, picnicking, boating, and other groups.

5.0 Nurture Urban Forestry Partnerships

5.1 Develop partnerships to meet statewide urban and community forestry needs

5.1.1 Provide opportunities for information sharing and networking to enhance unification of the State Urban Forestry Program. Coordinate statewide campaigns to distribute information and develop a collaborative alliance that will strengthen the overall urban forest resource.

5.1.2 Encourage mentoring programs that share resources with underserved, under-resourced, or disadvantaged communities.

5.1.3 Support partnerships for statewide problems such as EAB, wood utilization, storm mitigation and response, climate adaptation, etc.

5.1.4 Seek opportunities for partnerships among urban and community forestry professionals and education to build awareness of career opportunities.

5.1.5 Encourage the funding of collaborative partnerships on regional landscape initiatives that promote urban and community forests.

5.1.6 Partner with and provide information to state and regional organizations and programs that integrate trees and ecosystems within urban and community settings, e.g., the State Wildlife Action Plan.

5.2 Coordinate with scientists to determine forest research needs of urban and community forestry practitioners

5.2.1 Develop partnerships with researchers, urban foresters, and citizen science projects to identify research needs, share the latest research results, forecast urban forestry issues, and strategies to address them.

5.2.2 Assist in the education, distribution, and integration of the latest urban forestry research into best management practices.

5.2.3 Solicit and support state, federal, and other funding opportunities for research.

6.0 Expand and Support Advocacy

6.1 Support and guide State legislation to build statewide urban forest capacity

Recognition of the importance of trees to our environment and society by our state and local policy makers is key to sustaining our urban environment and community vitality. Strive to enhance state and local legislation/policy to better sustain Illinois' urban forests. Also work to educate and help guide local urban forestry practices, policies and regulations to better manage urban forests as contiguous forests are beneficial.

6.1.1. Track legislation and policy at the state and federal levels to identify urban forestry issues that should receive support and issues that might require legislative education to correct potential negative urban forestry policy.

6.1.2 Advocate and protect utility tree trimming law (Public Act 92-0214) from changes that harm urban trees and/or property rights.

6.1.3 Host an annual legislative meeting with elected officials to present the urban forest strategy and discuss issues related to the protection of the urban forest.

6.1.4 Encourage partnerships and collaboration with major urban forestry organizations for info sharing and to strengthen urban forestry opportunities in a cost-effective manner.

6.1.5 Outreach to/with watershed councils and groups on promoting the benefits of trees for watershed management.

6.1.6 Promote Illinois efforts and successes at national conferences and events to help build program awareness and funding opportunities.

6.1.7 Coordinate official support from tree and stewardship groups across the state to promote urban forestry awareness to key agencies and legislative and executive offices in Springfield.

6.1.8 Utilize the Forestry Development Council's Urban Forestry Committee to draft comments and direction for the Council to consider in the Council's Annual Report to legislators.

6.1.9 Advocate for improved efficiency in identifying and regulating invasive species. Provide support and communication for the Illinois Invasive Species Council.

6.2 Advocate for education and outreach on the value and proper care of the urban forest.

Officials, landowners, and decision makers, both public and private, need to be able to make the best possible decisions for the urban forest within their communities.

6.2.1 Develop resources for use by decision makers to enable them to more effectively protect and care for their urban and community forest.

6.2.2 Educate decision makers on the benefits and use of green infrastructure, specifically trees, as a replacement for or augmentation of traditional infrastructure. Also promote the cost of removing problematic species that are detrimental to existing infrastructure.

6.2.3 Encourage communities and landowners to work together to protect the interconnectedness of the urban forest ecosystem.

6.2.4 Encourage communities to provide education and training resources to assist private landowners in maintaining, planting, and protecting trees for the benefit of the urban forest.

6.2.5 Encourage municipal government agencies to increase the proportion of employees with forestry and or arboriculture backgrounds to foster awareness and knowledge of urban forestry practices. Educational programs should be offered to employees with minimal forestry backgrounds.

6.2.6 Encourage communities to implement municipal ordinances necessary to preserve, protect, and enhance their urban forestry resources.

7.0 Increase Funding for Urban and Community Forestry

7.1 Increase State Urban Forest Program Capacity

The Illinois Forestry Development Council shall work with Illinois DNR to identify, prioritize and support dedicated funding for the State Urban Forestry Program. This funding should include dedicated resources for the state, to provide ongoing technical outreach and financial assistance to local and county government units to protect and sustain urban forests across the state.

7.1.1 Identify, prioritize, and engage communities who have been both disproportionately impacted by climate change and systemically disadvantaged in the allocation of resources (e.g., government funding, activities, and beneficial supports).

7.1.2 Encourage increased sustainable funding for the State Urban Forestry Program and the Urban and Community Forestry Assistance Act.

7.1.3 Continue to utilize state and federal urban forestry funding to provide technical assistance and funding for the purchase, establishment, and management of trees to counties and communities throughout the state.

7.1.4 Source additional funds to provide statewide assistance for urban forestry management related to invasives, insects and diseases.

7.2 Maintain and build on U.S. Forest Service Funding Assistance

The U.S. Forest Service has been the main resource for Illinois urban forest program funding. This 'all eggs in one basket' approach lends itself to abrupt failure of the state program if

these funds were to be lost. Efforts should strive to secure state funding to support a structured Illinois Urban and Community Forests Program and federal funding should be used to enhance the state's annual funding commitment. This approach more appropriately relies on state commitment to provide Illinois communities a base Urban and Community Forestry program that can leverage federal Urban and Community Forestry program funding to amplify state program production. With a state supported Urban and Community forestry program in place federal funding can be used to strengthen program production and gain Illinois an increased return on investment for Illinois communities.

7.2.1 Maintain an ongoing effort to secure dedicated state funding for the Illinois Urban and Community Forestry Program.

7.2.2 Seek to provide technical and financial assistance to Illinois communities determined to have underserved or disadvantaged populations, especially those at most risk from the impacts of climate change.

7.2.3 Recruit and assist municipalities in the state to adopt and maintain Tree City USA recognition to help build state urban forestry capacity and increase federal urban and community program opportunities.

7.2.4 Coordinate USFS funding opportunities with IDNR urban forestry programs to get needed funds into the hands of practitioners.

7.2.5 Provide grant writing education and assistance to enable communities at all resource levels to apply for needed funding. Outreach links, newsletters and other means to broaden the availability of funding opportunities to communities and or the avenues in which to research and find these opportunities.

7.2.6 Seek experienced non-profit urban and community forestry program partners to magnify state expertise and sweat equity for the benefit of Illinois communities.

7.2.7 Ensure all awarded and sub-awarded works and programming are in line with state urban forestry goals listed in the most current Illinois Forest Action Plan.

8.0 Increase State Urban and Community Forestry Staffing

8.1 Provide dedicated staff to the Urban and Community Forestry Program.

Because Illinois has more local units of government than most other states in the U.S., Municipalities need access to state urban forestry representatives to help develop local urban and community forestry programs. More Urban and Community Forestry assistance and production will also generate more federal funding for the program.

8.1.1 Work with partners to increase awareness of urban forestry issues at the state, regional, and local levels.

8.1.2 Secure two to four additional full time urban and community forestry program managers to be added to support regional urban forestry efforts.

8.1.3 Provide access to trained community foresters on inventories, ordinances, tree management plans, storm mitigation, tree utility conflict resolution, climate mitigation and adaptation and other important urban and community forestry issues.

8.1.4 Establish a funding formula to support the hiring of state urban forestry field staff. Field staff should be reasonably available to communities. An initial goal of four additional urban forestry field staff would allow urban and community outreach at a staff to incorporated community ratio of 1:100.

9.0 Maintain the National Urban and Community Forestry Advisory Council (NUCFAC) Ten-Year Forestry Action Plan Goals as a part of Illinois' urban forestry program strategy and goals

9.1 Integrate NUCFAC Urban and Community Forestry Action Plan Goals into Illinois Forest Action Plan Urban and Community Forestry Goals (Below are the 2016-2026 NUCFAC UCF Goals. And consider this a place holder for the new 2027-2037 NUCFAC UCF Action Plan Goals from 2027 forward)

9.1.1 Integrate Urban and Community Forestry into all scales of planning.

- Support inclusion of trees and forests as elements of all comprehensive community planning efforts
- Support the integration of urban forestry into all scales of city, regional, and state-scale master plans.
- Launch a public awareness and education campaign to elevate recognition of the value of urban trees and urban forest ecosystems as essential contributors to community sustainability and resilience.
- Increase community capacity to use urban trees and forestry in public space planning, infrastructure, and private development.

9.1.2. Promote the role of Urban and Community Forestry in Human Health and Wellness.

- Expand opportunities for collaboration with the health community.
- Champion a nationwide marketing campaign that links trees to human health and wellness
- Plan, design, and manage urban forests to improve human health and wellness.
- Develop tools to improve and highlight the relationship between improved public health, wellness, green infrastructure, and urban and community forestry.

9.1.3. Cultivate diversity, equity, and leadership within the urban forestry community.

- Increase diversity, equity, and accessibility in urban and community forestry.
- Engage underserved communities in urban and community forestry.
- Develop effective leadership at all levels to build a national voice for urban forestry.
- Increase workforce development opportunities and green jobs in urban and community forestry, with particular attention to underserved communities.
- Promote expanded collaboration, training, and communication within the field of urban and community forestry to build workforce professional development.

Illinois Forest Action Plan: 2020 – 2030

9.1.4. Strengthen Urban and Community Forest health and biodiversity for long-term resilience.

- Increase the biodiversity, health, and resilience of trees in urban and community forests.
- Foster resilience, restoration, and sustainability of urban and community forests facing climate change challenges.
- Promote traditional forestry practices, as referenced throughout this Illinois Forest Action Plan, such as prescribed fire management where and when appropriate.
- Support use of urban forests for increasing community food resilience and access to local foods

9.1.5. Improve Urban and Community Forest management, maintenance, and stewardship.

- Improve urban and community forest management, maintenance, and arboricultural practices.
- Develop comprehensive programs, policies, and resources for enhancing urban forestry stewardship.
- Promote better use of technology and tools in urban forestry.
- Facilitate expanded research and delivery of scientific findings to all stakeholders.

9.1.6. Diversify, leverage, and increase funding for Urban and Community Forestry

- Increase funding and grants for Urban and Community Forestry.
- Leverage and diversify funding, expand collaboration between urban forestry and related fields, agencies, and sectors.

9.1.7 Increase public awareness and environmental education to promote stewardship.

- Create environmental education programs that focus on urban and community forestry issues.
- Create nationwide urban forestry public awareness and education campaign.
- Increase engagement of underserved and minority communities in urban forestry establishment and stewardship.

10.0 Address climate change vulnerability and adaptation

Climate change is changing the lives of Illinoisans with heat waves, increased flooding, more intense rainstorms, summer droughts, and other extreme weather events (Wuebbles, et al. 2021). More subtle changes are also taking place, such as shifting ranges of plant species and altered timing of flowering. Both rural and urban residents in Illinois are vulnerable to climate change, though some communities are especially vulnerable. In urban areas, dense concentrations of pavement, buildings, and other surfaces that absorb heat without the presence of trees or natural land cover cause urban heat islands. This effect increases energy costs, air pollution levels, heat-related illnesses, and even mortality (EPA). Climate change is also affecting lands managed by IDNR and cherished by Illinoisans by amplifying the threats already faced by wildlife and ecosystems and challenging their ability to adapt, especially with the rapid pace of climate change

(Wuebbles, et al. 2021). The IDNR mission to manage, conserve, and protect nature is more important than ever.

10.1 Address human vulnerability in urban and community forest programming

10.1.1 Enhance information dissemination and public education about climate change and related Urban and Community Forestry topics to improve community management of forests under the looking forward perspective.

10.1.2 Engage underserved, disadvantaged, and other outlier communities not yet involved in Urban and Community Forestry practices to bring them into the network of Illinois technical and financial Urban and Community Forestry program assistance.

10.1.3 Establish a Tree Equity position in Illinois' Urban and Community Forestry program to improve Urban and Community Forestry program focus on equity, vulnerability, and assistance to the under-resourced and disadvantaged peoples of the state.

10.1.4 Seek to support 21st century workforce opportunities, training, and professional credentialing, with a focus in under-resourced and disadvantaged communities and neighborhoods.

10.2 Boost adaptability of urban and community forests

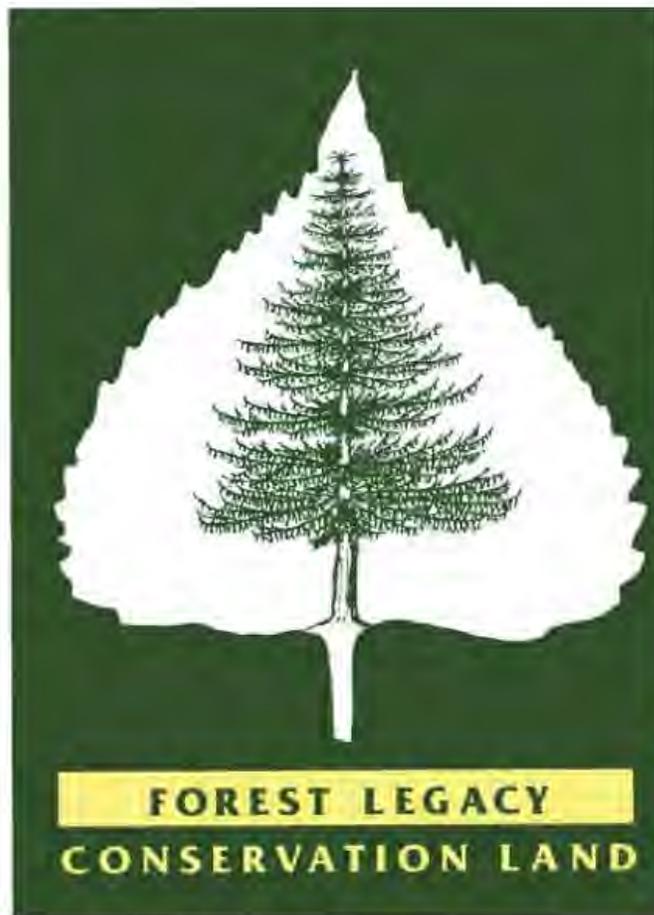
10.2.1 Support the dissemination of new findings and practices in urban forestry that help adapt urban forests to the changing 21st century environment.

10.2.2 Support tree planting initiatives that can better ensure growing canopy environments going forward.

10.2.3 Promote conservation practices and programs beneficial to climate mitigation and forest health such as NRCS Soil Carbon Amendment standard 336 which establishes how to apply carbon amendments, such as biochar and compost, to soil as a way to sequester carbon, improve soil health, and increase yield and productivity.

ILLINOIS FOREST LEGACY PROGRAM

**ASSESSMENT OF NEED
AND APPLICATION MATERIALS**



Illinois Forest Legacy Program Assessment of Need 2024

The Illinois Forest Legacy Program is being implemented according to the current Assessment of Need iterations approved in 1994, 2011, and 2020. This Assessment of Need document largely remains the same with additional Illinois forest data and assessment information.

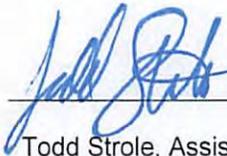
Illinois Forest Legacy Program

Statement of Purpose

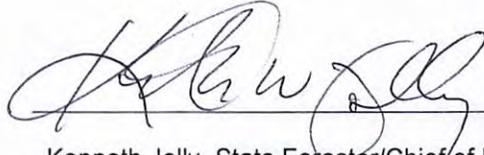
The forest resources of Illinois have provided food, shelter, warmth, and recreational activities to its' residents for centuries. As a result of increasing population and demand for development sites, forests are being fragmented at an alarming rate. Since the early 1800s, forest cover in the state of Illinois has been reduced by almost 10 million acres. The remaining forest resources are critical to ensure the continued production of valuable wood products, the maintenance of suitable habitat for a diverse population of animals and plants, the protection of water resources, the improvement of air quality, and the provision of recreational opportunities.

The Federal Forest Legacy Program provides landowners with an opportunity to protect their valuable forest resources. The protection afforded by the Forest Legacy Program will enable landowners to maintain their forest resources and pass them on to future generations of Illinois residents. As a result of the protection of these resources, many of the traditional values and uses of Illinois forests will be available for future generations. The Forest Legacy Assessment of Need for Illinois represents Illinois' commitment to the protection of one of our most valuable resources: our forests. Forest Legacy parcels acquired by the State will remain working forests in perpetuity.

As appropriate, periodic review and revision to this assessment will be made to meet the future needs of the forests and the citizens of the State of Illinois.

 3-3-2026

Todd Strole, Assistant Director
Illinois Department of Natural
Resources

 3-3-2026

Kenneth Jolly, State Forester/Chief of Forestry
Illinois Department of Natural Resources

Table of Contents

Statement of Purpose	1
List of Figures	4
List of Tables	4
Acknowledgements	5
2024 Assessment of Needs	5
Illinois 2024 Forest Stewardship Coordinating Committee	6
2024 Illinois Forest Legacy Subcommittee Members	6
Forest Legacy Needs Assessment for Illinois	7
Introduction	7
Illinois' Forests	8
Historical Changes	8
Ownership Patterns of Illinois Forests	13
Forest Plant Diversity	16
Forest Animals and Wildlife Habitat	24
Fisheries	26
Forest Insects	27
Urban	30
Natural Community Preservation	32
Economics	33
Recreation	36
Shawnee National Forest	38
Aesthetic and Scenic Resources	41
Illinois Forests: Environmental Impacts	41
Fragmentation	41
Air Pollution	41
Global Climate Change and Carbon Sequestration	42
Illinois Forests: Related Resources	42
Geology, Topography and Other Geologic Features	42
Soils	45
Agriculture	46
Lakes, Streams, and Wetlands	46
Mineral Resources	49
Cultural Resources - Archeology	51
Illinois Forests: Future and Critical Issues	51
Forest Fragmentation	51
Availability of Timber for the Wood Products Industry	52
Impacts on Wildlife	53

Sustainable Forestry	53
Conserving the Land Base	56
Existing Measures to Conserve Forest Land	57
Land Trusts	61
Forest Legacy Public Participation	62
The Forest Legacy Program Addressing the Problem	64
Eligibility Criteria for Forest Legacy Areas	65
Requirements for Forest Legacy Areas:	66
Evaluation Factors for Specific Parcels	68
Recommended Forest Legacy Areas	71
References	74
AON Exhibit A: Descriptions of Forest Legacy Areas	A1
AON Exhibit B: Application, Evaluation, and Monitoring Forms	B1
AON Exhibit C: Authorization Documents	C1
AON Exhibit D: Public Involvement Process and Comments	D1
AON Exhibit E: Resources Maps	E1

List of Figures

<i>Figure 1.</i> Changes in land use between 1820 and 1980.	9
<i>Figure 2.</i> Percent of land cover change in the state of Illinois between 1890 and 2010	9
<i>Figure 3.</i> Area of Illinois forest land by inventory year	10
<i>Figure 4.</i> Illinois forest resources regions.	11
<i>Figure 5.</i> Changes in forest area by Illinois forest resource region from 1820-1985.....	12
<i>Figure 6.</i> Ownership of forest land in Illinois	13
<i>Figure 7.</i> Area (a.) and number of owners (b.) of privately owned commercial forests	14
<i>Figure 8.</i> Area (a.) and number (b.) of Illinois deciduous forest parcels.	15
<i>Figure 9.</i> Area (a.) and number per township (b.) of Illinois forested parcels	15
<i>Figure 10.</i> Illinois plant species richness by county	17
<i>Figure 11.</i> Composition of Illinois' forest land by forest-type group from 2010-2021	18
<i>Figure 12.</i> a) Approximate percentage of exotic species in Illinois spontaneous flora	20
<i>Figure 13.</i> Number of Illinois counties in which common invasive plant species have been found	23
<i>Figure 14.</i> Percent of habitat factor score contributable to Illinois state habitat	25
<i>Figure 15.</i> Map of first year of detection of emerald ash borer (EAB) in Illinois counties	30
<i>Figure 16.</i> Growing-stock volume on timberland for the six most voluminous species groups	33
<i>Figure 17.</i> Recreational days (in thousands) spent on or near Illinois forests	37
<i>Figure 18.</i> Illinois State Parks, Forests, and Trails	38
<i>Figure 19.</i> Natural divisions of Illinois.	43
<i>Figure 20.</i> Surface water acreage by water type.	47
<i>Figure 21.</i> Major Illinois rivers and waterbodies.....	48

List of Tables

<i>Table 1.</i> Demographic data on Illinois' private non-industrial forest landowners	16
<i>Table 2.</i> Number of occurrences and percentage of plots containing invasive plant species	21

Acknowledgements

The Illinois Forest Stewardship Committee is greatly indebted to the following individuals or organizations for the development of material that was used to assemble Illinois' Assessment of Need:

- Dr. Louis R. Iverson for his work on Forest Resources of Illinois: An Atlas and Analysis of Spatial and Temporal Trends
- The Illinois Council on Forestry Development for their development of committee reports and publications on the condition and status of forest resources in Illinois
- The Illinois Department of Natural Resources for the use of information, data and publications that assess the current condition of the State's natural resources
- The U.S. Forest Service, State and Private Forestry especially the State Forest Legacy Committee and the staff of the Northeast Area State and Private Forestry for their invaluable assistance in completing this assessment document
- Susan Crocker et al. for their work on the Illinois Forests 2015, Northern Research Station, Resource Bulletin NRS -113

Also, the Committee wants to take this opportunity to acknowledge the work of the foresters and resource managers that began in the 1920s and 1930s. The efforts and foresight of those early 20th century environmentalists has enabled many generations, past and future, to enjoy the many benefits derived from a healthy and viable forest resource: improved air quality, clean water, abundant wood products, wildlife habitat, and recreation.

2024 Assessment of Needs

The 2024 Illinois Assessment of Needs is a revision update based largely on the original work and the efforts and information as stated in these acknowledgments. The current Illinois State Forest Stewardship committee, which is the Illinois Forestry Development Council (Council), has been as important as the 1994 and 2011 committees in supporting the new Forest Legacy Program in Illinois. The Council remains the official Forest Legacy Committee and those individuals who serve year to year as a subcommittee have been critical to the development and ranking of proposals and to the current success of the program in Illinois. The IDNR Division of Forest Resources thanks those individuals who support the Council by serving on the Forest Legacy Subcommittee.

Illinois 2024 Forest Stewardship Coordinating Committee

Eric J. Holzmueller	Executive Director; Southern Illinois University Carbondale
Chris Evans	Chairperson; University of Illinois; Extension Forestry and Research
Steve Graves	Private Timber Grower; Woodland Owner
Scott Swisher	Wood Products; Forest Industry
Joel Pisoni	Wood Products; Forest Industry
Matt Pustejovsky	Illinois Tree Farm Program
Paul Deizman	Illinois Forestry Association
Casey Calvert	Illinois Walnut Council
Jenny Lesko	Illinois Chapter of the Society of American Foresters
Kirk Stodola	Illinois Chapter of Wildlife Society
Joe Hansen	Illinois Arborist Association; Village of Wilmette
Steve Stierwalt	Association of Illinois Soil and Water Conservation Districts
Zach Wirtz	Environmental Issues
Robert Schooley	University of Illinois Dept. of Natural Resources and Environmental Sciences
John Groninger	Southern Illinois University Carbondale Dept. of Forestry
Jerry Costello II	Illinois Agriculture Department
Kenneth Jolly	Illinois Department of Natural Resources Division of Forest Resources
Sylvia Garcia	Illinois Department of Commerce and Economic Opportunity
Chris B. Meister	Illinois Finance Authority
Christopher Merrett	Illinois Institute for Rural Affairs
Tammy Willis	Illinois Natural Resources Conservation Service (USDA)
Mike Chaveas	US Forest Service (Shawnee National Forest)
Michael Brunk	Illinois Department of Natural Resources
Chris Whittom	Illinois Department of Natural Resources
Natalie Phelps Finnie	IL Department of Natural Resources
Dave Gillespie	Illinois Forestry Association
Dale Shumaker	Association of Illinois Soil and Water Conservation Districts
Kim Watson	IL Department of Commerce and Economic Opportunity
Lorrie Karcher	IL Finance Authority
Lydia Scott	Environmental Issues
Justin Dodson	US Forest Service (Shawnee National Forest)
Scott Schirmer	IL Department of Agriculture
Casey Calvert	Illinois Walnut Council
Tricia Bethke	Illinois Forestry Association
Thomas J. Benson	Illinois Chapter of the Wildlife Society
Joe Hansen	IL Arborist Association; Village of Wilmette

2024 Illinois Forest Legacy Subcommittee Members

The Forest Legacy Subcommittee is selected and assembled by the IDNR Forest Legacy Program Manager when nominated tracts need grading and ranking.

Forest Legacy Needs Assessment for Illinois

Introduction

Illinois' forests offer remarkable benefits to its citizens. Wood products are a vital part of our everyday existence. While it is not difficult to recognize the role trees play in providing building materials for homes, many individuals often overlook the integral role that forests play in protecting soil and preserving the air and water quality. In addition, many individuals fail to appreciate and understand the relationship between our forests and the preservation of biological diversity. For example, Illinois' forests occupy only 15% of the State, but are home to 61% of the flora native to Illinois and 75% of the State's wildlife habitat (Illinois Forestry Development Council, 2020).

Because of its rich soils and capacity for crop production, much of Illinois has been developed into row-crop agriculture and yields a single, essential social benefit: food production. The environmental costs of this development have been substantial, including excessive erosion of soil, deterioration of water quality, increased numbers of endangered and threatened species, and dwindling wildlife habitat (Iverson et al., 1989). Protection of existing forest land and reforestation of converted forests are important components in efforts to improve the State's environmental wellbeing. Diversification of Illinois' landscape will be a challenge for several reasons. Short-term economic pressures often run counter to long-term plans and needs. In addition, Illinoisans are largely unaware of the essential role forests and other natural landscapes play in the lives of current and future generations.

Prompted by concerns that land development fragments forest lands of Illinois and the country, the United States Congress developed in the 1990 Farm Bill a "Forest Legacy Program" (Food, Agriculture, Conservation, and Trade Act, 1990). This program identifies and protects environmentally important, privately-owned forest lands threatened with conversion to non-forest uses, and authorizes federal purchase of conservation easements to reduce this pattern of fragmentation. By retaining these lands in traditional forest uses, they continue to provide environmental benefits, economic stability, employment opportunities, and aesthetic value. The program accomplishes its goals through acquisition of easements from willing sellers. Fee-simple acquisitions are allowed but easements are the preferred method of protection. Condemnation will not be used by the federal government for any acquisitions through the Forest Legacy Program.

In order to be eligible to participate in the Federal Forest Legacy Program, Illinois is required to prepare a statewide assessment, which documents the need for a Forest Legacy Program. This assessment delineates the boundaries of forest areas which meet eligibility requirements for designation as Forest Legacy Areas and recommends those identified areas to the Secretary of Agriculture for inclusion in the Forest Legacy Program. Meeting these requirements is the goal of the Illinois Forest Stewardship committee. While the contents of this document assess the need for a Forest Legacy Program in Illinois, the Illinois Stewardship committee saw a need to prepare a comprehensive assessment of Illinois' forest and related resources. This assessment provides additional support for the inclusion of Illinois in the Forest Legacy Program (Illinois Forestry Development Council, 2020).

Illinois' Forests

Historical Changes

Illinois was surveyed by the United States General Land Office between 1807 and 1844. The records and surveyor notes of these initial surveys provide a snapshot of Illinois forests for a period prior to 1820 and the significant land-cover and land-use change that followed agricultural settlement. Illinois' forests have undergone drastic changes in the decades since these early settlements. In 1820, 13.8 million acres of forest existed in the state. Only 4.26 million acres (31%) of the 1820 forest area remained in 1980 (Iverson et al., 1989). Essentially all (except for about 11,600 acres) of the Illinois forests were considered to be secondary forest as of 1989 (Iverson et al., 1989; Iverson, 1991). In 1991, Illinois ranked 49th (Iowa is 50th) in the percentage of state land remaining as its "potential" vegetation type (Iverson, 1991; K uchler, 1964), with only 11% of its original vegetation remaining (Iverson, 1991; Klopatek et al., 1979). The overall rate of deforestation during the period from 1820 to 1920 was around 1% per year, which is comparable to rates of tropical deforestation in the 1970s and 1980s (Iverson, 1991).

Until 1830, forests were the only source of potential agricultural land in the state of Illinois. Soon, settlers discovered that prairies also made good cropland. With the invention of the moldboard plow, the prairies were converted to crops at a rapid rate of 3.3% year. Greater than 300,000 people settled the prairies during the 1830s, and this increase in population created massive demand for building materials, fuel, and fence posts. At this point, a majority of the timber within Illinois' prairie counties began to quickly disappear and railway infrastructure was not yet in place to import lumber (Iverson, 1991).

A timber industry started to prosper in Illinois by 1860, and by 1870 around 90% of Illinois' 102 counties had industries centered on wood products and forest land area had dropped to 6 million acres (Iverson, 1991; Telford, 1927). The annual production of lumber surpassed 350 million board feet over twice the current production during the 1880s. Annual production continued to increase until 1900, after which it began to decrease with declines in availability of timber resources. In 1923, just 22,000 acres of the 13.8 million acres of original Illinois forest land was not disturbed by logged or other human disturbances (Iverson, 1991). Overall, between 1829 and 1980 the state of Illinois experienced widespread conversion of forest land to agricultural land. A total of 9.9 million acres transitioned from forest to agriculture, while 2.6 million acres of forest land remained intact (*Figure 1*).

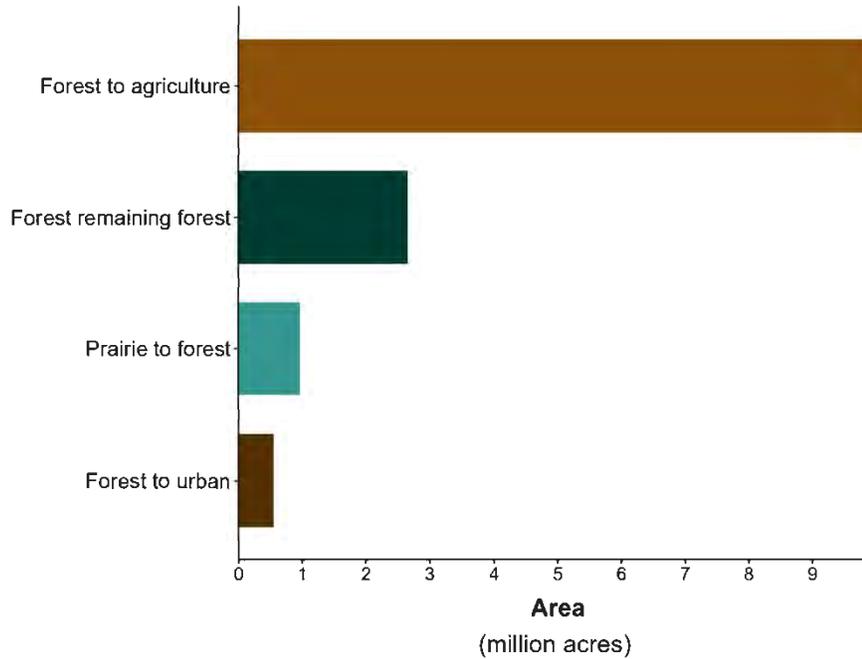


Figure 1. Changes in land use between 1820 and 1980 (Iverson et al., 1989).

Use of the History Database of the Global Environment (HYDE, version 3.2.1), an internally consistent database combining land use and historical estimates of population (Goldewijk et al., 2017), provides additional insight into changes forest cover within Illinois over time. Between 1890 and 2010, forest cover decreased by around 40%, while cover of urban and densely settled land increased by around 87% (Figure 2).

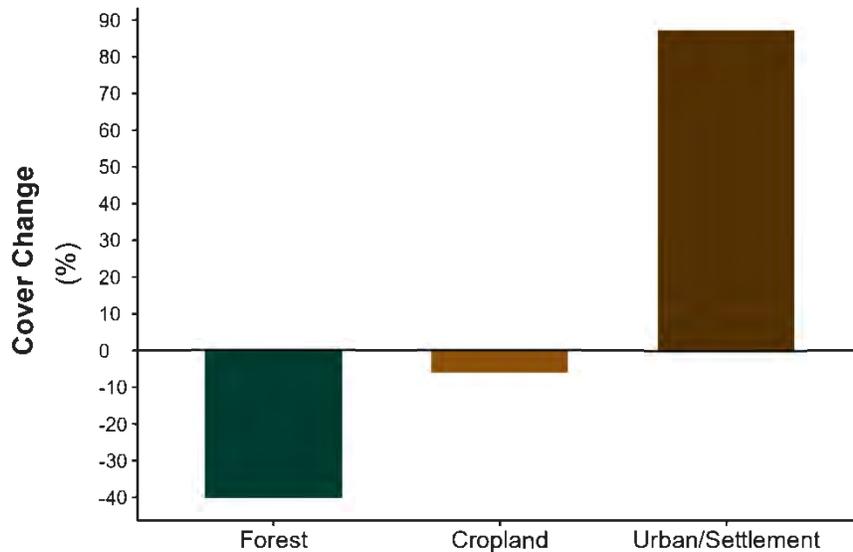


Figure 2. Percent of land cover change in the state of Illinois between 1890 and 2010. Data from the History Database of the Global Environment (HYDE, version 3.2.1) (Goldewijk et al., 2017).

Following the conversion of Illinois' forests to row-crop agriculture and developed areas during the 1800s and early 1900s, forest land area within the state has gradually risen since 1948 (Figure 3). The lowest estimate of forest area was made by Telford in the 1920s. Telford estimated forest area to be only 3.0 million acres (Telford, 1927), compared to United States Forest Services' estimates of 4.0 million acres in 1948 and 1962, and 4.3 million in 1985. Forest area increased by 10% from 1962 through 1985, primarily due to reduced cattle production in the state during that period, with subsequent conversion of hay land and pastures into secondary forest (Iverson, 1991). Farm programs such as the Conservation Reserve Program (CRP) and the Illinois Forestry Development Act (IFDA) provided incentives to convert additional, marginal acres to forest land (Iverson et al., 1989). From 1985 to 2015, Illinois added 600,000 acres to total 4.9 million acres of forest or 14% of Illinois' land base. However, this overall gain is not uniform and some areas have experienced net losses (Crocker et al., 2017). The area of forest cover in Illinois has remained relatively stable in recent years, with an estimated 4.9 million total acres of forest in 2021 (USDA Forest Service, 2022).

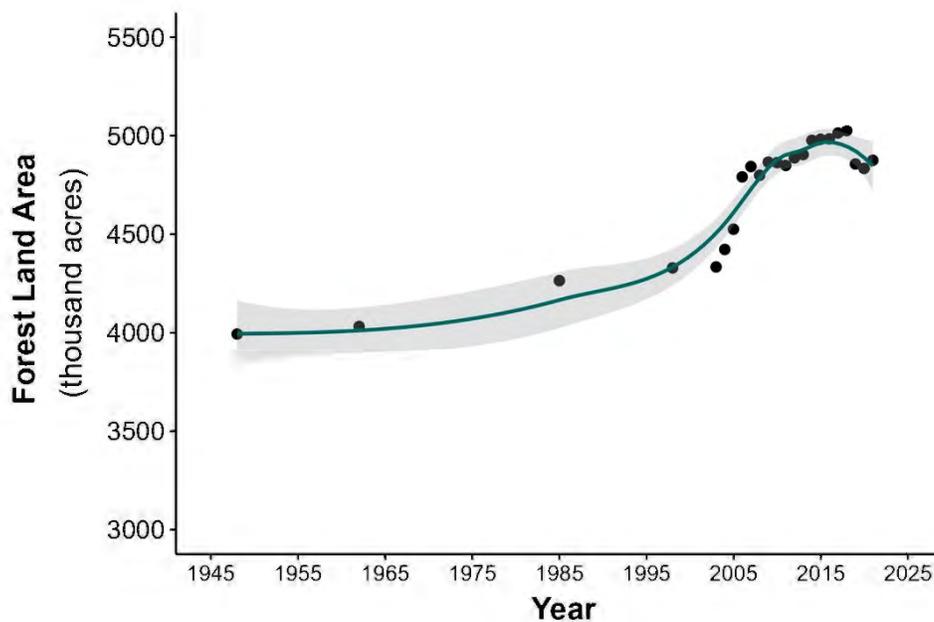


Figure 3. Area of Illinois forest land by inventory year. Ribbon represents a 68% confidence interval and curve is fit using locally estimated scatterplot smoothing (LOESS). Data from EVALIDator v. 2.1.0 (USDA Forest Service, Forest Inventory and Analysis Program, 2024); Crocker et al., 2017; Raile & Leatherberry, 1988; and Central States Forest Experiment Station, 1949.

The net volume of growing stock has increased in Illinois by 40% since 1962, which is a reversal of the trend from 1948 to 1962 when total volume declined by 3% (Iverson et al., 1989). The volume of elms declined from 1948 to 1985 due to Dutch elm disease and the conversion of bottomland forests to cropland (Iverson, 1991). In 2015, American elm (*Ulmus americana* L.) mortality was observed to be high and a decrease in seedling abundance was noted from 2005 to 2015 (Crocker et al., 2017). From 1962 to

1985, volumes of white oak, red oak, and black walnut, have shown increases ranging from 38% to 54%. The tree species pine, red cedar, oak, hickory, hard maple, basswood, yellow poplar, and tupelo showed the greatest increases in growing stock volume from 1962 to 1985, while elm, sweet gum, beech, and aspen showed volume decreases. During the same time period, the average growing stock volume per acre of commercial forest went from 865 to 1200 cubic feet, suggesting that Illinois' forests are growing faster than they are being harvested overall, based on inventory data (Iverson et al., 1989). From 2005 to 2015 the average volume of live trees increased while the density of trees in Illinois' forests steadily decreased. This indicates the gradual maturation of forest resources (Crocker et al., 2017). When the state is evaluated according to five ecologically based regions (Figure 4), changes in forest area after 1820 show patterns of major decline, which occurred between 1820 and 1924. Slight increases in area occurred between 1924 and 1985 (Figure 5).

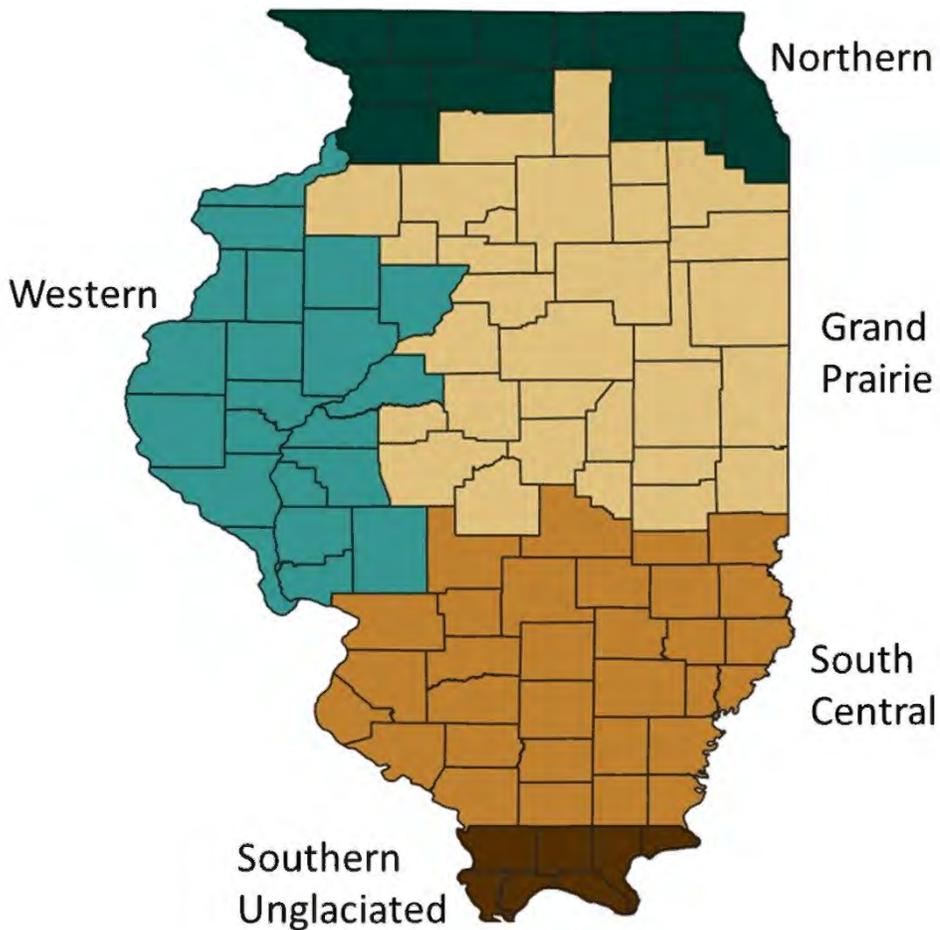


Figure 4. Illinois forest resource regions.

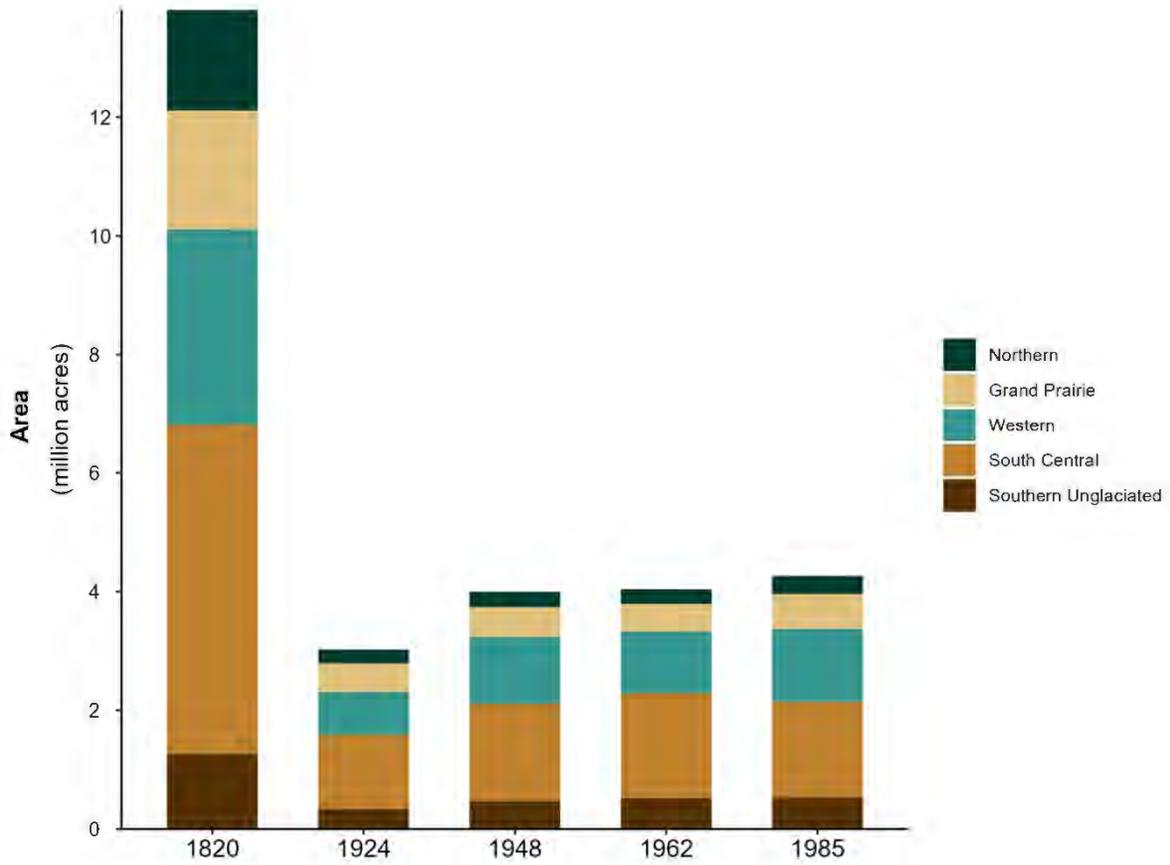


Figure 5. Changes in forest area by Illinois forest resource region from 1820-1985. Each bar represents a time period and the colors within depict the amount of forest cover within each region (Figure 4). Data from Iverson et al. (1989).

Ownership Patterns of Illinois Forests

During the 1980s, more than 90% (3.64 million acres) of the commercial forests in Illinois were privately owned, primarily by individuals (*Figure 6*). The other 10% of commercial forest land was public and most of this land was within the federal government's Shawnee National Forest which spanned 226,000 acres (Iverson, 1991). Based on sampling completed between 2008 and 2012, privately owned forests comprised 83.6% (or 4.1 million acres) of the total forest land in Illinois. Public land occupied the remaining 16.4% of forest land within the state (*Figure 6*).

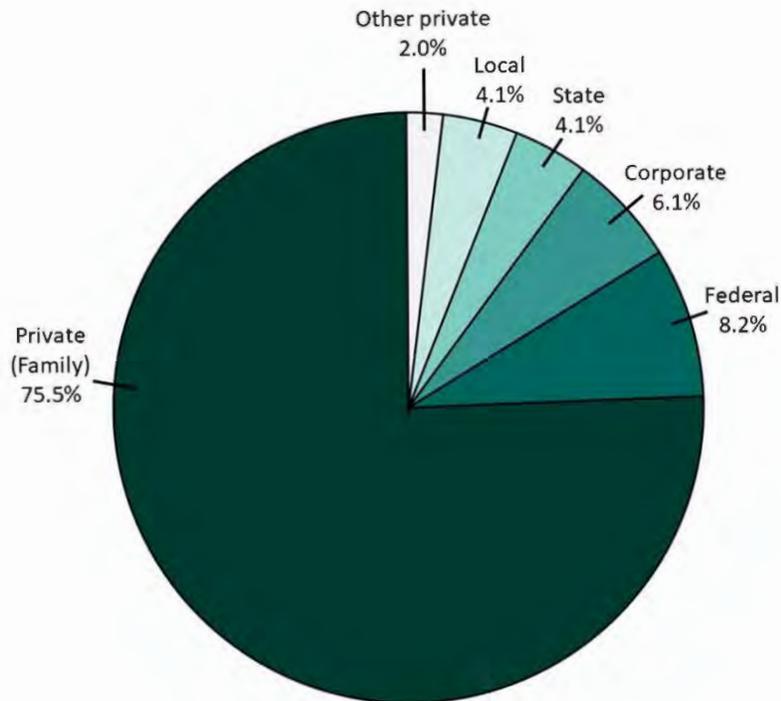


Figure 6. Ownership of forest land in Illinois, based on FIA data collected 2008-2012 (Butler & Butler, 2016).

The Southern Unglaciaded Region, where Shawnee National Forest is located, averages 6.5 times the amount of publicly owned forest as the next highest region. However, there are a relatively high number of federally owned forests located outside Shawnee National Forest counties. Statewide, there are an average of 2,840 acres of federal forest per county (Iverson et al., 1989).

According to surveys from 1985, the heaviest concentration of state lands in Illinois was within the Southern Unglaciaded Region, with an average of 1,610 acres per county. Lands owned by local governments were relatively more common in the Western Region, averaging 850 acres per county during that time. In the other regions of the State the average ownership by local governments was approximately 400 acres per county. The Southern Unglaciaded Region had the lowest amount of locally owned public land, likely an effect of supply and demand economics within the region (Hahn, 1987; Iverson et al., 1989).

The Cooperative Extension Service of the U.S. Department of Agriculture estimated that Illinois had 169,073 private forest landowners, each of whom owned an average of 21.5 acres of forest (Iverson et al. 1989). The area of privately owned commercial forests in Illinois was highest in the South-Central Region, totaling 1.5 million acres and followed by the Western Region (*Figure 7a*). The number of owners was also highest in the South-Central Region, but was followed very closely by the Grand Prairie Region. The number of landowners was lowest in the Southern Unglaciated Region (*Figure 7b*).

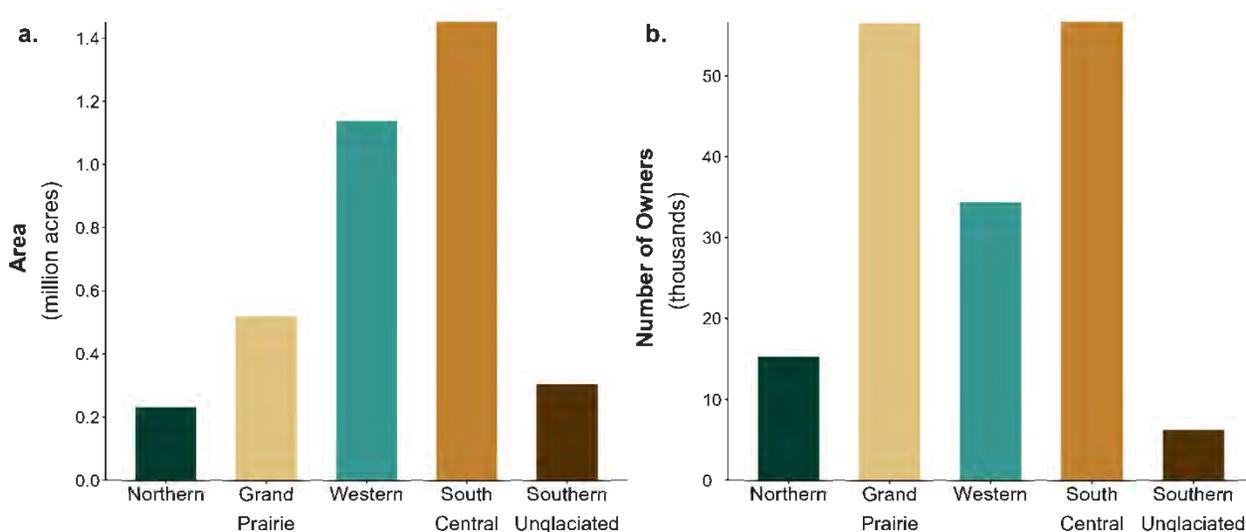


Figure 7. Area (a.) and number of owners (b.) of privately owned commercial forests in Illinois by forest resource region. Data from Hahn (1987) and Iverson et al. (1989).

The number of acres owned by farmers was highest in the Western Region, averaging 30,600 acres per county. Statewide, farmers owned a total of 54.4% of all commercial forest land in Illinois. The second largest fraction of Illinois' forests was owned by private individuals who were not farmers. The highest county average (23,600 acres) was reached by the South Central region, but high averages were also found within the Western and Southern Unglaciated regions. Only 13,000 acres were owned by the forestry industry, and all of these were concentrated in southern Illinois (Hahn, 1987; Iverson et al., 1989).

Survey data from the 1980s of the owners of private non-industrial forests in Illinois indicated that most privately owned forests were relatively small. Of those sampled, 50% were less than 20 acres in size. In addition, 50% of the individuals surveyed responded that their forests were not contiguous, indicating that forest tracts are often dissected in small patches or strips separated from other forest areas (Iverson et al., 1989). Based on survey results, parcels of larger size (>1100 acres) occupied a greater area relative to smaller parcels (<10 acres). However, smaller parcels greatly outnumbered larger parcels (*Figure 8b*).

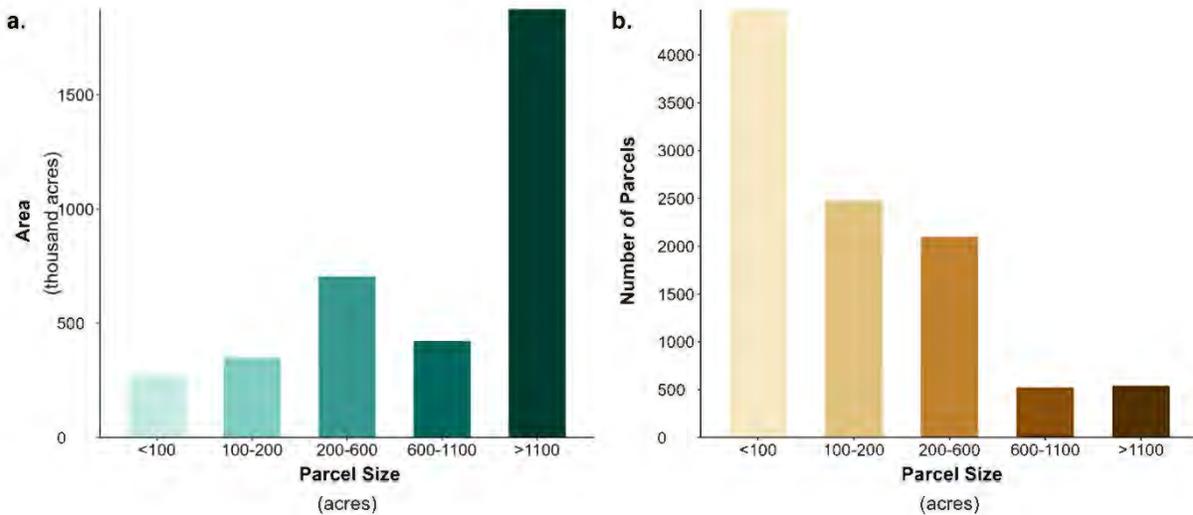


Figure 8. Area (a.) and number (b.) of Illinois deciduous forest parcels by parcel size class. Data from Hahn (1987) and Iverson et al. (1989).

Fragmentation remains a critical issue in Illinois' forests. A study in the 1980s used the U.S. Geological Survey's Land Use Data and Analysis (LUDA) program to identify 10,121 forested parcels 40 acres or larger within Illinois (40 acres was the resolution limit of LUDA data). Of these, 44% were less than 100 acres in size and only 10% were more than 600 acres (*Figure 8a*). Approximately 540 parcels were greater than 1,110 acres (*Figure 8b*). Within Illinois, there were an average of 6.1 forest parcels per township, which is equivalent to 36 square miles. The statewide average number of parcels per township for parcels less than 100 acres in size is 2.7, while the average for parcels greater than 1,100 acres is only 0.3 (*Figure 9b*). Approximately 69% of all parcels are between 40 and 200 acres in size (Iverson et al., 1989).

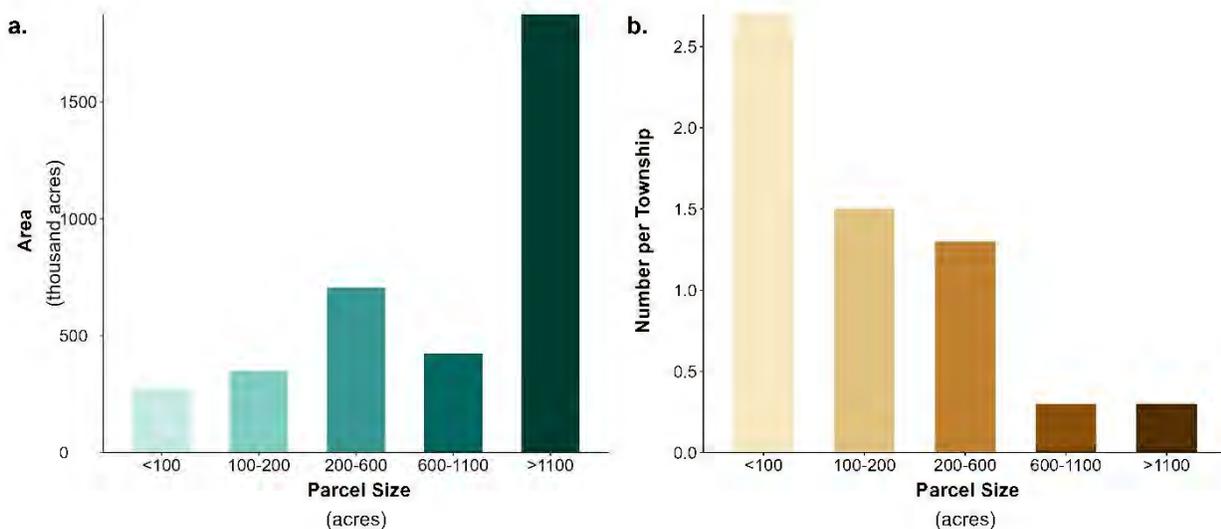


Figure 9. Area (a.) and number per township (b.) of Illinois forested parcels by parcel size class. Data from Hahn (1987) and Iverson et al. (1989).

A survey through the U.S. Department of Agriculture Cooperative Extension Service gathered demographic data on the private non-industrial forest landowners of Illinois (*Table 1*). More than half of landowners at the time were over 50 years old and 46% of them worked in farming/agriculture. A majority (91%) of the landowners made greater than \$10,000 yearly and 31% of them had not obtained a high school degree. Their top three reasons for owning forest land in order of importance were: provision of wildlife habitat, preservation of beauty, and heritage for future generations (Iverson et al., 1989; Young et al., 1984).

Table 1. Demographic data on Illinois' private non-industrial forest landowners. Data from the U.S. Department of Agriculture Cooperative Extension Service (Iverson et al., 1989; Young et al., 1984).

Age	%	Income	%	Education	%	Occupation	%
< 30	8	< \$10,000	9	No High School	31	Farming/Agriculture	46
30-40	14	\$10-20,000	27	H.S. Degree	43	Skilled Worker	18
40-50	20	\$20-30,000	20	> 12 years	26	Professional	9
> 50	58	\$30-40,000	17			Laborer	6
		> \$40,000	27			Owner/Manager	3
						Retired	12
						Other	6

Forest Plant Diversity

The Illinois Plant Information Network (ILPIN) contains habitat and distribution data for Illinois flora. Using ILPIN, one can assess the distribution of forest vascular plant species. Mapping the number of plant species by county reveals that the areas of highest diversity are the Chicago region, the southern tip, and parts of western Illinois (*Figure 10*). This geographic distribution corresponds to the general regions of maximum forest cover, but climate and geomorphic variations are also responsible for the biogeography of the state. The wide range in latitude from north to south accounts for a considerable range in climate and geomorphic conditions, and subsequently, a remarkable diversity of habitats. The presence of many species with affinities toward the northern temperate flora results in increased diversity in the northern counties, while species characteristic of the Appalachian flora increase diversity in the southern counties. Likewise, plants with affinities to southern floodplain habitats increase the species diversity along the major waterways in the western counties (Iverson et al., 1997). According to the most recent published flora for the state of Illinois, there are 3,598 plant species, including hybrids, known within the state (Mohlenbrock, 2014).

Forest ecosystems within Illinois are notably diverse. Over 250 species of trees, both native and introduced, have been recorded in Illinois as of the 1980s. Southern counties had the greatest diversity, with Jackson County at 145 species, Pope at 129, and Union at 128. Several northeastern counties also had high diversity due to varied landscapes and escaped cultivars from the Chicago region. In addition to trees, there were 284 taxa of shrubs, some of which can also be considered trees (e.g., common buckthorn [*Rhamnus cathartica*]), and 47 taxa of vines reported for the state. Overall, 508 taxa of woody plants were recorded, including 138 introduced species (Iverson et al., 1994).

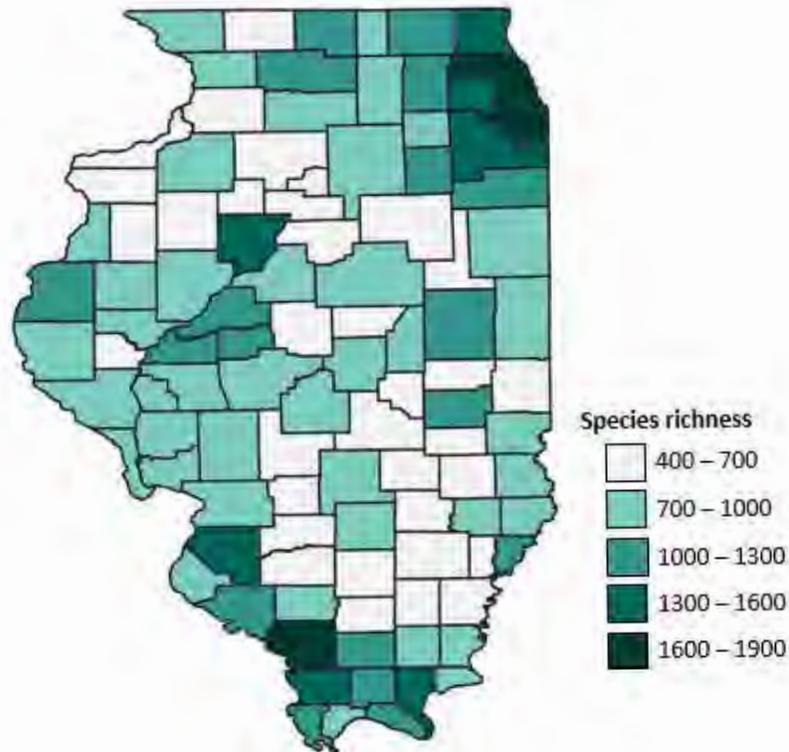


Figure 10. Illinois plant species richness by county, based on Illinois Plant Information Network (ILPIN) records (Iverson et al., 1999).

Illinois' forests are exceptionally rich in non-woody taxa. Including the woody species, there were approximately 1,581 forest associated plant taxa in the state as of the 1980s, 1,414 (89%), of which were native. In general, higher botanical diversity occurred in the southern counties, with species having affinity to the Appalachian flora, and in the northern counties, with northern temperate species. As one might expect, relatively lower diversities of forest-associated species are naturally found in counties formerly dominated by prairie (Iverson, 1991).

With diversity at its highest in the northern and southern counties, it is not surprising that the highest concentrations of threatened and endangered species, as well as exotic species, occurred in the northern and southern counties. In addition, there were a great many more non-native species in any

given region than there were threatened and endangered species (Iverson, 1991). The issue of exotic species may be larger than the issue of threatened and endangered species with respect to conserving biological diversity of native species. The negative impacts of exotic species on the structure and species composition of native plant communities are notable, especially given the pressure of population growth and urban development.

The composition of Illinois forests has changed dramatically over the past three decades. Today, approximately 50% of the commercial forest acreage is oak-hickory, 25% is elm-ash-cottonwood, and 6.25% is maple-beech-birch (almost exclusively sugar maple) (Figure 11). Together, the remaining forest types (white-red-jack pine, loblolly-shortleaf pine, oak-pine, and oak-gum-cypress) account for less than 6% of the total commercial forest land. However, in 1962 there was greater acreage of oak-hickory and elm-ash-cottonwood and very little acreage of the maple-beech type. Since 1962, maples have increased by a factor of 41, whereas oaks have been reduced 14% and elms have been reduced 50% (Iverson, 1991). Since 2010, ash mortality primarily caused by the Emerald Ash Borer (EAB), has increased 24%. Northeastern Illinois displays the highest ash mortality, as EAB has been present in the region the longest. Ash mortality is predicted to continue with the spread and persistence of EAB (Crocker et al., 2017).

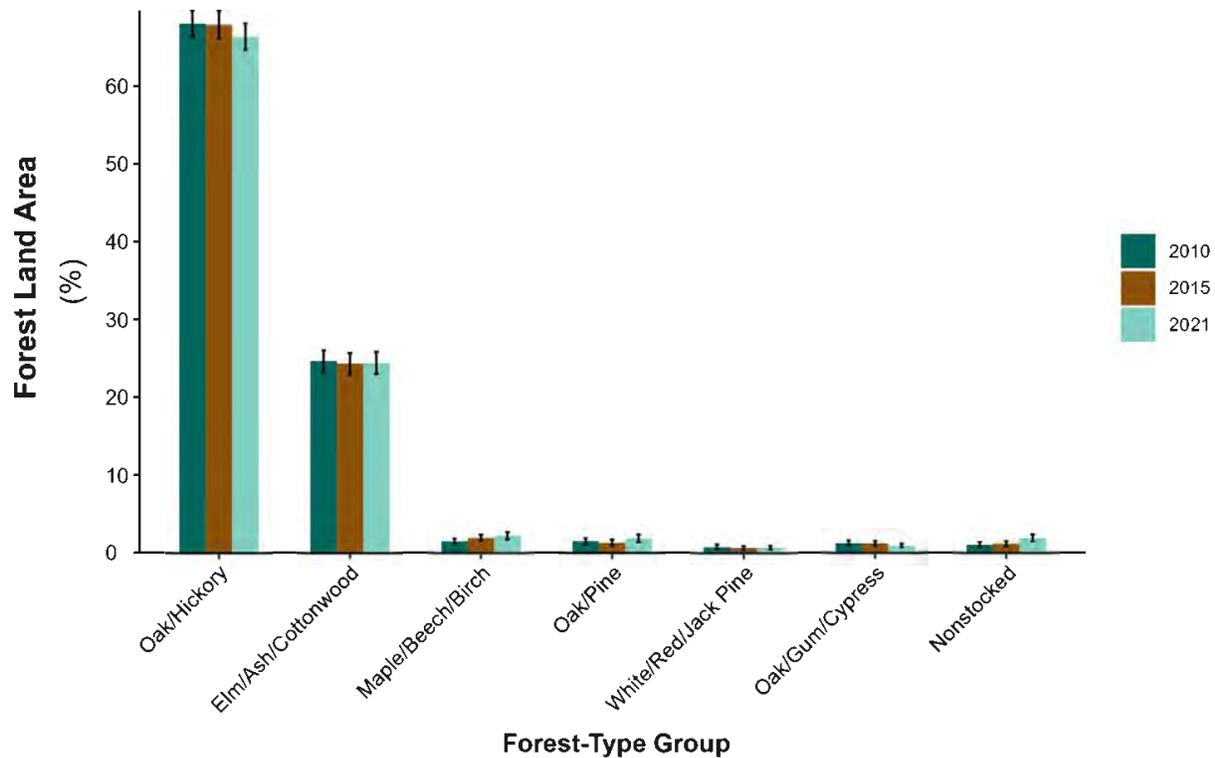


Figure 11. Composition of Illinois' forest land by forest-type group from 2010-2021. Data from EVALIDator v. 2.1.0 (USDA Forest Service, Forest Inventory and Analysis Program, 2024).

Examining mortality patterns by species shows that American elm leads all species in mortality rate, with a recent estimated mortality rate of 12.7 million cubic feet (Crocker et al., 2017). The majority of this mortality is the result of continued spread of Dutch elm disease in Illinois. Thus, it is likely that the observed increase in mortality rate from 1962 to 1985 may not be symptomatic of general forest decline, but may indicate a peak in mortality associated with the spread of disease within the region. There appears to be no major differences in mortality rates of trees between ownership categories (Iverson et al., 1989).

The results of a 1991 investigation of tree health using USDA Forest Service Forest Health Monitoring (FHM) protocol found relatively low signs of canopy damage among most species and most species groups. The exceptions were a relatively high incidence of crown dieback in white oak (*Quercus alba*) and sugar maple (*Acer saccharum*). Likewise, silver maple (*Acer saccharinum*) and sweetgum (*Liquidambar styraciflua*) showed relatively high frequencies of low crown density. There were not significant differences in tree health between upland and bottomland forests or between publicly owned and private upland woodlands (Bechtold et al., 1992). These results also demonstrated uniformly higher levels of damage for all crown parameters in Southern, Mid-Atlantic, and New England states than in comparable studies of Illinois. Illinois' trees appeared in comparatively good health. More recent evaluation also found Illinois trees to be in generally good health. The highest frequencies of low crown density were found in silver maple, likely due to its brittle wood, and green ash, likely due to the emerald ash borer (Crocker et al., 2017).

A 1991 tree health study also measured floristic composition and diversity among Illinois forests within the East Woods of the Morton Arboretum. Results indicated no differences in overstory or understory species richness in forests differing in ownership category (i.e., public versus private), or in upland versus lowland forests. Despite wide variation in the mean number of understory species sampled (ranging from 3.0 to 13.8m²), understory diversity did not correlate with general characteristics of the forest plot (e.g., overstory composition, tree density). Thus, although different forest types received different levels of management attention, no systematic differences in the ability of forest types to conserve forest health of species diversity were demonstrated (Wilhelm, 1991).

Illinois' exotic plant species can be defined broadly, narrowly, and legally. Broadly, exotic species are those species that were not naturally found in Illinois before European settlement. This context includes plant species that are common in surrounding states but were not found in Illinois previously (Iverson et al., 1994). As of 2008, exotic species make up approximately 27% of the Illinois flora (Qian & Dolbeare, 2007), a clear increase since the approximately 10% during the 1800s (*Figure 12a*). Between 2007 and 2021, increases in cover of invasive species have also been observed, based on sampling of FIA plots (*Figure 12b*).

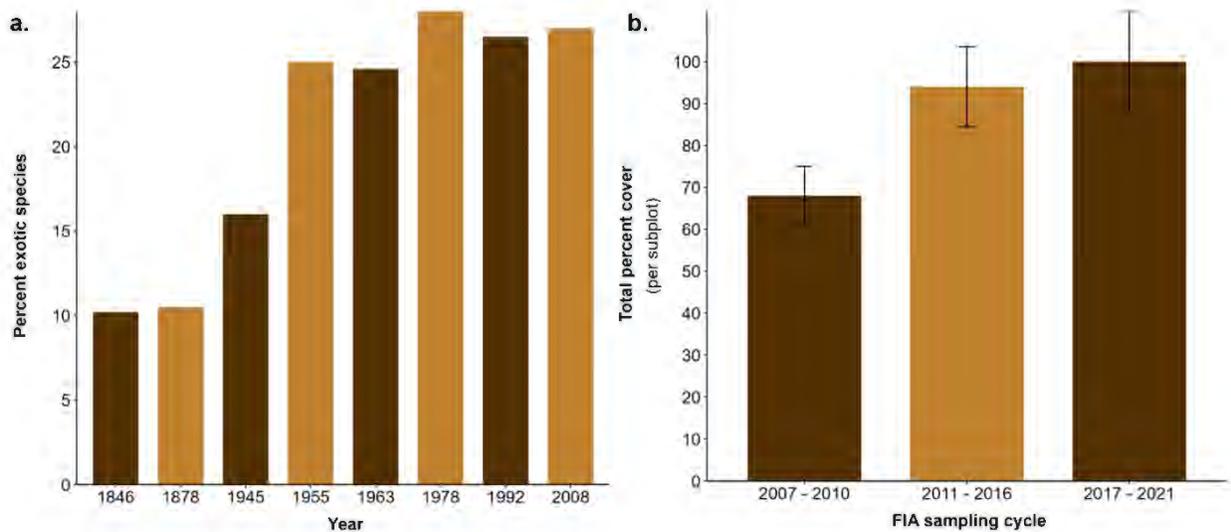


Figure 12. a) Approximate percentage of exotic species in Illinois spontaneous flora from 1846 to 2008. Data from previous AON and from Qian & Dolbeare (2007). b) Average total percent cover of invasive plant species in Illinois FIA plots during three sampling cycles from 2007-2021. Error bars represent 68% confidence interval. Data from the FIA Database v2.0.0 (2024).

In a narrow characterization, exotic species are all plant species which are not native to North America. Seventy-eight percent of the exotic species in the Illinois flora are not North American natives, constituting about 21% of the total Illinois flora. The Illinois Exotic Weed Act (IEWA) of 1988 legally defined an exotic plant as "those plants not native to North America which, when planted, either spread vegetatively or naturalize and degrade natural communities..." (Illinois Exotic Weed Act, 1991; Iverson, 1991). Although many species fit this description, the original IEWA covered only three species: Japanese honeysuckle (*Lonicera japonica* Thunb.), multiflora rose (*Rosa multiflora* Thunb.), and purple loosestrife (*Lythrum salicaria* L.) (Iverson et al., 1994). Since then, additional species have been added and the list of regulated exotic weed species in Illinois totaled 26 by 2015 (Evans, 2016).

The IEWA definition of an exotic plant species emphasizes reasons these exotic species are considered undesirable within the flora of Illinois. Certain exotic species are poorly established in the state of Illinois and barely able to survive, but the majority are widespread in range and aggressive in growth habit. Overall, the more aggressive and successful exotic weeds originate regions with climates that are similar to that of Illinois and thrive in the absence of their natural pests. These exotic weeds can impact native communities by altering structure, species composition, and diversity (Iverson et al., 1994). Sampling of native Illinois forest communities in 2015 observed 17 invasive plant species, of which multiflora rose was the most commonly observed (Table 2; Crocker et al., 2017). There are many invasive and exotic species further threatening Illinois forests in addition to the listed species.

Table 2. Number of occurrences and percentage of plots containing invasive plant species by species in Illinois during sampling in 2015 (Crocker et al., 2017).

Common name	Scientific name	Occurrences	Percentage of plots
Multiflora rose	<i>Rosa multiflora</i> Thunb.	111	66.9
Nonnative bush honeysuckles	<i>Lonicera</i> spp.	77	46.4
Japanese honeysuckle	<i>Lonicera japonica</i> Thunb.	60	36.1
Garlic mustard	<i>Alliaria petiolata</i> (M. Bieb.) Cavara & Grande	35	21.1
Autumn olive	<i>Elaeagnus umbellata</i> Thunb.	31	18.7
Reed canary grass	<i>Phalaris arundinacea</i> L.	14	8.4
Common buckthorn	<i>Rhamnus cathartica</i> L.	12	7.2
Black locust	<i>Robinia pseudoacacia</i> L.	9	5.4
Nepalese browntop	<i>Microstegium vimineum</i> (Trin.) Camus	7	4.2
Oriental bittersweet	<i>Celastrus orbiculatus</i> Thunb.	7	4.2
Creeping jenny	<i>Lysimachia nummularia</i> L.	5	3.0
European cranberrybush	<i>Viburnum opulus</i> L.	5	3.0
Japanese barberry	<i>Berberis thunbergii</i> DC.	5	3.0
Dame's rocket	<i>Hesperis matronalis</i> L.	2	1.2
Siberian elm	<i>Ulmus pumila</i> L.	2	1.2
Canada thistle	<i>Cirsium arvense</i> (L.) Scop	1	0.6
Norway maple	<i>Acer platanoides</i> L.	1	0.6

Exotic weedy shrubs are a considerable threat to Illinois' forest communities. Many of these exotic shrub species were originally introduced intentionally by resource managers and landowners. Historically, the shrubs were often easy to obtain, relatively free of pests and diseases, and rapidly reproducing. Many species, including multiflora rose, amur honeysuckle, tartarian honeysuckle, autumn olive, common buckthorn and glossy buckthorn were introduced to provide food and cover for wildlife. In addition, some exotic shrubs, including multiflora rose, were used to decrease erosion, create living fences for livestock (Albaugh et al., 1977; Iverson et al., 1994), act as crash barriers adjacent to highways, and decrease headlight glare within highway medians (Iverson et al., 1994; Schery, 1977). Other shrubs, such as amur honeysuckle, tartarian honeysuckle, Japanese barberry, privet, and winged euonymus, were often planted in Illinois as ornamentals (Iverson et al., 1994).

There is wide variation in the severity and range of shrub invasion within Illinois native forest communities. A few shrubs, such as common buckthorn, have been of major concern in northern Illinois forests since the 1990s. Multiflora rose was previously not a problem in forests with adequate stocking, however it is now widely distributed throughout the state (Crocker et al., 2017; Iverson et al., 1994). Autumn olive, a species introduced to benefit wildlife, generally does not thrive in the deep shade of Illinois' forests and is more frequently observed in disturbed or weedy areas. However, autumn olive is dispersed by birds, and can quickly invade newly timbered or disturbed sites. Although initially released in

1963, autumn olive was not thought to spread extensively from cultivation. The Illinois Department of Conservation produced autumn olive between 1964 and 1982. Given mounting evidence of autumn olive's ability to spread extensively, production of the species was discontinued in 1983 (Iverson et al., 1994). However, autumn olive has now spread throughout the state and has been observed in all but seven of Illinois' 102 counties, according to the Illinois Plants Database (Spyreas et al., 2017).

Winged euonymus, another exotic shrub species, is native to China and Japan and was previously reported as rarely escaping from cultivation in the eastern United States (Gleason, 1952; Iverson et al., 1994). Winged euonymus was first reported as naturalized in Illinois in 1973, although some of the plants were more than 25 years old at that time (Ebinger & Phillippe, 1973; Iverson et al., 1994). It is presently found in 47 counties in Illinois and likely occurs in many more (Spyreas et al., 2017). Unlike autumn olive, winged euonymus is able to reproduce and grow in the densely shaded conditions found in relatively undisturbed forest communities. Many exotic shrubs have become serious pests in the state of Illinois, and others have the potential to become major issues in the future (Iverson et al., 1994).

The second most serious threat to the forest communities of Illinois are exotic woody vines (Iverson et al., 1994). Japanese honeysuckle, the most troublesome of the exotic weedy vines, was initially introduced into the United States as an ornamental and has been planted widely. This vine species may be found in both shaded and open conditions. Despite its use as an ornamental, it is a serious threat to native plant species. While it is seldom a major concern in well-established forests, when forest disturbance typically occurs through natural causes such as wind or disease or by human activities, Japanese honeysuckle grows very rapidly (Evers, 1984; Iverson et al., 1994). Rapid growth of the vine threatens rare native plant species and may modify the process of natural succession. The vine can damage saplings by physically deforming, bending, and eventually killing them. In addition, foresters sometimes avoid cutting forests that have been invaded by Japanese honeysuckle because they worry these forests will not reestablish following cutting (Iverson et al., 1994).

The herbaceous exotic weeds found in nearly all of the forests in Illinois include annual, biennial, and perennial herbs. Sweet clover and garlic mustard are exotic herbs that have both been observed in all 102 counties of Illinois (*Figure 11*). However, garlic mustard likely holds the greatest threat to Illinois forests. The species was introduced as a food or medicinal herb, and was first observed in Illinois in 1918 in Cook County, which is north of Chicago. Garlic mustard easily spreads into high-quality, old-growth forest ecosystems (Iverson et al., 1994). As of 2017, garlic mustard has been observed in 91 of Illinois' 102 counties (*Figure 11*). Garlic mustard is a biennial plant which produces numerous seeds and is a major threat to the woodland herbaceous flora of Illinois, as well as to wildlife that depend on this flora for food and cover (Iverson et al., 1994; J. Schwegman, 1988).

Within Illinois, examples of problematic exotic weed trees in forests are Amur maple, golden-rain tree, tree-of-heaven, and white mulberry. Both tree-of-heaven and white mulberry have been observed throughout the state. Tree-of-heaven grows particularly abundantly on steep slopes below the bluffs of the Illinois and Mississippi rivers. Although relatively uncommon, golden-rain tree has also become

naturalized on steep slopes below the river bluffs north of Alton, Illinois, in Madison County. Amur maple is a native of central and northern Manchuria in northern China as well as Japan, and is frequently planted as an ornamental throughout Illinois. Amur maple typically naturalizes in open fields and prairies but occasionally grows in open woods and potentially may become a major weed issues in the Midwest (Iverson et al., 1994).

Exotic weeds make up more than 25% of Illinois' flora inventories (*Figure 12a*), and they greatly affect forest communities. The disturbance created by these weed species is quite variable in degree and may any forest stratum. The process of succession can be altered within areas severely invaded by exotic shrubs and vines, such that forest structure is significantly altered (Iverson et al., 1994). In addition, exotic weeds alter the biodiversity of forests communities in Illinois. Japanese honeysuckle and multiflora rose are both exotic weeds recognized by the IEWA which greatly threaten the forests of Illinois. For these species, "It shall be unlawful for any person, corporation, political subdivision, agency or department of the State to buy, sell, offer for sale, distribute or plant seeds, plants, or plant parts, of exotic weeds without a permit issued by the Department of Conservation" (Illinois Exotic Weed Act, 1991; Iverson et al., 1994). Exotic weeds are a major issue within Illinois forests, and many species have spread extensively throughout the state over time (*Figure 13*). Forest recovery depends on appropriate action and enforcement, such as those stated in the Illinois Exotic Weed Act.

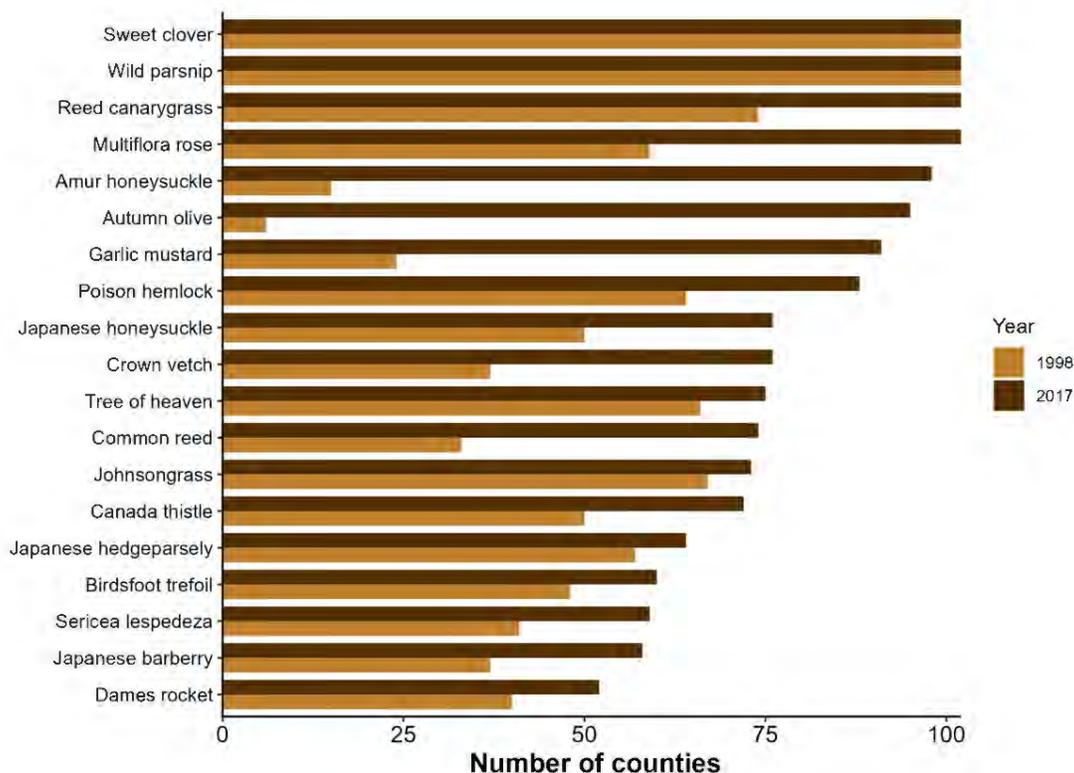


Figure 13. Number of Illinois counties in which common invasive plant species have been found, in 1998 and 2017. Species included here are those that have been found in >50% of Illinois' 102 counties. Data from the Illinois Plant Information Network (Iverson et al., 1999) and the Illinois Plants Database (Spyreas et al., 2017).

Threatened and endangered plants represent approximately 17% of the native Illinois flora (Iverson et al., 1994). As of 2020, there are 330 plant taxa listed as threatened or endangered under the Illinois Endangered Species Act. Of these taxa, 49% have been found in the forests of Illinois. Of the 172 vascular plant families in the Illinois flora (Spyreas et al., 2017), 55% are represented by these threatened and endangered taxa. The sedge family (Cyperaceae) has the most taxa (52), followed by the grass family (Poaceae) with 19, the orchid family (Orchidaceae) with 17, the aster family (Asteraceae) with 14 and the pea family (Fabaceae) with 12 (Illinois Endangered Species Protection Board, 2020).

Forest Animals and Wildlife Habitat

The forests of Illinois provide essential habitat for greater than 420 vertebrate species. Decreases in the quantity and quality of that habitat greatly affect wildlife populations (Illinois Wildlife Habitat Commission, 1985; Iverson et al., 1994). Of the vertebrates listed as occurring in Illinois, 82.5% of mammals, 62.8% of birds, and 79.7% of amphibians and reptiles need forested habitat for at least a portion of their life cycle (Iverson et al., 1994). Forests play a clear role in maintaining vertebrate diversity in Illinois.

Approximately 120 species of birds use Illinois forests for nesting. Forests are of special importance as bird habitat for two federally endangered species, 12 state endangered species, and three state threatened birds. Of the mammals, 58 species utilize forest habitats. Forests are critical habitat for two federally endangered mammals, one state endangered mammal, and four state threatened mammal species (Iverson et al., 1994). According to the habitat evaluation index devised by Graber & Graber (1976) over 75% of Illinois' wildlife habitat (88 of 115.73 habitat factor points) is derived from forests (*Figure 14*). Elm-ash-cottonwood rates highest because this forest type has disappeared so quickly over the past several decades. Oak-hickory values would be higher if not for increases in the numbers in older age classes with the maturation of secondary forests, despite decreases in the numbers in younger age classes. Maple-beech forests obtained a very minor rating because this forest type has dramatically increased in recent years. Habitat factor scores were generally more favorable for wildlife habitat in the southern half of Illinois, which has more forest land. Total habitat factor scores for the southern region were double those of the central region, with the northern region in between (Iverson et al., 1989; 1994).

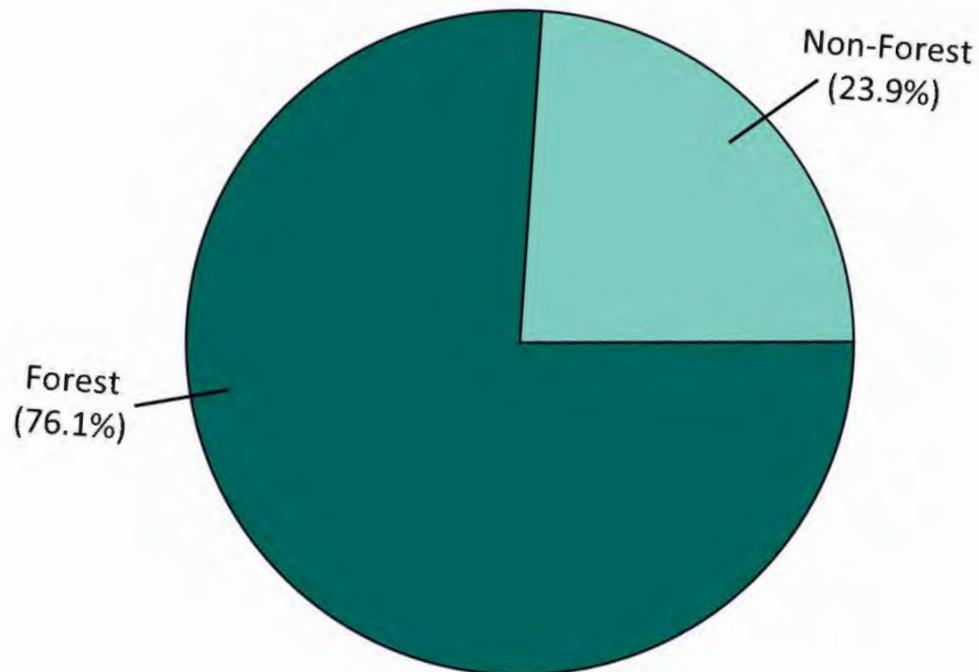


Figure 14. Percent of habitat factor score contributable to Illinois state habitat by forest land and non-forest land, calculated 1962 to 1985. Data from Essex & Gansner (1965), Graber & Graber (1976), Hahn (1987), and Iverson et al. (1994).

Forests are important habitat for many neotropical migrants. Results of a 1992 study with data developed by Dr. S. Charles Kendeigh over a fifty-year period (1920s - 1970s) indicated that the number of breeding forest songbird species neither increased nor decreased overall during that time period. While annual fluctuations were common, numbers of species did not decrease significantly for all species and for neotropical migrants. At the Trelease Woods study site, in fact, the numbers of species increased during the 1950s and remained relatively high. These results align with numerous other studies that report higher numbers of species of neotropical migrants within larger forest tracts compared with smaller tracts. While presumably few, if any, species have been lost during the 20th century, continued fragmentation of forests has created a situation wherein neotropical migrant species may be in threatened. If these trends persist, 33 to 50% of species common within Illinois' forests may disappear from certain areas (Iverson et al., 1994).

The characteristics of a forest that determine its quality as a habitat for birds are age, size, tree species composition, and foliage density. Based upon these characteristics a significant decrease in wildlife habitat for birds has occurred in Illinois over the past several decades (Graber & Graber, 1976; Iverson et al., 1989). Lowland forests typically support a larger number of bird species than upland

forests. However, within both forest types, the number of bird species is expected to increase tenfold as forests increase from less than 10 to approximately 100 acres in size (Iverson et al., 1989).

Wildlife management activities have been very successful in the reestablishment of wild turkeys and white-tailed deer in Illinois. In fact, in some parts of the State deer populations exceed their carrying capacity. This has resulted in considerable damage to the forest resources as well as agricultural crops. Over 90% of Illinois forests are privately owned. While the management of these resources is highly variable, there appears to be consistency in the reason landowners own forest land. In study after study, providing wildlife habitat is the number one reason for owning forest land. This reason is usually followed by preserving natural beauty, providing a heritage to pass to future generations, harvesting timber, and family recreation or hunting (Iverson et al., 1989; Young et al., 1984).

Fisheries

Illinois supports a considerable variety of fish, mussels, and other aquatic life. From the deep, cold waters of Lake Michigan to the primeval swamps of the Cache River area, Illinois possesses a large diversity of aquatic habitats. As a result, approximately 217 species of fish (22 non-native species) are found within Illinois' waters (Metzke et al., 2022). While a few species (including largemouth bass, channel catfish, walleye, white bass, bluegill, and crappie) garner most of the public attention, these represent only a fraction of the state's fish fauna. The vast majority of Illinois fish species are minnows, suckers, darters, and other "non-game" varieties. Many of these fishes provide forage for sport species, some are utilized as bait or aquarium fishes, and a few are considered valuable ecological indicators. However, all of these fish species are vital to the aquatic ecosystems they inhabit and thus are worthy of protection.

Most of Illinois native fishes are adapted to life in flowing streams (constructed lakes and ponds typically support few fish species and natural lakes are limited to a handful of glacial lakes in northeastern Illinois). The majority of Illinois fish habitat is found in the 26,000 miles of rivers and streams throughout the State. Much of this aquatic habitat has suffered degradation due to a variety of cultural impacts. Channelization, impoundment, riparian clearing, siltation, and flow alteration have greatly compromised the ability of our streams to support a healthy and diverse fish community (Metzke et al., 2022).

Deforestation of watersheds has had a profound effect on Illinois' fisheries resources. Aside from the more obvious impacts, (i.e., increased silt loads reaching lakes and higher water temperatures experienced in unshaded stream channels) the loss of riparian forest lands has played a more subtle role in the decline of many Illinois' native fish species. Streams in deforested watershed tend to have higher floods and longer periods of desiccation due to the inability of surrounding land to hold and slowly release water. The removal of bank-side trees robs streams of potential in-stream habitat formed naturally by falling logs and root wads. In addition, streams within deforested areas exhibit decreased ecosystem processing of organic matter and decreased nitrogen uptake per length when compared with streams in forested areas (Sweeney et al., 2004).

Overlaying forest cover maps with stream maps for a 13-county area in south and central Illinois

indicates that over 78% of the area's forests exist within 1000 feet of streams. Approximately 22% of the forests are found within 100 feet of streams. When forest cover for the same area from the year 1820 is overlaid onto stream maps, it also shows this close relationship between streams and forests. Conversion of large amounts of upland forest to non-forest uses has occurred in this 1.3 county area (Iverson et al., 1994). This fact, combined with the degradation of stream health, provides at least circumstantial evidence of the importance of forests in maintaining stream health.

Clean water legislation over the last two decades has significantly improved Illinois' water quality. However, non-point pollution and habitat degradation still limits the recovery of the State's aquatic ecosystems. Much of this damage was the result of forest land conversion to other incompatible uses. Illinois' fishery habitat will be greatly improved if existing forest lands are protected and forests are reestablished in critical riparian areas alongside the State's rivers, lakes, and streams.

In 1993, the Illinois Legislature passed the Fish Illinois Initiative. Fish Illinois sought to enhance fishing opportunities in rivers, lakes, and streams. The program provided for intensive management of these waters, stocking of fish, and teaching of fishing skills and conservation ethics to future anglers and urban residents (Chicago Tribune, 1993). Forest resources will be a critical component of this program, as they function in maintaining water quality and habitat.

Forest Insects

Many of the tree species which are found in the forests of Illinois function as a source of food for a diversity of insect species. However, in northern regions of Illinois, the limited number of tree species supports a more limited insect fauna. In areas which are characterized by a high diversity of tree and insect species, there are additional factors which limit the probability of major insect outbreaks, such as predators and parasites. While pine monocultures are not uncommon in Illinois, most forests are mixed stands of multiple tree species. Within these areas, the forest is buffered from complete loss even when a given tree species may be seriously impacted by an insect or pathogen, as in the case of Dutch elm disease (Iverson et al., 1994).

The insect fauna of Illinois changed significantly as the landscape gradually shifted from a mixture of forest and prairie to agricultural land. No insect surveys were conducted before or during the earlier periods of European development, so it cannot be determined which native insects were lost due to settlement. Based on historical data, it is known that the previous upland forests of Illinois were almost entirely composed of oak- and hickory-dominated mixed deciduous forest. The insect species that thrive in undisturbed forests include cicadas, several species of cerambycid beetles, carpenter worms, and clearwing moths. As forest lands were cleared, populations of these species likely declined. Logged areas that regenerated as second-growth forest had significantly different communities of insects. Populations of native species, including the eastern tent caterpillar, fall webworm, and yellow-necked caterpillar likely thrived as they do today in comparable areas. Tree species diversity within regenerated forests was lower than it was in the former stands. Thus, it is likely that insect populations fluctuated more drastically (Iverson et al., 1994).

The number of acres of pine planted in Illinois has increased since the 1930s. Insect pests which are native to the United States, including the northern pine weevil, pale weevil, and Nantucket pine tip moth are now common throughout the state of Illinois in areas in which they formerly did not exist because their host trees, pines, were not present. Pine wilt disease was discovered in Illinois in 1979. This disease is caused by a nematode which infects the Carolina pine sawyer beetle, an insect native to Illinois. This native insect then acts as a vector for the exotic pine wilt disease, which has decimated red and Scotch pine plantations throughout the state (Iverson et al., 1994)

Industrial development during the mid-1800s increased the probability of the accidental introduction of insect pests. Exotic pests including the European elm scale, the smaller European elm bark beetle, European pine shoot moth, European pine sawfly, spongy moth (formerly known as the gypsy moth), and common pine shoot beetle have since become established in Illinois, greatly impacting forests within the state.

During the late 1800s, the European elm scale was found in the United States. The date of the first record of the species in Illinois is unknown, but it was likely during the early 1900s. The scale insect injures young elm trees and stunts their growth. Elm trees in urban areas often become heavily infested by the elm scale, resulting in the death of some tree limbs.

Dutch elm disease was first reported in Illinois in 1950. This disease is caused by a fungus spread by the relatively smaller European elm bark beetle. Dutch elm disease killed nearly all American elm trees in the forests of Illinois between the 1950s and 70s. As a result, American elm trees exist in more limited numbers and primarily in areas where strict regulation allows for the rapid removal of dead trees (Iverson et al., 1994). Younger elms seem to have some resistance to the fungus and are more abundant throughout landscapes, while mature elm trees are rare. Ongoing efforts are underway to develop disease-tolerant American elm for use in restoration plantings (Knight et al., 2016).

The European pine shoot moth, which infests Scotch, red, and Austrian pines, was first observed in Illinois in 1914. The moth larva causes disfiguration and reduced growth of trees by boring into the new growth of pines. The European pine shoot moth primarily infests pines in the northern half of Illinois, and is most problematic in commercial tree nurseries and tree farms (Iverson et al., 1994).

The presence of the European pine sawfly was first recorded in the United States in New Jersey in 1925. The sawfly has since become established in pine forests east of the Mississippi River, from the northern half of Illinois eastward and including southern Canada. During sawfly population outbreaks, red, Scotch, and Austrian pines display severe defoliation (Iverson et al., 1994).

The spongy moth (*Lymantria dispar*), formerly known as the gypsy moth, became established in Massachusetts in 1869 and then spread to the west. Male moths were captured in pheromone traps placed throughout Illinois in 1981, and the number of male moths caught in the state has increased since 1986. This trend was likely due to increases in mobility with the modern transportation system, which allows for dispersal of egg masses from infested into non-infested areas (Iverson et al., 1994). In 2000, four counties in northeastern Illinois were quarantined due to spongy moth infestation, and in 2022 the

quarantine was extended to a total of ten counties. Within these counties, firewood and nursery stock must be inspected and certified before being shipped (Illinois Department of Agriculture, 2022). The spongy moth is now permanently established in Illinois. Despite being present in Illinois for many years, spongy moth outbreaks that resulted in defoliation are relatively rare. Suppression methods, such as aerial spray treatments, are currently used during peaks in spongy moth population cycles (Crocker et al., 2017).

The common pine shoot beetle, another exotic insect, was first observed in Illinois in a Kane County planted pine forest in 1992. The species is a common forest pest in Europe, where it destroys yearly new growth of pine twigs. Common pine beetle populations can become very large in pine stumps and in dead pine trees. In certain Illinois pine plantations where dead trees are not removed, the beetle could pose a major threat (Iverson et al., 1994). Federal quarantine measures were put into place in 1992 to attempt to curtail the spread of the beetle, but this was eliminated in 2020 in favor of state-specific regulations (USDA Animal and Plant Health Inspection Service, 2020).

Native to Asia, the Emerald ash borer (*Agrilus planipennis*; EAB) is an exotic beetle that was first observed in North America in 2002 when it was discovered as the cause for the decline of many ash trees in southeast Michigan and neighboring Windsor, Ontario, Canada. The species was likely introduced unintentionally after arriving in packing material carried in cargo ships or airplanes. In June 2006, it was found to have taken up residence in northeast Illinois in Cook and Kane counties.

As of 2022, the species has been detected in all but 26 of Illinois' 102 counties (*Figure 15*). EAB is the causative agent in ash tree mortality and decline, and all native ash trees in Illinois are susceptible to EAB. Adult beetles nibble on ash foliage but cause little damage, while larvae feed on the inner bark (cambium), a crucial layer between the bark and wood of ash trees. This disrupts a tree's ability to transport water and nutrients (Illinois Extension 2024). It is likely that ash mortality will continue to increase with the spread and persistence of EAB (Crocker et al. 2017).

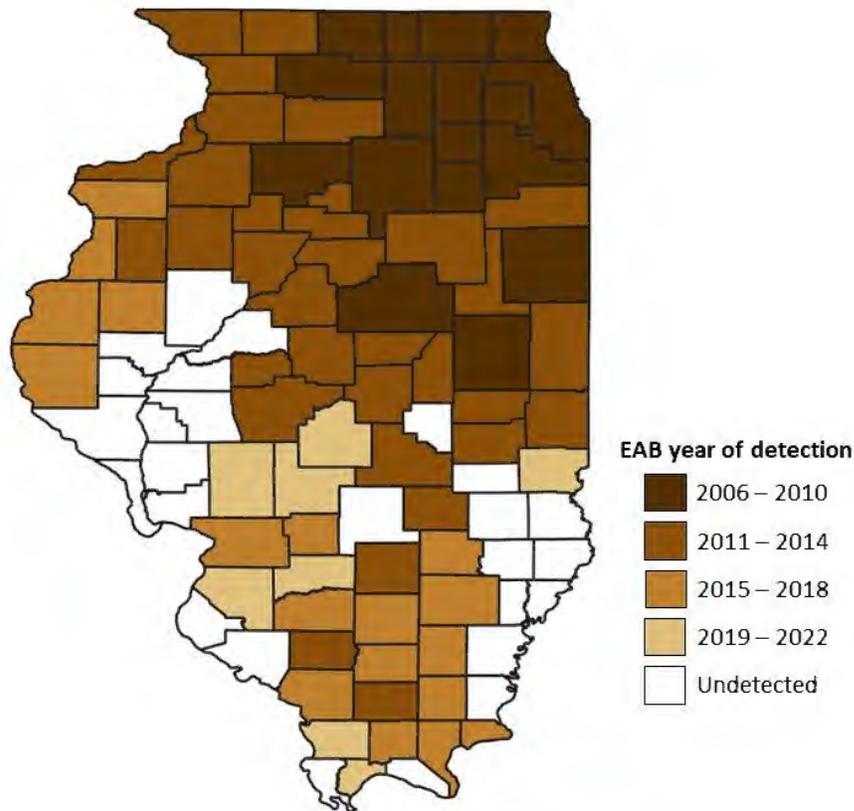


Figure 15. Map of first year of detection of emerald ash borer (EAB) in Illinois counties. Data from USDA Animal and Plant Health Inspection Service (2020) and Illinois Extension (2024).

The spotted lanternfly (*Lycorma deliculata*), which is native to Asia, was first observed in the U.S. in Pennsylvania in 2014. The lanternfly has since spread to additional states, and was first found in Illinois in Cook County in September 2023. The spotted lanternfly causes damage to trees by feeding on them and secreting a waste product, honeydew, which negatively impacts the health of the host tree. Suppression methods including chemical control, mechanical control, and host reduction are currently being used in areas with high spotted lanternfly populations (Inaoka et al., 2023).

Given patterns of global trade and relatively weak restrictions on the movement of plant material, it is likely that introductions of exotic insect pests will continue. Some of these pests may become established in the state, resulting in both ecological and economic effects on the forests of Illinois (Iverson et al., 1994).

Urban

Based on USFS inventory data from 1985, Illinois has approximately 102,800 acres of urban forest and 139,500 acres of urban area with trees (Hahn, 1987; Iverson, 1991). Within a seven-county area surrounding Chicago, tree and shrub cover has increased from 21% within the region in 2010 to 23% in 2024 (The Morton Arboretum, 2021). Urban forest resources (which include street trees, parks,

forest preserves, trees on private property, etc.) are owned by counties, municipalities, park districts, and the private sector. The management objectives of these groups are diverse and their ability to manage the resource is equally variable. The urban forest resource provides many benefits beyond those normally associated with rural forest, including temperature modification, energy conservation, reduction of pollution, urban stormwater management, particulate absorption/filtration, urban noise reduction, improved human health, enhanced economic vitality, and the physical/psychological benefits of increased outdoor activity. Over 80% of the residents of Illinois live in urban centers, and for many individuals the urban forest is their primary exposure to the natural environment (Iverson, 1991). The Chicago metropolitan area ranks ninth among the largest national urban centers in the U.S. in total public open space, with approximately 42,700 square feet of green space per capita (Organization for Economic Cooperation and Development, 2018). Within urban areas, green space and public parks have been linked to measures of wellbeing and health in cities, and that they positively impact quality of life (Larson et al., 2016).

Urban forestry is an industry of great importance within the state of Illinois. This sector forms the basis of an estimated \$3.6 billion industry in Illinois and urban trees contribute an estimated \$1.2 billion towards community-based environmental benefits, including mitigation of stormwater runoff, removal of air pollution, and sequestration of carbon. Approximately 24,892 people are employed in Illinois as a result of urban forestry activities (Thompson et al., 2021). Despite the benefits and enormous value of street trees, many communities lack the human and fiscal resources necessary to adequately maintain them. In fact, many communities have not been able to complete inventories of the trees found on their public property.

The utility industry has a significant impact on forest-related resources. A 1988 survey by the Illinois Council on Forestry Development, in which 17 of Illinois' 29 electric utilities responded, showed that \$27 million was spent on forestry-related items and 95,000 miles of utility rights-of-way were maintained. In 1987, according to the survey, 612,000 trees were pruned and 118,000 trees were removed (Illinois Council of Forestry Development, 1988; Iverson, 1991).

The loss of both rural and urban forest land to development and population pressure is an area of concern in regards to urban forest resources. Of the six-county area which forms the Chicago metropolitan area, approximately 5.6% was urbanized (i.e., population exceeded 1000 per square mile) between 1970 and 1980. Urbanization continues today, particularly in rural areas several hours' driving distance from metropolitan areas. Forested tracts near these metro areas are often targeted for prime development (Iverson, 1991). Since 1989, Chicago has taken steps to improve urban forests, including commissioning the Chicago Urban Forest Climate Project, establishing the Bureau of Forestry, taking action to limit the spread of invasive species, and developing Chicago's Urban Forest Agenda 2009 (Nowak et al., 2010). Despite steps to improve and expand urban forests, urbanization and the development of forested acres remains a significant threat to Illinois' native forest land.

Natural Community Preservation

Illinois' natural resource base has eroded at a steady and often dramatic pace since development of wilderness and prairie land began within the state. The tall grass prairies and forests, which dominated Illinois' original landscape, have largely been transformed into today's landscape of agricultural lands and urban centers.

State parks and nature preserves have been established in an effort to protect Illinois' natural communities and their biological diversity. Regarding this preservation of this diversity, undesired changes in community composition over time are of concern. The records of early settlers suggest that most northern and central upland forests in Illinois were open mature forests dominated by oaks and hickories. These oak-hickory forests were maintained through occasional fire. However, after European settlement, forests that were not logged began to change due to fire suppression. Changes have continued, including rapidly increasing amount of sugar maple and beech forest types within the state (Illinois Forestry Development Council, 1999). As the oak forests of Illinois mature, it is possible that maples will replace oaks as the dominant overstory species. The prevalence of Illinois' oak resource will depend on the success of sapling development and seedling regeneration (Crocker et al., 2017). This transition from oak-hickory forests to sugar maple forests has diminished overall forest quality by reducing species diversity. Economically speaking, the shift in community composition toward sugar maple is unfavorable because sugar maples provide lower valued timber products than oaks or hickories (Illinois Forestry Development Council, 1999).

A survey of natural communities was conducted in Illinois during the late 1970s. In total, 1,089 natural areas were identified, and 392 (36%) of those contained forest land. Of these forested natural areas, only 149 areas (comprising 11,593 acres) were rated as relatively undisturbed or mildly disturbed. Areas resembling Illinois' original, undisturbed conditions are small in area, few in number, and scattered throughout the state. Of Illinois' pre-settlement landscape, less than 0.1% remains. However, this small remnant of the remaining landscape includes great diversity, from prairies to bogs to cypress-tupelo swamps. Natural communities provide protection for native species, and they also allow us to study organisms within the environment in which they evolved and to which they are adapted. Studies of this nature are no longer possible in much of the Illinois landscape (Illinois Forestry Development Council, 1999).

Natural community classifications of forests in Illinois include many of the more open forest communities. These forests have become more closed due to woody encroachment and fire suppression. Savannas were previously one of the most widespread natural communities in Illinois. Before widespread settlement, the vegetation of Illinois was essentially a continuum of treeless prairie grading into savanna and ultimately into closed forests. Many of the current dry upland forests in Illinois are somewhat savanna-like, with sparse oak/hickory canopies and prairie vegetation in the openings. Savanna or barrens also exist within lowlands as habitats between forests and prairie. Much of the remaining forest land in the central and northern regions of Illinois is located in bluff and lowland areas along river and

streams. These forest lands often contain remnants of savanna and barren communities in the uplands. Closed mesic lowland forests and floodplain forests are found along the many rivers and streams of Illinois. An important component of open forest areas are the prairies that exist or are in the process of restoration within the openings. Many of the hill prairies are found in slopes of open forest in the bluff areas along the Illinois and Mississippi Rivers and contain state plant species which are endangered or threatened (Illinois Forestry Development Council, 1999).

Economics

In 1985, the total volume of growing stock in the state of Illinois was 4.8 billion cubic feet, which was 40% greater than the 3.4 billion cubic feet reported in 1962. As of 2021, the total volume of live trees on forest land in Illinois is approximately at 9.5 billion cubic feet, up from 9.46 billion cubic feet in 2016 (USDA Forest Service, 2022). Volume estimates show the prominence of oak, hickory, and eastern softwoods in commercial forests (*Figure 16*) with considerable amounts of ash, black walnut, cottonwood, elm, maple, and sycamore as well. The 1985 volumes averaged approximately 47.4 million cubic feet per county or 1,200 cubic feet per acre of commercial forest land in the state of Illinois (Illinois Forestry Development Council, 1999).

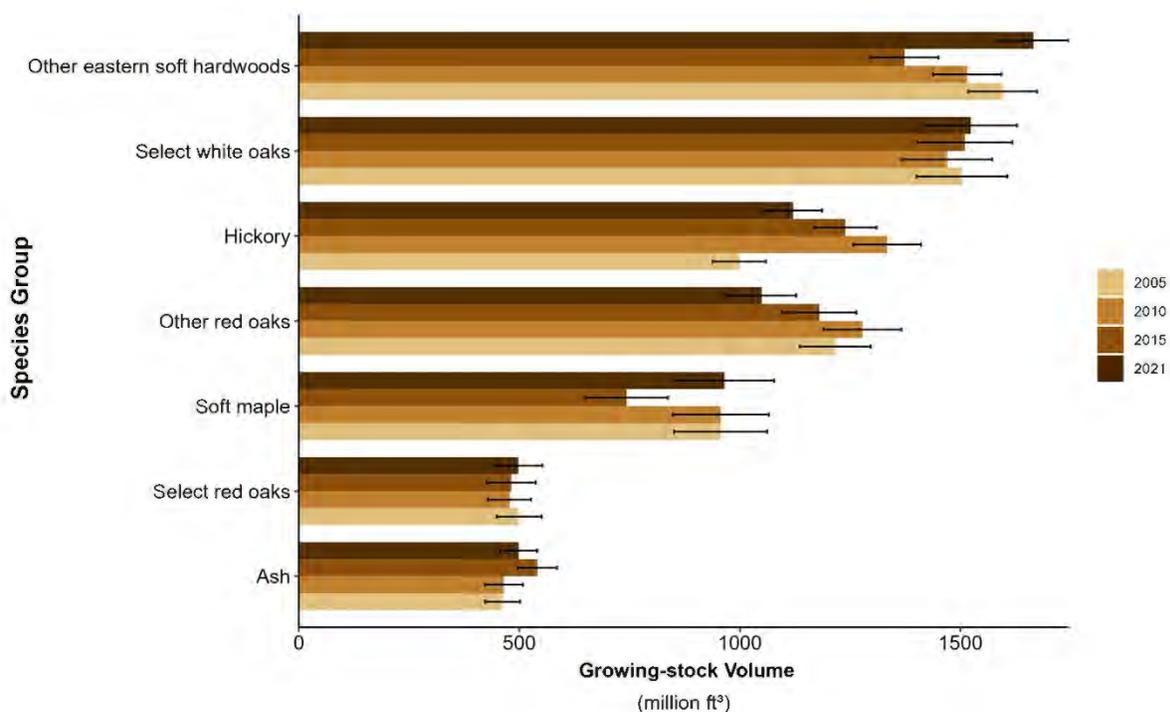


Figure 16. Growing-stock volume on timberland for the six most voluminous species groups in 2015 by inventory year, Illinois. Error bars represent a 68% confidence interval.

Growing-stock volume showed a trend of increase between 1962 and 1999. White and red oaks and black walnut had total volume decreases from 1948 to 1962, but showed increases in volume from 1962 to 1985. Other trees including hickories, maples, and ashes have increased in volume between

1948 and 1999 (Illinois Forestry Development Council, 1999). From 2005 to 2015, silver maple, black oak, green ash, and black walnut increased in volume (Crocker et al., 2017).

In 2015, net growth of growing stock averaged 146.1 million cubic feet. Over 50% of net annual saw timber growth was accounted for by four species groups: soft maple (primarily silver maple), other eastern soft hardwoods, hickory, and other red oaks (primarily black oak) (Crocker et al., 2017). In 2021, the tree species group “other eastern soft hardwoods”, which primarily consists of elms, was the largest source of growing-stock volume. This group was followed by “select white oaks”, “hickory”, and “other red oaks”. From 2005 to 2021, there were not been drastic change in growing-stock volume among tree species groups (*Figure 16*).

Annual growth based on a 1962 inventory was 30% higher (at 125 million cubic feet of growing stock) relative to data from 1985. The lower annual growth and higher volumes in 1985 than in 1962 indicate that growth had outstripped removals in the past several decades and that growth rates may have be declining due to the maturation of forests. The trends in volume between 1962 and 1985, when evaluated by county, showed large increases for all northern and central counties (except Whiteside County). However, south-central counties showed generally lower or even negative volume changes (Illinois Forestry Development Council, 1999). Data from 2015 indicate that tree growth has outpaced tree removal since 1985 (Crocker et al., 2017).

While Illinois ranked fifth in the nation in demand for wood in 1999, the state ranked 32nd in the production of wood and much of this wood was imported from other states. Approximately 14% of the wood harvested in Illinois was processed in other states, and this processed wood was often then imported back into Illinois. The annual growth of timber (96 million cubic feet) exceeded timber removals (48 million cubic feet), so that accumulation of volume statewide was expected to continue, barring major harvest changes (Iverson, 1991).

During the 1990s, approximately two million cords of firewood per year were harvested from Illinois forests, and around 43% of the trees harvested or salvaged in Illinois in a given year were used for firewood. Because 75% of the firewood harvested was taken from dead trees, the demand for firewood did not present a major threat to Illinois forests. The harvest of fuel wood primarily took place in the relatively heavily populated northeastern counties, while trees which were cut only for saw logs were primarily found in southern Illinois (Illinois Forestry Development Council, 1999). Both historically and currently, all counties grow and cut saw logs or veneer logs as their primary forest products.

The overall rate of growth in Illinois' forests has increased in recent years. This growth occurs primarily in stands of large diameter, indicating that mature trees are adding volume. Mortality rates in forest stands have also been increasing, largely indicating the maturation of Illinois' forest resource (Crocker et al., 2017). Although the sources of mortality cannot often be determined, the primary known causes of mortality are insect damage and pathogens. Most insect and pathogen mortality can be attributed to either introduced pests, or to decreased resistance to disease and herbivory due to environmental stress (Illinois Forestry Development Council, 1999).

Illinois forests contribute to the financial stability of Illinois. According to the U.S. Department of Commerce based on data from 1982-1985, forest-related industries in Illinois employ 55,000 people with an annual payroll averaging \$965 million. Each year these firms contribute more than \$2 billion to the State's economy through value added by manufacture. They also invest more than \$144 million annually in capital improvements (Iverson, 1991). Of the total employees in Illinois forest-related industries in 1995, approximately 65,000 worked in manufacturing and had an average payroll of \$1.873 billion. Of these employees, approximately 1,100 work directly in wood processing (Illinois Forestry Development Council, 1999). In 2010, the total impact of forest product sectors in the state of Illinois was significant, with 131,549 employees and a total annual payroll of \$8.10 billion (Henderson & Munn, 2012).

Dun & Bradstreet data (Iverson, 1991), which include all employees of a company not just those involved in wood-manufacturing industry, provides insight into the impact that state's wood industry has on the economy of Illinois. According to 1984 Dun & Bradstreet data on forest related industries:

- 167,000 employees work for 957 firms that are primarily involved in the manufacture of wood related products
- 9,600 employees work for 89 sawmills and planing mills
- 54,300 employees work for 376 firms involved in the manufacture of millwork, plywood, and structural members
- 10,700 employees work for 101 firms involved in the wood-container industry (boxes, pallets, skids, and shooks)
- 4,350 employees work for firms that construct mobile and prefabricated homes
- 49,000 employees work for 99 firms that manufacture particleboard, preservative-treated wood products, and other non-categorized wood
- 39,300 employees work for 161 firms involved with the manufacture of household and office furniture
- 367,400 employees work for 576 firms that manufacture paper bards, paper board, stationery, sanitary paper products, envelopes, corrugated boxes, and food containers
- 266,000 employees work from 2,800 wholesale firms that sell paper products and lumber

In 2012, the Illinois Forestry Development Council commissioned Dr. Munn from Mississippi State University to re-estimate the total economic output in all sectors similar to the U.S. Department of Commerce and Dun & Bradstreet data from 1984. Results showed the value to be a staggering \$23 billion of economic activity/output due to forests and forest products (Henderson & Munn, 2012).

There are hundreds of Christmas tree growers in Illinois, although most of these growers are part-time producers. During the 1990s, approximately 250,000 Christmas trees were harvested annually in the state of Illinois and the retail value of these trees was greater than \$5 million (Illinois Forestry Development Council, 1999). As the cost for fossil fuels has rose, wood became an alternative source of energy. Approximately 75 million board feet (or 2 million cords) of firewood were cut or gathered in Illinois.

In comparison, approximately 100 million board feet were cut for saw log production. Firewood accounted for approximately 43% of the wood utilized in Illinois. The majority of firewood was harvested from private lands and 25% of this total came from living trees (Iverson, 1991). Utilization of poor-quality timber as firewood can provide a landowner with additional income.

Recreation

Outdoor recreation is closely linked to natural resources. Natural settings such as forests, lakes, wetlands, rivers, streams, and natural areas are the key to opportunities for people to interact with and experience nature in a variety of contexts. Recreational quality and diversity directly correlate to the extent, quality, and diversity of natural resources. Fishing and boating is dependent on clean water; hunting is dependent upon good habitat; and picnicking and hiking are dependent on the scenic value of the landscape (Illinois Forestry Development Council, 1999).

A survey conducted by the US. Fish and Wildlife Service in 1991 showed that 4.8 million Illinois residents 15 years old and older engage in fishing, hunting, or non- consumptive activities. Of the total number of participants, 1.5 million fished, 457,000 hunted, and 3.5 million participated in non- consumptive activities where the enjoyment of wildlife was the primary purpose. In 1991, Illinois residents spent \$2.3 billion on wildlife-associated recreation. Sport fishing is a significant recreational activity, in which nearly 1.5 million anglers spend over 40 million days and \$1 billion annually in pursuit of this activity. In addition, commercial fishing and musseling net over \$4 million annually (Illinois Forestry Development Council, 1999).

Forest recreation is a major business sector in the state of Illinois. In addition to recreation dollars spent by citizens, the Illinois recreation industry employs approximately 150,000 workers. In 1985, nearly \$580 million was spent by federal, state, and local agencies to provide recreation opportunities and nearly \$1.8 billion of tax revenues were directly attributable to recreation (Illinois Forestry Development Council, 1999).

Illinois' land and water resources continue to face pressure from development. The need for recreation opportunities is already significantly greater than the number of available resources, and this need will continue to grow as population increases and lifestyle changes occur. Like the rest of the country, Illinois faces the challenge of conserving and protecting the natural resources which contribute so greatly to the quality of life of its residents (Illinois Forestry Development Council, 1999).

Forests provide recreation opportunities that cannot be found in any other setting. In 1978, a total of 206 million days, or approximately 19 days or partial days per Illinois resident, were spent in activities that took place on or near forest lands (*Figure 17*).

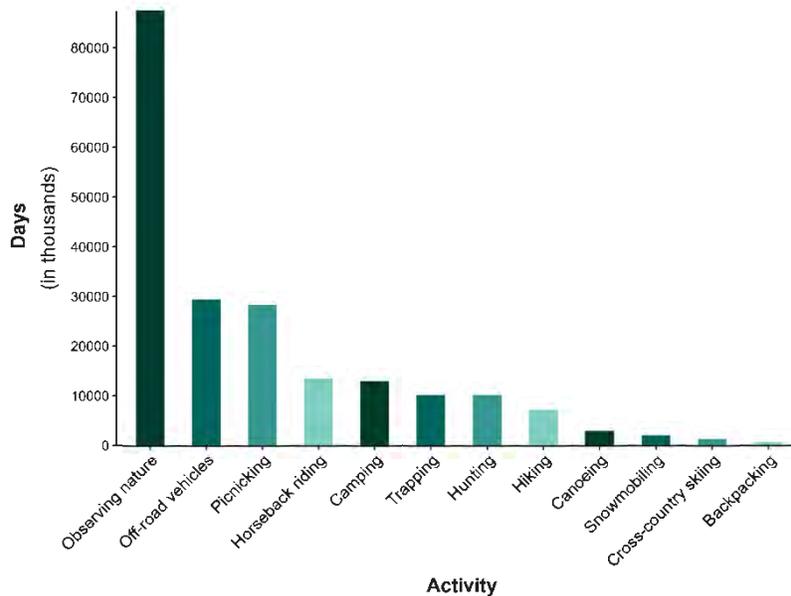


Figure 17. Recreational days (in thousands) spent on or near Illinois forests. Data from Iverson et al. (1989).

Among these were observing nature, driving off-road vehicles, picnicking, horseback riding, camping, trapping, hunting, hiking, canoeing, snowmobiling, cross-country skiing, and backpacking. Citizens of the state widely realize the recreational benefits of forests, and for some simply the knowledge that the forests are there is important. The benefits of forests to health and well-being are great and their aesthetic and restorative values cannot be denied. Forest recreation also has a clear benefit to Illinois' economy. In 1987, approximately \$6.3 billion were spent by those pursuing outdoor recreation in Illinois (Iverson et al., 1989). It is beneficial to the state of Illinois, both socially and economically, to have accessible forest resources that are widely available for recreational use by residents.

The majority of the areas developed for recreation in Illinois are publicly owned. In the 1990s, these areas totaled 4528, and the 1 million acres available for recreation was equal to approximately 2.8% of the land and water area of Illinois. However, the per capita recreation acreage was less than 0.1 acre. At this time, Illinois ranked 46th among states in amount of public open space per resident (Illinois Forestry Development Council, 1999). In addition to this low ranking, most of the land available for recreation is located in southern Illinois (Figure 18). Given that a majority of Illinois' population resides in northern Illinois, this adds additional challenge to the issue of forest access.

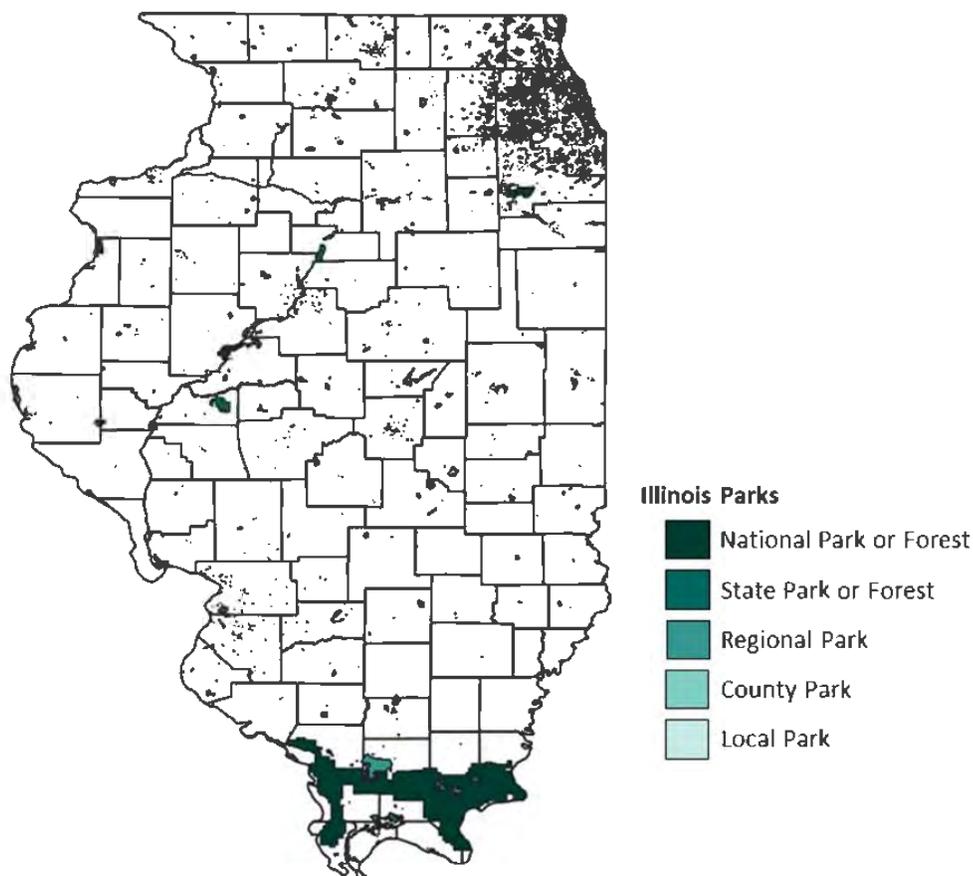


Figure 18. Illinois State Parks, Forests, and Trails.

Shawnee National Forest

The Shawnee National Forest is greatly valued by the citizens of Illinois for its unique character and its natural beauty. While the surrounding area is primarily flat cropland, the Shawnee Forest includes natural features such as hills, forests, bluffs, and streams. Shawnee National Forest was established in 1939, a time when much of southern Illinois was comprised of abandoned farmland or forest land that had been repeatedly logged with no attempt at reforestation. After establishment, the forest has been managed under a multiple-use concept, which ensures the conservation and responsible use of its abundant resources. The forest encompasses over 270,000 acres and includes numerous clear streams, unusual bluffs and rock formations, and a wide diversity of plants and animals (Iverson et al., 1989).

The Shawnee Forest is located in an area where several regional habitat types merge. The swamp tupelo of the South, the prickly pear cactus of the West, and the flowering dogwood of the East exist in combination within this area. Wildlife abounds: over 237 species of birds, 100 species of reptiles and amphibians, and 109 species of fish utilize the resources of the forest. Wildlife populations include white-tailed deer, wild turkey, squirrel, and bobwhite quail in addition to 77 rare species of wildlife found in

few other places in Illinois. More than 100 plant taxa found in the Shawnee Forest are listed as threatened endangered in Illinois, and these comprise over 27% of Illinois' threatened and endangered plants (Iverson et al., 1989).

A majority of the forest within Shawnee National Forest, approximately 64%, is the oak-hickory type. Stands of pines within plantations are also common and occupy 17.9% of the forest, particularly in its eastern region. Other forest types present include cove hardwoods, bottomland hardwoods, pin oak, black locust, and cedar. Managing these vegetative communities has helped to provide essential habitat for resident wildlife populations and to provide quality timber products (Iverson et al., 1989).

The unique geologic features of Shawnee National Forest provide scenic beauty and are highly valued as a natural resource. The geologic processes that formed this landscape are also partially responsible for the existence of mineral resources of national significance within the forest. Approximately 90% of the country's domestic fluorspar production occurs within the boundaries of Shawnee National Forest. Other mineral resources occurring or suspected to occur within the area include coal, oil, gas, tripoli, refractory clay, sand, gravel, and barite (Iverson et al., 1989).

Shawnee National Forest has a rich cultural history. Native Americans have made use of the forest's resources for over 15,000 years. Explorers and settlers from France and England also played a role in the history of this area. Greater than 1,230 archaeological sites have been identified within the boundaries of the forest. Management of these sites and inventory of other cultural resources found within the Shawnee National Forest are important components of the forest management (Iverson et al., 1989).

Recreational uses of Shawnee National Forest include fishing, hunting, camping, off-road vehicle use, horseback riding, and hiking. The importance of these uses has increased as urban populations seek renewal, relaxation, and physical challenge in the outdoor environment. The diverse landscape of forests, hills, and streams attracts thousands of recreational users each year. Campgrounds, picnic areas, boat launching sites, and trail systems are provided and maintained for visitors to the forest (Iverson et al., 1989).

The primary mission of Shawnee National Forest is to care for the land and serve the people. This mission requires a balancing consideration of forest resources in meeting the needs of current society as well as well as meeting those of future generations. The 50-year management plan that outlining the future mission of the forest and the means to achieve those objectives was amended in 1992. By implementing this plan, Shawnee National Forest will continue to provide recreational experiences and services to the citizens of Illinois while maintaining protection of soil, water, visual, and cultural resources (Iverson et al., 1989).

Under the 1992 plan, for example, and under current recent plans, the Shawnee National Forest will remain a diverse forest, presenting its visitors with a mosaic of hills and streams bordered by stands of hardwoods and pines. Small openings will be interspersed to provide scenic vistas and additional diversity to the forest wildlife habitat. The acreage of hardwoods will increase as many of the existing pine

stands are reforested to hardwood. Habitat conditions for game and nongame wildlife species will be enhanced through a variety of specific management approaches. Special emphasis will be given to the protection of the many rare plants and animals that inhabit the forest. Cooperative efforts with other government agencies and private organizations in fisheries and wildlife management will continue.

A wide variety of recreational opportunities are also provided for by forest plans. These range from highly developed recreation sites to semi-primitive motorized and non-motorized areas that provide isolation from the sights and sounds of most human activity. No new campgrounds or picnic areas will be constructed. Instead, opportunities for dispersed recreational uses will be emphasized: hunting, fishing, hiking, horseback riding, off-road vehicle use, remote camping, and the observation of natural features within the forest. Seven road-less areas totaling 25,549 acres have been designated wilderness under the Illinois wilderness act of 1990 to ensure opportunities for wilderness study and will be managed to provide semi-primitive non-motorized recreation. There are two "special management areas" totaling 2,764 acres that will automatically become wilderness at the end of an opportunity period for fluorspar mining. An additional area will be managed with emphasis on off-road vehicle use in a semi-primitive motorized setting. Another area will be managed for a variety of benefits, including timber production and roaded natural recreation use. Six rivers are candidates for wild and scenic river designation (Shawnee National Forest, 2002).

Many areas in the forest have been identified for special management. Among these are intensive research areas, including the Kaskaskia Experimental Forest and the Dixon Springs Agricultural Center, cultural resource sites listed on the National Register of Historic Places, botanical areas, ecological areas, geological areas, and zoological areas. Twelve of these areas are also recommended for further evaluation as research areas.

Timber management activities under the current forest plan are closely coordinated with the habitat needs of wildlife. No timber harvesting is planned on 80% of the forest area.

The remaining 20% of the forest will be included in the regulated timber base. Harvesting will be used to regenerate older stands of trees and to thin out dense stands of young conifers. These activities also help to create desired habitat conditions for many wildlife species by maintaining a diverse forest structure (i.e., locations with low, youthful vegetation as well as locations with over-mature, dead, or dying trees). Timber harvest will also be designed to retain the cohesive forest conditions required by such Neotropical migrant birds as the warblers. Several stands of 1,100 or more acres each will be managed as forest interior units to keep them as cohesive blocks in perpetuity. Additional stands of trees will be managed to retain larger and older trees for wildlife and visual quality.

Reforestation will be aimed at perpetuating hardwood species in most instances. There will be no conversion of hardwood to pine, and pine will gradually be converted to hardwood except on poor or eroded sites not capable of growing quality hardwoods.

Mineral exploration and development will continue at a cautious rate. The management direction explicit in the plan provides for the discovery and use of mineral resources consistent with the protection

and use of all forest resources. Strict standards and guidelines will be followed to ensure the protection of the soil and water resources of the forest.

By adhering to a regularly updated plan and ecosystem concepts, managers of the Shawnee National Forest will be able to minimize environmental degradation and ensure that a wide range of users enjoy the benefits of the forest for generations to come (Shawnee National Forest, 2002).

Aesthetic and Scenic Resources

Hundreds of cliffs line the numerous streams and rivers across Illinois' landscape. Illinois' rivers such as the Mississippi, Illinois, Apple River, Little Vermillion, Fox and Ohio have carved deeply into the bedrock along their banks producing cliffs as high as 300 feet. Countless smaller cliffs line the deep tributary valleys and ravines of the state providing a variety of microhabitat conditions for distinct plant assemblages or restricted plant species (Illinois Department of Natural Resources, 2001). These cliffs and bluffs provide unique aesthetic and scenic resources to be enjoyed by the state's residents and visitors.

Illinois Forests: Environmental Impacts

Fragmentation

Fragmentation of forest habitat has negative implications for biological diversity at many levels:

- Many plants and animals may need large blocks of uninterrupted forest for successful reproduction.
- As large tracts of forest area are broken into small, isolated woodlots, more forest edge is created and more opportunities exist for edge-adapted species to usurp habitat from forest-interior species. In Illinois much of our remaining forests occur as one of two types: (1) very small, isolated patches where the edge-to-center ratio is very high and (2) riparian zone forests where there is practically no center and lots of edge. Both of these forest fragment types are very susceptible to the negative effect of habitat edges.
- Fragmentation of forests into small habitat islands results in small effective population sizes. Population size is the best predictor of extinction probability. Since most Illinois forests are very small, many species may be restricted to small populations. The disjunction of forest patches may inhibit movement of individuals, particularly several species of plants, insects, and small mammals-between isolated habitats. The resulting genetic isolation can be detrimental to the long-term health of resident populations because it increases inbreeding, which can lead to an erosion of the genetic variability and, eventually, of the viability of these populations. While there is little direct evidence with which to gauge the magnitude of inbreeding depression effects in Illinois at this time, fragmentation may increase the propensity for small, isolated populations to become locally extirpated (Iverson et al., 1994).

Air Pollution

Ozone, nitric dioxide, and sulphur dioxide are among the numerous anthropogenic pollutants that

pose well-documented threats to forested habitats. Studies of the abiotic environment suggest that Illinois does not, as of yet, suffer from the same levels of acid rain that have been implicated in the decline of forests in the northeastern United States or northern Europe (Schulze et al., 1989). Between 2005 and 2006, Illinois was one of six states with the greatest annual reduction in sulphur dioxide emissions (US Environmental Protection Agency, 2006). Pollutant deposition data are supported by data indicating relatively low damage and overall good health in Illinois' forests (Crocker et al., 2017).

Global Climate Change and Carbon Sequestration

Because Illinois has undergone massive changes in total forest volume over the past several decades, the amount of carbon being sequestered into Illinois forest biomass has likewise changed considerably. From 1948 to 1962, there was a slight loss of total forest volume due to conversion of forest land to other uses. This loss was compensated by the harvesting of wood products, which put 0.29 million metric tons of carbon into long-term storage. The result was that forest lands were a net sink of 0.2 million metric tons of carbon per year during 1948-1962. After 1962, there was a gain in forest land and especially a gain in forest volume per unit of forest land; in addition, carbon sequestration into long-term storage of wood products increased slightly. The net result was carbon sequestration of about 1.37 million metric tons of carbon per year from 1962 to 1985. The amount of carbon sequestered by Illinois forests has increased; however, this amount still represented only about 2.7% of the total carbon emissions that the people of Illinois contribute to the atmosphere each year (Iverson, 1991).

If predictions of global climate changes occur it may have several biological ramifications. First, warmer winter temperatures are likely to result in increased survivorship of over-wintering insects. This may pose problems with respect to both pests of forests and crop plants, some of which now over-winter south of Illinois. Second, increased drought frequency may result in increased frequencies of plant disease. Given that the major identifiable sources of mortality in trees are insects and disease, climate change is likely to exacerbate existing problems. In addition, climatic warming may result in earlier spring greening of vegetation, enhanced net growth rates, increased levels of insect damage to plants, and shifts in the competitive interactions among species. All of these indirect effects are likely to alter the ability of Illinois forests to support timber production in, as yet, unpredictable ways

Situated at the edges of southern and northern forests, and along the eastern edge of the prairie, Illinois is in a position (if climatic warming occurs as predicted) to lose many plant species from northern counties while acquiring new species in southern counties as range limits shift northward. While the retraction of southern range boundaries may be rapid in response to climate change, the movement of northern edges of distributions is likely to be quite slow. Thus, if warming proceeds as climate change models predict, Illinois may experience a net decrease in natural biological diversity (Iverson et al., 1994).

Illinois Forests: Related Resources

Geology, Topography and Other Geologic Features

The State of Illinois has 14 geographic or natural divisions that are distinguished from each other

by bedrock, glacial history, topography, soils, and the distribution of plants and animals. These divisions outline the distinctive natural communities and features of the State (*Figure 19*). Some of the present-day surface features of Illinois have been defined over millions of years; others reflect changes wrought in little more than a century.

The pre-glacial landscape, for example, remains discernible beneath a topography and river network largely laid down during the Ice Age. On the other hand, the presence or absence of forests, the acres of cropland brought into production through clearing and extensive tiling, and the numerous artificial lakes and reservoirs that dot the southern half of the State are relatively recent surface features defined by human activity. Together and in radically different time frames, natural processes and human actions have created and continue to alter the face of Illinois (J. Schwegman, 1997).

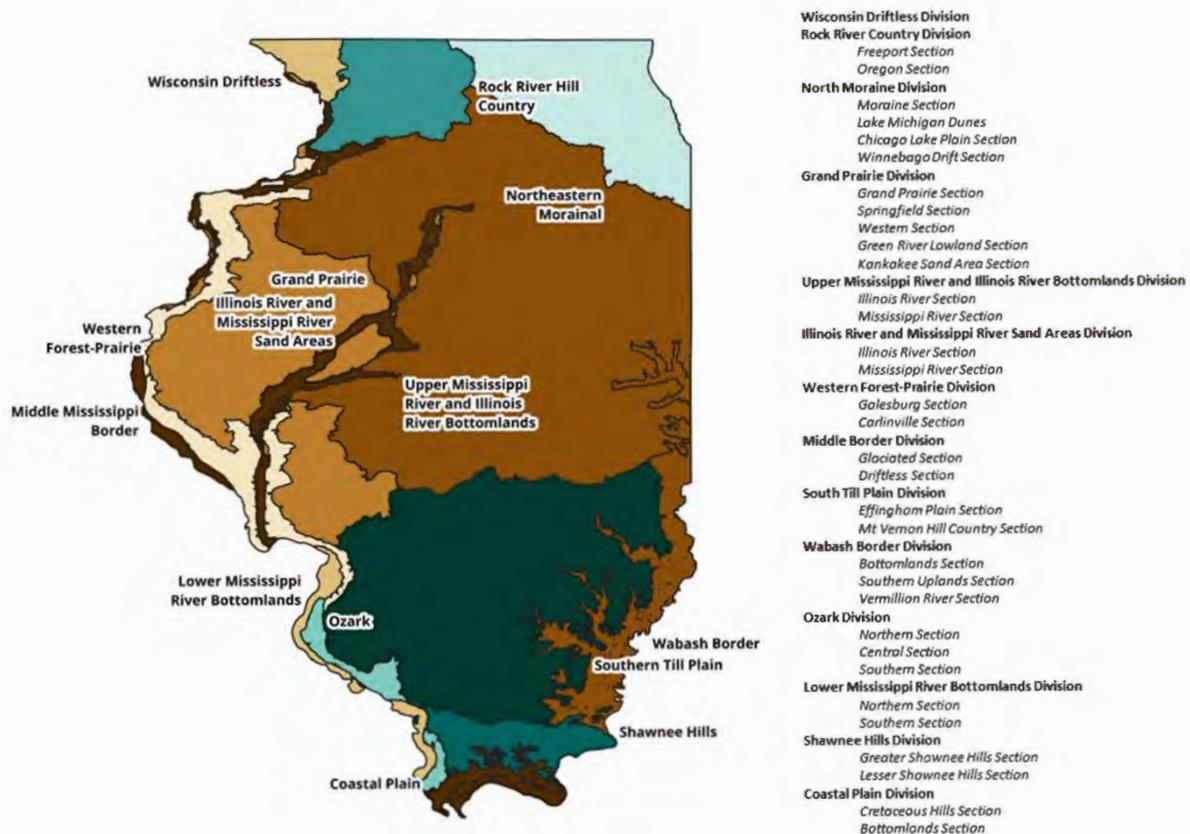


Figure 19. Natural divisions of Illinois (Schwegman, 1997).

During the Quaternary Period, often referred to as the Pleistocene or Ice Age, most of Illinois was repeatedly invaded by glaciers, some more than a mile high, that carried ground-up rock materials they had gouged out of the bedrock. Nearly 80% of the state was covered by one or more sheets of glacial ice. When the last of the glaciers melted from Illinois, about 15,000 years ago, the country that emerged looked far different from the pre-glacial landscape. Old hills and valleys had disappeared and new ones had formed, and there was a mantle of unconsolidated glacial drift dropped by the melting ice overlaying

a majority of the region. These deposits contained a variety of rocks some carried from regions to the north and other scoured from the native rock of Illinois. Beneath the glacial drift, many layers of Paleozoic sedimentary rocks overlie a base of ancient crystalline rocks that in Illinois occur at depths of 2,000 to as much as 20,000 feet below the surface (Illinois State Geological Survey, 1961).

The borders of Illinois for the most part are defined by the irregular configuration of water bodies. The entire western border follows the Mississippi River, the southern and much of the eastern borders are formed by the Ohio and Wabash rivers, and the northeastern boundary is demarcated by the shoreline of Lake Michigan (Illinois Department of Natural Resources, 2024). Illinois has a total land area of approximately 55,645 square miles. The north-south dimension of the State is about 385 miles and the maximum east-west dimension is approximately 220 miles (Iverson et al., 1994).

Situated near the confluence of major lines of drainage, Illinois has the lowest overall elevation of the north-central states. The average elevation of 600 feet above sea level compares to 1050 for Wisconsin, 1,100 for Iowa, 800 for Missouri, and 700 for Indiana. Local relief is less than 200 feet over most of the State. Charles Mound, located in Jo Daviess County in extreme northwestern Illinois, is the highest point in the State at 1,241 feet above sea level. The lowest elevation, 268 feet above sea level, occurs at the confluence of the Mississippi and Ohio rivers in extreme southern Illinois (Leighton et al., 1948).

Four of the major physiographic divisions of the United States are represented in Illinois. Over 90% of the State lies within the Central Lowland Province, and this entire portion of the State is glaciated except for a small corner in the extreme northwest. Three physiographic provinces make up the remaining tenth of the State: Ozark Plateaus, Coastal Plain, and Interior Low Plateaus. Almost all of this area lies outside the glacial boundaries (Leighton et al., 1948).

Before the glaciers advanced over the State, the landscape of central Illinois consisted of extensive lowland eroded from the soft Pennsylvanian rocks of the Illinois Basin; deep valleys, however, were incised into the bedrock surface. To the north, south, and west, uplands had developed on the more resistant dolomitic and limestone formations of the Paleozoic Era. Although the glaciers brought major changes to the landscape, their effects were modified by the pre-glacial landscape. The widespread lowland of central Illinois permitted thick accumulations of glacial deposits (filling in deep bedrock valleys and the subsequent development of the prairie plains. The higher uplands to the northwest and south, however, restricted glacial movement, resulting in a physiography that contrasts sharply with that of the broad central lowland. Despite the moderating influence of the pre-glacial landscape, the Pleistocene glacial advances, which began over one million years ago and ended about 14,000 years ago, brought radical change. The combined effects of numerous glacial advances and retreats were to plane off prominent relief features and to deposit over most of the state a thick blanket of unconsolidated materials- glacial till, outwash sands and gravels, lake-bed silts and sands, and windblown silt (loess). The glacial advances over Illinois also radically realigned drainage patterns (Killey, 2007).

In general, the more rugged the topography of an area, the greater the diversity of habitats. Thus,

the topography of Illinois influences its biota by limiting the diversity of habitats. In the glaciated regions that cover so much of the State, forests were restricted mainly to moraines and sloping hillsides adjacent to streams. Prairies occupied most of the level uplands and some broad floodplains. Parts of Illinois once had abundant aquatic habitats but ditching and draining for agricultural purposes have reduced or eliminated many of these habitats (Schwegman et al., 1973).

Soils

The relatively flat topography of Illinois and glacial deposits rich in nutrients have contributed to the rich soils and high agricultural productivity of the State (Killey, 2007). As of 2017, there are approximately 31.3 million acres of rural land in the state of Illinois. Of these, 20.5 million acres qualify as “prime farmland” (USDA Natural Resources Conservation Service, 2022). To receive this designation, soils must meet criteria such as high available water capacity, deep soil, moderate permeability, minimal surface rock fragments, reasonably deep-water table (with drainage), and low slope angle.

Two major problems are associated with the great soil resources of Illinois: the rapid conversion of prime agricultural land to nonfarm use and the erosion of soils at unacceptable rates. Each year from 1977 to 1987, approximately 102,000 acres of Illinois farmland were converted to nonfarm uses. Most of this conversion occurred on prime farmlands, since many characteristics of prime farmland are also highly desirable for construction purposes. With the loss of prime farmland, agriculture often moves to less productive land, some of which is more erosive or wetter or has a lower moisture-supplying capacity. The net result is a reduction in production capability and an increase in management problems associated with farming less suitable land (Illinois Department of Agriculture, 2001).

Soil erosion is the other serious problem facing those who would conserve Illinois' soil resource. As of 2017, the total rate of soil loss due to erosion in Illinois was approximately 102 million tons of soil per year (4.24 tons per acre per year), down from 169 million tons (6.85 tons per acre per year) in 1982 (USDA Natural Resources Conservation Service, 2022). Despite these decreases in erosion rates, soil erosion still costs an estimated \$113.92 per acre per year in losses, approximately 75% of which falls to farmers (Ruppert et al., 2024). In addition to its deleterious effects on agriculture, soil erosion also causes problems related to water quality, biological diversity, flood control, and to recreation uses of Illinois streams and reservoirs.

Soil erosion is particularly serious in Illinois for several reasons: 1) the loess materials covering a major portion of the State are easily erodible by water even on the gentle slopes that characterize much of Illinois; 2) conventional tillage practices for the primary crops, corn and soybeans, leave minimal residue on the surface for much of the year; and 3) rainfall in Illinois is significant in the spring when little vegetative cover exists on cropland. It has been estimated that over 10 million acres of the state require conservation treatment. These lands are losing soil faster than they can be rejuvenated, jeopardizing long-term productivity (Neely & Heister, 1987).

As of 2017, Illinois ranks second in the nation in the number of reduced tillage acres, with a total of 9.5 million acres (up 23% since 2012) and seventh in the nation in the number of no till acres, with 6.5

million acres (up 7% since 2012). In addition, the area of planted cover crops in Illinois increased by 122% between 2017 and 2012 (USDA National Agricultural Statistics Service, 2020). The adoption of agricultural conservation practices has resulted in a reduction in the amount of soil erosion occurring on agricultural lands in the state of Illinois.

Agriculture

Agriculture is of central importance to the economic vitality of Illinois. Illinois and surrounding Midwestern states (Indiana, Iowa, and Ohio) make up the “Corn Belt” region. As of 2010, this region contains approximately 25% of the cropland in the U.S., and generates 22% of national crop cash receipts (MacDonald et al., 2013).

Natural conditions in Illinois favor profitable farming. The average productivity of Illinois soils is high. Much of the land is level or gently rolling, and the climate is varied enough to make possible a wide range of products. By efficiently utilizing these natural advantages, Illinois farming has developed from a self-contained home industry to a highly commercial undertaking. Competition among regions within Illinois has led to increasing specialized agricultural production.

Illinois ranks third in the nation in value of exported agricultural commodities, accounting for approximately 6% of total agricultural exports in the U.S. Illinois ranks second in the nation in the export of soybeans and feed grains. As of 2017, the state of Illinois is home to a total of approximately 72,600 farms (USDA National Agricultural Statistics Service, 2020).

The market value of Illinois agricultural products in 2017 was \$17 billion, which was down 1% from 2012. Of this, \$13.8 billion came from the sale of crops and \$3.2 billion from the sale of livestock and poultry or their products. Corn and soybean accounted for 96% of the crop sales. Hogs and pigs accounted for 55% of the livestock products sales (USDA National Agricultural Statistics Service, 2020). The relative importance of various farm enterprises differs greatly from one region of Illinois to another.

While Forest Legacy is designed to protect forest lands and cannot be used to protect agricultural cropland, forest land owned by farmers has played an important role in helping maintain family farms. The ability to sell timber or other wood products has allowed many family farm operations to ride out shortfalls in income, provide additional income for family emergencies, or meet financial needs for education tuition. The Forest Stewardship committee felt it was important to include a section on agriculture because Illinois' forests and agricultural land management activities are integrally linked.

Lakes, Streams, and Wetlands

Illinois is surrounded by fresh-water resources: the Mississippi on the west, the Ohio and Wabash to the south and east, and Lake Michigan to the northeast. In addition, a number of large rivers flow through the State - the Illinois, Rock, Fox, Mackinaw, Kankakee, Sangamon, Spoon, Kaskaskia, Big Muddy, Embarrass, Little Wabash, and others. Over 87,000 lakes and ponds complete the surface water network of Illinois (*Figure 20*).

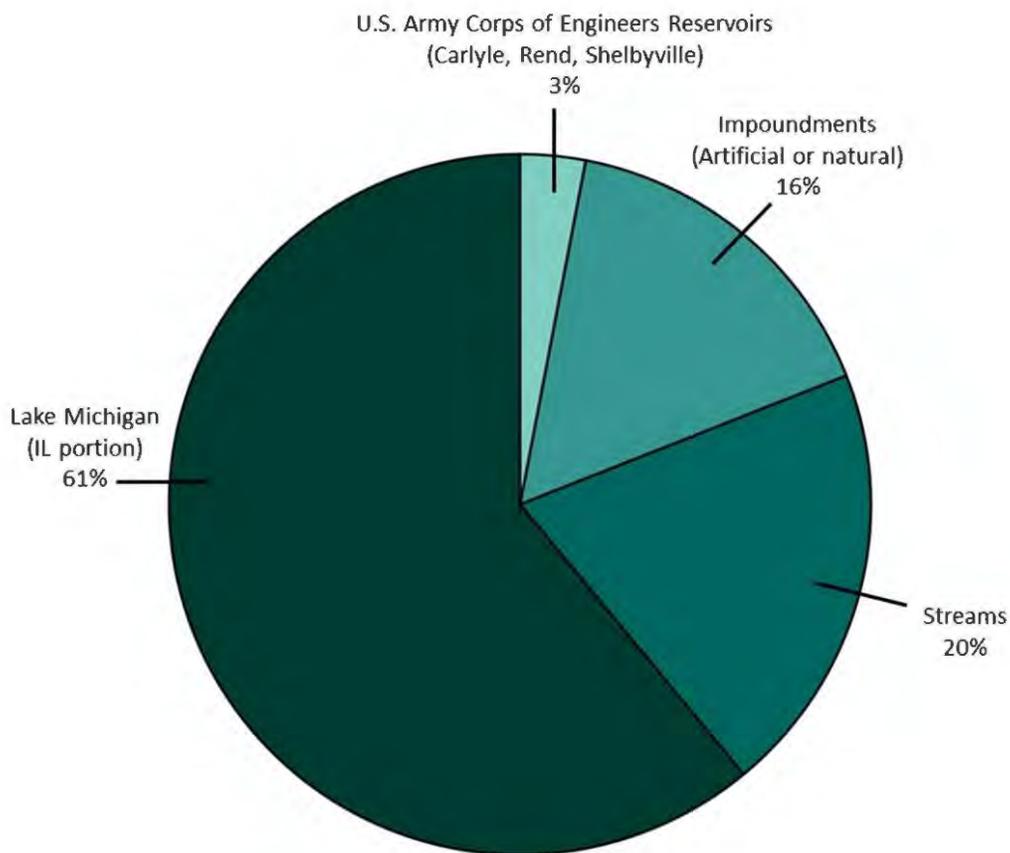


Figure 20. Surface water acreage by water type.

The river borders of Illinois total 880 miles; 570 of them are accounted for by the Mississippi, 180 by the Wabash, and 130 by the Ohio. A total of 1,340 rivers and streams (those that have a drainage area of 10 miles or greater) run for approximately 26,000 miles; however, the average width of nearly 20,000 miles of these streams is less than 30 feet. The drainage areas of the interior rivers and streams vary from a few square miles for small streams to almost 29,000 square miles for the Illinois River (Figure 21). In addition to the rivers and streams there are approximately 50,000 acres of wetlands in Illinois.

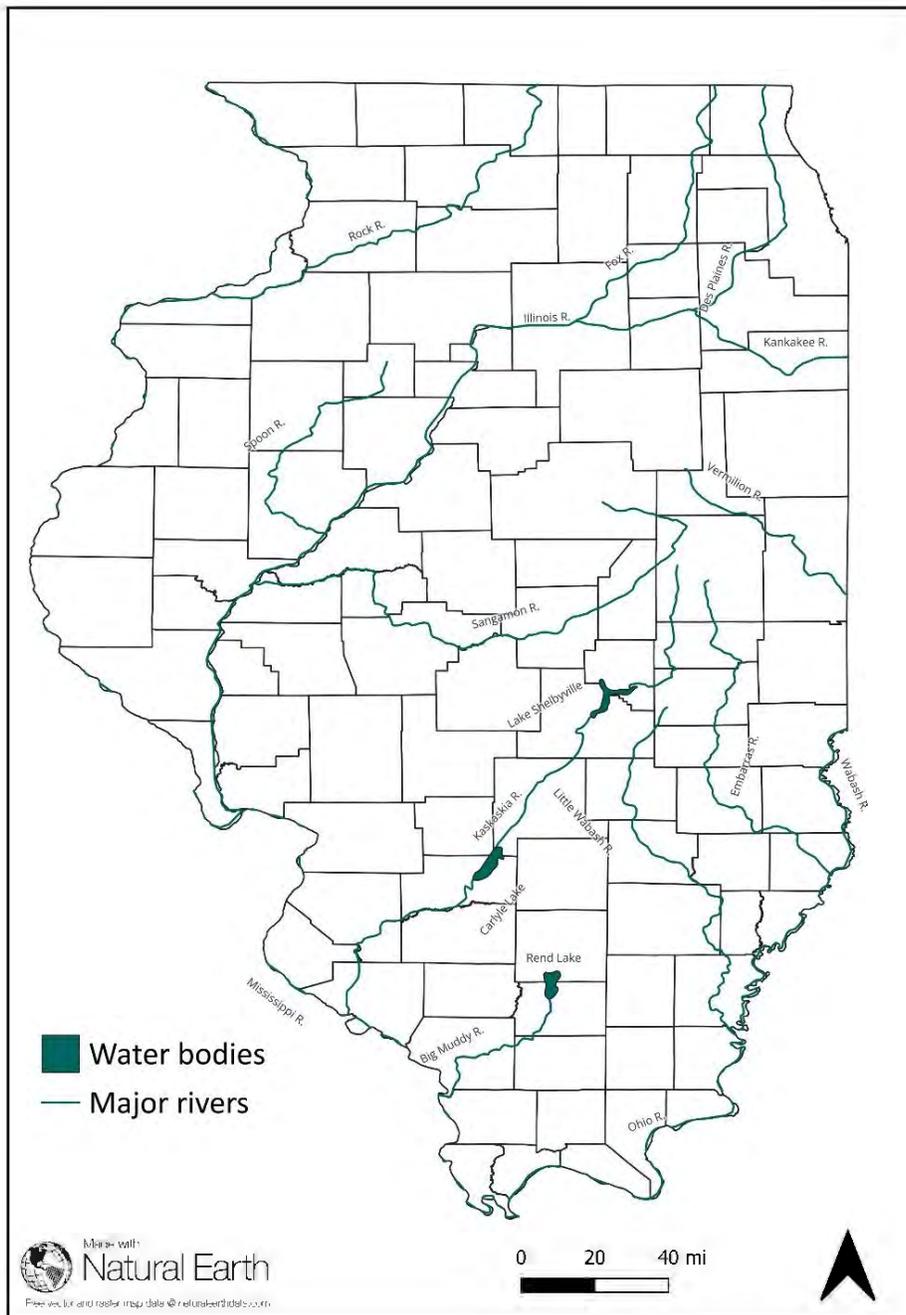


Figure 21. Major Illinois rivers and waterbodies.

The Illinois shoreline of Lake Michigan extends for 63 miles, and about 7% of the lake (976,640 acres of surface water) lie within the jurisdiction of the State. An average of 3,200 cubic feet of water per second are diverted from Lake Michigan either for public water supplies within the metropolitan area of Chicago or for sewage dilution through the Illinois Waterway.

Of the approximately 87,000 inland lakes and ponds covering about 309,000 acres, 3,041 have

surface areas of 6 or more acres and are therefore classified as lakes. Although only about 3.5% of the total number of standing bodies of water are lakes, those lakes account for 80% of the total surface acreage of standing bodies of water.

Although Illinois is endowed with sufficient surface water to meet its domestic and industrial needs, the natural distribution of this water within the State is uneven and has been altered through the construction of dams, which have created numerous artificial bodies of water. In fact, 75% of the lakes (95% of the bodies of standing water) have been artificially created. Most of the naturally occurring lakes in Illinois are backwaters along major rivers.

Only 2% are natural glacial lakes, and these are found in the extreme northeastern part of the State.

Illinois has lost approximately 90% of its wetlands (primarily bottomland forests) since 1818. This loss amounts to over 8.2 million acres. As a result of early government programs, wetlands, which were deemed worthless and sources of disease, were drained and converted to agricultural uses. These areas produced farmland that is among the richest in the world. As the benefits of agricultural production and development have increased, the natural buffering functions that wetlands perform have correspondingly decreased. Illinois' wetlands serve a wealth of functions in the natural and man-made environment, including flood storage and conveyance, erosion reduction and sediment control, pollution control, fish and wildlife habitats, recreation, and education. The majority of the wetlands present today are forested wetlands. As we begin to recognize the important role wetlands play, governmental policy and public opinion has shifted to embrace the need to protect wetlands.

The surface waters of Illinois comprise a diverse and vital resource essential to the economic health and growth of the State. They provide valuable habitat for plants and animals, and water for human consumption. They are used for recreational and industrial purposes and for the generation of hydroelectric power. They also play an important role in the commercial traffic of the Midwest. All of the Illinois River is navigable, and its eight lock and dams maintain a nine-foot navigation channel. About 60% of the commercial traffic on the Mississippi River is contributed by the Illinois River. Navigation locks and dams have also been constructed on the bordering stretches of the Mississippi, the Ohio, and the Kaskaskia; these provide an extremely important link in the commercial water network of Illinois and the Midwest.

The forested watersheds that surround the surface waters of Illinois must be protected so that the integrity of these waters is maintained and enhanced.

Mineral Resources

Coal: Illinois' most important mineral resource in terms of value is coal. In 1991, the total value of coal produced was approximately \$1.5 billion. Ranked fifth nationally in production, Illinois has the largest reported bituminous coal resources in the United States. In fact, Illinois has almost one-eighth of the total recoverable reserves of coal in the United States. Some studies have estimated Illinois' recoverable reserves (coal believed to be technically, "legally and economically minable under present methods and conditions) at 30 billion tons.

The coal-bearing rock or strata called the Pennsylvania system can be found in all of the States' 102 counties and underlies about 65% of the State. Called the Illinois basin, the Pennsylvanian system is found not only in Illinois but extends into Indiana and Kentucky. Though 1991, close to 5.5 billion tons of coal has been mined from Illinois.

Illinois mines produce an average 60million tons annually. Approximately 70%of this production is from deep mines as surface mine production has steadily declined. Electric utilities represent 90% of Illinois' market.

Petroleum-Crude Oil: Petroleum has been commercially produced in Illinois since 1885. Illinois oil production peaked in 1940 at approximately 147.6 million barrels. After the peak production years of the 1940's, no new large oil discoveries have been made and total annual production has been decreasing. In 1963 Illinois ranked eighth among oil- producing states; thirty years later, that ranking had dropped to 14th with an annual production of approximately 19 million barrels.

Natural Gas: Although natural gas was discovered early in Illinois (1880s),the State has never been an important producer of natural gas. Over three-fourths of the State's gas production is concentrated in Coles, Pike and Saline Counties.

Stone: Limestone and dolomite are the most widely quarried rocks in Illinois. In 1991, Illinois ranked second in the nation in the production of stone. The total value of Illinois stone production that year was approximately \$295 million. Stone was produced in 52 of Illinois' 102 counties.

Sand and Gravel : Sand and gravel are mineral resources that are widely scattered throughout the State. They are abundant in many areas of northeastern Illinois, but are generally less abundant and of lower quality elsewhere. Preglacial gravel composed predominately of chert particles is located in southernmost Illinois and in small areas of western Illinois. Glacial-fluvial deposits, however, which were laid down during the Pleistocene or Ice Age from 12,000 to several hundred thousand years ago, are the principal sources of sand and gravel in Illinois.

In 1991, Illinois ranked seventh in the nation in the production of sand and gravel for construction purposes. Total production was about 32 million tons with a value of approximately \$104.7 million. Fifty-five of the State's 102 counties produced sand and gravel in 1991.

Peat: Three kinds of peat-reed-sedge, moss, and peat humus- were produced in two Illinois counties – Lake, and Whiteside – in 1991. Among the 19 peat-producing states, Illinois ranked third after Michigan and Florida in 1991.

Clay and Shale: A relatively few counties are responsible for clay production in Illinois. Of the five clay-producing counties in 1991, Pulaski and Livingston were by far the most important producers and accounted for 90% of the total production. Absorbent clay, sold primarily to manufacturers of animal litter and oil and grease adsorbents, is produced in Pulaski County.

Fluorspar and Associated Minerals: All of the fluorspar produced in the United States comes from a small area in extreme southeastern portion of Illinois (Pope and Hardin counties). Fluorspar, the Illinois State Mineral, plays an important part in the making of steel, enamels, aluminum, toothpaste, Teflon,

special glasses and a multitude of chemicals. Glass-like in appearance and found in colors such as purple, blue, amethyst, pink and yellow, fluorspar also is a prized mineral for many collectors.

Fluorspar is extracted from underground mines, some of which extend to depths of more than 1,200 feet. It has been mined in Illinois since 1842, but early operations sought galena (lead ore), which is often found in association with fluorspar.

Illinois has been the leading producer of fluorspar in the nation since 1942 and has for many years accounted for more than 50% of the total U.S. production. In fact, in 1991 production in Illinois accounted for 100% of the total U.S. production.

Tripoli: Tripoli (microcrystalline silica) has been produced for many years in extreme southern Illinois (Alexander County) from highly siliceous sedimentary deposits. Illinois has been the nation's principal producer of this material for many years and accounted for more than 70% of the total U.S. production in 1991.

Cultural Resources - Archeology

The early forefathers of the Native Americans, following the large animals on which they depended for food, came into North America and the Illinois country. These very early people were hunter-gathers who were quite dependent on Illinois' forests for their subsistence needs of food and shelter. This type of existence meant they were nomadic people, often forced to move with the seasons, or as their source of food became scarce. As time passed, these early wanderers developed a new way of life, living as communities of families and raising some of their own food. They settled in small villages along the rivers. It was along these rivers that the first European explorers found Illinois' first inhabitants.

There are approximately 30,000 documented archaeological sites in Illinois. These sites span the entire 12,000 years of human occupation in Illinois. Since the early Native Americans lived along the major river valleys, i.e. the Mississippi, Illinois, Rock, Mackinaw, Kankakee, Cache, Wabash, and Embarras, they buried their dead in mounds in the bottomlands or in cemeteries on the high river bluffs. While these river bottomlands and bluff crests are prime locations for protohistoric and historic Native American settlements and burials, only about 5% of these sites have been systematically surveyed. Many of these sites are now in the forest cover that occurs at these locations.

Unlike natural resources, historic resources are non-renewable. Once they are destroyed or damaged, valuable scientific information about the past is gone forever. Much of Illinois' cultural resources are tied to the State's forests. As the forests are lost through conversion, many of these cultural resources are also lost.

Illinois Forests: Future and Critical Issues

Forest Fragmentation

The overall acreage and species composition of the Illinois forest are becoming far less of a concern for forest planners than the pattern of forest ownership and the impacts that this pattern will have on community land use in the future. Of the 4.26 million acres of Illinois forest, 90% is in private

ownership. The balance, or the remaining 10%, is under public control, primarily by the federal government in the form of the Shawnee National Forest.

The division and sale of large forested tracts in Illinois, particularly those in relative close proximity to metropolitan areas, threatens the integral value of forest ecosystems. In 1984, the Cooperative Extension Service of the U.S. Department of Agriculture estimated that Illinois had 169,073 private forest landowners, each of whom own an average of 21.5 acres of forest. A more recent survey of owners of private nonindustrial forests in Illinois indicated that most privately owned forests are relatively small; 50% of those sampled has less than 20 acres of forest. This indicates that the size of the average private forest holding is declining over time. In many cases, the fragmentation of forest ownership into smaller holdings precedes conversion of that forest land into non-forest uses.

These small parcels usually are uneconomical to manage and may be sold to a developer or speculator with little intent to keep the property in its natural state. Though the tract may not be developed or subdivided immediately, speculative ownership removes it from the roster of lands managed for future productivity and open space. Many of the smaller forest land holdings are now used for rural, single family home sites. These forest areas are usually withdrawn from any type of forest management activity or forest use. The shrinking acreage of contiguous ownership, management and productivity of forest lands will be increasingly difficult and less cost-effective. The future of Illinois' forest products industry is at stake, while clean air/water, recreation, wildlife, plant and animal diversity, and aesthetic values of the state's woodland are threatened.

Availability of Timber for the Wood Products Industry

Increasing fragmentation of the resource base, combined with a shorter tenure of ownership for forest land, has had a great impact on the timber industry in Illinois. Loggers and saw millers face difficulties in obtaining timber from smaller parcels of land. Escalating operating costs, including expensive machinery, fuel and labor expenses, plus comparatively high worker's compensation and unemployment insurance rates, high utility rates, high truck license fees and transportation costs, as well as a shrinking labor pool, have increased costs for operators buying standing timber.

Many landowners are not aware of the value of the timber on their woodlands, and those that are may be reluctant to harvest timber. A recent survey (1993) of forest landowners' attitudes about forest stewardship in Illinois conducted by the Department of Forestry at the University of Illinois for the Department of Conservation's Division of Forest Resources reveals some interesting patterns of forest land ownership attitudes in Illinois.

The survey questioned two groups of forest landowners — those who had received forestry cost-share assistance in 1990 and forest landowners selected at random from 23 counties, also selected at random. It was assumed that the majority of the landowners in the second group had not received any type of forestry assistance.

When questioned about their management objectives for their forestland, both groups of landowners ranked wildlife as the most important objective. The second highest ranked objective was

long-term investment, again in both categories of landowners. Recreation area and place of residence were the next highest ranked management objectives. Timber harvesting, which could be considered a long-term investment, appears to be a very infrequent activity, conducted by less than one-third of both landowner groups.

A growing concern that will affect the private forest landowner, their current management objectives, and the availability of timber for the forest product industry is the reduction of timber that will come from the National Forests. Coupled with this reduction in timber supply is a reduction of timber that will come from the forest lands owned by the forest products industry itself. Demand for forest products shows no indication of decreasing. Therefore, the only source of raw material that potentially could be expanded to supply the forest products industry is from the private forest landowner. As demand remains stable or increases, and supply decreases from Forest Service lands and forest industry lands, prices for privately owned timber will increase. As prices increase, more privately owned timber will be harvested. In cases where professional forest management assistance is used to guide the harvest on these lands, the chance of over-cutting will greatly decrease. However, where such assistance is not utilized, and greater profit becomes the motive for private forest landowners to change their management objectives, Illinois will show a decrease in the amount of quality forest lands and will face a long-term decline in timber supply.

Impacts on Wildlife

Although stable populations of much of our wildlife, including wild turkey and white-tailed deer have been reestablished, many other species still need our protection and enhancement. Increasing emphasis is being placed on the management needs of non-game species including rare, threatened and endangered species and their habitats. As habitat has declined, the number of animals inhabiting these areas has also declined.

The variety, frequency, distribution and health of Illinois' wildlife depends directly on the size, species and distribution of forest trees, but also contiguity and connectivity are important ecosystem requirements. Resource managers are questioning the utility of setting aside relatively small, unconnected preserves to protect wildlife, such as state parks and forests. They are advocating a system of linkages or "corridors" between these preserves so they may continue as biologically diverse ecological systems in an increasingly fragmented and urbanized land base. Protecting existing riverside corridors, an infrastructure upon which wildlife is vitally dependent, is a good beginning.

Sustainable Forestry

Sustainable forestry focuses on the retention, conservation and health of the forest land in the face of increasing development so that our forests continue to provide the multiple benefits that citizens of Illinois expect. This includes maintaining a viable forest products industry, sufficient economic incentive for landowners to retain and manage forest land, and attention to the protection and management of Illinois wildlife. It also involves the education of the 169,073 landowners who control the fate of our

forests.

Cooperation between the diverse groups who use the forest resource is vitally important to the goal of sustainable forestry. These groups include the forest industry, passive recreation users, wildlife managers and observers, watershed managers, foresters, forest landowners, hunters, anglers, and any other group who has an interest in maintaining a viable, health and productive forest for all users.

In Illinois, in addition to the Conservation Congress, which will be discussed later in this document, there are two examples of cooperation between diverse groups working toward the goal of sustainable forestry. These examples are the Illinois Council on Forestry Development and the Eleven Agency Forestry Agreement.

The Illinois Council on Forestry Development (Council was created as a Commission, later changed to Council, by the Illinois General Assembly with the passage of the Illinois Forestry Development Act (IFDA in 1983. Diverse representation of all the groups and agencies concerned with forestry is assured as the Act mandates the 25-member Council to include representatives of both the Illinois House of Representatives and the Illinois Senate, the Governor's Office, representatives of all state agencies involved with forestry, soil and water conservation, agriculture, the environment, and economic development, representatives of the University of Illinois and Southern Illinois University at Carbondale forestry schools, representatives of private timber growers and farmers, representatives of Illinois' primary and secondary forest products industries, an environmental issues representative, urban forestry and arboriculture, and representatives of the U. S. Department of Agriculture agencies who have forestry interests and responsibilities in Illinois.

The IFDA directed the Council to study and evaluate the forestry resources and forestry industry of Illinois by:

- Determining the magnitude, nature, and extent of the State's forestry resources;
- Determining the current uses and projecting future demand for forest products, services and benefits in Illinois;
- Determining and evaluating the ownership characteristics of the State's forests, the motives for forest ownership and the success of incentives necessary to stimulate development of forest resources;
- Determining the economic development and management opportunities that could result from an improved and expanded wood-related businesses in Illinois;
- Working with the Illinois Farm Development Authority regarding forest industry assistance;
- Determining the opportunities for increased employment and economic growth through development of forest resources;
- Determining the effect of current governmental policies and regulations regarding management of woodlands and location of wood products markets;
- Determining the staffing funding needs for forestry and other conservation programs to support and enhance forest resource development;

- Determining the needs of forestry education programs in Illinois;
- Assisting the Department of Conservation relative to the implementation of urban forestry assistance grants pursuant to the "Urban Forestry Assistance Act"; and
- Determining soil and water conservation benefits and wildlife habitat enhancement opportunities that can be promoted through approved forestry management plans

Since the Council's formation in 1983 it has fulfilled these original legislative mandates by providing to the Illinois General Assembly and the people of this State an evaluation and plan for forestry in Illinois based upon the findings and determinations of the Council. Many publications regarding all aspects of forestry in Illinois have been authored by the Council in the course of its work to complete the mandates of the General Assembly. The Council continues to meet on a regular basis to react to all forestry issues and to implement the plan for forestry in Illinois.

The Eleven Agency Forestry Agreement took place a year after the passage of the IFDA. In February of 1984, representatives of agencies and organizations with an interest in forestry and related resources met at Allerton Park to discuss activities and areas of mutual interest and concern. Although Illinois enjoys very good and productive inter-agency relations regarding forestry, this was the first time all of these groups had met together specifically for the purpose of interacting as a "team" for the benefit of the forest resource. This meeting set the course for further discussions between all the groups involved in forestry in Illinois.

On July 31, 1984 the heads of the following agencies met and signed the Eleven Agency Forestry Agreement:

- U.S.D.A. Agricultural Stabilization and Conservation Service
- U.S.D.A. Soil Conservation Service
- U.S.D.A. Forest Service - Shawnee National Forest
- Illinois Department of Conservation
- Cooperative Extension Service
- Illinois Natural History Survey
- University of Illinois Department of Forestry
- Association of Illinois Soil and Water Conservation Districts
- Illinois Farm Development Authority
- Southern Illinois University Department of Forestry
- Illinois Department of Agriculture

The Agreement states, "Multiple values and uses of the forest resource are widely accepted. It is also accepted that Illinois forests and related resources have management needs far greater than our collective ability to meet these needs. Those of us with an interest in the use and management of the forest resources must unite together on the broad issue of forestry in Illinois. We must take time to

understand how various programs fit together and complement each other and we must speak with a common voice to the private forest land owner."

We are in agreement on the following concepts that:

- Illinois forest resources are important ecologically, socially, and economically.
- The importance of Illinois forest resources is often overlooked.
- Proper development of forest industry will be good for the state and good for forest- related resources.
- Forest management should be designed to maintain healthy, functioning ecosystems.
- Private owners of forest lands maintain ownership for many different reasons and that the owner's objectives are important considerations in managing their forest resources.
- Proper management of forest lands can control soil erosion, maintain high water quality, provide wildlife habitat, and achieve recreational goals of landowners while still increasing the production of wood products.
- We are committed to sound, scientifically derived principles of forest resource management.
- Soil and water conservation is basic to all resource management decisions.
- Continue inter agency cooperation with free and open interchange of ideas and information among the conservation community will complement our objectives and strengthen the importance of the forest resource to the public.
- Sharing of expertise, talent, and resources to accommodate mutual goals or provide training will facilitate technology and program development and therefore service to the client we all serve.
- The success of our new initiative in forestry and related resources is contingent upon our ability to communicate our cooperative attitudes throughout all levels of our respective organizations.
- We resolve to meet as often as necessary to achieve our mutual objectives.

Since the signing of this Agreement, the agencies involved have continued to work together as a "team" to enhance forestry in the State of Illinois.

Conserving the Land Base

The problems caused by fragmentation of forest land must be addressed. Most forest landowners in Illinois retain ownership of their property for less than fifteen years and the goals of each successive landowner often differ. In monetary terms, the development potential of forest land in Illinois almost exceeds its value for forestry uses, particularly those forest lands nearer the metropolitan areas. These factors make preservation of our forest land a difficult task. An important part of the solution is the tax provisions of the Illinois Forestry Development Act.

An important emphasis of programs such as Forest Legacy should become the protection of entire watersheds. Acquisition of small sections of forest land within watersheds is very important, but it

should be stressed that those individual parcels are not maintainable as separate parcels. They are influenced by off-site inputs from agriculture, urban development and other land use activities. Maintenance of quality forest land must accommodate the interconnectedness of individual parcels with the ecosystem as a whole. Focusing on the watershed level is a key mechanism for ultimately protecting these forest systems and a goal to move aggressively towards with the Forest Legacy Program.

New and innovative approaches to keeping forest land in an undeveloped and productive state are gaining popularity in Illinois. A healthy forest industry with profitable markets is a vital part of this picture.

Existing Measures to Conserve Forest Land

State Programs: In 1983 the Illinois General Assembly passed the Illinois Forestry Development Act (IFDA). As a result of this law, all fees collected from timber buyers, landowners, and operators under Section 9a {4% harvest fees of the Timber Buyer's Licensing Act are deposited into the Illinois Forestry Development Fund (IFDF). These funds are used for two purposes: 1 fund a Cost-Share Program, as prescribed in the IFDA, and 2 pay for the expenses of the Illinois Commission on Forestry Development, now called the Illinois Council on Forestry Development. Today, 2020, the IFDA Law and Forestry Councils remain in place.

Harvest fee collection began in Fiscal Year 1984. Since that date, millions of dollars have been collected and used to assist landowners in the implementation of a variety of forestry practices (e.g., site preparation, planting, direct seeding, vegetation control, fencing, firebreaks, pruning, and timber stand improvement. Division staff has written or approved over 10,000 plans effecting more than 500,000 acres of forest land. This program can be used in combination with the Federal Conservation programs.

In addition to receiving cost-share assistance, IFDA landowners are able to reduce local property taxes for forest lands enrolled in the program. Eligible lands are appraised at 1/6th of the agricultural assessment. This reduction in taxes provides an incentive to landowners and helps reduce the possibility that the forest land will be converted to another use.

In 1993 Illinois created a Habitat Stamp Program. This program replaced existing Pheasant and Furbearer Stamp Programs. Hunters and trappers are required to purchase a Habitat Stamp to hunt or trap all species of wildlife protected by the Wildlife Code except for ducks, geese, coots, and hand-reared birds on licensed game breeding and hunting preserves and state-controlled pheasant hunting areas. It is required of all persons 16 years of age or older except for disabled veterans and former prisoners of war. The Act requires that 64% of the funds generated be placed in the Illinois Habitat Endowment Trust Fund.

The 1993 Illinois Habitat Endowment Trust Act created an irrevocable trust that will enable the Department, through a committee, to provide monies (interest on the fund corpus) for habitat acquisition and development. These funds cannot be used for administrative expenses of the Department, salaries, or Department overhead costs.

Another important part of the Department's land acquisition program is its Natural Areas

Acquisition program. This program acquires areas of land and water that closely reflect pre-settlement conditions. These areas include virgin forest, tall grass prairies, canyons, caves, wetlands, endangered species habitats, and other areas with unique natural qualities. While these lands may have the potential for agricultural use or residential or commercial development if they were cleared, paved, drained or plowed, they represent the most unique and least disturbed natural lands in the State. Because only seven-tenths of one percent of Illinois' landscape remains as it was at the time of settlement, the need to protect these few areas becomes more apparent.

In 1989, the Illinois General Assembly passed the Open Space Lands Acquisition and Development Act. This Act created the Natural Areas Acquisition Fund (NAAF which is used by the Department for " ...the acquisition, preservation and stewardship of natural areas, including habitats for endangered and threatened species, high quality natural communities, wetlands and other areas with unique or unusual natural heritage qualities."

The NAAF can be defined in three operative words: acquisition, preservation, and stewardship. While acquisition is normally used to define fee simple purchases, when used in defining NAAF it includes the establishment of conservation easements and other less-than- fee agreements. Preservation is accomplished through dedication of suitable portions of newly acquired lands as Nature Preserves. Stewardship activities are a vital part of the long-term land management strategy for all newly acquired lands.

In Fiscal Year 1995 \$4 million will be available for acquisition, preservation and stewardship. The Act sets aside 10% of the fund for the stewardship of acquisitions. These funds are used to establish statewide training programs to produce skilled technicians to assist with the management of natural areas at the local and state level.

The Illinois Erosion and Sediment Control Program or "T" by 2000, was initiated by the Department of Agriculture and the state's 98 County Soil and Water Conservation Districts in 1982. The primary objective of the program is to meet the legislatively mandated goal of tolerable ("T") soil loss levels (5 tons/acre on all land in Illinois by the end of the century).

Working in a cooperative effort the Soil Conservation Service, Illinois Dept. of Agriculture, Illinois Environmental Protection Agency, Soil and Water Conservation Districts, and the Illinois Department of Conservation have provided technical assistance to over 380,000 landowners. In addition, over 4.5 million acres are included in some type of conservation plan for protection of soil and water resources. It is estimated that approximately 42 million tons of soil were saved annually on all rural land treated from 1988–1992. Using the 1987 Natural Resource Inventory (NRI) base for estimating progress, a reduction of 42 million tons annually from the 146.5 million tons of soil loss estimated on rural land in 1987 would bring the current annual soil loss estimate to 104.5 million tons.

Over the last several years, the "T" by 2000 program working with other natural resource enhancement program has enabled enormous strides to be made in the protection of Illinois' soil and water resources. Progress to date would seem to indicate that "T" by 2000 will remain an achievable

State goal. Tree planting and protection of the State's forest resource is a critical component of this program.

Illinois' Statewide Comprehensive Outdoor Recreation Plan (SCORP) is required to maintain Illinois' eligibility to participate in the federal Land and Water Conservation Fund (LWCF) program. The program funds up to 50% of eligible costs for the acquisition of land and development of facilities for outdoor recreation. Funds can be used by the State of Illinois or passed through to eligible units of local government in the form of competitive grants.

The SCORP is prepared as a five-year document by the Illinois Department of Natural Resources (IDNR) and establishes priorities for the use of LWCF funds. These priorities also guide the use of State Open Space Land Acquisition and Development (OSLAD) funds. Like the LWCF program, the OSLAD program funds up to 50% of eligible costs for outdoor recreation acquisition and development; the OSLAD program is limited to local units of government. The 2009-2014 SCORP document made eight (8) recommendations that were designed to address the state's major outdoor recreation issues and meet future challenges. The recommendations were:

- Conservation of Natural Resources: Conservation of the state's significant natural resources through acquisition, development, enhancement, management, and stewardship, continues to be the single-most important action to ensure a legacy of quality outdoor recreation opportunities for future generations of Illinoisans. Conservation of the state's natural resources is central to DNR's mission and vital for healthy people and communities.
 - Natural Areas, Wildlife Habitat, and Wetlands: Conserve, protect, and enhance lands and waters that have natural resource values, e.g., are identified in the Illinois Natural Areas Inventory; protect threatened or endangered species; are listed in the Illinois Wetlands Inventory
 - Community Open Spaces: Protect local lands that have natural resource values and preserve open space.
 - Sustainable Natural Resources: Practice stewardship in using natural resources, where resources are being used at a rate greater than they are being replenished through natural processes.
- Children in the Outdoors: Children today are less connected to nature and the outdoors than ever before. "Nature deficit disorder" has become widely recognized and is an issue for school curricula and conservation education and outreach. It is important that conservation education programs and facilities, such as nature centers and interpretative trails, be available and facilitate children's discovery of their natural heritage.
 - Conservation Education: Provide conservation education in the classroom and in outdoor programs and activities.
 - Interpretive Facilities: Provide interpretive facilities in parks and outdoor recreation areas that expand children's experiences in the outdoors and appreciation and understanding

of the values of natural resources.

- Greenways and Trails: Greenways-linear ribbons of open space-are effective means of preserving green spaces in urban and suburban areas, especially as development occurs at the urban fringe. Greenways often protect waterways and provide and connect wildlife habitat. Trails are linear recreation facilities that serve various purposes, including alternative transportation within and between communities.
 - Greenways: Protect green corridors that provide and connect open space.
 - Trails: Provide long-distance trails in new locations and connect and improve existing trails.
- Revitalized Lands: Re-developing and adapting degraded and former industrial land for new conservation and outdoor recreational purposes can effectively transform "brownfields" or vacant urban land into new places for outdoor recreation. Reusing such lands revitalizes community spaces, helps to reduce the development and conversion of open space at the urban fringe, and provides new outdoor recreation opportunities, often in areas with a limited amount of undeveloped land, e.g., larger cities and older suburbs.
 - Adaptive Re-Use: Promote transforming brownfields and vacant urban land into new outdoor recreation lands and facilities.
 - Restoration: Revitalize and enhance existing land for conservation and outdoor recreation such as restoration of wetland habitat or development of new parks.
- Water Resources: Rivers, streams, and lakes are important for many popular outdoor activities. Conservation and protection of water resources is necessary to maintain and expand water-based recreation.
 - Quality Water Resources: Protect and restore the state's water resources to improve their potential for water-based recreation.
 - Recreational Use: Acquire lands and develop facilities that expand and improve public recreational access to the state's rivers, streams, and lakes.
- Special Populations: Outdoor recreation lands and facilities should serve all people regardless of physical ability, ethnicity, or income. The growing number of minority populations in the state and economically and recreationally disadvantaged communities must not be ignored.
 - Underserved populations: Provide outdoor recreation opportunities for special populations, specifically accessible facilities and programs.
 - High-need populations: Target assistance to communities that demonstrate a high level of economic hardship and a lack of outdoor recreation opportunities.
- Healthy Communities: The growth of chronic diseases has brought national attention to the relationship between health and an active lifestyle. Communities can help their residents lead healthier lifestyles by providing close-to-home parks, trails, and outdoor recreation facilities.
 - Active spaces: Acquire and develop outdoor recreation lands and facilities close to where

- people live to help make regular physical activity a lifestyle.
- Close-to-home: Improve the ease of accessing recreation lands and facilities where health-benefitting activities can occur regularly.
- Interagency Cooperation and Coordination: Cooperation and coordination among outdoor recreation agencies and organizations to identify, plan, develop, and manage outdoor recreation lands and facilities results in improved and more cost-effective outdoor recreation.
 - Partnerships: Establish new partnerships that improve capabilities for providing outdoor recreation lands and facilities to meet community needs.
 - Expand cooperative planning: Integrate outdoor recreation planning into other types of plans such as comprehensive plans to better meet outdoor recreation needs.

In addition to the priorities, the LWCF and OSLAD grant application evaluation process is guided by other criteria, including the per capita supply of outdoor recreation lands and facilities, a measure of outdoor recreation need.

Land Trusts

Land trusts are local, state or regional nonprofit organizations directly involved in protecting land for its natural, recreation, scenic, historical, or productive value. Most land trusts are private, nonprofit corporations. There are also a few governmental or quasi- governmental bodies called land trusts that operate with the freedom and flexibility of a private trust, some of which have a private board or the ability to use private funds. Land trusts are not "trusts" in the legal sense, and may also be called "conservancies", "foundations", or any number of other names descriptive of their purpose.

Land trusts have many advantages as a vehicle for protecting land. They can hold and manage land and other assets as a corporation, rather than through individuals. As private organizations, land trusts can be more flexible and creative and can generally act more quickly than government agencies, since they are not as restrained by bureaucracy and procedures. They are able to negotiate with landowners discreetly, confidentially, and quickly.

A trust's nonprofit status results in a variety of tax benefits. Donations to land trusts may qualify donors of land: conservation easements; supplemental income; estate and/or gift tax savings. Properly structured land trusts are exempt from federal and state income taxes. In some cases, trusts may be exempt from local property and real estate transfer taxes. Nonprofit status is also an advantage in raising funds from a variety of sources.

As community-based organizations, land trusts draw on community resources, including volunteer time and skills. Their community orientation is also helpful in selecting and negotiating transactions. They are familiar with the land in the area and often have the trust and confidence of local landowners who may not want to work with government agencies or entities from outside the community.

The most reliable source for finding a land trust, besides checking into a county supervisor of

assessments, is the Land Trust Alliance www.landtrustalliance.org Lists and Links.

Forest Legacy Public Participation

Beginning in the spring of 1992 the Department of Conservation instituted a public involvement process that culminated in the state's first Conservation Congress. This event was an unprecedented constituency outreach effort that brought together and acted upon the recommendations of representatives of all the constituencies that the Department serves.

More than 1,200 invitations were mailed to constituency groups around the State, inviting them to send a representative to attend caucuses held in each of the Department's five administrative Regions. Nearly 400 groups participated in a series of regional caucuses that identified and discussed issues of importance to their group.

From these caucuses issues were identified, prioritized, and potential solutions suggested for each issue. Sixty regional delegates were elected to represent the interests of the region, and 58 statewide delegates were appointed by constituent groups selected by the Director of the Department of Conservation. In the fall of 1992, 12 work teams composed of regional and statewide delegates and members of the Department's regional staffs refined the suggested solutions into recommendations for further consideration. The work team reports were acted upon by Congressional committees composed of regional and statewide delegates.

February 5–7, 1993 marked the culmination of many hours of volunteer time and effort by constituents and Department staff. The 118 Conservation Congress delegates who participated in the Assembly of Delegates represented a diversity of interests. Working together, they produced numerous recommendations that will influence the future of Illinois's natural resources.

While the Forest Legacy Program was not specifically discussed, several of the Assembly of Delegates recommendations address the goals and objectives of the Forest Legacy Program:

- RECA-4: "... Expand the use of the authority granted to IDOC in paragraph 1.9 of the Wildlife Code, to acquire and or lease additional lands and waters to be used for public hunting fishing, and trapping...
- RMPC-1: "To protect and enhance biodiversity and to provide more outdoor recreational opportunities for its citizens. Enact legislation to: establish habitat acquisitions as a high priority for the Department of Conservation for the coming decades; direct the Department to acquire habitat with all deliberated speed; and appropriate funds sufficient to acquire public habitat at an annual rate of about two-tenths of one percent of the land area of the state (about \$5 per person per year). These acquisitions are to be apportioned among a variety of recreation and conservation objectives according to the natural features and potentials of land acquired with ecological conservation as the primary objective ... Maximize acreage where feasible through use of less-than-fee- simple acquisition such as conservation easements, and through multiple-landowner agreements ...Emphasize willing- seller

agreements, with flexibility to accommodate implementation over a period of decades ...
Make grants to units of local government or to nongovernmental organizations (e.g. The Nature Conservancy; American Farmland Trust; Ducks Unlimited) for the purpose of acquiring and enforcing conservation easements ..."

- RMPC-11: "The Conservation Congress and the Department of conservation should work together with the farming community and the General Assembly to pass legislation to create a dedicated fund to be used to purchase conservation easements from willing landowners ..."
- RECA-13: "The IDOC should continue to aggressively seek both private and federal funding sources as well as state stamp and license revenues to enhance opportunities for quality land and water acquisition."
- RECA-9: "In order to increase recreation resources, IDOC should aggressively support the following: ...Develop supply resources via IDOC leasing of private lands and waterways via conservation easement...Increase programs for quality land and water acquisition via IDOC purchase or gifts to IDOC..."

In addition to the above activities public participation was solicited in the review of a draft Assessment of Need through the following avenues {detailed information on specific activities is included in the Exhibits):

- Public forums to inform and obtain comments were held in communities within the proposed Forest Legacy Areas,
- Presentations were given to various organizations and service groups both in the proposed Forest Legacy Areas and statewide,
- Articles about the Forest Legacy Program and the proposed Forest Legacy Areas were placed in publications and newsletters,
- Legal advertisements were placed in the official State Newspaper and local papers within the proposed Forest Legacy Areas notifying the public about the Forest Legacy Program and seeking comments on the draft Assessment of Need,
- Copies of the draft Assessment of Need were provided to legislators, constituency groups, and other individuals for review and comment

Comments received during this public participation process were reviewed and considered by the Forest Legacy Subcommittee. Appropriate and necessary changes were incorporated into the final version of the Assessment of Need.

The Conservation Congress process was discontinued in 2003, and then reconstituted in 2009. During the last convening of Conservation Congress in April of 2010, Governor Pat Quinn signed an executive order directing the Illinois Department of Natural Resources and Conservation Congress participants to develop proposals for funding clean water, land acquisition, and department operations

and create programs to increase public recreational access.

That direction served as the basis for the IDNR's new sustainability package which passed out of the General Assembly and was signed by the governor in late 2012. The sustainability package will generate between \$30-33 million per year in new revenue for the IDNR.

The 2013 Conservation Congress began with a series of regional meetings, where participants were asked to "unpack" five broad topics for improving the mission and services provided by the IDNR to its constituents. The topics were:

- Sustainable Resource Development and Extraction - mines and minerals, water resources, forestry, etc.
- Sustainable Resource Harvest - outdoor recreation - wildlife and fish conservation, hunting, fishing, etc.
- Sustainable Provision of Outdoor Recreation - recreational public access, state parks, etc.
- Sustainable Resource Protection - regulation, law enforcement, etc.
- Building Bridges - developing new constituencies, professional development, improving and growing partnerships

Results of this latest Conservation Congress are forthcoming.

The Forest Legacy Program Addressing the Problem

The forests of Illinois contribute greatly to our economy and provide the ecological systems and visual landscapes essential to our quality of life. Historically, demands for raw materials (wood, land for development) have competed with the need to protect and conserve natural resources (water supply, recreation areas, wildlife). Meeting these diverse needs on a sustained basis without sacrificing the integrity and the productive capacity of the resource base is the challenge that we face in Illinois.

In recent years several social and economic trends have significantly affected the balance of natural resource utilization and protection in Illinois. Increasing residential and commercial pressures have caused the development of substantial areas of previously open or forested land, raising questions of water supply protection and altering the visual landscape to which communities are accustomed.

Purchase of conservation easements under the Forest Legacy Program from willing owners would protect in perpetuity valuable forest land from conversion to non-forest uses. In addition, the program will require the preparation and implementation of a "Forest Stewardship Plan" for Legacy properties. These plans will address traditional forest uses and public values being protected through the program. These plans will help ensure the continuation of privately-owned working forests that protect environmental values and provide a foundation for the State's rural economy.

As a program Illinois Forest Legacy Program has the following goals:

- Identify and protect environmentally important, privately-owned forest lands threatened with conversion to non-forest uses;

- Reduce forest fragmentation caused by development;
- Provide environmental benefits through the restoration and protection of riparian zones, native forest plants and animals, and remnant forest types;
- Provide recreational opportunities;
- Provide watershed and water supply protection;
- Provide employment opportunities and economic stability through maintenance of tradition forest uses;
- Maintain important scenic resources of the state;
- Provide linkage between public properties, protected areas and greenways;
- Provide protection of rare, threatened and/or endangered species of plants and animals;
- Promote forest stewardship;
- Provide educational opportunities

Eligibility Criteria for Forest Legacy Areas

For inclusion in the Forest Legacy Program an area's forest land must:

- Be threatened with conversion by encroaching development and/or be subjected to fragmentation into small non- contiguous forest tracts
- Contain one or more of the following important public values:
 - Public recreational facilities
 - Major rivers or streams recognized by the Illinois Natural History Water Resources Inventory important
 - Wetlands
 - Groundwater aquifers of important public water supplies
 - Habitat for forest interior nesting birds, populations of resident species of neo-tropical migrant species, resting and feeding of migratory species, forest mammals, reptiles, amphibians and invertebrates, etc.
 - Rare or endangered species (plant or animal) habitat
 - Forest related cultural resources
 - Large blocks of contiguous forest land containing a mix of native ecological communities, remnant forest types, and/or late successional growth forests
- Provide a critical role in providing resources for the continuation of the production of traditional and non- traditional forest products (i.e. wood, fiber, herbal products, and/or raw material for craft industries), watershed protection, and hunting and fishing opportunities
- Reflect important regional values (i.e. oak savannas and/or other transitional forest communities)

Requirements for Forest Legacy Areas:

For an area to be designated a Forest Legacy Area the following are required.

Basic criteria:

- Designation of each geographic area on a map
- Description of each important forest area
- Summary of the important environmental values and how they will be protected and conserved in each Forest Legacy Area
- List of public values that will be derived from establishing each Forest Legacy Area
- Identification of the governmental entity or entities that may be assigned management responsibilities for the lands enrolled in the program
- Documentation of the analysis and the public involvement process

Cooperative Agreements:

Following the Secretary of Agriculture's approval of the Forest Legacy Areas, two kinds of cooperative agreements will be required. The first is an umbrella cooperative agreement between the Illinois Department of Conservation (IDOC) and the United States Forest Service (USFS), developed upon establishment of the Illinois Forest Legacy Program, for the purpose of specifying roles and responsibilities for implementing the program. The second type of cooperative agreement is between IDOC, USFS and participating entities for specific forest legacy tracts. The cooperative agreement is for the purpose of identifying roles and responsibilities for management and monitoring, and cost-share matches for individual tracts.

- The umbrella cooperative agreement.

The umbrella cooperative agreement will address the following items:

- Costs and funding
 - Identify direct and indirect costs expected to be incurred in establishing the Forest Legacy Program, and acquiring and administering interests in lands during the first five years of the program. Revise or renew these cost estimates as appropriate.
 - Identify and propose sources of cost-share matches.
- Planning
 - Document the amount of work that was required to complete the Assessment of Need and Identification of Forest Legacy Areas.
 - Define a process for revising landowner Stewardship Management Plans, or in the case of industry owned lands, modification of their community's multi-resource forest management plan.

- Identify how specific tract-by-tract acquisitions needs and priorities will be established by the state.
- Identify how broad baseline data needs will be accomplished.
- Acquisition
 - Identify who is responsible for title work, appraisals, surveys, and similar pre-acquisition work.
 - Define the process for determining value of donated interests in lands.
- Management
 - Define management responsibilities for interests in land acquired or dedicated to the program.
 - Identify possible activities needed to enhance, restore or maintain resources to meet the intent of the program and general responsibilities in carrying out such activities.
- Administration
 - Estimate the staff time to implement the program. Define responsibilities for processing applications to the Forest Legacy Program.
 - Establish procedure for monitoring the terms of easements and identify who will be responsible.
 - Identify responsibilities for periodic reports summarizing the achievement of Forest Legacy goals in Illinois
 - Determine the frequency of periodic program statements by IDOC, for the USFS providing specific detailed information about work to be performed.
- The tract-specific cooperative agreements.

Tract-specific cooperative agreements between IDOC, the USFS and participating entities will be developed whenever interests in lands within a Forest Legacy Area are acquired. These agreements will identify roles and responsibilities for management, monitoring, and cost- share matches.

While the umbrella agreement will identify general responsibilities and provide estimates of the costs and work to be performed, the tract-specific agreement will document the cost- share match, specify items of work to be performed, and identify who is responsible for management and monitoring the interests in lands. In addition to the USFS and IDOC other participating entities, such as land trusts or citizen groups, may be parties to the tract-specific cooperative agreements.

Evaluation Factors for Specific Parcels

The following factors will be used to quantify and qualify information that will satisfy the criteria requirements:

- Threat by conversion to non-forest uses:
 - Type and level of threat:

There are various kinds and degrees of threat to valuable forested areas, such as encroaching housing development, improved roads, sewer and power line extension into undeveloped areas and fragmentation of land ownership in smaller parcels. In determining the threat to a parcel, factors to consider include, but are not limited to, the following:

 - Is in danger of conversion to non-forest use within 5 years,
 - May remain wooded, but will become further fragmented,
 - Is currently on the open market/listed by realtors,
 - Securing one or more sites now will stem further development,
 - Is remote, but vulnerable,
 - Is not under a state or federal forest management program,
 - May remain wooded, but is in danger of being over- harvested,
 - Remnant of a forest type, and or
 - Others
- Factors affecting acquirability:

Even if a forested parcel is threatened with conversion to non-forest use, protecting it under the Forest Legacy Program can only be accomplished if certain conditions exist which favor implementation. In determining the prospects for a successful effort under the Forest Legacy Program, factors to consider include the following:

 - Property is specifically identified in terms of priority, timing, and cost in the local Recreation, Conservation and Open Space Plan, SCORP, Open Space Plan, or land trust master plans,
 - Parcel may be available at below fair market value,
 - Intensity and expense of management activities to protect the property's values is economically feasible,
 - Preservation of the property would increase the
 - Protection of public properties and protected areas, or enhance the linking of greenways,
 - Property can accommodate proposed priority uses and/or management activities without endangering or degrading its natural value, and/or
 - Property can be protected from future degradation by activities occurring on neighboring properties.

- Contain one or more important values:
 - Scenic resources:

The scenic aspects of a natural resource area may often be subjective, but there are several means of measuring the special qualities that make a given parcel stand out. In identifying scenic amenities of a parcel, these factors must be considered:

 - Includes locally important panoramic views and/or exceptional short views, and/or
 - Is situated along a designated scenic road or trail corridor.
 - Public recreation opportunities:

Recreational use (especially public access) of a proposed parcel is an important component to be weighted. The following factors must be considered:

 - Water-based recreation is present—boating, swimming, fishing, rafting, and canoeing,
 - Trail -based and/or day use recreational opportunities exist—hiking, picnicking, horseback riding, ice-skating, cross-country skiing, etc.,
 - Natural resource recreational activities are available: camping, hunting, nature touring, etc.,
 - Adjacent land is protected (state park, natural area, etc.).
 - Riparian areas:

One of the most important forest products is water. Proper management of forest lands through institution of a Forest Legacy Area can increase the quality and quantity of water for the residents of Illinois. Factors to be included in determining the riparian value of a parcel include the following:

 - Is situated on a major river or stream recognized by the Illinois Natural History Water Resources Inventory,
 - Has extensive (over 300') river or wetland shoreline,
 - Includes floodplain,
 - Contains a minimum 80-foot strip of native trees and shrubs as a natural buffer and sediment filter,
 - Parcel is situated within the surface watershed, or groundwater aquifer, of an important public drinking water supply,
 - Parcel provides immediate watershed/water supply protection, and
 - Contains important wetlands; especially isolated wetlands
 - Fish and wildlife habitat:

Preventing the fragmentation of forest tracts into smaller units is crucial to maintaining viable populations of wildlife species. Factors to consider:

 - Parcel contains outstanding habitat and other ecologically recognized criteria for one

or more species that include:

- Forest interior nesting birds
- Significant populations of resident species
- Neo-tropical migrant species
- Areas for resting and feeding of migratory species
- Forest inhabiting mammals, reptiles, amphibians and invertebrates

- Parcel exhibits connective habitats, corridors, habitat linkages and areas that reduce biological isolation.

- Known threatened and endangered species:

As urbanization and fragmentation of forest lands continues, the need to give special attention to threatened species of fish, wildlife and plants increases. Parcels nominated for the Forest Legacy Program should be inventoried for such natural habitats that may contain imperiled species (on State list as Endangered, Threatened or of Special Concern). Factor to be considered:

- Parcel provides habitat supporting the occurrence of rare or endangered species.

- Known cultural resources:

Material evidence of the earlier human occupation in Illinois comprises a unique and irreplaceable resource, as do historic features and vernacular landscapes. Factor to consider:

- Parcel contains forest related cultural resources (i.e. historic forest, historic mill, or other forest industry site).

- Other ecological values:

In addition to the characteristics already outlined, a parcel may exhibit additional or exceptional conditions that are important and add to the quality of the Forest Legacy Area, such as:

- Parcel is part of a large block of contiguous forest land,
- Provides a mix of native ecological communities (biodiversity),
- Includes ecological communities which are dwindling in Illinois, and or
- Contains late successional growth forests (natural area)

- Provide opportunities for continuation of traditional forest uses:

Maintaining traditional forest uses is important. It permits owners to remain on the land without requiring high-cost services. Positive factors which reinforce this include:

- Will remain available for timber and other forest products management under a Stewardship Plan,
- Will continue to serve watershed and water filtration role,

- Will continue to provide fish and wildlife habitat,
 - Will continue to provide outdoor recreation opportunities, and
 - Provide opportunities for environmental education.
- Reflect important regional values:
Through careful selection parcels should provide regional, not just local significance. The features and functions of these parcels should include:
 - Protection and maintenance of oak savannas and/or other transitional forest communities,
 - Linkages for recreational values, such as trails, especially along rivers, greenbelts, bluffs and parcels which connect existing publicly-owned and protected lands,
 - Public access to boating and swimming relative to the needs of local population centers and the effects of projected land use change,
 - Public or private drinking water supply protection (ground or surface water), and/or,
 - Scenic qualities having their basis in natural and cultural landscape.

Recommended Forest Legacy Areas

The Forest Legacy Subcommittee recommends the creation of three Forest Legacy Areas: 1) Peoria Bluffs – an area located on both sides of the Illinois River north of Peoria; 2) Rock River – an area between Rockford and Dixon encompassing a portion of the Rock River; and 3) Great Rivers Bluffs – an area adjacent to the Illinois and Mississippi Rivers in Calhoun, Greene, Jersey and Madison Counties. In addition, in 2011, the Southern Illinois - Lower Kaskaskia (SILK) area in Madison, St. Clair, Monroe, Randolph, Washington, Clinton, and Bond counties (along the lower portion of the Kaskaskia River) was also recommended.

Implementation of Forest Legacy in these four areas will provide many benefits. The following is a summary of just a few of the benefits to be derived in each of the Legacy Areas:

Peoria Bluffs Forest Legacy Area

Forest Legacy will provide protection to:

- Halt the conversion and fragmentation of one of central Illinois' largest contiguous forests;
- The scenic bluff vistas overlooking the Illinois River and Peoria Lake;
- River corridor habitat essential to many rare plant and animal species (i.e. migratory birds, neotropical birds, mammals, reptiles, amphibians, and invertebrates);
- A mix of native ecological forest communities, remnant forest types and late succession forests that provide habitat for aquatic and terrestrial plants and animals including many federal and state endangered species;
- The watershed of the Illinois River and Peoria Lake and local public water supplies

Rock River Forest Legacy Area

Forest Legacy will provide protection to:

- Halt the conversion and fragmentation of the area's forest land;
- River corridor habitat essential to many rare plant and animal species (i.e. migratory birds, neotropical birds, mammals, reptiles, amphibians, and invertebrates);
- A mix of native ecological forest communities, remnant forest types and late succession forests that provide habitat for aquatic and terrestrial plants and animals including many federal and state endangered species;
- The watershed of the Rock River and other high gradient streams and local public water supplies

Great Rivers Bluffs Forest Legacy Area

Forest Legacy will provide protection to:

- Halt the conversion and fragmentation of the area's contiguous forests;
- The scenic bluff vistas overlooking the Illinois River and Mississippi River;
- River corridor habitat essential to many rare plant and animal species (i.e. migratory birds, neotropical birds, mammals, reptiles, amphibians, and invertebrates);
- A mix of native ecological forest communities, remnant forest types and late succession forests that provide habitat for aquatic and terrestrial plants and animals including many federal and state endangered species;
- The watershed of the Illinois River and Mississippi River and local public water supplies

Southern Illinois - Lower Kaskaskia Forest Legacy Area

Forest Legacy will provide protection to show:

- Conversion
- Fragmentation
- Plant and animal habitats
- Watershed integrity

In all four areas Forest Legacy will:

- Provide for the continuation of traditional forest uses,
- Continue and expand recreational opportunities (i.e. trails and greenbelts to connect existing publicly-owned and protected lands; and public access rights along rivers and streams.);
- Increase opportunities to promote forest stewardship through improved forest management;
- Complement existing Department of Conservation initiatives;
- Enable continuation of local environmental education programs;
- Increase opportunities to leverage both financial and professional assets to maximize federal and

state conservation program objectives.

Public comments received during the public involvement phase were considered in determining final boundaries for the Forest Legacy Areas. Specific information regarding the three areas is contained in the Exhibit.

As with all new programs, adjustments to programmatic issues and policies may be necessary over time to meet the changing needs of the state, to address new conservation issues, and to function under varying funding levels. The Subcommittee recognizes that these areas can only represent a limited solution to the problems facing Illinois' forest resources. The selection of the three areas reflects the Subcommittee's assessment of the State's ability to meet the objectives of the Forest Legacy Program based on current funding levels and a desire to avoid a shotgun approach in obtaining easements. It is the intent of the Stewardship Committee to treat the Assessment of Need as a "living document" and as needed, make revision to the Assessment and/or Forest Legacy Areas to address program demands, and recommend any needed amendments to the Secretary of Agriculture for approval.

References

- Albaugh, G. P., Mitchell, W. H., & Graham, J. C. (1977). Evaluation of glyphosphate for multiflora rose control. *Proceedings of the Northeastern Weed Science Society*, 31, 283–291.
- Bechtold, W. A., Hoffard, W. H., & Anderson, R. L. (1992). *Summary report: Forest health monitoring in the South, 1991* (SE-81; General Technical Report, p. 40 p.). U.S. Department of Agriculture, Forest Service, Southeastern Forest Station. <https://doi.org/10.2737/SE-GTR-81>.
- Chicago Tribune. (1993). The department of conservation's proposed "Fish Illinois..." *Chicago Tribune*. <https://www.chicagotribune.com/1993/04/25/the-department-of-conservations-proposed-fish-illinois/>.
- Crocker, S. J., Butler, B. J., Kurtz, C. M., McWilliams, W. H., Miles, P. D., Morin, R. S., Nelson, M. D., Riemann, R. I., Smith, J. E., Westfall, J. A., & Woodall, C. W. (2017). *Illinois Forests 2015* (NRS-RB-113; p. NRS-RB-113). U.S. Department of Agriculture, Forest Service, Northern Research Station. <https://doi.org/10.2737/NRS-RB-113>.
- Ebinger, J. E., & Phillippe, L. R. (1973). New plant records for Illinois. *Transactions of the Illinois State Academy of Science*, 66, 115.
- Evans, C. W. (2016). *Invasive plant species regulated by the Illinois Exotic Weed Act* (NRES-1601; University of Illinois Extension Technical Forestry Bulletin, p. 10 p.).
- Evers, J. E. (1984). Japanese honeysuckle (*Lonicera japonica*): A literature review of management practices. *Natural Areas Journal*, 4, 4–10.
- Food, Agriculture, Conservation, and Trade Act of 1990, S. 2830 (1990). <https://www.congress.gov/bill/101st-congress/senate-bill/2830>.
- Gleason, H. A. (1952). *The New Britton and Brown illustrated flora of the northeastern United States and adjacent Canada* (Volume 1). Lancaster Press.
- Goldewijk, K. K., Beusen, A., Doelman, J., & Stehfest, E. (2017). Anthropogenic land use estimates for the Holocene—HYDE 3.2. *Earth Systems Science Data*, 9, 927–953.
- Graber, J. W., & Graber, R. R. (1976). Environmental evaluations using birds and their habitats. *Biological Notes*; No. 097. <https://hdl.handle.net/2142/17213>.
- Hahn, J. T. (1987). *Illinois Forest Statistics, 1985*. U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station.
- Henderson, J. E., & Munn, I. A. (2012). Forestry in Illinois—The impact of the forest products industry on the Illinois economy: An input-output analysis. *Illinois Forestry Development Council*, 22.
- Illinois Council of Forestry Development. (1988). *Urban forestry practices in Illinois: Analysis of a survey* (p. 32) [Urban Needs Task Group Report to the Illinois Council on Forestry Development].
- Illinois Department of Agriculture. (2001). *Illinois land evaluation and site assessment* (p. 16). Illinois Department of Agriculture.

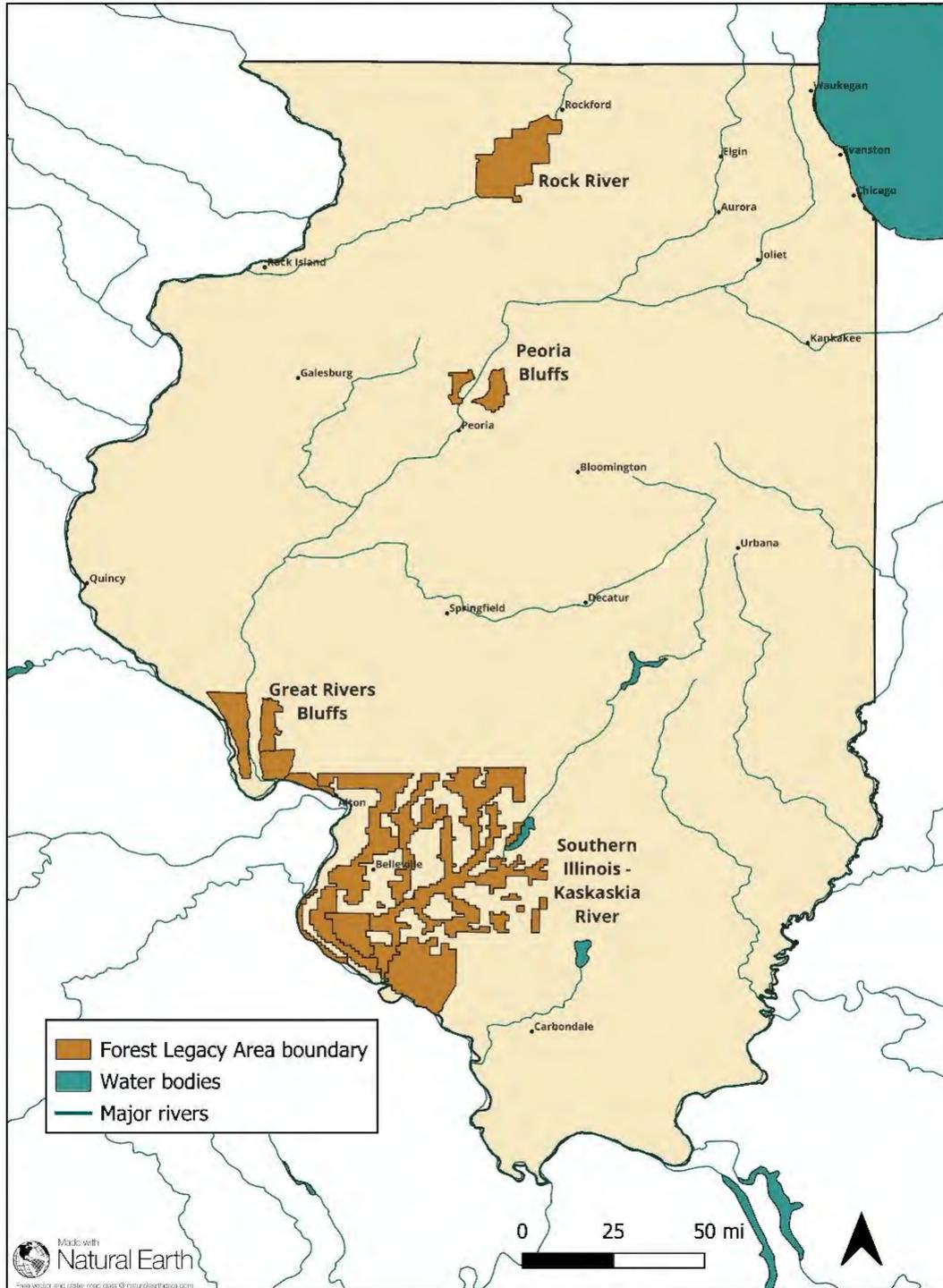
- Illinois Department of Agriculture. (2022). *Third Amendment to the Lymantia dispar Interior Quarantine* [Insect Pest and Plant Disease Act (505 ILCS 20/1 et seq. Amendment #3)]. <https://agr.illinois.gov/content/dam/soi/en/web/agr/insects/pests/documents/gm-quarantine-amendments-17.pdf>.
- Illinois Department of Natural Resources. (2024). *Illinois rivers and streams* (INDR Education). Illinois Department of Natural Resources. <https://dnr.illinois.gov/education/atoz/ilriversstreams.html>.
- Illinois Endangered Species Protection Board. (2020). *Checklist of Illinois endangered and threatened animals and plants* (p. 10). Endangered Species Protection Board.
- Illinois Exotic Weed Act, 525 ILCS 10 Illinois Conservation Law § Illinois Conservation Law (1991).
- Illinois Forestry Development Council. (1999). *Realizing the forests' full potential: Assessment and long-range action plan for forest resources in Illinois* (p. 58). Forestry Development Council, University of Illinois.
- Illinois Forestry Development Council. (2020). *Illinois Forest Action Plan: A Statewide Forest Resource Assessment and Strategy 2020-2030*. Illinois Department of Natural Resources. <https://dnr.illinois.gov/content/dam/soi/en/web/dnr/conservation/forestry/documents/illinoisforestactionplan.pdf>.
- Illinois State Geological Survey. (1961). *Guide to the geologic map of Illinois* (Geological Survey Educational Series 7). Illinois State Geological Survey.
- Illinois Wildlife Habitat Commission. (1985). *The crisis of wildlife in Illinois today* (p. 26). Illinois Wildlife Habitat Commission.
- Inaoka, M., Seiter, N., Estes, K., & Athey, K. (2023). *Identification and biology of spotted lanternfly*. Illinois Extension, University of Illinois Urbana-Champaign.
- Iverson, L. R. (1991). *Forest resources of Illinois: What do we have and what are they doing for us?* (Illinois Natural History Survey Bulletin 34; Symposium Proceedings: Our Living Heritage, pp. 361–374).
- Iverson, L. R., Oliver, R. L., Tucker, D. P., Risser, P. G., Burnett, C. D., & Rayburn, R. G. (1989). Forest resources of Illinois: An atlas and analysis of spatial and temporal trends. *Illinois Natural History Survey Special Publication*, 11, 181.
- Iverson, L. R., Prasad, A. M., & Ketzner, D. M. (1997). A summary of the Illinois flora based on the Illinois Plant Information Network. *Transactions of the Illinois State Academy of Science*, 90, 41–64.
- Iverson, L. R., Schwartz, M. W., & Helm, C. G. (1994). Forests. In *The Changing Illinois Environment: Critical Trends* (pp. 33–66). Illinois Department of Energy and Natural Resources.
- Killey, M. M. (2007). *Illinois' ice age legacy* (Geoscience Education Series 14, p. 74). Illinois State Geological Survey. <https://core.ac.uk/download/pdf/17355334.pdf>.
- Klopatek, J. M., Olson, R. J., Emerson, C. J., & Jones, J. L. (1979). Land-use Conflicts with Natural Vegetation in the United States. *Environmental Conservation*, 6(3), 191–199. <https://doi.org/10.1017/S0376892900003039>.
- Knight, K. S., Haugen, L. M., Pinchot, C. C., Schaberg, P. G., & Slavicek, J. M. (2016). American elm (*Ulmus americana*) in restoration plantings: A review. *Proceedings of the American Elm Restoration Workshop 2016*, 133–140.

- Küchler, A. W. (1964). Potential natural vegetation of the conterminous United States. *Geographical Society Special Publication*, 36, 116p.
- Larson, L. R., Jennings, V., & Cloutier, S. A. (2016). Public parks and wellbeing in urban areas of the United States. *PLoS ONE*, 11(4), e0153211.
- Leighton, M. M., Ekblaw, G. E., & Horberg, L. (1948). Physiographic divisions of Illinois. *The Journal of Geology*, 56(1), 16–33.
- MacDonald, J. M., Korb, P., & Hoppe, R. A. (2013). *Farm size and the organization of U.S. crop farming* (Economic Research Report ERR-152; p. 2). U.S. Department of Agriculture Economic Research Service. <https://www.ers.usda.gov/webdocs/publications/45108/39359err152.pdf>.
- Metzke, B. A., Burr, B. M., Hinz, L. C. Jr., Page, L. M., & Taylor, C. A. (2022). *An atlas of Illinois fishes: 150 years of change* (p. 424). University of Illinois Press.
- Mohlenbrock, R. H. (2014). *Vascular flora of Illinois: A field guide* (Fourth edition). Southern Illinois University Press.
- Neely, R. D., & Heister, C. G. (1987). The natural resources of Illinois introduction and guide. *Illinois Natural History Survey Special Publication*, 6, 224.
- Nowak, D. J., Hoehn, R. E. I., Crane, D. E., Stevens, J. C., & Fisher, C. L. (2010). *Assessing urban forest effects and values, Chicago's urban forest* (Resource Bulletin NRS-37; p. 27). U.S. Department of Agriculture, Forest Service, Northern Research Station. https://www.nrs.fs.usda.gov/pubs/rb/rb_nrs37.pdf.
- Organization for Economic Cooperation and Development. (2018). *Green area per capita* [dataset]. United Nations Human Settlement Programmes, Data and Analytics Section. <https://data.humdata.org/dataset/green-area-per-capita-square-meters-per-capita>.
- Qian, H., & Dolbear, B. L. (2007). Exotic plants of Illinois. *The Living Museum*, 70(1), 3–10.
- Ruppert, S., Coppess, J., Fathauer, W., & Skidmore, M. (2024). A menace to national welfare reconsidered, part 1: Reviewing the costs of erosion. *Farmdoc Daily*, 14(52), 6.
- Schery, R. (1977). The curious double life of *Rosa multiflora*. *Horticulture*, 55, 56–61.
- Schulze, E. D., Lange, O. L., & Oren, R. (1989). *Forest decline and air pollution: A study of spruce (Picea abies) on acid soils*. Springer-Verlag.
- Schwegman, J. (1988). *Illinois garlic mustard alert* (p. 1). Illinois Department of Conservation, Division of Natural Heritage.
- Schwegman, J. (1997). *Illinois' natural divisions* (p. 12) [The Illinois Steward].
- Schwegman, J. E., Fell, G. B., Hutchison, M. D., Paulson, G., Shepherd, W. M., & White, J. (1973). *Comprehensive plan for the Illinois nature preserves system (part 2): The natural divisions of Illinois* (p. 32). Illinois Nature Preserves Commission. <https://naturalheritage.illinois.gov/content/dam/soi/en/web/naturalheritage/documents/Natural%20divisions%20part%202.pdf>.
- Shawnee National Forest. (2002). *1992 Amended Land and Resource Management Plan: Monitoring and Evaluation Report* (p. 54). Shawnee National Forest. https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5151619.pdf.

- Spyreas, G., Pearse, I. S., Nickrent, D. L., Greenwood, N. M., Epstein, A., & Anders, P. (2017). *Illinois Plants: A web-based database for the flora of Illinois* [dataset]. <https://www.inhs.illinois.edu/data/plantdb>.
- Sweeney, B. W., Bott, T. L., Jackson, J. K., Kaplan, L. A., Newbold, J. D., Standley, L. J., Hession, W. C., & Horwitz, R. J. (2004). Riparian deforestation, stream narrowing, and loss of stream ecosystem services. *PNAS*, *101*(39), 14132–14137.
- Telford, C. J. (1927). *Third Report on a Forest Survey of Illinois*. State of Illinois, Department of Registration and Education, Division of Natural History Survey.
- The Morton Arboretum. (2021). *2020 Chicago Region Tree Census* (p. 35). The Morton Arboretum. https://mortonarb.org/app/uploads/2021/05/2020-Chicago-Region-Tree-Census-Report__FIN.pdf.
- Thompson, E., Herian, M., & Rosenbaum, D. (2021). *The economic footprint and quality-of-life benefits of urban forestry in the United States* (p. 85) [A Bureau of Business Research Report from the University of Nebraska-Lincoln].
- US Environmental Protection Agency. (2006). *Acid rain and related programs: 2006 progress report*. U.S. Environmental Protection Agency. <https://www.epa.gov/sites/default/files/2015-08/documents/2006-arp-report.pdf>.
- USDA Animal and Plant Health Inspection Service. (2020). Deregulation of pine shoot beetle. *Federal Register, Department of Agriculture*, *85*(191), 61806.
- USDA Forest Service. (2022). *Forests of Illinois, 2021* (Resource Update FS-358; p. 2). U.S. Department of Agriculture, Forest Service, Northern Research Station. <http://doi.org/10.2737/FS-RU-358>.
- USDA National Agricultural Statistics Service. (2020). *2017 Census of Agriculture: Land use practices* (Census of Agriculture Highlights ACH 17-24; p. 2). U.S. Department of Agriculture. <https://www.nass.usda.gov/Publications/Highlights/2020/census-land-use-practices.pdf>.
- USDA Natural Resources Conservation Service. (2022). *NRCS National Resources Inventory, 2017*. Natural Resource Conservation Service. https://publicdashboards.dl.usda.gov/#/site/FPAC_PUB/views/RCADVErosionbyStateNRI20171/ErosionTrends.
- Wilhelm, G. S. (1991). Implications of changes in floristic composition of the Morton Arboretum's East Woods. In *Proceedings of the Oak Woods Management Workshop* (pp. 31–54). Eastern Illinois University.
- Young, R. A., Reichenbach, M., & Perkuhn, F. (1984). PNIF management: A social-psychological study of owners on Illinois. *Northern Journal of Applied Forestry*, *2*(3), 91–94.

AON Exhibit A: Descriptions of Forest Legacy Areas

State of Illinois Forest Legacy Areas



Peoria Bluffs

Description of each important forest area.

This area encompasses the bluff forests which border the eastern and western banks of the Illinois River north of Peoria, Illinois. Contained within the designated boundary is one of several large contiguous forest in central Illinois. The bluff areas within the watershed are a mosaic of open oak-hickory forests, hill prairies, and lowland mesic forests along the streambeds. There is an immediate threat of conversion to non-forest uses by agricultural and suburban development in the Peoria metropolitan area. Conversion of these forests to non-forest uses increases the impact of erosion on the Illinois River.

The Peoria Bluffs Forest Legacy Area encompasses approximately 61,400 acres. Of this acreage approximately:

- 26,800 acres (43.7%) are forested
- 823 acres are Natural Areas
- 3,200 acres are state parks or other conservation areas

Summary of important environmental values and how (type of conservation easement) they will be protected and conserved:

The oak-hickory bluff forests along the Illinois River are one of the largest remnant forest ecosystems left in central Illinois. They provide essential river corridor habitat for a variety of animals including the federally endangered bald eagle and several migratory bird species. The hill prairies which are found scattered throughout the uplands contain rare plants such as the state threatened Schreber's aster (*Aster schreberi*). The open savanna forests are among the last remnants of a once widespread community type in Illinois. The Peoria Park District manages two sites within the western boundary area, but much of the area bordering the parks and most of the area within the eastern boundary is unprotected and threatened by development.

Because of human encroachment and fire suppression, most of the forests have low oak regeneration and severely reduced vegetative cover in the understory which results in high rates of erosion in the watershed. In the Park District areas, restoration of fire and brush removal has resulted in a dramatic improvement in the forest and hill prairie communities. By negotiating easements in buffer areas within the western boundary and other un-managed areas on the eastern boundary, management techniques can be introduced to restore the forests and prairies on private lands and thereby reduce the impact of erosion along the river corridor. Forest Legacy could provide an excellent opportunity to protect and manage sensitive forest areas within the bluffs and to educate landowners about importance of forest stewardship on their land.

The Peoria Park District areas (Robinson Park and Singing Woods) are two sites among six which have been targeted for restoration by Park District personnel and The Nature Conservancy through its Peoria Wilds volunteer group. Through the introduction of fire and brush cutting, volunteers have

reduced the woody encroachment in the previously open oak- hickory forests and hill prairies. The results have been dramatic as the understory vegetation is returning on many of the degraded slopes and the prairie plants are flourishing in the openings. The Nature Conservancy, in conjunction with the Park District, is beginning a landowner registry program in an attempt to protect the buffer areas bordering the Peoria Wilds sites. Forest Legacy could further promote these protection efforts by expanding upon the registry program to obtain easements on private lands surrounding the parks.

The bluffs along the Illinois River provide a scenic view shed for travelers and commuters to Peoria. As Peoria is one of the oldest settlements in Illinois, the river corridor has unique cultural, historical, and archeological significance. Route 29 on the western half and Route 26 on the eastern half of the boundary area are scenic routes along the Illinois River which are bordered by the bluffs along the river corridor.

Conservation Easement for tracts should address acquisition of:

- development rights on/or adjacent to the bluff lines;
- development rights on property with habitat for rare plants, natural communities, and wildlife;
- development rights on properties adjacent to public and protected lands;
- development rights on other properties not on bluff lines, with habitat for rare plants, etc., or adjacent to public and protected lands;
- mineral rights;
- timber and other forest products rights;
- access rights to protect natural communities and rare plants; and
- public access for hunting, fishing, hiking or other recreational activities.

List of public benefits to be derived:

- Protection and management of one of central Illinois' largest contiguous forests.
- Protection and conservation of river corridor habitat essential to many rare plant and animal species(i.e. migratory birds, nee-tropical birds, mammals, reptiles, amphibians, and invertebrates).
- Protection of native ecological forest communities, remnant forest types and late successional forests that provide habitat for aquatic and terrestrial plants and animals including many federal and state endangered species.
- Protection of watershed, local public water supplies, and reduction of erosion threat to the Illinois River and Peoria Lake.
- Continuation and expansion of recreational and tourism opportunities (i.e., trails and greenbelts to connect existing publicly-owned and protected lands, and public access rights along rivers and streams)
- Promotion of forest stewardship.

- Continuation of environmental education programs and public awareness

Identification of governmental entity or entities that may be assigned management responsibility:

Many management options (federal, state, and units of local government) exist in the area. Assignment to a specific entity or entities (i.e., Illinois Department of Conservation, local Conservation Districts, United States Forest Service, United States Fish and Wildlife Service, National Park Service, and/or the Corps of Engineers) will be made as tracts are considered for inclusion into the Forest Legacy Program.

Boundary Description of Peoria Bluffs Forest Legacy Area:

Boundary of West River Bluff area begins at intersection of Route 29 and Mossville Road.

Boundary continues west along Mossville Road to Route 88. Boundary continues north along Route 88 to Singing Woods Road and East to Centerville Road and north to 22300N.

Boundary continues west long 22300N to Route 88 and North to 23500N (County Line Road.)

Boundary continues east along 23500N and the County Line to North Hampton Road. Boundary continues north on road SSOE to 4SON, east on 4SON to road 6SOE, and south on 6SOE to the County Line.

Boundary continues south along Benedict Road to 21100N, and west on it to Ratliff Road, and then southwest on Ratliff Road to North Hampton Road.

Boundary continues south along North Hampton Road to Old Galena Road and southwest to Hallock Hollow Road.

Boundary continues west along Hallock Hollow Road to Staab Road and South to Rome West Road.

Boundary continues west along Rome West Road to Ivy Lake Road and South to Cedar Hills Drive.

Boundary continues east along Cedar Hills Drive to Old Galena Road and South to Route 29.

Boundary continues south along Route 29 and closes at intersection of Route 29 and Mossville Road.

Boundary of East River Bluff area begins at intersection of Route 26 and Zimmerman Road north of Spring Bay.

Boundary continues north along Route 26 past Strawn Creek to 4SON and east and south to 42SN and east and north to SOON at intersection with 147SE (Washburn Road).

Boundary continues south along 147SE to SON and East to 1S2SE. Boundary continues south along 1S2SE past Woodford County Line and continues along IOSOE to 19SON. Boundary continues east along 19SON to IIOOE and South to 1900N (Banta Road).

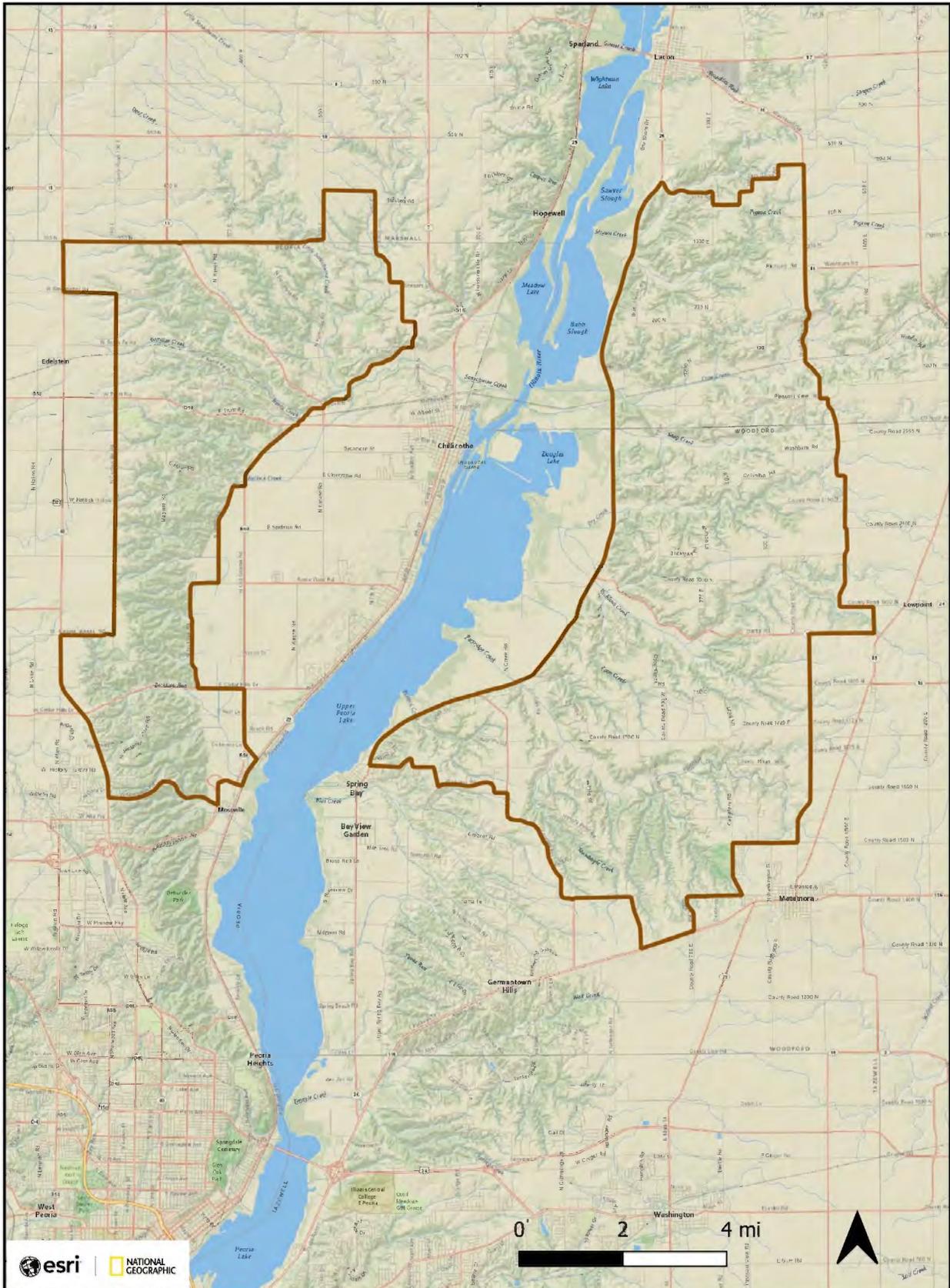
Boundary continues west along Banta Road to 97SE and South to ISOON. Boundary continues west along ISOON to Coal Bank Road and South to 1400N. Boundary continues west along

1400N to 7SOE and South to Route 116.

Boundary continues southwest along Route 116 to Hickory Point Road and North to 1400N.

Boundary continues west along 1400N to Lourdes Road and continues North to Upper Spring Bay Road.

Peoria Bluffs Forest Legacy Area



Boundary continues west along Upper Spring Bay Road to Zimmerman Road and

Rock River

Description of each important forest area:

The Rock River is the core of the river basin which includes 6 additional streams which are, like the Rock, classified as biologically significant streams and support significant riparian habitat. On the Rock River itself, heading south from Rockford, the first significant forest occurs along a six-mile stretch from Meridian Road to south of Skinner Road. South of this is the area surrounding and including the Byron Forest Preserve.

The two largest contiguous riparian tracts are located about midway along the river corridor. The first is the area surrounding Lowden State Park, from the mouth of Spring Creek to the southern edge of the park. To the south, the second area is nearly 10 miles of contiguous cover made up of Castle Rock State Park and Lowden-Miller State Forest which together make up the largest riparian block in the corridor.

Downstream of this extensive area is the bend at Grand Detour which has broken, but significant forest cover all the way to the north edge of Dixon. The tributaries to the Rock include the headwater area of Stillman Creek, sections of the Kyte River near Grist Mill Road and Rocky Hollow Road, Prairie Creek from Wood Road to Prairie Road, Pine Creek at White Pines State Park and the mouth of Pine Creek, and Franklin Creek from Franklin Road to just east of Kingdom.

Additional riparian areas which are located on streams which have not been classified as significant streams include; Fuller Forest Preserve and the area to the northeast, Severson Dells Forest Preserve and south to McGregor Road, 'Middle Creek from north of Oak Grove Road to where it joins the East Fork.

The riparian forest lands along this corridor help protect the water quality and aquatic biodiversity. The Rock River drains 5343 square miles in Illinois, or 9.5% of the land area, including 13 counties in the northwest corner of the state. It encompasses the entire Rock River Hill country state natural division, and sections of the Wisconsin Driftless, Northeast Morainal, Grand Prairie, and Upper Mississippi and Illinois natural divisions.

Significant portions of the riparian property in this area are publicly owned, namely the Castle Rock State Park, Lowden-Miller State Forest, Franklin Creek Natural Area, White Pines state Park, and Lowden State Park . The majority of property however, is privately owned. Long-term protection and management of these existing resources, and possible riparian forest expansion, will help protect the natural resource values of this ecosystem. The goal of this Forest Legacy Area is to promote this stewardship.

The river basin, and in particular its forested riparian areas, are in immediate threat of conversion to suburban and rural housing development due to its close proximity to the Rockford metropolitan area, plus easy access via the Interstate Highway system to the Chicago metropolitan area.

The Rock River Forest Legacy Area encompasses approximately 221,700 acres. Of this acreage approximately:

- 14,000 acres (6.3.7%) are forested
- 4,026 acres are Natural Areas
- 5,300 acres are state parks or other conservation areas

Summary of important environmental values and how (type of conservation easement) they will be protected and conserved:

The majority of the Rock River Basin is in agriculture. Forest cover in the region is negligible and is almost exclusive to riparian associations. These same areas offer habitat for a great number of plants and animals, many of which have an endangered/threatened status in the state.

The entire basin is host to 109 species of fish, including 5 state endangered, 2 state threatened. Mussel diversity, which is an indicator of water quality, is reasonably high throughout the basin, with 43 species known, including 4 state endangered, 4 state threatened, and one federally endangered, the Higgins' Eye Pearly Mussel (*Lampsilis higginsii*). Sixteen species of crustaceans have been recorded; no special status species are known.

Along the corridor highlighted in this proposal, there are also 19 state endangered, seven state threatened, one federally threatened plant species, the Prairie Bush Clover (*Lespedeza leptostachya*), and one federal candidate species, the Prairie Fame-Flower (*Talinum rugospermum*). Among the special status animals noted are two state endangered, two state threatened, and two federal candidate species, the Blanding's Turtle (*Emydoidea blandingii*), and the Regal Fritillary (*Speyeria idalia*).

The biotic diversity supported by the Rock River, from where it enters Illinois at Beloit to Clear Creek, has resulted in a "B Stream" (Highly Valued Aquatic Resource) rating in the Biological Stream Characterization (Hite and Bertrand, 1989). The entire length of two tributaries, as well as segments of four additional streams has also received the same rating.

This results in nearly 45 miles of high-quality aquatic resource in this proposed Forest Legacy Area (FLA).

In addition to these aquatic features, there are 23 Illinois Natural Area Inventory sites located in association with this river system. These are areas and/or features recognized in the Illinois Natural Areas Inventory which was conducted by the University of Illinois, the Natural Land Institute, and the Illinois Department of Conservation over a three-year period in the mid 1970's. The Inventory established seven categories of natural areas based on significant features. The categories are: High Quality Natural Communities, Habitat for Endangered Species, Habitat for Relict Species, Outstanding Geologic Areas, Nature Preserves and Natural Study Areas, Unique Natural Areas, and Outstanding Aquatic Areas. Many sites may have a variety of features and may be included in more than one category. All seven categories are represented in this proposed FLA.

The high-quality resources of the area, coupled with the natural beauty, provide for recreation benefits for boaters, canoeists, birders, and hikers alike. Hunters benefit from the large game populations such as deer and turkey in the area, while fishers will find an abundance of smallmouth bass, channel

catfish, and walleye in the Rock and its tributaries.

The public lands along the corridor offer opportunities for all of these interests, and in several cases have also reserved land as nature preserves, of which most are open to the public, but use is limited to walking/hiking and nature observation. Nature preserves remain relatively undisturbed and scientific and educational use of them is encouraged.

Conservation Easement for tracts should address acquisition of:

- Development rights on/or adjacent to the river;
- Development rights on property with habitat for rare plants, natural communities, and wildlife;
- Development rights on properties adjacent to public and protected lands;
- Development rights on other properties not adjacent to the river; with habitat for rare plants, etc.; or adjacent to public and protected lands;
- Mineral rights;
- Timber and other wood products rights;
- Access rights to protect natural communities, and rare plants; and
- Public access for hunting, fishing, hiking or other recreational activities

List of public benefits to be derived:

- Protection and management of the area's forestland.
- Protection and conservation of the watershed of the Rock River and other high gradient streams and local public water supplies.
- Protection and conservation of river habitat essential to many rare plant and animal species (i.e., migratory birds, nee-tropical birds, mammals, reptiles, amphibians, and invertebrates).
- Protection and conservation of native ecological forest communities, remnant forest types and late successional forests that provide habitat for aquatic and terrestrial plants and animals including many federal and state endangered species.
- Continuation and expansion of recreational and tourism opportunities (i.e trails and greenbelts to connect existing publicly-owned and protected lands, and public access rights along rivers and streams).
- Promotion of continued and expanded forest stewardship, particularly in regard to riparian areas.
- Continuation of environmental education programs

Identification of government entity or entities that may be assigned management responsibility:

Many management options (federal, state and units of local government) exist in the area. Assignment to a specific entity or entities (i.e., Illinois Department of conservation, local Conservation Districts, United State Forest Service, United States Fish and Wildlife Service, National Park Service and the Corps of Engineers) will be made as tracts are considered for inclusion into the Forest Legacy

Program.

Boundary description Rock River Proposed Forest Legacy Area:

Point of beginning is the intersection of Rte. 2 and Rte. 26 at the Rock River in Dixon, Illinois.

Boundary extends south to Rte. 38.

Boundary extends east to 1650 E. and South to 1500 N. Boundary extends East on 1500 N. to 1950 E. and north to 1700 N.

Boundary extends west on 1700 N. to Willow Road North to Track Road West to Rte. 38.

Boundary extends west on Rte. 38 to 1700 E. (Daysville Road).

Boundary extends north on 1700 E. to Stone Barn Road and East to 1925 E.

Boundary extends north on 1925 E. to Wood Road and East on Wood Road to Rte. 38. Boundary extends north on Rte. 38 to 2150 E. and North to Rte. 64.

Boundary extends east on Rte. 64 to White Rock Road and North to Rte. 72. Boundary extends west on Rte. 72 to Rothwell Road and North to Edson Road. Boundary extends east on Edson Road to Rte. 251 and North to Rte. 20.

Boundary extends west on Rte. 20 to Montague Road and Southwest to Kennedy Hill Road.

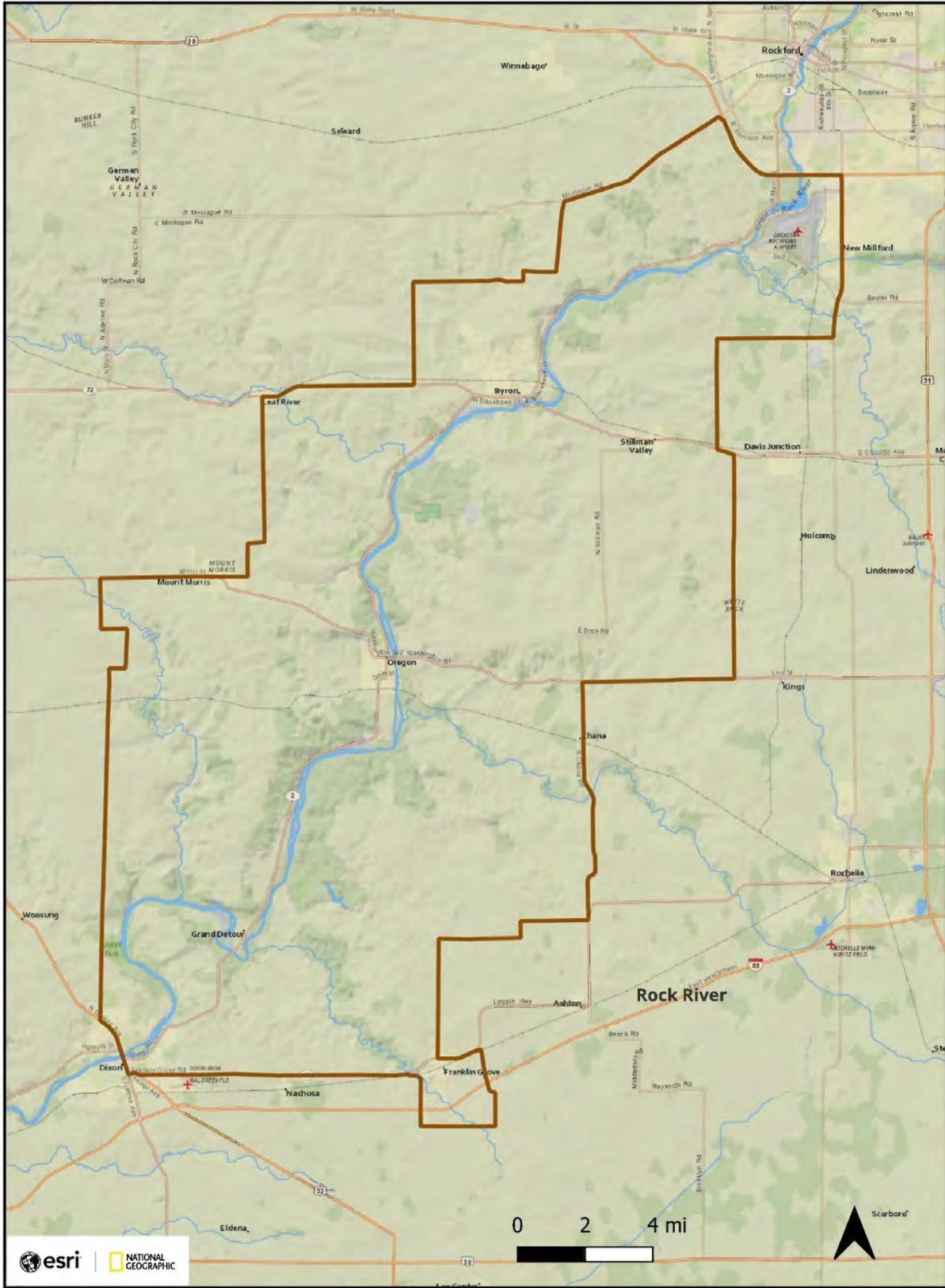
Boundary extends south on Kennedy Hill Road to Woodburn Road and West to Barker Road.

Boundary extends south to Oak Grove Rd. and West to Conger Road.

Boundary extends south on Conger Road to Rte. 72 and West to Leaf River Road. Boundary extends south on Leaf River Road to Rte. 64 and West to Maple Grove Road. Boundary extends south on Maple Grove Road to Canada Road and East to Lowell Park Road.

Boundary extends south on Lowell Park Road to Rte. 26 and Southeast to close at the point of beginning, the intersection of Rte. 26 and Rte. 2.

Rock River
Forest Legacy Area



Great Rivers Bluffs

Description of each important forest area:

The Great Rivers Bluffs area contains large expanses of two major forest types. Bottomland forest occurs in narrow bands along the Illinois and Mississippi Rivers and on islands and backwater sloughs of the rivers. Upland oak- hickory forest occurs on the bluffs above the rivers and on the dry ridges and deep ravines of Calhoun County. The forests in Calhoun County especially are some of the more extensive forests in Illinois.

The forest areas of the river bluffs and Calhoun County, due to their close proximity and easy access to the entire St. Louis metropolitan area in both Illinois and Missouri, are in immediate threat of conversion to suburban and rural housing development.

The Great Rivers Bluffs Forest Legacy Area encompasses approximately 209,300 acres.

Of this acreage approximately:

- 145,500 acres (69.5%) are forested,
- 5,368 acres are Natural Areas, and
- 9,000 acres are state parks or other conservation areas

Summary of important environmental values and how (type of conservation easement) they will be protected and conserved:

The Great Rivers Bluffs area is a mix of agricultural land, forest land and wetland.

Mark Twain National Wildlife Refuge occupies some of the Mississippi River bottomland in Calhoun County. This refuge is owned by the U. S. Army Corps of Engineers and managed by the Fish and Wildlife Service. The Department of Conservation owns and manages Pere Marquette state Park on the bluffs above the Illinois River in Jersey County. At 8070 acres, this is Illinois' largest state park. There are two dedicated Illinois Nature Preserves totaling 344 acres in the proposed Forest Legacy area.

There are 36 Illinois Natural Areas Inventory sites located in the proposed legacy area. These are areas of land or water recognized by the Department of Conservation for their outstanding natural features. There are 11 endangered or threatened animals and 10 endangered or threatened plant species known to occur in the proposed legacy area. Bald eagle and decurrent false aster are also listed by the federal government as endangered or threatened species.

The high-quality resources of the area, coupled with the natural beauty provide numerous recreation benefits for boaters, hunters, fishers, hikers, birders etc. Hunters benefit from the large game population such as deer and turkey while fishers find excellent sport in the Mississippi and Illinois Rivers. Public lands in the area offer opportunities for all these interests.

Conservation Easement for tracts should address acquisition of:

- Development rights on/or adjacent to the bluff lines;
- Development rights on property with habitat for rare plants, natural communities, and wildlife;

- Development rights on other properties adjacent to public and protected lands;
- Development rights on other properties not on the bluff lines; with habitat for rare plants, etc.; or adjacent to public and protected lands;
- Mineral rights;
- Timber and other wood products rights;
- Access rights to protect natural communities, and rare plants; and
- Public access for hunting, fishing, hiking or other recreational activities

List of public benefits to be derived:

- Protection and management of one of the larger contiguous forested areas in Illinois. Large blocks of both upland and bottomland forest areas would be protected.
- Protection and conservation of river corridor habitat essential to many rare animal and plant species (i.e. migratory birds, nee-tropical birds, mammals, reptiles, amphibians , and invertebrates). Includes the protection of several large heron and egret rookeries.
- Protection of native ecological forest communities, remnant forest types and late successional forests that provide habitat for aquatic and terrestrial plants and animals including many federal and state endangered species.
- Protection of watershed, local water supplies and reduction of erosion threat to the Mississippi and Illinois Rivers.
- Protection of the scenic bluff vistas overlooking the Illinois and Mississippi Rivers.
- Continuation and expansion of recreational and tourism opportunities (i.e. trails and greenbelts to connect existing publicly-owned and protected lands, and public access rights along rivers and streams).
- Promotion of continued and expanded forest stewardship.
- Continuation of environmental education programs and public awareness

Identification of government entity or entities that may be assigned management responsibility:

Many management options (federal, state and units of local government) exist in the area. Assignment to a specific entity or entities (i.e., Illinois Department of Conservation, local Conservation Districts, United States Forest Service, United States Fish and Wildlife Service, National Park Service and/or the Corps of Engineers) will be made as tracts are considered for inclusion into the Forest Legacy Program.

Boundary Description of the Great Rivers Bluffs Forest Legacy Area:

Section A: A tract of land located in Calhoun County, Illinois, described as follows: Beginning at the intersection of the North line of Calhoun County and the Easterly R.O.W. line of state Route 96, also

known as Mississippi River Road;

thence Southeasterly along the Easterly R.O.W. line of said road 9.3 miles, more or less, through Mozier, to the point where State Route 96 turns Northeasterly, said point is the beginning of County Highway 2;

thence continue Southeasterly along the Easterly R.O.W. line of county Highway 2 and Mississippi River Road 23.2 miles, more or less, through Mozier Landing, Hamburg, Star City, Gilead, Kitesville and Batchtown, to the North R.o.w. line of Hoernmen Lane; thence East along the North R.O.W. line of Hoemmen Lane 2.1 miles, more or less, to the West R.O.W. line of Meppen Lane;

thence Northerly along the West R.O.W. line of Meppen Lane 2.3 miles, more or less, through Meppen, to the Westerly R.O.W. line of County Highway 1, also known as Illinois River Road;

thence Northerly along the Westerly R.O.W. line of County Highway 1 and Illinois River Road

10.6 miles, more or less, to the Westerly R.O.W. line of state Route 100 at Hardin; thence continue Northerly along the Westerly R.O.W line of State Route 100, and Illinois River Road 16.8 miles, more or less, through Michael, Kampsville and Cliffdale, to the intersection of the west R.o.w. line of state Route 100 and the North line of Calhoun County;

thence West along the North line of Calhoun County 10.5 miles, more or less, to the point of beginning.

Section B: A tract of land located in Greene, Jersey and Madison counties, Illinois, described as follows: Beginning at the Easterly R.O.W. line of FAP 155 at the Southerly bank of Apple creek in Walkerville Township in Greene County;

thence Southerly along the Easterly R.O.W. line of FAP 155 16.5 miles, more or less; through Eldred, across the Greene-Jersey County line, through Spankey to the intersection of FAP 155 with state Routes 16 and 100;

thence Southerly along the Easterly R.O.W. line of State Route 16 and 100 2.0 miles, more or less, to the point where state Route 16 splits from State Route 100;

thence Southerly and Easterly along the Easterly and Northerly R.O.W. lines, respectively, of State Route 100 15.7 miles, more or less, through Nutwood, to the point in Grafton where State Route 100 intersects State Route 3;

thence southerly 0.23 miles, more or less, to the center thread of the Mississippi river, being the State Line between Illinois and Missouri;

thence Southeasterly along the center thread of said river with the Southerly extension of the Westerly bank of Piasa Creek;

thence Northerly along said Southerly extension 0.80 miles, more or less, across the Westerly end of Piasa Island to the intersection of the Westerly bank of Piasa Creek and the Northerly bank of the Mississippi River;

thence Northerly 4.4 miles, more or less, along the meandering Westerly bank of Piasa Creek, across the Jersey-Madison County line, to the point of intersection of the Westerly bank of Piasa creek with the Southwesterly R.O.W. line of State Route 3; thence Northwesterly along the Southwesterly R.O.W. line of State Route 3 3.7 miles, more or less, across the Madison-Jersey County line, to State Route 109;

thence westerly along the Southerly R.O.W. line of State Route 3 5.5 miles, more or less, to the intersection of State Route 3 with county Highway 9, also known as Otterville Road;

thence Northerly along the Westerly R.O.W. line of County Highway 9 8.5 miles, more or less, through Otterville, to State Route 16;

thence Westerly along the Southerly R.O.W. line of State Route 16 5.1 miles, more or less, to the English-Richwood Township line;

thence North along said Township line 4.3 miles, more or less, to the Northwest corner of English Township;

thence West along the North line of Richwood Township 130 feet, more or less, to the Jersey-Greene County line;

thence Northwesterly along the Kane-Woodville Township line in Green County 0.3 mile, more or less, to the Westerly bank of Macoupin Creek;

thence Northeasterly along the meander of the Northwesterly bank of Macoupin Creek 3.0 miles, more or less, to the Westerly bank of Drapper Branch;

thence Northerly along the Westerly bank of Drapper Branch 1.3 miles, more or less, to the Northerly R.O.W. line of a township road;

thence Northeasterly along the Northwesterly R.O.W. line of said township road 0.3 mile, more or less, to County Highway 17;

thence Northerly along the Westerly R.O.W. line of County Highway 17 0.5 mile, more or less, to the point where County Highway 17 turns West;

thence continue Northerly along the Westerly R.O.W. line of a township road 1.2 miles, more or less; thence West along the Southerly R.O.W. Line of said township road 0.25 miles, more or less;

thence Northerly and Westerly along the Western and Southern R.O.W. line respectively of said township road 0.75 miles, more or less, to the intersection of a North-South township road, Mount Gilead Church being located at the southeast corner of said township road intersection;

thence North along the West R.O.W. line of said North-South township road 1.5 miles, more or less, to County Highway 20;

thence East along the North R.O.W. line of County Highway 20 180 feet, more or less, to the West R.O.W. line of County Highway 1;

thence North along the West R.O.W. line of County Highway 1 2.7 miles, more or less, through Kaser, to State Route 108;

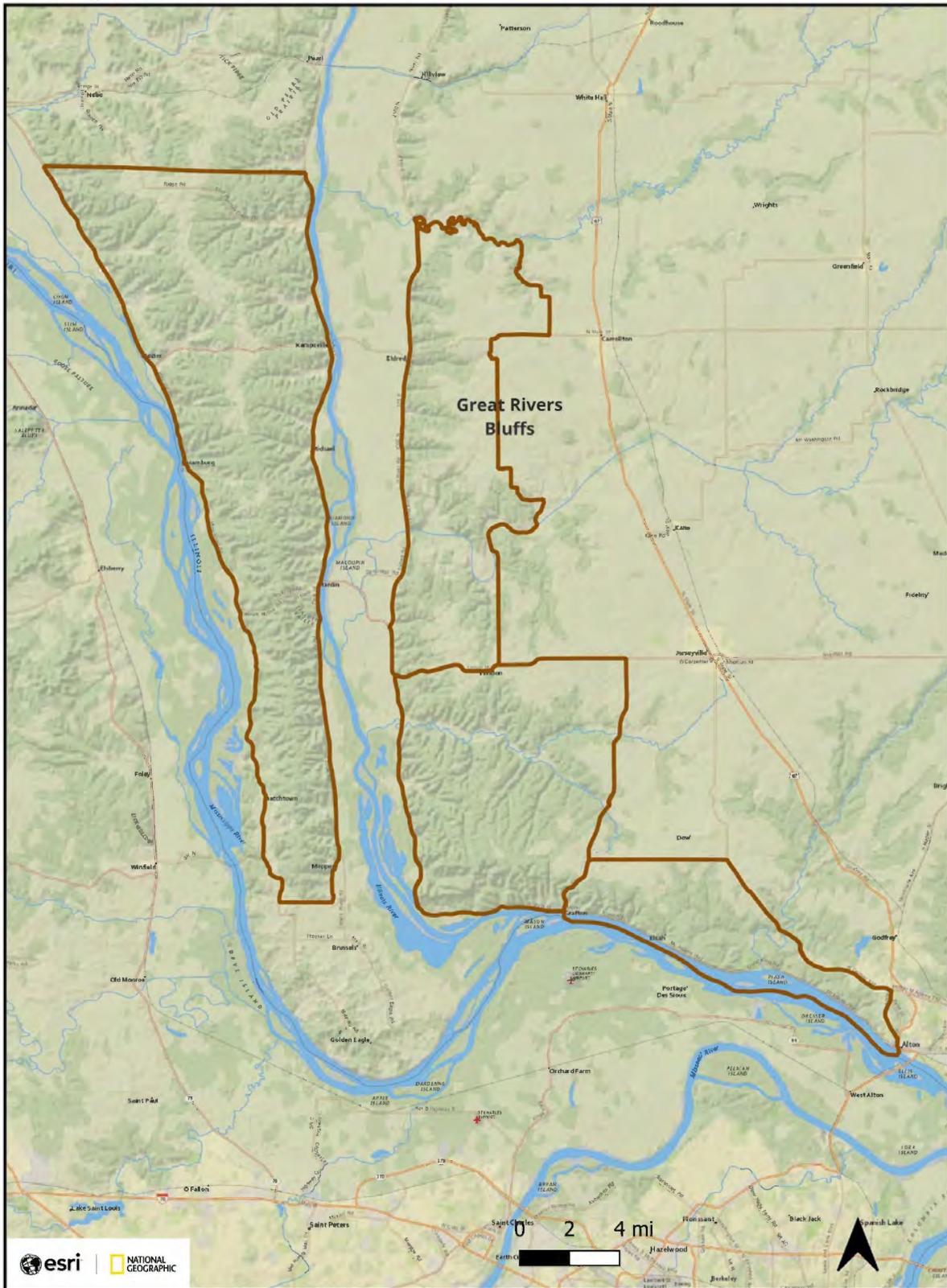
thence East along the North R.O.W. line of State Route 108 1.0 mile, more or less, to a North-South township road, thence North along the West R.O.W. line of said township road 1.5 miles, more or less;

thence West along the South R.O.W. line of said township road 0.3 mile, more or less; thence Northerly and Westerly along the Westerly and Southerly R.O.W. lines, respectively, of said township road 1.1 miles, more or less, to the termination of said township road at Coates Creek;

thence Northwesterly along the Southwesterly bank of Coates Creek 2.1 miles, more or less, to the Southerly bank of Apple Creek;

thence Westerly along the Southerly bank of Apple Creek 8.8 miles, more or less, to the Easterly R.O.W. line of FAP 155 at the point of beginning.

Great Rivers Bluffs Forest Legacy Area



Southern Illinois Lower Kaskaskia (SLIK) Corridor

Description of each important forest area:

The application area includes 3 important forested areas: the lower portion of the Kaskaskia River watershed, the Sinkhole Plain, and the American Bottoms. These areas consist of a combination of upland and bottomland forests along a portion of the Mississippi River and the Kaskaskia River (below Carlyle Dam) including its major tributaries. Those major tributaries include Shoal Creek, Silver Creek, Crooked Creek, and Mud Creek. The boundary of this area is basically the same as that of the Southwestern Illinois Resource Conservation and Development Area.

The Kaskaskia River is the second longest river in Illinois. Its watershed takes in all or parts of 22 counties, from Champaign County to the river's confluence with the Mississippi River in Randolph County. The watershed contains 5,700 square miles or 10.2% of the land surface of the state. The river is quite diverse in character in that along its course are two of Illinois' largest lakes, Lake Shelbyville and Lake Carlyle. The forested area within the Lower Kaskaskia Corridor Forest Legacy Area begins below the dam at Lake Carlyle.

The proposed legacy area contains 3 locally led conservation Ecosystem Partnerships recognized by the state of Illinois: The Kaskaskia River Partnership, the Lower Kaskaskia River Partnership (including the Sinkhole Plains- a unique karst/cave system area), and the American Bottoms Partnership. Within the 2 Kaskaskia River partnerships, not including the Sinkhole Plains area, there is extensive riparian forest (45% of the forest is bottomland) consisting mainly of pin oak, bur oak, soft maple, cottonwood, green ash, and associated species. Southern Flatwoods, or post oak flatwoods, are a unique ecological feature of this area. This community type occurs on floodplain terraces and level uplands where the soils are poorly drained and contain a nearly impervious subsoil horizon or clay-pan. As a result, plants associated with this type of environment are usually drought-tolerant species such as post oak and blackjack oak. Most of the forests in this area are located in Bond, Clinton, St Clair, and Washington Counties along with portions of Randolph and Monroe Counties.

The forested areas in the American Bottom & Sinkhole Plains consist primarily of upland oak-hickory forests that occur along the loess covered Mississippi River bluffs and adjacent till plains (85% of the forest is upland). These forests are located primarily in Randolph and Monroe Counties, and the more urbanized Metro East Counties of St. Clair and Madison.

The Legacy Area encompasses approximately 2,414,500 acres. Of this approximately:

- 376,500 acres are forested (15.6 %)
- 40,500 acres are Natural Areas (%)
- 24,800 acres are state parks and other conservation areas (%)

Summary of important environmental values and how (type of conservation easement) they will be protected and conserved.

The majority of the Kaskaskia Watershed is in agriculture. This region was one of the first settled areas of the state. Early farmers converted the vast prairies of the northern part of the watershed to cropland. Wet prairies were eliminated through field drainage systems. Remnants of these ecological types are now contained in cemeteries and railroad rights-of-way.

The proposed Kaskaskia Corridor Forest Legacy Area, while greatly altered from its pre-settlement conditions, still is home to more than 1,100 species of vascular plants, 112 species of fish, 42 species of mussels, 27 species of large crustaceans, 19 amphibian species, 36 species of reptiles, 49 species of mammals, and at least 287 bird species. At least 59 "T&E" species of plants and animals occur in the watershed.

Most of the application area lies within 50 miles of St. Louis, Missouri and the Illinois suburbs that comprise the Metro East portion of the St. Louis metropolitan area. This is the second largest metropolitan area in Illinois after the Chicago area. Counties in this area are more likely to attract new residents over the next 20 years due to the advantages of good roads (two interstates feed from this area into the St. Louis metro area), lower-priced land, and the access to rapidly expanding rural water supplies. The area includes the fastest growing counties in Illinois. Because of these factors rural residential development pressure is high and forest land are among the most attractive building sites.

In addition to urbanization, habitat fragmentation, competition from non-native species, and pollution contribute to changes that alter the forested systems of this area. Construction of roads, fields, and houses divides forests into small islands, severing the links that once connected them. This makes it difficult for some species to move during migration or find necessary food supplies.

On the perimeter of urbanization, forest land development pressures are especially severe. Development is shifting public policy in urbanizing counties in ways which promote land use changes by modifying property tax rules. These rules assess forest on its highest potential use rather than its existing use. Forest that once was kept as habitat or green space is being converted due to substantial increases in tax burdens.

While severe fragmentation of natural habitats is widespread in Illinois, the Legacy area is unusual in the amount of unfragmented forest still occurs today. Large, contiguous stands of forests are very rare in Illinois. Only 40 tracts greater than 500 acres are known to exist. Five of these tracts occur in the application area, including the largest contiguous block of forest in the entire state – the 7300-acre Kaskaskia Bottoms Macro site Forest. As a result, migratory birds (especially those which are area sensitive) enjoy a usually high rate of nesting success in this area.

The lower Kaskaskia River area contains 10 Illinois Nature Preserves and 33 Illinois Natural Areas Inventory sites. These sites represent examples of high-quality natural plant and animal communities once common to Illinois' landscape. Such areas are relatively undisturbed and afford scientific and educational opportunities to the area.

The high-quality resources of the area, plus the natural beauty, provide for recreational benefits for boaters, canoeists, birders, and hikers. Hunters benefit from the large populations of waterfowl, deer, and

turkey, while fishers find an abundance of fish in rivers and lakes of the region. Public lands associated with large lakes and Kaskaskia River along with the preponderance of private forest contribute to the many recreational opportunities of the area. These areas are heavily utilized by both residents of the rural community and the adjacent expanding urban population.

Conservation Easement for forested tracts should address acquisition of:

- development rights on/or adjacent to the Kaskaskia River and major tributaries and especially within the larger remaining tracts;
- development rights on property with habitat for rare plants, natural communities, and wildlife;
- development rights on properties adjacent to public and protected lands;
- development rights on other properties not on the Kaskaskia River or major tributaries; or adjacent to public and protected lands where there are open space or green space needs (e.g. Mississippi River Bluffs);
- mineral rights;
- timber and other wood products rights;
- access to protect natural communities and rare plants
- public access for educational and recreational activities (e.g. hunting, fishing, hiking).

List of public benefits to be derived.

- Protection and management of the largest contiguous bottomland forest in Illinois.
- Protection and conservation of the watershed of the Kaskaskia River and its major tributaries, local public water supplies, and reduction of erosion threats.
- Protection and conservation of water quality especially in the Sinkhole Plains portion of the Legacy area.
- Protection of wildlife habitat / green space and watershed protection in the rapidly developing or urbanized counties of Madison, St Clair, Monroe, and Clinton.
- Protection and conservation of riverine habitat essential to many rare plant and animal species (e.g., migratory neo-tropical birds, mammals, reptiles, fish, amphibians, and invertebrates).
- Protection of native forest communities and remnant forest types (including recognized high-quality stands), and late successional forests that provide for aquatic and terrestrial plants and animals including many federal and state endangered species.
- Continuation and expansion of recreational and tourism opportunities (i.e. trails and greenbelts to connect existing publicly-owned and protected lands, and public access rights along rivers and streams).
- Promotion of forest stewardship.
- Creation of environmental education programs and public awareness opportunities.

Identification of governmental entity or entities that may be assigned management responsibility:

Many management options (federal, state, and units of local government) exist in the area. Assignment to a specific entity or entities (i.e., Illinois Department of Natural Resources, the Southwestern Illinois Resource Conservation and Development, local Conservation Districts, United States Forest Service, United States Fish and Wildlife Service, National Park Service, and/or the Corps of Engineers) will be made as tracts are considered for inclusion into the Forest Legacy Program.

Boundary Description: Lower Kaskaskia Forest Legacy Area:

The boundary descriptions may be found accurately and simply by seeing the attached complete list of each FLP eligible sections organized by townships and ranges. All sections that have suitable amounts forest land for forest management were included. A list of each 1-mile square sections, organized by prime meridian, section and range, is listed for counties and their townships within the Lower Kaskaskia FLA. If a section does not appear on this list it is not- eligible; if a section does appear on this list it is eligible.

Bond Co	Clinton Co	Madison Co	Monroe Co	Randolph Co	St. Clair Co	Washington Co
3 4N 2W34	3 1N 1W 1	3 3N 5W 2	3 1S10W 4	3 4S 5W 1	3 1N 6W 6	3 1N 1W25
3 4N 2W35	3 1N 1W 2	3 3N 5W 3	3 1S10W 9	3 4S 5W 2	3 1N 6W 7	3 1N 1W26
3 4N 2W36	3 1N 1W 3	3 3N 5W 9	3 1S10W10	3 4S 5W 3	3 1N 6W18	3 1N 1W27
3 4N 3W 2	3 1N 1W 9	3 3N 5W10	3 1S10W14	3 4S 5W11	3 1N 7W 1	3 1N 1W28
3 4N 3W 3	3 1N 1W10	3 3N 5W11	3 1S10W20	3 4S 5W12	3 1N 7W 2	3 1N 1W29
3 4N 3W 4	3 1N 1W11	3 3N 5W14	3 1S10W21	3 4S 5W18	3 1N 7W11	3 1N 1W30
3 4N 3W 7	3 1N 1W15	3 3N 5W15	3 1S10W22	3 4S 5W19	3 1N 7W12	3 1N 1W32
3 4N 3W 9	3 1N 1W16	3 3N 5W16	3 1S10W23	3 4S 5W27	3 1N 7W13	3 1N 1W33
3 4N 3W10	3 1N 1W17	3 3N 5W21	3 1S10W24	3 4S 5W28	3 1N 7W21	3 1N 1W34
3 4N 3W11	3 1N 1W18	3 3N 5W22	3 1S10W27	3 4S 5W30	3 1N 7W22	3 1N 1W35
3 4N 3W12	3 1N 1W19	3 3N 5W23	3 1S10W28	3 4S 5W33	3 1N 7W23	3 1N 1W36
3 4N 3W14	3 1N 1W20	3 3N 5W25	3 1S10W29	3 4S 5W34	3 1N 7W24	3 1N 2W19
3 4N 3W15	3 1N 1W21	3 3N 5W26	3 1S10W30	3 4S 6W 3	3 1N 7W25	3 1N 2W20
3 4N 3W18	3 1N 1W22	3 3N 5W27	3 1S10W31	3 4S 6W13	3 1N 7W26	3 1N 2W21
3 4N 3W22	3 1N 1W23	3 3N 5W28	3 1S10W32	3 4S 6W17	3 1N 7W27	3 1N 2W22
3 4N 3W23	3 1N 1W24	3 3N 5W33	3 1S10W33	3 4S 6W18	3 1N 7W28	3 1N 2W22
3 4N 3W26	3 1N 2W 1	3 3N 5W34	3 1S10W34	3 4S 6W19	3 1N 7W35	3 1N 2W23
3 4N 3W27	3 1N 2W 2	3 3N 5W35	3 1S11W26	3 4S 6W20	3 1N 7W36	3 1N 2W24
3 4N 3W34	3 1N 2W 3	3 3N 6W 1	3 1S11W27	3 4S 6W23	3 1N 8W 5	3 1N 2W24
3 4N 3W35	3 1N 2W 7	3 3N 6W 2	3 1S11W33	3 4S 6W24	3 1N 8W 6	3 1N 2W24
3 4N 4W 1	3 1N 2W 9	3 3N 6W 3	3 1S11W34	3 4S 6W25	3 1N 9W 1	3 1N 2W25
3 4N 4W 2	3 1N 2W10	3 3N 6W 4	3 2S 9W 5	3 4S 6W26	3 1N 9W 2	3 1N 2W26
3 4N 4W 3	3 1N 2W16	3 3N 6W 5	3 2S 9W 6	3 4S 6W27	3 1N 9W 3	3 1N 2W26
3 4N 4W10	3 1N 2W17	3 3N 6W 6	3 2S 9W 7	3 4S 6W28	3 1N 9W 4	3 1N 2W27
3 4N 4W11	3 1N 2W18	3 3N 6W 7	3 2S 9W 8	3 4S 6W29	3 1N 9W 9	3 1N 2W28
3 4N 4W12	3 1N 2W19	3 3N 6W 8	3 2S 9W 9	3 4S 6W30	3 1N 9W10	3 1N 2W29
3 4N 4W13	3 1N 2W19	3 3N 6W18	3 2S 9W15	3 4S 6W31	3 1N 9W13	3 1N 2W30
3 4N 4W14	3 1N 2W20	3 3N 7W 1	3 2S 9W16	3 4S 6W32	3 1N 9W14	3 1N 2W30
3 4N 4W15	3 1N 2W21	3 3N 7W 2	3 2S 9W17	3 4S 6W33	3 1N 9W15	3 1N 2W31
3 4N 4W20	3 1N 2W22	3 3N 7W 3	3 2S10W 3	3 4S 6W34	3 1N 9W16	3 1N 3W25
3 4N 4W21	3 1N 2W23	3 3N 7W 7	3 2S10W 4	3 4S 6W35	3 1N 9W17	3 1N 3W26
3 4N 4W22	3 1N 2W24	3 3N 7W10	3 2S10W 5	3 4S 7W 4	3 1N 9W18	3 1N 3W26
3 4N 4W23	3 1N 2W25	3 3N 7W11	3 2S10W 6	3 4S 7W 5	3 1N 9W19	3 1N 3W26
3 4N 4W24	3 1N 2W25	3 3N 7W12	3 2S10W 7	3 4S 7W 6	3 1N 9W20	3 1N 3W27
3 4N 4W25	3 1N 2W26	3 3N 7W13	3 2S10W 8	3 4S 7W 8	3 1N 9W21	3 1N 3W28
3 4N 4W26	3 1N 2W26	3 3N 7W14	3 2S10W 9	3 4S 7W 9	3 1N 9W22	3 1N 3W32
3 4N 4W27	3 1N 2W26	3 3N 7W15	3 2S10W10	3 4S 7W13	3 1N 9W23	3 1N 3W33
3 4N 4W28	3 1N 2W27	3 3N 7W18	3 2S10W15	3 4S 7W16	3 1N 9W24	3 1N 3W34
3 4N 4W29	3 1N 2W30	3 3N 7W19	3 2S10W16	3 4S 7W17	3 1N 9W25	3 1N 3W35
3 4N 4W33	3 1N 3W 1	3 3N 7W22	3 2S10W17	3 4S 7W20	3 1N 9W26	3 1N 3W36
3 4N 4W34	3 1N 3W 2	3 3N 7W23	3 2S10W18	3 4S 7W21	3 1N 9W27	3 1N 4W31
3 4N 4W35	3 1N 3W 3	3 3N 7W24	3 2S10W19	3 4S 7W24	3 1N 9W28	3 1N 4W31
3 4N 4W36	3 1N 3W10	3 3N 7W25	3 2S10W20	3 4S 7W25	3 1N 9W29	3 1N 4W32
3 5N 2W 1	3 1N 3W11	3 3N 7W26	3 2S10W21	3 4S 7W26	3 1N 9W30	3 1N 4W33
3 5N 2W 2	3 1N 3W12	3 3N 7W27	3 2S10W22	3 4S 7W27	3 1N 9W31	3 1N 4W34
3 5N 2W 3	3 1N 3W13	3 3N 7W28	3 2S10W27	3 4S 7W28	3 1N 9W32	3 1N 4W34

Bond Co	Clinton Co	Madison Co	Monroe Co	Randolph Co	St. Clair Co	Washington Co
3 5N 2W10	3 1N 3W21	3 3N 7W29	3 2S10W28	3 4S 7W29	3 1N 9W33	3 1N 4W34
3 5N 2W11	3 1N 3W22	3 3N 7W30	3 2S10W29	3 4S 7W31	3 1N 9W34	3 1S 1W 5
3 5N 2W12	3 1N 3W23	3 3N 7W31	3 2S10W30	3 4S 7W32	3 1N 9W35	3 1S 1W 8
3 5N 2W13	3 1N 3W24	3 3N 7W32	3 2S10W31	3 4S 7W33	3 1N10W13	3 1S 2W 6
3 5N 2W14	3 1N 3W25	3 3N 7W33	3 2S10W32	3 4S 7W34	3 1N10W14	3 1S 2W 7
3 5N 2W15	3 1N 3W25	3 3N 7W34	3 2S10W33	3 4S 7W35	3 1N10W22	3 1S 2W18
3 5N 2W22	3 1N 3W26	3 3N 7W35	3 2S10W34	3 4S 7W36	3 1N10W23	3 1S 2W33
3 5N 2W23	3 1N 3W27	3 3N 7W36	3 2S11W 4	3 4S 8W18	3 1N10W24	3 1S 2W34
3 5N 2W24	3 1N 3W28	3 3N 8W 3	3 2S11W 5	3 4S 8W19	3 1N10W25	3 1S 3W 1
3 5N 3W 1	3 1N 3W29	3 3N 8W 4	3 2S11W 7	3 4S 8W26	3 1N10W26	3 1S 3W 2
3 5N 3W 2	3 1N 3W30	3 3N 8W 5	3 2S11W 8	3 4S 8W27	3 1N10W27	3 1S 3W 3
3 5N 3W 3	3 1N 3W31	3 3N 8W 7	3 2S11W12	3 4S 8W28	3 1N10W28	3 1S 3W 4
3 5N 3W 4	3 1N 3W32	3 3N 8W 8	3 2S11W13	3 4S 8W29	3 1N10W33	3 1S 3W 5
3 5N 3W 5	3 1N 3W33	3 3N 8W 9	3 2S11W17	3 4S 8W30	3 1N10W34	3 1S 3W 6
3 5N 3W 6	3 1N 3W34	3 3N 8W10	3 2S11W18	3 4S 8W31	3 1N10W35	3 1S 3W 7
3 5N 3W 7	3 1N 3W35	3 3N 8W11	3 2S11W19	3 4S 8W32	3 1N10W36	3 1S 3W 8
3 5N 3W 8	3 1N 3W35	3 3N 8W12	3 2S11W24	3 4S 8W33	3 1S 6W13	3 1S 3W 9
3 5N 3W 9	3 1N 4W 1	3 3N 8W13	3 2S11W25	3 4S 8W34	3 1S 6W21	3 1S 3W10
3 5N 3W10	3 1N 4W 2	3 3N 8W14	3 2S11W30	3 4S 8W35	3 1S 6W22	3 1S 3W11
3 5N 3W11	3 1N 4W 3	3 3N 8W15	3 2S11W31	3 4S 8W36	3 1S 6W23	3 1S 3W12
3 5N 3W15	3 1N 4W 9	3 3N 8W16	3 2S11W34	3 5S 5W 1	3 1S 6W24	3 1S 3W13
3 5N 3W16	3 1N 4W10	3 3N 8W17	3 2S11W35	3 5S 5W 2	3 1S 6W25	3 1S 3W14
3 5N 3W17	3 1N 4W11	3 3N 8W18	3 2S11W36	3 5S 5W 3	3 1S 6W26	3 1S 3W15
3 5N 3W18	3 1N 4W15	3 3N 8W20	3 3S 7W 5	3 5S 5W 4	3 1S 6W27	3 1S 3W22
3 5N 3W19	3 1N 4W16	3 3N 8W21	3 3S 7W 6	3 5S 5W 9	3 1S 6W28	3 1S 3W27
3 5N 3W20	3 1N 4W17	3 3N 8W22	3 3S 7W 7	3 5S 5W10	3 1S 6W29	3 1S 4W 1
3 5N 3W21	3 1N 4W20	3 3N 8W23	3 3S 7W 8	3 5S 5W11	3 1S 6W32	3 1S 4W 2
3 5N 3W26	3 1N 4W21	3 3N 8W24	3 3S 7W17	3 5S 5W12	3 1S 6W33	3 1S 4W 3
3 5N 3W29	3 1N 4W28	3 3N 8W25	3 3S 7W18	3 5S 5W13	3 1S 6W34	3 1S 4W 4
3 5N 3W30	3 1N 4W29	3 3N 8W26	3 3S 7W18	3 5S 5W14	3 1S 6W35	3 1S 4W 4
3 5N 3W31	3 1N 4W30	3 3N 8W27	3 3S 7W19	3 5S 5W15	3 1S 6W36	3 1S 4W 5
3 5N 3W33	3 1N 4W31	3 3N 8W28	3 3S 7W29	3 5S 5W16	3 1S 7W 1	3 1S 4W 6
3 5N 3W34	3 1N 4W32	3 3N 8W29	3 3S 7W29	3 5S 5W17	3 1S 7W 2	3 1S 4W 7
3 5N 3W35	3 1N 4W33	3 3N 8W32	3 3S 7W30	3 5S 5W18	3 1S 7W 7	3 1S 4W 8
3 5N 4W 1	3 1N 4W34	3 3N 8W33	3 3S 7W31	3 5S 5W19	3 1S 7W 8	3 1S 4W12
3 5N 4W 2	3 1N 4W35	3 3N 8W34	3 3S 7W32	3 5S 5W20	3 1S 7W 9	3 1S 4W17
3 5N 4W 3	3 1N 4W36	3 3N 8W35	3 3S 8W 1	3 5S 5W21	3 1S 7W10	3 1S 4W18
3 5N 4W 4	3 1N 5W 2	3 3N 8W36	3 3S 8W 2	3 5S 5W22	3 1S 7W11	3 1S 5W 1
3 5N 4W 5	3 1N 5W 3	3 4N 5W 3	3 3S 8W 5	3 5S 5W23	3 1S 7W12	3 1S 5W 2
3 5N 4W 6	3 1N 5W10	3 4N 5W 4	3 3S 8W 6	3 5S 5W24	3 1S 7W13	3 1S 5W11
3 5N 4W 8	3 1N 5W11	3 4N 5W 5	3 3S 8W 7	3 5S 5W25	3 1S 7W14	3 1S 5W12
3 5N 4W 9	3 1N 5W12	3 4N 5W 8	3 3S 8W 8	3 5S 5W26	3 1S 7W15	3 1S 5W13
3 5N 4W10	3 1N 5W14	3 4N 5W 9	3 3S 8W 9	3 5S 5W27	3 1S 7W16	3 1S 5W14
3 5N 4W11	3 1N 5W15	3 4N 5W10	3 3S 8W10	3 5S 5W28	3 1S 7W17	3 1S 5W15
3 5N 4W12	3 1N 5W22	3 4N 5W15	3 3S 8W11	3 5S 5W29	3 1S 7W18	3 1S 5W16
3 5N 4W13	3 1N 5W23	3 4N 5W16	3 3S 8W12	3 5S 5W30	3 1S 7W20	3 1S 5W17

Bond Co	Clinton Co	Madison Co	Monroe Co	Randolph Co	St. Clair Co	Washington Co
3 5N 4W14	3 1N 5W25	3 4N 5W17	3 3S 8W13	3 5S 5W31	3 1S 7W21	3 1S 5W19
3 5N 4W15	3 1N 5W26	3 4N 5W18	3 3S 8W14	3 5S 5W32	3 1S 7W22	3 1S 5W20
3 5N 4W16	3 1N 5W27	3 4N 5W19	3 3S 8W15	3 5S 5W33	3 1S 7W23	3 1S 5W20
3 5N 4W21	3 1N 5W34	3 4N 5W20	3 3S 8W16	3 5S 5W34	3 1S 7W24	3 1S 5W20
3 5N 4W22	3 1N 5W35	3 4N 5W21	3 3S 8W17	3 5S 5W35	3 1S 7W26	3 1S 5W21
3 5N 4W23	3 1N 5W36	3 4N 5W22	3 3S 8W18	3 5S 5W36	3 1S 7W27	3 1S 5W22
3 5N 4W24	3 1S 3W 5	3 4N 5W23	3 3S 8W19	3 5S 6W 2	3 1S 7W28	3 1S 5W23
3 5N 4W25	3 1S 3W 6	3 4N 5W26	3 3S 8W20	3 5S 6W 3	3 1S 7W29	3 1S 5W26
3 5N 4W26	3 1S 4W 1	3 4N 5W27	3 3S 8W21	3 5S 6W 4	3 1S 7W32	3 1S 5W27
3 5N 4W27	3 1S 4W 2	3 4N 5W30	3 3S 8W22	3 5S 6W 5	3 1S 7W33	3 1S 5W28
3 5N 4W28	3 1S 4W 3	3 4N 5W34	3 3S 8W23	3 5S 6W 6	3 1S 7W34	3 1S 5W29
3 5N 4W33	3 1S 4W 3	3 4N 5W35	3 3S 8W24	3 5S 6W 7	3 1S 8W 7	3 1S 5W30
3 5N 4W34	3 1S 4W 3	3 4N 6W 1	3 3S 8W25	3 5S 6W 8	3 1S 8W18	3 1S 5W34
3 5N 4W35	3 1S 4W 4	3 4N 6W 2	3 3S 8W26	3 5S 6W 9	3 1S 8W19	3 1S 5W35
3 5N 4W36	3 1S 4W 5	3 4N 6W 3	3 3S 8W27	3 5S 6W10	3 1S 9W 2	3 2S 1W 1
3 5N 5W 1	3 1S 4W 5	3 4N 6W10	3 3S 8W28	3 5S 6W11	3 1S 9W 3	3 2S 1W 2
3 6N 2W 1	3 1S 4W 6	3 4N 6W11	3 3S 8W29	3 5S 6W13	3 1S 9W 4	3 2S 1W11
3 6N 2W 2	3 1S 4W 6	3 4N 6W12	3 3S 8W30	3 5S 6W14	3 1S 9W 5	3 2S 1W12
3 6N 2W 3	3 1S 5W 1	3 4N 6W13	3 3S 8W31	3 5S 6W15	3 1S 9W 6	3 2S 1W13
3 6N 2W 4	3 1S 5W 2	3 4N 6W14	3 3S 8W32	3 5S 6W16	3 1S 9W 7	3 2S 1W14
3 6N 2W 5	3 1S 5W 3	3 4N 6W15	3 3S 8W33	3 5S 6W17	3 1S 9W 8	3 2S 1W23
3 6N 2W 6	3 1S 5W 4	3 4N 6W22	3 3S 8W34	3 5S 6W18	3 1S 9W 9	3 2S 1W24
3 6N 2W 7	3 1S 5W 8	3 4N 6W23	3 3S 8W35	3 5S 6W19	3 1S 9W10	3 2S 1W27
3 6N 2W 8	3 1S 5W 9	3 4N 6W24	3 3S 8W36	3 5S 6W20	3 1S 9W11	3 2S 1W28
3 6N 2W 9	3 1S 5W10	3 4N 6W25	3 3S 9W 1	3 5S 6W21	3 1S 9W12	3 2S 1W33
3 6N 2W10	3 1S 5W11	3 4N 6W26	3 3S 9W 2	3 5S 6W22	3 1S 9W13	3 2S 1W34
3 6N 2W11	3 1S 5W14	3 4N 6W27	3 3S 9W 3	3 5S 6W23	3 1S 9W14	3 2S 2W 2
3 6N 2W12	3 1S 5W15	3 4N 6W30	3 3S 9W 4	3 5S 6W24	3 1S 9W15	3 2S 2W 3
3 6N 2W13	3 1S 5W15	3 4N 6W31	3 3S 9W 5	3 5S 6W25	3 1S 9W16	3 2S 2W 4
3 6N 2W14	3 1S 5W16	3 4N 6W33	3 3S 9W 6	3 5S 6W26	3 1S 9W17	3 2S 2W 5
3 6N 2W15	3 1S 5W17	3 4N 6W34	3 3S 9W 7	3 5S 6W27	3 1S 9W18	3 2S 2W 6
3 6N 2W16	3 1S 5W18	3 4N 6W35	3 3S 9W 8	3 5S 6W28	3 1S 9W19	3 2S 2W23
3 6N 2W17	3 1S 5W19	3 4N 6W36	3 3S 9W 9	3 5S 6W29	3 1S 9W20	3 2S 2W24
3 6N 2W18	3 1S 5W20	3 4N 7W 1	3 3S 9W10	3 5S 6W30	3 1S 9W21	3 2S 2W25
3 6N 2W19	3 1S 5W21	3 4N 7W 2	3 3S 9W11	3 5S 6W31	3 1S 9W22	3 2S 2W26
3 6N 2W20	3 1S 5W30	3 4N 7W 3	3 3S 9W12	3 5S 6W32	3 1S 9W23	3 2S 2W31
3 6N 2W21	3 2N 1W35	3 4N 7W 5	3 3S 9W13	3 5S 6W33	3 1S 9W24	3 2S 3W34
3 6N 2W22	3 2N 1W36	3 4N 7W 6	3 3S 9W14	3 5S 6W34	3 1S 9W26	3 2S 4W 7
3 6N 2W23	3 2N 2W 5	3 4N 7W 7	3 3S 9W15	3 5S 6W35	3 1S 9W27	3 2S 4W 8
3 6N 2W24	3 2N 2W26	3 4N 7W10	3 3S 9W16	3 5S 6W36	3 1S 9W28	3 2S 4W16
3 6N 2W25	3 2N 2W31	3 4N 7W11	3 3S 9W17	3 5S 7W 1	3 1S 9W29	3 2S 4W17
3 6N 2W26	3 2N 2W35	3 4N 7W12	3 3S 9W18	3 5S 7W 2	3 1S 9W32	3 2S 4W18
3 6N 2W27	3 2N 3W 3	3 4N 7W13	3 3S 9W19	3 5S 7W 3	3 1S 9W33	3 2S 4W19
3 6N 2W28	3 2N 3W 4	3 4N 7W14	3 3S 9W20	3 5S 7W 4	3 1S 9W34	3 2S 4W20
3 6N 2W29	3 2N 3W 7	3 4N 7W15	3 3S 9W21	3 5S 7W 5	3 1S 9W35	3 2S 4W21
3 6N 2W30	3 2N 3W 8	3 4N 7W16	3 3S 9W22	3 5S 7W 6	3 1S10W 1	3 2S 4W22

Bond Co	Clinton Co	Madison Co	Monroe Co	Randolph Co	St. Clair Co	Washington Co
3 6N 2W34	3 2N 3W 9	3 4N 7W17	3 3S 9W23	3 5S 7W 7	3 1S10W 2	3 2S 4W23
3 6N 2W35	3 2N 3W10	3 4N 7W18	3 3S 9W24	3 5S 7W 8	3 1S10W 3	3 2S 4W25
3 6N 2W36	3 2N 3W16	3 4N 7W20	3 3S 9W25	3 5S 7W 9	3 1S10W 4	3 2S 4W26
3 6N 3W 1	3 2N 3W17	3 4N 7W21	3 3S 9W26	3 5S 7W10	3 1S10W10	3 2S 4W27
3 6N 3W 2	3 2N 3W18	3 4N 7W22	3 3S 9W27	3 5S 7W11	3 1S10W11	3 2S 4W28
3 6N 3W 3	3 2N 3W19	3 4N 7W23	3 3S 9W28	3 5S 7W12	3 1S10W12	3 2S 4W29
3 6N 3W 4	3 2N 3W20	3 4N 7W24	3 3S 9W29	3 5S 7W13	3 1S10W13	3 2S 4W30
3 6N 3W 6	3 2N 3W29	3 4N 7W25	3 3S 9W30	3 5S 7W14	3 1S10W14	3 2S 4W31
3 6N 3W 9	3 2N 3W30	3 4N 7W26	3 3S 9W31	3 5S 7W15	3 1S10W24	3 2S 4W32
3 6N 3W10	3 2N 3W31	3 4N 7W27	3 3S 9W32	3 5S 7W16	3 2N 6W30	3 2S 4W33
3 6N 3W11	3 2N 3W32	3 4N 7W28	3 3S 9W33	3 5S 7W17	3 2N 6W31	3 2S 4W34
3 6N 3W12	3 2N 3W34	3 4N 7W29	3 3S 9W34	3 5S 7W18	3 2N 7W 2	3 2S 4W35
3 6N 3W13	3 2N 3W35	3 4N 7W33	3 3S 9W35	3 5S 7W19	3 2N 7W 3	3 2S 4W36
3 6N 3W14	3 2N 3W36	3 4N 7W34	3 3S 9W36	3 5S 7W20	3 2N 7W 4	3 2S 5W 1
3 6N 3W15	3 2N 4W 1	3 4N 7W35	3 3S10W 1	3 5S 7W21	3 2N 7W 5	3 2S 5W 2
3 6N 3W16	3 2N 4W 2	3 4N 7W36	3 3S10W 2	3 5S 7W22	3 2N 7W 6	3 2S 5W 3
3 6N 3W20	3 2N 4W11	3 4N 8W 1	3 3S10W 3	3 5S 7W23	3 2N 7W 7	3 2S 5W11
3 6N 3W21	3 2N 4W12	3 4N 8W 2	3 3S10W 4	3 5S 7W24	3 2N 7W 8	3 2S 5W12
3 6N 3W22	3 2N 4W13	3 4N 8W 3	3 3S10W 5	3 5S 7W25	3 2N 7W 9	3 2S 5W13
3 6N 3W23	3 2N 4W24	3 4N 8W 4	3 3S10W 6	3 5S 7W26	3 2N 7W10	3 2S 5W24
3 6N 3W24	3 2N 4W25	3 4N 8W 5	3 3S10W 7	3 5S 7W27	3 2N 7W11	3 2S 5W25
3 6N 3W25	3 2N 4W26	3 4N 8W 8	3 3S10W 8	3 5S 7W28	3 2N 7W13	3 3S 1W 3
3 6N 3W26	3 2N 4W34	3 4N 8W 9	3 3S10W 9	3 5S 7W29	3 2N 7W14	3 3S 1W 4
3 6N 3W27	3 2N 4W35	3 4N 8W10	3 3S10W10	3 5S 7W30	3 2N 7W17	3 3S 1W 9
3 6N 3W28	3 2N 4W36	3 4N 8W11	3 3S10W11	3 5S 7W31	3 2N 7W18	3 3S 1W10
3 6N 3W31	3 2N 5W 2	3 4N 8W12	3 3S10W12	3 5S 7W32	3 2N 7W23	3 3S 1W15
3 6N 3W32	3 2N 5W 3	3 4N 8W15	3 3S10W13	3 5S 7W33	3 2N 7W24	3 3S 1W16
3 6N 3W33	3 2N 5W 4	3 4N 8W16	3 3S10W14	3 5S 7W34	3 2N 7W25	3 3S 1W21
3 6N 3W34	3 2N 5W 9	3 4N 8W17	3 3S10W15	3 5S 7W35	3 2N 7W26	3 3S 1W22
3 6N 3W35	3 2N 5W10	3 4N 8W20	3 3S10W16	3 5S 7W36	3 2N 7W35	3 3S 1W27
3 6N 3W36	3 2N 5W11	3 4N 8W21	3 3S10W17	3 5S 8W 1	3 2N 7W36	3 3S 1W28
3 6N 4W 1	3 2N 5W14	3 4N 8W22	3 3S10W18	3 5S 8W 2	3 2N 8W 1	3 3S 1W33
3 6N 4W 2	3 2N 5W15	3 4N 8W27	3 3S10W19	3 5S 8W 3	3 2N 8W 2	3 3S 1W34
3 6N 4W 3	3 2N 5W16	3 4N 8W28	3 3S10W20	3 5S 8W 4	3 2N 8W 3	3 3S 2W 5
3 6N 4W 4	3 2N 5W21	3 4N 8W29	3 3S10W21	3 5S 8W 5	3 2N 8W 4	3 3S 2W 6
3 6N 4W 5	3 2N 5W22	3 4N 8W32	3 3S10W22	3 5S 8W 6	3 2N 8W 5	3 3S 2W 7
3 6N 4W 6	3 2N 5W23	3 4N 8W33	3 3S10W23	3 5S 8W 7	3 2N 8W 7	3 3S 2W 8
3 6N 4W 7	3 2N 5W26	3 4N 8W34	3 3S10W24	3 5S 8W 8	3 2N 8W 8	3 3S 2W18
3 6N 4W 8	3 2N 5W27	3 5N 5W33	3 3S10W25	3 5S 8W 9	3 2N 8W 9	3 3S 2W19
3 6N 4W 9	3 2N 5W28	3 5N 5W34	3 3S10W26	3 5S 8W10	3 2N 8W10	3 3S 2W30
3 6N 4W10	3 2N 5W29	3 5N 6W 3	3 3S10W27	3 5S 8W11	3 2N 8W11	3 3S 2W31
3 6N 4W11	3 2N 5W33	3 5N 6W 4	3 3S10W28	3 5S 8W12	3 2N 8W12	3 3S 2W32
3 6N 4W12	3 2N 5W34	3 5N 6W 5	3 3S10W29	3 5S 8W13	3 2N 8W13	3 3S 3W 1
3 6N 4W14	3 2N 5W35	3 5N 6W 7	3 3S10W30	3 5S 8W14	3 2N 8W14	3 3S 3W 2
3 6N 4W15	3 3N 2W 2	3 5N 6W 8	3 3S10W31	3 5S 8W15	3 2N 8W15	3 3S 3W 3
3 6N 4W16	3 3N 2W 3	3 5N 6W 9	3 3S10W32	3 5S 8W16	3 2N 8W16	3 3S 3W10

Bond Co	Clinton Co	Madison Co	Monroe Co	Randolph Co	St. Clair Co	Washington Co
3 6N 4W17	3 3N 2W 6	3 5N 6W10	3 3S10W33	3 5S 8W17	3 2N 8W17	3 3S 3W11
3 6N 4W18	3 3N 2W10	3 5N 6W17	3 3S10W34	3 5S 8W18	3 2N 8W18	3 3S 3W12
3 6N 4W19	3 3N 2W11	3 5N 6W18	3 3S10W35	3 5S 8W19	3 2N 8W19	3 3S 3W13
3 6N 4W20	3 3N 2W14	3 5N 6W19	3 3S10W36	3 5S 8W20	3 2N 8W20	3 3S 3W14
3 6N 4W21	3 3N 2W15	3 5N 6W20	3 3S11W 1	3 5S 8W21	3 2N 8W21	3 3S 3W15
3 6N 4W22	3 3N 2W21	3 5N 6W23	3 3S11W 2	3 5S 8W22	3 2N 8W22	3 3S 3W23
3 6N 4W23	3 3N 2W22	3 5N 6W24	3 3S11W 3	3 5S 8W23	3 2N 8W23	3 3S 3W24
3 6N 4W26	3 3N 2W27	3 5N 6W25	3 3S11W 6	3 5S 8W24	3 2N 8W24	3 3S 3W25
3 6N 4W27	3 3N 2W28	3 5N 6W26	3 3S11W 7	3 5S 8W25	3 2N 8W29	3 3S 3W26
3 6N 4W28	3 3N 2W29	3 5N 6W30	3 3S11W10	3 5S 8W26	3 2N 8W30	3 3S 3W28
3 6N 4W29	3 3N 2W32	3 5N 6W34	3 3S11W11	3 5S 8W27	3 2N 8W31	3 3S 3W29
3 6N 4W30	3 3N 2W33	3 5N 6W35	3 3S11W12	3 5S 8W28	3 2N 8W32	3 3S 3W30
3 6N 4W31	3 3N 3W 1	3 5N 6W36	3 3S11W13	3 5S 8W29	3 2N 9W13	3 3S 3W31
3 6N 4W32	3 3N 3W 2	3 5N 7W 3	3 3S11W14	3 5S 8W30	3 2N 9W24	3 3S 3W32
3 6N 4W33	3 3N 3W 3	3 5N 7W 4	3 3S11W15	3 5S 8W31	3 2N 9W25	3 3S 3W33
3 6N 4W34	3 3N 3W 4	3 5N 7W 5	3 3S11W18	3 5S 8W32	3 2N 9W26	3 3S 3W36
3 6N 4W35	3 3N 3W 6	3 5N 7W 6	3 3S11W19	3 5S 8W33	3 2N 9W34	3 3S 4W 1
3 6N 4W36	3 3N 3W 7	3 5N 7W 7	3 3S11W22	3 5S 8W34	3 2N 9W35	3 3S 4W 2
3 6N 5W 1	3 3N 3W10	3 5N 7W 8	3 3S11W23	3 5S 8W35	3 2N 9W36	3 3S 4W 3
3 6N 5W 2	3 3N 3W11	3 5N 7W17	3 3S11W24	3 5S 8W36	3 2S 6W 2	3 3S 4W 4
3 6N 5W12	3 3N 3W12	3 5N 7W18	3 3S11W25	3 5S 9W 1	3 2S 6W 3	3 3S 4W 7
3 6N 5W23	3 3N 3W13	3 5N 7W19	3 3S11W26	3 5S 9W 2	3 2S 6W 4	3 3S 4W 8
3 6N 5W24	3 3N 3W14	3 5N 7W20	3 3S11W30	3 5S 9W 3	3 2S 6W 5	3 3S 4W 9
3 6N 5W25	3 3N 3W15	3 5N 7W25	3 3S11W31	3 5S 9W 8	3 2S 6W 7	3 3S 4W10
3 6N 5W26	3 3N 3W22	3 5N 7W29	3 3S11W35	3 5S 9W 9	3 2S 6W 8	3 3S 4W11
3 6N 5W35	3 3N 3W23	3 5N 7W30	3 3S11W36	3 5S 9W10	3 2S 6W 9	3 3S 4W12
3 6N 5W36	3 3N 3W24	3 5N 7W31	3 4S 9W 1	3 5S 9W11	3 2S 6W10	3 3S 4W13
3 7N 2W25	3 3N 3W27	3 5N 7W32	3 4S 9W 2	3 5S 9W12	3 2S 6W11	3 3S 4W14
3 7N 2W26	3 3N 3W28	3 5N 7W35	3 4S 9W 3	3 5S 9W13	3 2S 6W14	3 3S 4W15
3 7N 2W27	3 3N 3W33	3 5N 7W36	3 4S 9W 4	3 5S 9W14	3 2S 6W15	3 3S 4W16
3 7N 2W28	3 3N 3W34	3 5N 8W 1	3 4S 9W 5	3 5S 9W15	3 2S 6W16	3 3S 4W17
3 7N 2W29	3 3N 4W 1	3 5N 8W 2	3 4S 9W 6	3 5S 9W16	3 2S 6W17	3 3S 4W18
3 7N 2W30	3 3N 4W 2	3 5N 8W 3	3 4S 9W 7	3 5S 9W17	3 2S 6W18	3 3S 4W19
3 7N 2W31	3 3N 4W11	3 5N 8W11	3 4S 9W 8	3 5S 9W19	3 2S 6W19	3 3S 4W20
3 7N 2W32	3 3N 4W12	3 5N 8W12	3 4S 9W 9	3 5S 9W21	3 2S 6W20	3 3S 4W21
3 7N 2W33	3 3N 4W13	3 5N 8W13	3 4S 9W10	3 5S 9W22	3 2S 6W21	3 3S 4W27
3 7N 2W34	3 3N 4W14	3 5N 8W14	3 4S 9W11	3 5S 9W23	3 2S 6W22	3 3S 4W28
3 7N 2W35	3 3N 4W23	3 5N 8W23	3 4S 9W12	3 5S 9W24	3 2S 6W28	3 3S 4W29
3 7N 2W36	3 3N 4W24	3 5N 8W24	3 4S 9W13	3 5S 9W25	3 2S 6W29	3 3S 4W30
3 7N 3W25	3 3N 4W25	3 5N 8W25	3 4S 9W14	3 5S 9W26	3 2S 6W32	3 3S 4W31
3 7N 3W26	3 3N 4W26	3 5N 8W26	3 4S 9W15	3 5S 9W27	3 2S 6W33	3 3S 4W32
3 7N 3W27	3 3N 4W35	3 5N 8W27	3 4S 9W16	3 5S 9W30	3 2S 7W 3	3 3S 4W33
3 7N 3W28	3 3N 4W36	3 5N 8W34	3 4S 9W17	3 5S 9W35	3 2S 7W 4	3 3S 4W34
3 7N 3W29		3 5N 8W35	3 4S 9W18	3 5S 9W36	3 2S 7W 5	3 3S 4W35
3 7N 3W33		3 5N 8W36	3 4S 9W19	3 5S10W21	3 2S 7W 9	3 3S 4W36
3 7N 3W34		3 6N 5W 5	3 4S 9W20	3 5S10W22	3 2S 7W10	3 3S 5W12

Bond Co	Clinton Co	Madison Co	Monroe Co	Randolph Co	St. Clair Co	Washington Co
3 7N 3W35		3 6N 5W 6	3 4S 9W21	3 5S10W23	3 2S 7W11	3 3S 5W13
3 7N 3W36		3 6N 5W 7	3 4S 9W22	3 5S10W24	3 2S 7W12	3 3S 5W14
3 7N 4W25		3 6N 5W 8	3 4S 9W23	3 5S10W25	3 2S 7W13	3 3S 5W15
3 7N 4W26		3 6N 5W17	3 4S 9W24	3 5S10W26	3 2S 7W14	3 3S 5W16
3 7N 4W27		3 6N 5W18	3 4S 9W25	3 5S10W27	3 2S 7W15	3 3S 5W17
3 7N 4W28		3 6N 5W22	3 4S 9W26	3 6S 5W 1	3 2S 7W16	3 3S 5W18
3 7N 4W29		3 6N 5W27	3 4S 9W27	3 6S 5W 2	3 2S 7W21	3 3S 5W19
3 7N 4W30		3 6N 6W 1	3 4S 9W28	3 6S 5W 3	3 2S 7W22	3 3S 5W20
3 7N 4W31		3 6N 6W 2	3 4S 9W29	3 6S 5W 4	3 2S 7W23	3 3S 5W22
3 7N 4W32		3 6N 6W 3	3 4S 9W30	3 6S 5W 5	3 2S 7W24	3 3S 5W23
3 7N 4W33		3 6N 6W 6	3 4S 9W31	3 6S 5W 6	3 2S 7W27	3 3S 5W24
3 7N 4W34		3 6N 6W10	3 4S 9W32	3 6S 5W 7	3 2S 7W28	3 3S 5W25
3 7N 4W35		3 6N 6W11	3 4S 9W33	3 6S 5W 8	3 2S 7W29	3 3S 5W26
3 7N 4W36		3 6N 6W12	3 4S 9W34	3 6S 5W 9	3 2S 7W30	3 3S 5W27
		3 6N 6W13	3 4S 9W35	3 6S 5W10	3 2S 7W31	3 3S 5W34
		3 6N 6W14	3 4S 9W36	3 6S 5W11	3 2S 7W32	3 3S 5W35
		3 6N 6W15	3 4S10W 1	3 6S 5W12	3 2S 7W33	3 3S 5W36
		3 6N 6W21	3 4S10W 2	3 6S 5W13	3 2S 8W15	
		3 6N 6W22	3 4S10W 3	3 6S 5W14	3 2S 8W22	
		3 6N 6W23	3 4S10W 4	3 6S 5W15	3 2S 8W23	
		3 6N 6W24	3 4S10W 5	3 6S 5W16	3 2S 9W 2	
		3 6N 6W25	3 4S10W 6	3 6S 5W17	3 2S 9W 3	
		3 6N 6W26	3 4S10W 7	3 6S 5W18	3 2S 9W 4	
		3 6N 6W27	3 4S10W 8	3 6S 5W19	3 2S 9W 5	
		3 6N 6W28	3 4S10W 9	3 6S 5W20	3 2S 9W 9	
		3 6N 6W33	3 4S10W10	3 6S 5W21	3 2S 9W10	
		3 6N 6W34	3 4S10W11	3 6S 5W22	3 2S 9W11	
		3 6N 6W35	3 4S10W12	3 6S 5W23	3 2S 9W15	
		3 6N 6W36	3 4S10W13	3 6S 5W24	3 3S 6W 3	
		3 6N 7W 1	3 4S10W14	3 6S 5W25	3 3S 6W 4	
		3 6N 7W 2	3 4S10W15	3 6S 5W26	3 3S 6W 9	
		3 6N 7W 3	3 4S10W16	3 6S 5W27	3 3S 6W10	
		3 6N 7W 4	3 4S10W17	3 6S 5W28	3 3S 6W11	
		3 6N 7W 5	3 4S10W18	3 6S 5W29	3 3S 6W13	
		3 6N 7W 6	3 4S10W20	3 6S 5W30	3 3S 6W14	
		3 6N 7W 7	3 4S10W21	3 6S 5W31	3 3S 6W15	
		3 6N 7W 8	3 4S10W22	3 6S 5W32	3 3S 6W23	
		3 6N 7W 9	3 4S10W23	3 6S 5W33	3 3S 6W24	
		3 6N 7W10	3 4S10W24	3 6S 5W34	3 3S 6W25	
		3 6N 7W11	3 4S10W25	3 6S 5W35	3 3S 6W26	
		3 6N 7W12	3 4S10W26	3 6S 5W36	3 3S 6W34	
		3 6N 7W14	3 4S10W27	3 6S 6W 1	3 3S 6W35	
		3 6N 7W15	3 4S10W31	3 6S 6W 2	3 3S 6W36	
		3 6N 7W16	3 4S10W35	3 6S 6W 3	3 3S 7W 4	
		3 6N 7W17	3 4S10W36	3 6S 6W 4	3 3S 7W 5	
		3 6N 7W18	3 4S11W 1	3 6S 6W 5	3 3S 7W 6	

Bond Co	Clinton Co	Madison Co	Monroe Co	Randolph Co	St. Clair Co	Washington Co
		3 6N 7W19	3 4S11W 5	3 6S 6W 6	3 3S 7W 7	
		3 6N 7W20	3 4S11W 6	3 6S 6W 7	3 3S 7W 8	
		3 6N 7W21	3 4S11W 7	3 6S 6W 8	3 3S 7W17	
		3 6N 7W22	3 4S11W 8	3 6S 6W 9	3 3S 7W18	
		3 6N 7W23	3 4S11W 9	3 6S 6W10	3 3S 7W19	
		3 6N 7W26	3 4S11W12	3 6S 6W11	3 3S 7W20	
		3 6N 7W27	3 4S11W15	3 6S 6W12	3 3S 7W21	
		3 6N 7W28	3 4S11W16	3 6S 6W13	3 3S 7W22	
		3 6N 7W29	3 4S11W17	3 6S 6W14	3 3S 7W23	
		3 6N 7W30	3 4S11W21	3 6S 6W15	3 3S 7W25	
		3 6N 7W31	3 4S11W22	3 6S 6W16	3 3S 7W26	
		3 6N 7W32	3 4S11W23	3 6S 6W17	3 3S 7W27	
		3 6N 7W33	3 4S11W25	3 6S 6W18	3 3S 7W28	
		3 6N 7W34	3 4S11W26	3 6S 6W19	3 3S 7W29	
		3 6N 8W 1	3 4S11W36	3 6S 6W20	3 3S 7W30	
		3 6N 8W 2	3 5S 9W 1	3 6S 6W21	3 3S 7W30	
		3 6N 8W 3	3 5S 9W 2	3 6S 6W22	3 3S 7W32	
		3 6N 8W 4	3 5S 9W 3	3 6S 6W23	3 3S 7W33	
		3 6N 8W 5	3 5S 9W 4	3 6S 6W24		
		3 6N 8W 6	3 5S 9W 5	3 6S 6W25		
		3 6N 8W 7	3 5S 9W 6	3 6S 6W26		
		3 6N 8W 8	3 5S 9W 7	3 6S 6W27		
		3 6N 8W 9	3 5S 9W 8	3 6S 6W28		
		3 6N 8W10	3 5S 9W 9	3 6S 6W29		
		3 6N 8W11	3 5S 9W10	3 6S 6W30		
		3 6N 8W12	3 5S10W 1	3 6S 6W31		
		3 6N 8W13	3 5S10W 5	3 6S 6W32		
		3 6N 8W14	3 5S10W 6	3 6S 6W33		
		3 6N 8W15	3 5S10W 7	3 6S 6W34		
		3 6N 8W16	3 5S10W 8	3 6S 6W35		
		3 6N 8W17	3 5S10W 9	3 6S 6W36		
		3 6N 8W18	3 5S10W15	3 6S 7W 1		
		3 6N 8W19	3 5S10W16	3 6S 7W 2		
		3 6N 8W20	3 5S10W17	3 6S 7W 3		
		3 6N 8W21	3 5S10W21	3 6S 7W 4		
		3 6N 8W22	3 5S10W22	3 6S 7W 5		
		3 6N 8W23	3 5S11W 1	3 6S 7W 6		
		3 6N 8W24		3 6S 7W 7		
		3 6N 8W25		3 6S 7W 8		
		3 6N 8W26		3 6S 7W 9		
		3 6N 8W27		3 6S 7W10		
		3 6N 8W28		3 6S 7W11		
		3 6N 8W29		3 6S 7W12		
		3 6N 8W30		3 6S 7W13		
		3 6N 8W31		3 6S 7W14		
		3 6N 8W32		3 6S 7W15		

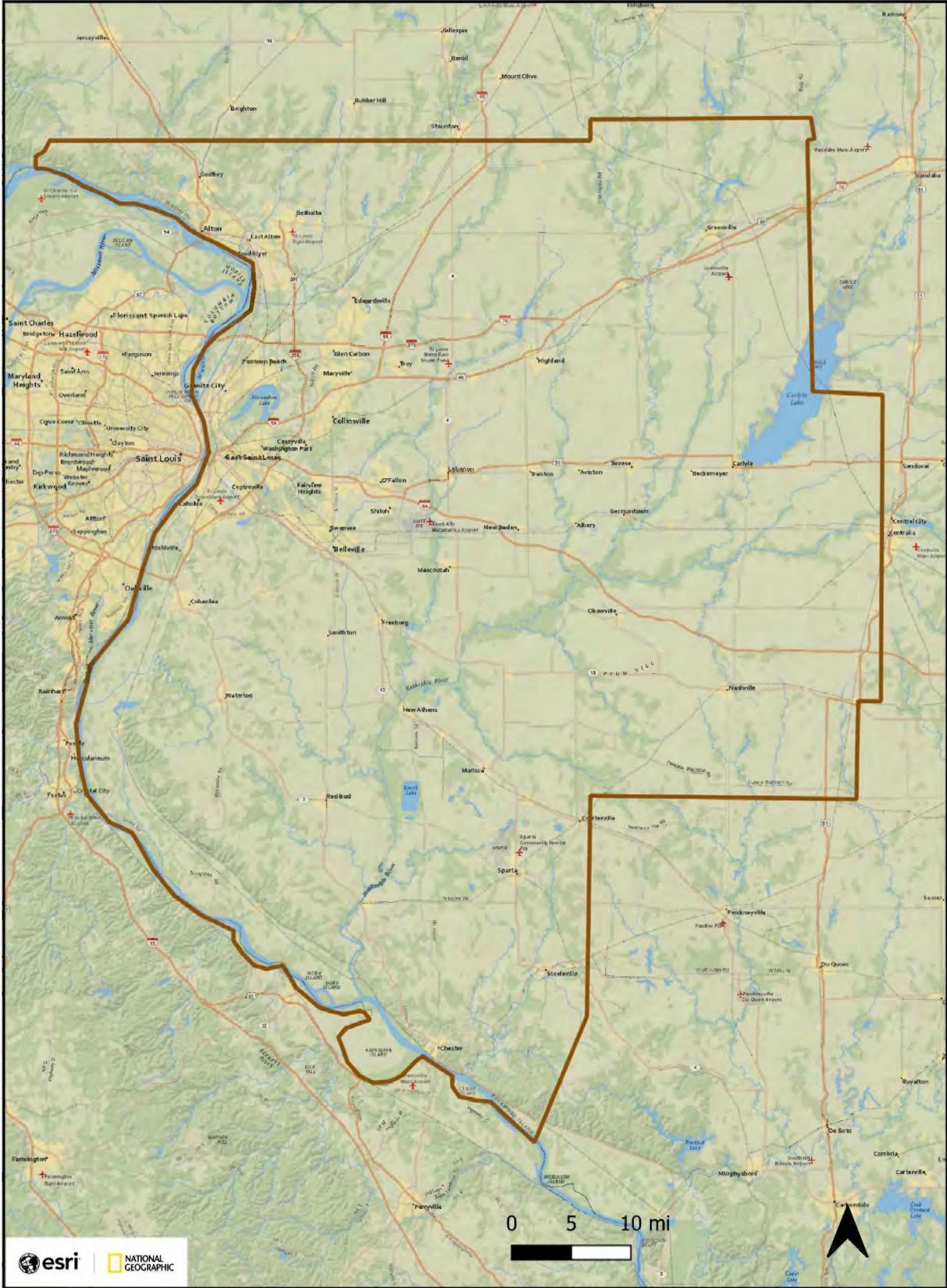
Bond Co	Clinton Co	Madison Co	Monroe Co	Randolph Co	St. Clair Co	Washington Co
		3 6N 8W33		3 6S 7W16		
		3 6N 8W34		3 6S 7W17		
		3 6N 8W35		3 6S 7W18		
		3 6N 8W36		3 6S 7W19		
		3 6N 9W 1		3 6S 7W20		
		3 6N 9W 2		3 6S 7W21		
		3 6N 9W 3		3 6S 7W22		
		3 6N 9W 4		3 6S 7W23		
		3 6N 9W 5		3 6S 7W24		
		3 6N 9W 6		3 6S 7W25		
		3 6N 9W 7		3 6S 7W26		
		3 6N 9W 8		3 6S 7W27		
		3 6N 9W 9		3 6S 7W28		
		3 6N 9W10		3 6S 7W29		
		3 6N 9W11		3 6S 7W30		
		3 6N 9W12		3 6S 7W31		
		3 6N 9W13		3 6S 7W32		
		3 6N 9W14		3 6S 7W33		
		3 6N 9W15		3 6S 7W34		
		3 6N 9W16		3 6S 7W35		
		3 6N 9W17		3 6S 7W36		
		3 6N 9W18		3 6S 8W 1		
		3 6N 9W19		3 6S 8W 2		
		3 6N 9W20		3 6S 8W 3		
		3 6N 9W21		3 6S 8W 4		
		3 6N 9W22		3 6S 8W 5		
		3 6N 9W23		3 6S 8W 6		
		3 6N 9W24		3 6S 8W 8		
		3 6N 9W25		3 6S 8W 9		
		3 6N 9W26		3 6S 8W10		
		3 6N 9W27		3 6S 8W11		
		3 6N 9W28		3 6S 8W12		
		3 6N 9W29		3 6S 8W13		
		3 6N 9W30		3 6S 8W14		
		3 6N 9W31		3 6S 8W23		
		3 6N 9W32		3 6S 8W24		
		3 6N 9W33		3 6S 8W25		
		3 6N 9W34		3 6S 8W36		
		3 6N 9W35		3 7S 5W 1		
		3 6N 9W36		3 7S 5W 2		
		3 6N10W 1		3 7S 5W 3		
		3 6N10W 2		3 7S 5W 4		
		3 6N10W 3		3 7S 5W 5		
		3 6N10W 4		3 7S 5W 6		
		3 6N10W 5		3 7S 5W 7		
		3 6N10W 6		3 7S 5W 8		

Bond Co	Clinton Co	Madison Co	Monroe Co	Randolph Co	St. Clair Co	Washington Co
		3 6N10W 7		3 7S 5W 9		
		3 6N10W 8		3 7S 5W10		
		3 6N10W 9		3 7S 5W11		
		3 6N10W10		3 7S 5W12		
		3 6N10W11		3 7S 5W13		
		3 6N10W12		3 7S 5W14		
		3 6N10W13		3 7S 5W15		
		3 6N10W15		3 7S 5W16		
		3 6N10W16		3 7S 5W17		
		3 6N10W17		3 7S 5W18		
		3 6N10W18		3 7S 5W19		
		3 6N10W19		3 7S 5W20		
		3 6N10W20		3 7S 5W21		
		3 6N10W21		3 7S 5W22		
		3 6N10W22		3 7S 5W23		
		3 6N10W24		3 7S 5W26		
		3 6N10W25		3 7S 5W27		
		3 6N10W28		3 7S 5W28		
		3 6N10W29		3 7S 5W29		
		3 6N10W30		3 7S 5W30		
		3 6N10W36		3 7S 5W31		
				3 7S 5W32		
				3 7S 5W33		
				3 7S 5W34		
				3 7S 6W 1		
				3 7S 6W 2		
				3 7S 6W 3		
				3 7S 6W 4		
				3 7S 6W 5		
				3 7S 6W 6		
				3 7S 6W 7		
				3 7S 6W 8		
				3 7S 6W 9		
				3 7S 6W10		
				3 7S 6W11		
				3 7S 6W12		
				3 7S 6W13		
				3 7S 6W14		
				3 7S 6W15		
				3 7S 6W16		
				3 7S 6W17		
				3 7S 6W18		
				3 7S 6W19		
				3 7S 6W20		
				3 7S 6W21		
				3 7S 6W22		

Bond Co	Clinton Co	Madison Co	Monroe Co	Randolph Co	St. Clair Co	Washington Co
				3 7S 6W23		
				3 7S 6W24		
				3 7S 6W25		
				3 7S 6W26		
				3 7S 6W27		
				3 7S 6W28		
				3 7S 6W29		
				3 7S 6W30		
				3 7S 6W31		
				3 7S 6W32		
				3 7S 6W33		
				3 7S 6W34		
				3 7S 6W35		
				3 7S 6W36		
				3 7S 7W 1		
				3 7S 7W 2		
				3 7S 7W 3		
				3 7S 7W 4		
				3 7S 7W 5		
				3 7S 7W 8		
				3 7S 7W 9		
				3 7S 7W10		
				3 7S 7W11		
				3 7S 7W12		
				3 7S 7W13		
				3 7S 7W14		
				3 7S 7W15		
				3 7S 7W16		
				3 7S 7W23		
				3 7S 7W24		
				3 7S 7W25		
				3 8S 5W 3		
				3 8S 5W 4		
				3 8S 5W 5		
				3 8S 5W 6		
				3 8S 5W 7		
				3 8S 5W 8		
				3 8S 5W 9		
				3 8S 5W16		
				3 8S 5W17		
				3 8S 5W18		
				3 8S 5W19		
				3 8S 5W20		
				3 8S 5W29		
				3 8S 6W 1		
				3 8S 6W 2		

Bond Co	Clinton Co	Madison Co	Monroe Co	Randolph Co	St. Clair Co	Washington Co
				3 8S 6W 3		
				3 8S 6W 4		
				3 8S 6W 5		
				3 8S 6W 8		
				3 8S 6W 9		
				3 8S 6W10		
				3 8S 6W11		
				3 8S 6W12		
				3 8S 6W13		
				3 8S 6W14		
				3 8S 6W24		

Southern Illinois Lower Kaskaskia (SILK)
Forest Legacy Area



AON Exhibit B: Application, Evaluation, and Monitoring Forms

State of Illinois
Forest Legacy Program – Information Sheet

Nationwide, the traditional uses of private forestlands for such activities as timber and wood product management, maple sugar production, wildlife management, and recreational use have declined at an alarming rate. The primary reasons for this decline has been conversion of forested tracts to non-forest uses (such as residential or commercial development), and from forest fragmentation (the breaking up of large forests into smaller tracts separated by non-forested lands).

These dramatic changes have had far reaching impacts beyond the loss of our forests, including water quality and quantity, decreased wildlife and habitat diversity, loss of recreational opportunities, and the loss of scenic vistas and historic resources.

Public lands are increasingly relied upon to provide these resources and opportunities, but alone cannot possibly meet this demand. To help maintain the integrity and traditional uses of our forests, Congress created the Forest Legacy Program which allows the U.S. Department of Agriculture, through the Forest Service, in cooperation with state agencies, to acquire land or interests inland. All acquisitions are purchased in fair market value as determined by the standardized government appraisal methods, and are held by the U.S. government in perpetuity. The program relies on the concept of “willing seller, willing buyer, and no condemnation.”

For more information or assistance in filling out an application, please contact either the Illinois Division of Forest resources at 217-782-2361 or the Office of Planning and Development, Division of Land Acquisition at 217-782-7940.

State of Illinois
Forest Legacy Program
Landowner Inspection Consent Agreement

I, _____ as the land owner agree to allow inspection, appraisal, and survey of my property being offered for consideration under the Forest Legacy Program. I agree to allow members of the USDA Forest Service or Illinois Department of Conservation, or the Illinois Stewardship Committee or their designated staff, to inspect the property, as may be required, at any time. I shall be notified in advance of all inspection visits.

Signature of Landowner

Date

Signature of Representative of Applying Agency

Date

Property's Total Forested Acres: _____

Forested Acres of Tract Offered for Forest Legacy: _____

Acres of Cleared/Open Land: _____

Landowner Goals and Objectives

Describe your long term goals and objectives for this parcel:

Traditional Forest Values

What is the "traditional use(s)" of this forest land?

Landowner Comments

What, in your opinion, is the "Threat of Conversion to Non-Forest Use" of the parcel proposed for enrollment in the Forest Legacy Program? Be specific.

Do you currently have a forest management plan? No If so, please provide a copy.

Local Endorsement

What local conservation related plan and/or organizations support this application? Name the plan and/or organizations, and include a letter of support from the organizations and explanation of how the inclusion of your property helps meet the goals of the protection strategy of the plan.

It is important that the following section be carefully and fully completed. The information you supply will directly affect the desirability of the parcel as well as its appraised value and therefore, ranking. Note that checking "yes" does not limit your ability to negotiate price and options in the future; it merely assists the Forest Legacy Committee when evaluating your parcel.

Indicate which of the following interests you **desire to retain**. These should be the rights you want to retain. All other rights will become the property of the United States upon successful completion of negotiations between the U.S. Forest Service and yourself.

Yes	Maybe	
<input type="checkbox"/>	<input type="checkbox"/>	Development rights
<input type="checkbox"/>	<input type="checkbox"/>	Timber and wood product rights
<input type="checkbox"/>	<input type="checkbox"/>	Water rights
<input type="checkbox"/>	<input type="checkbox"/>	Mineral rights
<input type="checkbox"/>	<input type="checkbox"/>	No public access
<input type="checkbox"/>	<input type="checkbox"/>	Hunting
<input type="checkbox"/>	<input type="checkbox"/>	Fishing
<input type="checkbox"/>	<input type="checkbox"/>	Camping
<input type="checkbox"/>	<input type="checkbox"/>	Hiking or other passive recreation
<input type="checkbox"/>	<input type="checkbox"/>	Bicycling
<input type="checkbox"/>	<input type="checkbox"/>	Horseback riding
<input type="checkbox"/>	<input type="checkbox"/>	Grazing
<input type="checkbox"/>	<input type="checkbox"/>	Farming
<input type="checkbox"/>	<input type="checkbox"/>	Construction of roads
<input type="checkbox"/>	<input type="checkbox"/>	Motorized access
<input type="checkbox"/>	<input type="checkbox"/>	Expansion of existing improvements
<input type="checkbox"/>	<input type="checkbox"/>	Mushroom/Ginseng/Craft material collection
<input type="checkbox"/>	<input type="checkbox"/>	Other:

CONFIDENTIAL

The following information shall remain strictly confidential until such time as (1) the application is approved and all financial transactions are concluded, or (2) all title holders give written permission to release the information.

Financial Information

State the value of the interest to be enrolled in the Forest Legacy Program, and the method used to determine that value (Appraisal, landowner estimate, etc.)

What is/are the estimated sale price(s) of the interests being offered?

State the value of the landowner(s) contribution, if any, either in donated value or in-kind services.

Liens and Encumbrances

List any and all liens and encumbrances on the property proposed for enrollment in the Forest Legacy Program. Examples: utility easements, public rights of way, water flowage or use restrictions, septic system or water easements, deed restrictions, tax liens, etc.

The information provided above is true to the best of my/our knowledge and belief. ALL TITLE HOLDERS MUST SIGN.

Print Name

Signature

Date

Forest Legacy Program – Checklist

With your Forest Legacy Program application package, please submit two (one original and one copy) of the following for each contiguous parcel:

- Completed application
- Name(s) and address(es) of other owner(s) of record for this tract
- Signed consent agreement
- Copy of road map indicating location of property
- Copy of plat or survey map of the parcel
- Aerial photo (can be obtained through your local FSA or NRCS office)
- Legal description (if available)
- List of existing permanent improvements on the tract, including houses, barns, lakes, ponds, dams, wells, roads, and other structures, and total number of acres occupied by improvements
- Map identifying all dams, pumps, or waste disposal sites on the property
- Forest management plan (if applicable)

Mail the above material to:

Forest Legacy Program
Illinois Department of Natural Resources
One Natural Resources Way
Springfield, IL 62702-1271

Note: All materials become the property of the State of Illinois and are non-returnable.

Disclosure of this information is **VOLUNTARY**; however, failure to comply may result in this form not being processed.

Printed by the authority of the State of Illinois.

Equal opportunity to participate in programs of the Illinois Department of Natural Resources (IDNR) and those funded by the U.S. Forest Service and other agencies is available to all individuals regardless of race, sex, national origin, disability, age, religion, or other non-merit factors. If you believe you have been discriminated against, contact the funding source's civil rights office and/or the Equal Opportunity Officer, IDNR, One Natural Resources Way, Springfield, IL 62702-1271; 217-785-0067; TTY 217-782-9175.

Illinois Forest Legacy Parcel Evaluation Package

Directions for completing the Forest Legacy Program Evaluation Package

- Cover Sheet: The first part of the cover sheet is to be completed with information supplied on the enrollment application form. The landscape description is meant to include the physical characteristics of the surrounding area including topography, soils, and surface and ground water hydrology; brief inventories of major vegetative groups, fish and wildlife resources, scenic resources, and any other forest resources; as well as surrounding land uses. The parcel description is meant to include an in depth description of the above mentioned items, but as they pertain to the parcel.
- Parcel Evaluation - Part A: These pages are to be completed by the state lead agency and other resource professionals.
- Parcel Evaluation - Part B: These pages are to be completed by the field personnel directed to do so by the DOC lead agency, in consultation with other pertinent state and local agencies/groups.

Note - both Parts A and B Parcel Evaluation forms will be used to set goals for acquisition of the parcel.

Scoring: The final score will not be used as the sole factor in determining which parcel/interest should be acquired, but merely as a guide to the relative values of the resources under evaluation. Subject to funding, priority will be given to those tracts with the greatest need for protection of the forest and related resources.

COVER SHEET

FOREST LEGACY PROGRAM PARCEL EVALUATION PACKAGE

FOREST LEGACY AREA Peoria Bluffs

FLA File Number _____

Date of Evaluation _____
MM-DD-YYYY

Landowners' Name _____

Parcel Location _____

Legal Description _____
Section Township Range

Investigators _____

Landscape Description

Parcel Description

ILLINOIS FOREST LEGACY PARCEL EVALUATION - PART A

I. Reasons for inclusion in the Forest Legacy Program.

Prioritize the following reasons for enrollment of the parcel in the forest Legacy Program (1=greatest priority):

- 1 Prevent conversion/development/fragmentation of an important forest resource
- 10 Protection of scenic resources
- 10 Provide/enhance public recreation opportunities
- 10 Protect/enhance a watershed or important drinking water supply
- 10 Protect/enhance an important riparian/hydrologic area
- 10 Provide linkage between public properties, protected areas, and greenways
- 10 Protect/enhance/restore habitat of rare, threatened, and/or endangered species of plant and/or animal
- 10 Provide for the continuation of traditional forest uses
- 10 Provide opportunity to implement Forest Stewardship practices
- 10 Provide opportunities for environmental education
- 10 Other: _____

II. Degree of threat of development/fragmentation/conversion to non-forest uses.

Please check 'Yes' or 'No'

	Yes	No
Parcel is in danger of conversion within 5 years	<input type="checkbox"/>	<input type="checkbox"/>
Parcel may remain wooded, but will become further fragmented	<input type="checkbox"/>	<input type="checkbox"/>
Parcel is currently on the open market, or listed by realtors	<input type="checkbox"/>	<input type="checkbox"/>
Securing one or more site(s) now will stem further development	<input type="checkbox"/>	<input type="checkbox"/>
Parcel is remote, but vulnerable	<input type="checkbox"/>	<input type="checkbox"/>
Parcel is under a state of federal forest management program	<input type="checkbox"/>	<input type="checkbox"/>

Parcel is a remnant of a forest type	<input type="checkbox"/>	<input type="checkbox"/>
Parcel may remain wooded, but is in danger of being over-harvested	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>

III. Factors affecting acquirability.

These factors are to be taken into consideration when prioritizing parcels for acquisition. Please check 'Yes,' 'No,' or 'N/A.'

	Yes	No	N/A
The property is specifically identified in terms of priority, timing, and cost in the local Recreation, Conservation, and Open Space Plan, SCORP, or land trust master plans.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Parcel may be available at below fair market value.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intensity and expense of management activities to protect the property's values is economically feasible.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Preservation of the property would increase the protection of existing natural areas or enhance the linking of green ways.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Property can accommodate proposed priority uses and/or management activities without endangering or degrading its natural value.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Property is/can be protected against future degradation from activities occurring on neighboring properties.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

ILLINOIS FOREST LEGACY PARCEL EVALUATION – PART B

If parcel contains one or more of the following important values, check the appropriate box and tally score in subtotal area. Combine subtotals for Total Score at the end.

Scenic Resources	Yes	No
Parcel is adjacent to a scenic route listed by the Illinois Department of Transportation	<input type="checkbox"/> 30	<input type="checkbox"/> 0
Parcel includes locally important panoramic views and/or exceptional short views	<input type="checkbox"/> 5	<input type="checkbox"/> 0
Subtotal	/35	

Public Recreational Opportunities	Yes	No
Water-based recreation is present (boating, swimming, fishing, rafting, canoeing)	<input type="checkbox"/> 15	<input type="checkbox"/> 0
Trail –based and/or day-use recreational opportunities exist (hiking, picnicking, horseback riding, ice skating, cross country skiing)	<input type="checkbox"/> 15	<input type="checkbox"/> 0
Natural resource based recreational activities are available (camping, hunting, nature touring)	<input type="checkbox"/> 15	<input type="checkbox"/> 0
Adjacent land is protected (state park, natural area, etc.)	<input type="checkbox"/> 15	<input type="checkbox"/> 0
Subtotal	/60	

Riparian/Hydrologic Areas	Yes	No
Parcel is situated on a major river or stream recognized by the Illinois Natural history Water Resources Inventory	<input type="checkbox"/> 15	<input type="checkbox"/> 0
Parcel has extensive (over 300') river or wetland shoreline	<input type="checkbox"/> 15	<input type="checkbox"/> 0
Parcel includes floodplain	<input type="checkbox"/> 15	<input type="checkbox"/> 0
Parcel contains minimum 80' strip of native trees and shrubs as a natural buffer and sediment filter	<input type="checkbox"/> 15	<input type="checkbox"/> 0
Parcel includes a natural wetland	<input type="checkbox"/> 15	<input type="checkbox"/> 0
Parcel is situated within the surface watershed, or groundwater aquifer, of an important public drinking water supply	<input type="checkbox"/> 15	<input type="checkbox"/> 0
Parcel provides immediate watershed/water supply protection	<input type="checkbox"/> 15	<input type="checkbox"/> 0
Subtotal	/105	

Fish and Wildlife Habitat	Yes	No
Parcel contains outstanding habitat and other ecologically recognized criteria for one or more species, including:		
Forest interior nesting birds	<input type="checkbox"/> 10	<input type="checkbox"/> 0
Significant populations of resident species	<input type="checkbox"/> 10	<input type="checkbox"/> 0
Neo-tropical migrant species	<input type="checkbox"/> 10	<input type="checkbox"/> 0
Areas for resting and feeding of migratory species	<input type="checkbox"/> 10	<input type="checkbox"/> 0
Forest inhabiting mammals, reptiles, amphibians, and invertebrates	<input type="checkbox"/> 10	<input type="checkbox"/> 0
Parcel exhibits connective habitats, corridors, habitat linkages, and areas that reduce biological isolation	<input type="checkbox"/> 30	<input type="checkbox"/> 0
Subtotal	/80	

Known Threatened and Endangered Species	Yes	No
The parcel provides habitat supporting the occurrence of rare or endangered species. <i>Species to be considered under this criterion are those currently listed by the Illinois Endangered Species Protection Board and those listed in the Federal Register.</i>	<input type="checkbox"/> 60	<input type="checkbox"/> 0
Subtotal	/60	

Known Cultural/Historic Areas	Yes	No
Parcel contains forest related cultural resources (i.e., historic forest, historic mill, or other forest industry site, etc.)	<input type="checkbox"/> 20	<input type="checkbox"/> 0
Subtotal	/20	

Other Ecological Values	Yes	No
Parcel is part of a large block of contiguous forestland	<input type="checkbox"/> 10	<input type="checkbox"/> 0
Parcel provides a mix of native ecological communities (biodiversity)	<input type="checkbox"/> 10	<input type="checkbox"/> 0
Parcel includes ecological communities which are dwindling in Illinois	<input type="checkbox"/> 10	<input type="checkbox"/> 0
Parcel contains late successional growth forests (natural area)	<input type="checkbox"/> 10	<input type="checkbox"/> 0
Subtotal	/40	

Opportunities for Continuation of Existing Traditional Forest Uses	Yes	No
Parcel will remain available for timber and other forest products management under a Stewardship Plan	<input type="checkbox"/> 15	<input type="checkbox"/> 0
Parcel will continue to serve watershed and water filtration role	<input type="checkbox"/> 15	<input type="checkbox"/> 0
Parcel will continue to provide fish and wildlife habitat	<input type="checkbox"/> 15	<input type="checkbox"/> 0
Parcel will continue to provide outdoor recreation opportunities	<input type="checkbox"/> 15	<input type="checkbox"/> 0
Parcel will continue to provide environmental educational opportunities	<input type="checkbox"/> 15	<input type="checkbox"/> 0
Subtotal	/60	

Category	Subtotal
Scenic Resources	/35
Public Recreation Opportunities	/60
Riparian/Hydrologic Areas	/105
Fish and Wildlife Habitat	/80
Threatened and Endangered Species	/60
Cultural/Historic Areas	/20
Other Ecological Values	/40
Continuation of traditional forest uses	/60
TOTAL SCORE	/460

Comments:

Recommendations:

FOREST LEGACY PROGRAM

Project Scoring Guidance

(May 8, 2012- FINAL)

Introduction

This document provides guidance to the National Review Panel on how to score individual Forest Legacy Program (FLP) projects, including additional clarification on the core national criteria, project readiness and other evaluation considerations used in this process. The outcome from the National Review Panel will be a ranked and prioritized list of FLP projects for submission to the Office of Management and Budget for consideration in the President's Budget. Its objectives are to:

- Provide a clear and defensible ranking process that can be articulated easily to program participants and partners; and
- Ensure fair, equitable and thorough review of all projects by the National Review Panel.

National Project Selection

- A multi-tract project should be scored based on how all the tracts fit within the criteria.
- For example, if only one tract meets the highest point criteria, the project will not likely obtain the highest points.

Region/Area/IITF Role

- Work with States to produce highly competitive FLP projects;
- Work with States to produce projects that are "Ready";
- Work with States to assure that all pertinent project information is in Forest Legacy Information System (FLIS), including prioritizing tracts if the States choose to do so;
- Learn and understand project details;
- Assure that projects are consistent with the goals of the State Forest Action Plan (Statewide Assessment and Resource Strategy, including Assessments of Need incorporated by reference);
- Confirm that projects have been reviewed and evaluated by the State Forest Stewardship Coordinating Committee;
- Assure that projects comply with June 30, 2003, FLP Implementation Guidelines, as amended;
- Work with States to identify which projects can be phased and the funding threshold.

Washington Office Role

- Work with Regions/Area/IITF (R/A/1) to produce highly competitive FLP submissions;
- Ensure that project selections meet congressional direction and national program goals.

National Review Panel Role

- Score projects using the national core criteria (Importance, Threatened, and Strategic);
- Develop a National List of ranked projects.

National Core Criteria:

Importance - This criterion focuses on the attributes of the property and the environmental, social, and economic public benefits gained from the protection and management of the property and its resources. This criterion reflects the ecological assets and the economic and social values conserved by the project and its level of significance.

National significance of a project is demonstrated in two ways:

1. A project that solidly represents a majority of the attributes outlined is viewed as nationally significant because of its strong alignment with the purposes and Strategic Direction of the Forest Legacy Program.
2. A project that supports Federal laws, such as Endangered Species Act, Safe Drinking Water Act, and Clean Water Act, contributes to Federal initiatives, or contains or enhances Federal designations such as Wild and Scenic Rivers, National Scenic Byways, National Recreation Trails, and cultural resources of national importance. When determining Federal importance, interstate/international resources (such as migratory species, or trail and waterways that cross state or international boundaries) should also be considered.

Scoring consists of evaluating a project for the attributes below and identifying a point score. More points will be given to projects that demonstrate multiple public benefits of significance. Significance of attributes is demonstrated by the quality and scope of the attributes. More points will be given to projects that exemplify a particular attribute or combination of attributes.

A project need not have all the attributes listed to receive maximum points for this category, but projects that contain more attributes should receive a higher score. For a project to receive the maximum point score a project must contain a majority of the attributes and must significantly address one or more of the Federal laws or initiatives noted above. A project brief that discusses the majority or all the attributes but demonstrates only limited importance for each attribute should not receive maximum or perhaps even medium ranking.

- *High importance* (21-30 points) - The project contains a majority of the attributes and those attributes very significant and of high-quality.
- *Medium* (11-20 points) - The project contains a majority of attributes, several of those are very significant and of high-quality.
- *Low* (0-10 points) - The project contains only a few attributes or it could contain all of them but does so in a limited, marginal or tertiary way.

""Please note, discussion about how the project fits within a landscape conservation initiative should be included under the "strategic" category and not in this section.

Attributes to consider: The descriptions listed represent the ideal project for each attribute.

Note that the attributes are not listed in priority order.

- *Economic Benefits from Timber and Potential Forest Productivity* - This category includes three independent components: (1) Landowner demonstrates sustainable forest management in accordance with a management plan. Additional points should be given to land that is third party certified (such as Sustainable Forestry Initiative, Forest Stewardship Council, and American Tree Farm System). (2) Forestry activities contribute to the resource-based economy for a community or region. (3) The property contains characteristics (such as highly productive soils) to sustain a productive forest. (Strategic Direction Goal 2.3)
- *Economic Benefits from Non-timber Products*- Provides non-timber revenue to the local or regional economy through activities such as hunting leases, ranching, non-timber forest products (maple syrup, pine straw, ginseng collection, etc.), guided tours (fishing, hunting, bird watching, etc.), and recreation and tourism (lodging, rentals, bikes, boats, outdoor gear, etc.).
- *Threatened or Endangered Species Habitat*- The site has documented threatened or endangered plants and animals or designated habitat. Documented occurrence and use of the property should be given more consideration in point allocation than if it is habitat without documented occurrence or use. Federally listed species should be given more consideration than state-only listed species when evaluating the significance of this attribute. (Strategic Direction Goal 2.3)
- *Fish, Wildlife, Plants, and Unique Forest Communities* - The site contains unique forest communities and/or important fish or wildlife habitat as documented by a formal assessment or wildlife conservation plan or strategy developed by a government or a non-governmental organization. The importance of habitat to international initiative to support and sustain migratory species can be viewed as national importance if conserving the property will make a significant contribution. The mere occasional use of the property or a modest contribution to an international initiative does not raise the property to national importance. (Strategic Direction Goal 2.3)
- *Water Supply, Aquatic Habitat, and Watershed Protection* - (1) Property has a direct relationship with protecting the water supply or watershed, such as provides a buffer to public drinking water supply, contains an aquifer recharge area, or protects an ecologically important aquatic or marine area, and/or (2) the property contains important riparian area, wetlands, shorelines, river systems, or sensitive watershed lands. When allocating points, consideration of the importance of the resource and the scale of the contribution of the project should be considered. Merely being located within an aquifer recharge area or in a water supply area should not be given the same consideration as a project that makes a significant conservation contribution to a high-quality project of high-value (Strategic Direction Goal 2.1)
- *Public Access* - Protection of the property will maintain or establish access by the public for recreation; however, restrictions on specific use and location of recreational activities may exist. (Strategic Direction Goal 2.3)
- *Scenic* - The site is located within a view shed of a government designated scenic feature

or area {such as trail, river, or highway}. Federal designation should be given more consideration than state-only designations when evaluating the significance of this attribute.

- *Historic/Cultural/Tribal* - The site contains features of historical, cultural, and/or tribal significance, formally documented by a government or a non-governmental organization. A Federal designation should receive greater consideration.

Threatened - This criterion estimates the likelihood for conversion. More points will be given to projects that demonstrate multiple conditions; however, a project need not have all the conditions listed to receive maximum points for this category.

During the evaluation of threat, a landowner interested in conserving their land should not be penalized. In addition, if the property has been acquired by a third party with the support of the State, threatened will be evaluated based on the situation prior to the third party acquisition.

- *Likely* (11-20 points) - Multiple conditions exist that make conversion to non-forest uses likely;
- *Possible* (1-10 points) - A few conditions exist that make conversion to non-forest uses possible; or
- *Unlikely* (0 points) - Current conditions exist that make conversion to non-forest uses unlikely.

**Please note, discussion about what project attributes will be threatened if the project is converted should be included under the "importance" category and not in this section.

Attributes to consider: The descriptions listed represent the ideal project for each attribute
Note that the attributes are not listed in priority order.

- *Lack of Protection* - The lack of temporary or permanent protections (e.g. current zoning, temporary or permanent easements, moratoriums, and encumbrances that limit subdivision or conversion) that currently exists on the property and the likelihood of the threat of conversion.
- *Land and Landowners Circumstances* - land and landowner circumstances such as property held in an estate, aging landowner, future property by heirs is uncertain, property is up for sale or has a sale pending, landowner anticipates owning property for a short duration, landowner has received purchase offers, land has an approved subdivision plan, landowner has sold subdivisions of the property, etc.
- *Adjacent Land Use* - adjacent land use characteristics such as existing land status, rate of development growth and conversion, rate of population growth (percent change), rate of change in ownership, etc.
- *Ability to Develop* - physical attributes of the property that will facilitate conversion, such as access, buildable ground, zoning, slope, water/sewer, electricity, etc

Strategic - This criterion reflects the project's relevance or relationship to conservation efforts on a broader perspective. When evaluating strategic, four considerations should be made: 1) the scale of a conservation initiative, strategy, or plan, 2) the scale of the project's contribution to that initiative, strategy, or plan, 3) the placement of the parcel within the area

of the initiative, strategy, or plan and 4) how the project complements protected lands. {FLP Strategic Direction 1.1, 1.2, and 1.3)

- *High* (21-30 points) - The property significantly advances a conservation initiative, strategy, or plan and complements protected lands.
- *Average* (11-20 points) - The property makes a modest contribution to a conservation initiative, strategy, or plan and is near already protected lands.
- *Low* (0-10 points) - The property is not part of a conservation initiative, strategy, or plan or near already protected lands, but will lead to locally-focused conservation effort.

**Please note, the submitted project map should support this category and it is important to make sure the text and map are consistent.

Attributes to consider: The descriptions listed represent the ideal project for each attribute
Note that the attributes are not listed in priority order.

- *Conservation Initiative, Strategy, or Plan* - How the project fits within a larger conservation plan, strategy, or initiative as designated by either a government or non-governmental entity.
- *Complement Protected Lands*- How the project is strategically linked to enhance already protect lands including past FLP projects, already protected Federal, State, or non-governmental organization lands, or other Federal land protection programs (NRCS, NOAA, etc).

Additional Considerations:

Prior to developing the Regional project list, each State should be evaluated by the R/A/I regarding its fulfillment of the FLP core program requirements listed below:

1. Baseline reports for all closed conservation easement tracts (FLP Guidelines, page 18);
2. Forest stewardship plan or multi-resource management plan for all closed conservation easement tracts (FLP Guidelines, page 18);
3. Annual monitoring conducted for all closed conservation easements tracts (FLP Guidelines, page 20);
4. Addresses significant conservation easement violations and/or has a conservation easement violation plan (FLP Guidelines, page 20);
5. Implements a record keeping protocol for all FLP tracts (FLP Guidelines, page 37);
6. Developed an action plan to address recommendations in a Quality Assurance Inspection (Quality Assurance Plan for Forest Legacy Program Appraisals. September 2006);
7. The amount of unspent funds a State has in outstanding grants; and
8. Up-to-date on grant reporting requirements.

For the majority of States we expect that all requirements will be met. In the rare case that persistent deficiencies in a State's performance are identified and cannot be remedied, than the State can either not submit projects for consideration or submit projects with the

understanding that they will not be reviewed and ranked by the National Review Panel. The projects will still be part of the National list, but will be added to the bottom below the reviewed and ranked projects. We expect that the R/A/I will have been working closely with the State during the year to address all deficiencies.

Prior to the due date, Forest Service WO and R/A/I FLP program staff will discuss deficiencies to ensure consistent treatment of States' projects and will share the outcome with the State.

The following items will be considered by the National Review Panel when developing the final list of ranked projects and associated funding levels, and not by the individual panel members when scoring projects.

1. The National Review Panel is not bound by a State's priority ranking of projects. If the National Review Panel ranks projects out of a State's priority order, then the panel will call that State to discuss the situation. However, the panel will not move a lower ranked project up the list to maintain the State's priority ranking.
2. The National Review Panel will give additional attention to projects from States that have not recently received funds as well as from States that are competing the first time.
3. The National Review Panel will consider the following information when breaking ties, determining recommended funding levels for projects, or evaluating second and third projects for a State. (a) the amount of unspent funds each State has in outstanding grants, (b) amount of funds leveraged for the proposed project, (c) average time to close projects within the past five years, (d) average funds leveraged within the past five years, and (e) project readiness.

Project Readiness is defined as the degree of due diligence completed. To demonstrate project readiness, completed items need to be specified (including completion date) in FLIS and credit will only be given to those items completed (one tally for each completed item, with a maximum tally of 7. Projects with multiple tracts will need to have the majority of their tracts have the completed task before a tally is given):

1. Documented support for the cost estimate, such as completed market analysis or preliminary appraisal.
2. Landowner and State have general agreement on conservation easement or fee acquisition conditions.
3. Cost Share commitment has been obtained from a specified source.
4. A signed option or purchase and sales agreement is held by the State or at the request of the State OR at the request of the State, conservation easement or fee title is held by a third party.
5. Title search is completed, including identifying any temporary or permanent protections.
6. Minerals determination is completed.
7. For conservation easement properties, a stewardship plan or multi-resource management plan is completed.

Illinois Forest Legacy Easement Monitoring Plan

POLICY

The Illinois Department of Natural Resources (IDNR) will conduct annual conservation easement monitoring for land and/or interest in land acquired under the Forest Legacy Program (FLP). The IDNR will adhere to the national Forest legacy monitoring requirements. It shall immediately become official POLICY of the IDNR Division of Forest Resources (DFR) and subsequently be incorporated into a Department Policy and Procedures Manual to always maintain an IDNR manager or an assigned official to adhere to national program requirements and FLP tract Conservation Easement (CE) monitoring, reporting, recordkeeping, and administration. Said policy will require an annual report and copies of all CE monitoring inspections to be kept on file by the IDNR FLP Manager and copied to State Forester and critical IDNR operational and executive staffs involved in the FLP as well as the USFS FLP Coordinator, if asked to do so. The policy will also dictate preservation of files and official documents to be kept secure and protected from disasters such as flood or fire. This Policy and Procedure will be completed and implemented by October 15, 2010.

WORK PLAN

To date, two FLP experienced employees of the IDNR Forestry Division at IDNR headquarters office (D. Gillespie & P. Deizman) are currently working in-the-field on the project files of all existing FLP conservation easements to bring current all monitoring and project documents as required by the USFS FLP staff. Paul Deizman was hired as full time Forest Stewardship Program staff which is a permanent established position. The responsibilities include the administration of the FLP in Illinois. Paul is responsible for all monitoring of easements and has the assistance of the staff in the Office of Realty and Environmental Planning (OREP) who are knowledgeable and experienced in the FLP and easement monitoring. The OREP staff will pick up the responsibility when needed. The State Forester has assigned the FLP backlog work to these two employees as a daily priority through October 15, 2011. The Division has permanent full access to vehicles and field tools to accomplish all inspection and documentation work as well as a GIS staff to execute mapping. Grant administration officers and real estate professionals permanently employed by the IDNR are already assigned to assist the Forestry Division with FLP responsibilities.

FUNDING

The FLP manager is a permanent employee of IDNR. This manager's duties are also officially documented within the Forest Management Specialist' position description. Illinois will utilize USFS FLP administrative grants or IDNR resources to administer the FLP and Forest Stewardship grants with internal IDNR budgets to accomplish monitoring of FLP. The IDNR Office of Resource Conservation, which houses the Forestry Division of IDNR, has emergency budgets and resources for FLP administrative and monitoring purposes should FLP Administrative Grants or other federal supports become unavailable.

IDNR PROGRAM GUIDELINES

The following CE Monitoring Report Form documents the guidelines followed by the Forestry Division to monitor and document FLP conservation easements held by the IDNR. The form is based on USFS FLP direction and the FLP national guidelines and manuals. A Conservation Easement Monitoring Report Form will be completed by trained inspector at least annually to note any easement violations and departure from the baseline documentation report and/or Forest Stewardship Plan. When completed, monitoring forms will be properly reviewed, approved, and filed by the Forest Legacy Manager. Prior to the monitoring inspection the IDNR will send a notice of the impending conservation easement inspection to remind participating landowners of their obligations as a part of the Forest Legacy Program. The notice will encourage owners to review the terms and conditions of the conservation easement and urge them to contact their DNR forester before beginning any activities prescribed in their Forest Stewardship Plan or that could place them in violation of their conservation easement. If the Department determines a landowner has committed a violation to their conservation easement, the Department will immediately address the violation with the landowner.

EMD/IDNR 2010

Long-Range & Annual Procedures of FLP Monitoring Policy 10 yr plan

To fulfill the responsibilities of the Illinois Department of Natural Resources, conservation easements should be monitored on a regular basis, at least annually. This will insure that management of the property is consistent with the easement restrictions and meets the Department's obligation under the USDA Forest Service's Forest Legacy Program Guidelines. If questionable activities are observed, the Department must defend the terms of the easement and work with the property owner to resolve any issues:

1. Notify the property owner well in advance in writing of the monitoring visit. The landowner or his or her representative should accompany you on the visit if at all possible.
2. Before going, review the baseline documentation for the easement. Review the easement document itself to familiarize yourself with its provisions. Take the monitoring 3-ring binder with you to the visit.
3. Gather the equipment needed for the inspection – maps, photos, camera, monitoring 3-ring binder, etc.
4. During the visit, note any changes to the property. Document these changes in writing and with pictures if they will be helpful. Beginning in Year 1 rotate on a three year schedule as follows:
 - Year 1: Go to points and take 4 photos (N,E,S,W) at each established baseline location (or establish photo points at first inspection)
 - Year 2: Walk all property lines of the tract.
 - Year 3: Walk and observe interior of property (not points or property lines)
 - Year 4: Go to points and take 4 photos (N,E,S,W) at each established baseline location (or establish photo points at first inspection)
 - Year 5: Walk all property lines of the tract.
 - Year 6: Walk and observe interior of property (not points or property lines)
5. Discuss any observable changes with the landowner or his or her representative.
6. Complete the monitoring inspection report. Send two copies to the property owner asking him or her to sign and return one copy for your files.
7. Place the signed copy in the monitoring section of the property's monitoring 3-ring binder. Send a copy of the signed report to the Coordinator of the Forest Legacy Program.
8. If there are any violations of the conservation easement, report the violations to the Coordinator of the Forest Legacy Program.

AON Exhibit C: Authorization Documents



STATE OF
ILLINOIS
**OFFICE OF THE
GOVERNOR**
SPRINGFIELD
62706

JIM EDGAR
GOVERNOR

February 23, 1993

F. Dale Robertson, Chief
Forest Service
U.S. Department of Agriculture
Auditors Building
201 14th Street S. W.
Washington, D. C.
20250

Dear Mr. Robertson:

To meet the federal requirements for states to participate in the Forest Legacy Program, I am designating our Department of Conservation, Division of Forest Resources as the lead agency for the State of Illinois.

Stewart Pequignot, Chief of the Illinois Division of Forest Resources, will be the official representative and has my authorization to conduct activities related to the Forest Legacy Program as outlined in the Guidelines dated June 4, 1992.

Any questions or information regarding Illinois' participation in this program should be directed to Stewart Pequignot. Stewart's address and phone number are: Division of Forest Resources, P. O. Box 19225, Springfield, Illinois 62794-9225, Phone-217-782-2361.

Sincerely,
A handwritten signature in black ink that reads "Jim Edgar". The signature is written in a cursive, flowing style.

Jim Edgar
GOVERNOR

JE:gf

cc: Brent Manning, Director Department of
Conservation John Tranquilli, Director Office of
Resource Management Stewart Pequignot

Stewardship Committee Resolution Establishing a Forest Legacy Subcommittee:

The Illinois Forest Stewardship Committee passed the following resolution on October 5, 1993 to establish a Forest Legacy subcommittee and proceed with the development of an Assessment of Need:

"The Illinois Forest stewardship Committee recognizes the role that the USDA Forest Service Forest Legacy Program can play in providing protection for the State's valuable forest resources. In order to comply with the program's regulations and guidelines the Illinois Forest Stewardship committee authorizes the State Forester to establish a Forest Legacy Subcommittee. The State Forester is authorized to appoint those individuals necessary to complete the State's Assessment of Need.

The task of this subcommittee will be the preparation of Illinois' Forest Legacy Assessment of Need. The subcommittee is authorized to take those actions necessary to prepare the required documents, and seek public input prior to completion of a final draft. The subcommittee will present a final draft of the Assessment of Need to the Illinois Forest Stewardship Committee for approval and acceptance."

Stewardship Committee Resolution Accepting the Final Version of the Forest Legacy Assessment of Need:

The Illinois Forest Stewardship committee at its September 20, 1994 meeting approved a resolution to forward the Illinois Forest Legacy Assessment of Need to the Northeast Area Director for his subsequent submittal to the Secretary of Agriculture.

"The Illinois Forest Stewardship Committee thanks the members of the Forest Legacy Subcommittee for their work in collecting information and preparing the State's Forest legacy Assessment of Need. Without the work of this subcommittee the Stewardship Committee would not have been able to complete the document in time to meet the United States Forest Service's deadline for FY'95 approval.

The Stewardship Committee authorizes Stewart Pequignot, the Governor's designated Forest Legacy Program Representative, to submit the completed Forest Legacy Assessment of Need to the Northeast Area Director."

Ernie A. Caccard
Ken Kern - I.C.F.
John DeLaney
Charles J. Gentry
John Schweyman
Tom Deaulis
Trisa A. Manning
Dwight K. Bennett
Gary C. Koff
Stewart Pequignot

Henry H. H. H.
Greg J. J. J.
Robert B. B. B.
Randy J. J. J.
Pat. Bloom
Mike Reuter

CONSERVATION

(525 ILCS 15/)

Illinois Forestry Development Act.

(525 ILCS 15/1) (from Ch. 96 1/2, par. 9101)

Sec. 1. This Act shall be known and may be cited as the "Illinois Forestry Development Act".

(Source: P.A. 83-446.)

(525 ILCS 15/2) (from Ch. 96 1/2, par. 9102)

Sec. 2. The following words shall have the meanings ascribed to them in this Section:

- a) "Acceptable forest management practices" means preparation of a forest management plan, site preparation, brush control, purchase of planting stock, planting, weed and pest control, fire control, fencing, fire management practices, timber stand improvement, timber harvest and any other practices determined by the Department of Natural Resources to be essential to responsible timber management.
- b) "Approved forest management plan" means a management plan approved by the Department of Natural Resources pursuant to Section 5 of this Act.
- c) "Council" means the Illinois Forestry Development Council created by this Act
- d) "Department" means the Department of Natural Resources.
- e) "Forest product" means timber which can be used for sawing or processing into lumber for building or structural purposes, for pulp paper, chemicals or fuel, for the manufacture of furniture, or for the manufacture of any article.
- f) "Fund" means the Illinois Forestry Development Fund created by this Act.
- g) "Timber" means trees, standing or felled, and parts thereof, excluding Christmas trees and producers of firewood.
- h) "Timber buyer" means any person defined as a timber buyer pursuant to Section 2 of the "Timber Buyers Licensing Act", approved September 15, 1969, as amended.
- i) "Timber grower" means the owner, tenant or operator of land in this State who has an interest in, or is entitled to receive any part of the proceeds from, the sale of timber grown in this State and includes persons exercising authority to sell timber.

(Source: P.A. 96-217, eff. 8-10-09; 96-545, eff. 8-17-09.)

(525 ILCS 15/3) (from Ch. 96 1/2, par. 9103)

Sec. 3. The Department of Natural Resources shall administer this Act and shall promulgate rules and regulations for that purpose.

(Source: P.A. 89-445, eff. 2-7-96.)

(525 ILCS 15/4) (from Ch. 96 1/2, par. 9104)

Sec. 4. The Department shall:

- a) Implement the forest development cost share program created by Section 5 of this Act and coordinate with the United States Department of Agriculture - Natural Resource Conservation Service and the Farm Service Agency in the administration of that program.
- b) Approve acceptable forest management plans as required by Section 5 of this Act.
- c) Provide assistance to the Illinois Forestry Development Council.

- d) Promote the development of an active forest industry in this State by providing information to timber growers relating to acceptable management practices, suitability of various kinds of timber to various land types, marketability of various types of timber, market strategies including marketing cooperatives, availability of State and federal government assistance, soil and water conservation benefits, and wildlife habitat enhancement opportunities.
- e) Provide any aid or information requested by the Illinois Finance Authority in relation to forest industry assistance programs implemented under the Illinois Finance Authority Act.
(Source: P.A. 96-217, eff. 8-10-09; 96-545, eff. 8-17-09.)

(S25 ILCS 15/5) (from Ch. 96 1/2, par. 9105)

Sec. 5. A forest development cost share program is created and shall be administered by the Department of Natural Resources.

A timber grower who desires to participate in the cost share program shall devise a forest management plan. To be eligible to submit a proposed forest management plan, a timber grower must own or operate at least 10 contiguous acres of land in this State on which timber is produced, except that, no acre on which a permanent building is located shall be included in calculations of acreage for the purpose of determining eligibility. Timber growers with Department approved forest management plans covering less than 10 acres in effect on or before the effective date of this amendatory Act of the 96th General Assembly shall continue to be eligible under the Illinois Forestry Development Act provisions. The proposed forest management plan shall include a description of the land to be managed under the plan, a description of the types of timber to be grown, a projected harvest schedule, a description of forest management practices to be applied to the land, an estimation of the cost of such practices, plans for afforestation, plans for regenerative harvest and reforestation, and a description of soil and water conservation goals and wildlife habitat enhancement which will be served by implementation of the forest management plan.

Upon receipt from a timber grower of a draft forest management plan, the Department shall review the plan and, if necessary, assist the timber grower to revise the plan. The Department shall officially approve acceptable plans. Forest management plans shall be revised as necessary and all revisions must be approved by the Department. A plan shall be evaluated every 2 years for re-approval.

The eligible land shall be maintained in a forest condition for a period of 10 years or until commercial harvest, whichever last occurs, as required by the plan.

The Department shall enter into agreements with timber growers with approved forest management plans under which the Department shall agree to pay a share of the total cost of acceptable forest management plans and practices implemented under the plan. The cost share amount is up to 80% of the total cost of the forest management practices for such practices approved to be funded from monies appropriated for this purpose for subsequent fiscal years. Cost share funds shall be paid from monies appropriated to the Department by the General Assembly for that purpose from the Illinois Forestry Development Fund or any other fund in the State Treasury.

The Department, upon recommendations made to it by the Council, may provide for the categorization of forest management practices and determine an appropriate cost share percentage for each such category. Forest management practices submitted by timber growers on whose timber sales fees of 4% of the sale amount were paid as provided in Section 9a of the "Timber Buyers Licensing Act", approved

September 1, 1969, may be accorded a priority for approval within the assigned category. Such timber growers may receive a cost share amount which is increased above the amount for which they would otherwise qualify by an amount equal to the fees paid by the timber grower on sales occurring in the 2 fiscal years immediately preceding the fiscal year in which the forest management practices are approved and funded; provided, however, that the total cost share amount shall not exceed the total cost of the approved forest management practices.

Upon transfer of his or her right and interest in the land or a change in land use, the timber grower shall forfeit all rights to future payments and other benefits resulting from an approved plan and shall refund to the Department all payments received there from during the previous 10 years unless the transferee of any such land agrees with the Department to assume all obligations under the plan.

(Source: P.A. 96-217, eff. 8-10-09; 96-545, eff. 8-17-09.)

(525 ILCS 15/6a) (from Ch. 96 1/2, par. 9106a)

Sec. 6a. (Repealed).

(Source: P.A. 94-793, eff. 5-19-06. Repealed internally, eff. 12-31-08.)

(525 ILCS 15/6b)

Sec. 6b. Illinois Forestry Development Council.

- a) The Illinois Forestry Development Council is created by this amendatory Act of the 96th General Assembly.
- b) The Council shall consist of 29 members appointed as follows:
 - 1) four members of the General Assembly, one appointed by the President of the Senate, one appointed by the Senate Minority Leader, one appointed by the Speaker of the House of Representatives, and one appointed by the House Minority Leader;
 - 2) one member appointed by the Governor to represent the Governor;
 - 3) the Directors of the Departments of Natural Resources, Agriculture, and Commerce and Economic Opportunity, the Executive Director of the Illinois Finance Authority, and the Director of the Office of Rural Affairs, or their designees;
 - 4) the chair of the Department of Forestry or a forestry academician, appointed by the Dean of Agricultural Sciences at Southern Illinois University at Carbondale;
 - 5) the head of the Department of Natural Resources and Environmental Sciences or a forestry academician, appointed by the Dean of Agricultural Consumer and Environmental Sciences of the University of Illinois at Urbana-Champaign;
 - 6) two members, appointed by the Governor, who shall be private timber growers;
 - 7) one member, appointed by the president of a statewide association involved in promoting wood products, who shall be involved in primary forest industry;
 - 8) one member, appointed by the president of a statewide association involved in promoting wood products, who shall be involved in secondary forest industry;
 - 9) one member who is actively involved in environmental issues, appointed by the Governor;
 - 10) the president of a statewide association involved in promoting soil and water conservation;
 - 11) two persons who are actively engaged in farming, appointed by the Governor;

- 12) one member, appointed by the Governor, whose primary area of expertise is urban forestry;
 - 13) one member appointed by the president of a statewide organization of arborists;
 - 14) the Supervisor of the Shawnee National Forest and the United States Department of Agriculture Natural Resource Conservation Service's State Conservationist, ex officio, or their designees;
 - 15) the president of a statewide association involved in promoting Illinois forestry;
 - 16) the president of a statewide association involved in promoting Illinois walnut trees;
 - 17) the chair of a statewide association involved in promoting Illinois tree farms;
 - 18) the president of a statewide association of American foresters; and
 - 19) the president of a statewide association promoting Illinois wildlife.
- c) Members of the Council shall serve without compensation but shall be reimbursed for actual expenses incurred in the performance of their duties which are not otherwise reimbursed.
 - d) The Council shall select from its membership a chairperson and such other officers as it considers necessary. Appointees to the Council shall serve for an initial term of 2 years and may be reappointed for one additional term.
 - e) Other individuals, agencies and organizations may be invited to participate as deemed advisable by the Council
 - f) The Council shall study and evaluate the forest resources and forest industry of Illinois. The Council shall:
 - 1) determine the magnitude, nature and extent of the State's forest resources;
 - 2) determine current uses and project future demand for forest products, services and benefits in Illinois;
 - 3) determine and evaluate the ownership characteristics of the State's forests, the motives for forest ownership and the success of incentives necessary to stimulate development of forest resources;
 - 4) determine the economic development and management opportunities that could result from improvements in local and regional forest product marketing and from the establishment of new or additional wood-related businesses in Illinois;
 - 5) confer with and offer assistance to the Illinois Finance Authority relating to its implementation of forest industry assistance programs authorized by the Illinois Finance Authority Act;
 - 6) determine the opportunities for increasing employment and economic growth through development of forest resources;
 - 7) determine the effect of current governmental policies and regulations on the management of woodlands and the location of wood products markets;
 - 8) determine the staffing and funding needs for forest and other conservation programs to support and enhance forest resources development;
 - 9) determine the needs of forest education programs in this State;
 - 10) confer with and offer assistance to the Department of Natural Resources relating to the implementation of urban forest assistance grants pursuant to the Urban and Community Forestry Assistance Act; and

- 11) determine soil and water conservation benefits and wildlife habitat enhancement opportunities that can be promoted through approved forest management plans.
- g) The Council shall report (i) its findings and recommendations for future State action and (ii) its evaluation of Urban/Community Forestry Assistance Grants to the General Assembly no later than July 1 of each year.

(Source: P.A. 96-217, eff. 8-10-09; 96-545, eff. 8-17-09.)

(525 ILCS 15/7) (from Ch. 96 1/2, par. 9107)

Sec. 7. The Illinois Forestry Development Fund, a special fund in the State Treasury, is hereby created. The Department of Natural Resources shall pay into the Fund all fees and fines collected from timber buyers and landowners and operators pursuant to the "Timber Buyers Licensing Act", and the "Forest Products Transportation Act", all gifts, contributions, bequests, grants, donations, transfers, appropriations and all other revenues and receipts resulting from forestry programs, forest product sales, and operations of facilities not otherwise directed by State law and shall, except for the additional moneys deposited under Section 805-550 of the Department of Natural Resources (Conservation) Law of the Civil Administrative Code of Illinois, pay such moneys appropriated from the Fund to timber growers for implementation of acceptable forest management practices as provided in Section 5 of this Act. Moneys may be appropriated from the Fund for the expenses of the Illinois Forestry Development Council. Ordinary operating expenses of the Forest Resources Division of the Department, for the administration and implementation of this Act, the development and implementation of a wood industry marketing, development and promotions program and other programs beneficial to advancing forests and forestry in this State, as deemed appropriate by the General Assembly, may be appropriated from this fund to the extent such appropriations preserve the receipts to the Fund derived from Section 9a of the "Timber Buyers Licensing Act".

(Source: P.A. 96-217, eff. 8-10-09; 96-545, eff. 8-17-09; 96-1160, eff. 1-1-11.)

AON Exhibit D: Public Involvement Process and Comments

Legal Announcements

Legal announcements regarding the Forest Legacy Program and the availability of the draft Assessment of Need; and the time and location of public information meetings were published in the following Illinois newspapers:

<u>Newspaper</u>	<u>No. of Subscribers</u>
Legacy Area counties Served: Calhoun, Jersey, Madison, Greene	
Alton Telegraph	34,494
Jacksonville Journal-Courier	15,500
Legacy Area counties Served: Winnebago, Lee, Ogle	
Dixon Telegraph	11,500
Rockford Register-Star	75,382
Legacy Area Counties Served: Marshall	
LaSalle News-Tribune	21,500
Legacy Area Counties Served: McClean, Tazewell, Peoria, Woodford	
Bloomington Pantagraph	51,800
Pekin Daily Times	16,000
Peoria Journal Star	106,368
Official State Paper	
Star Courier	7,500

Public Information Meetings

Public information meetings were held at the following locations to explain the Forest Legacy Program, seek input, and answer questions from the general public:

- Great Rivers Bluffs Forest Legacy Area
June 23, 1994: Pere Marquette Lodge, Pere Marquette State Park, Grafton, Illinois
- Rock River Forest Legacy Area
June 28, 1994: Brandywine Inn Restaurant, 441 Illinois Route 2, Dixon, Illinois
- Peoria Bluffs and Mackinaw River Forest Legacy Areas
June 29, 1994: Peppermill Restaurant, 1901 N. Morton Ave., Morton, Illinois

Location of Draft Assessment of Needs for Public Review:

- Department of Conservation Offices:
Illinois Division of Forest Resources
600 N. Grand Ave. West
Springfield, Illinois
- Illinois Department of Conservation Regional Office
4521 Alton Commerce Parkway
Alton, Illinois
- Illinois Department of Conservation Regional Office
2612 Locust
Sterling, Illinois
- Illinois Department of Conservation Regional Office
#8 Henson Place
Champaign, Illinois
- Illinois Department of Conservation Regional Office
RR #4, North on Route 37
Benton, Illinois
- Illinois Department of conservation Regional Office
110 James Road
Spring Grove, Illinois
- Illinois Department of Conservation District Office
2960 Court St.
Pekin, Illinois
- Pere Marquette State Park Site Superintendent Office Grafton, Illinois
- Cooperative Extension offices in the Counties with proposed Forest Legacy Areas:

Winnebago	Lee	Peoria	Greene
Ogle	Woodford	Jersey	Tazewell
Calhoun	McClellan	Marshall	Madison

- Public Libraries located in the Counties with proposed Forest Legacy Area:
 - Winnebago County: Loves Park, Cherry Valley, Pecatonica, Rockford, Winnebago
 - Ogle County: Leaf River, Polo, Byron, Rochelle, Forreston, Stillman Valley, Mt. Morris, Oregon
 - Lee County: Amboy, Dixon, Franklin Grove
 - Peoria County: Chillicothe, Dunlap, Princeville, Peoria Heights, Peoria, Bartonville

- Tazewell County: Pekin, Mackinaw, East Peoria, Creve Coeur, Deer Creek, Washington
- Woodford County: El Paso, Eureka, Metamora, Minonk
- McClean County: Bloomington, Danvers, Gridley, Hudson, Lexington, Carlock, Normal
- Greene County: Carrollton, Greenfield, Roodhouse, Whitehall
- Calhoun County: Brussels
- Madison County: Alton, Edwardsville, Wood River, Glen Carbon, Bethalto
- Jersey County: Jerseyville

Distribution of Draft Assessments of Need

Draft versions of the Assessment of Need were distributed to the following individuals, groups or organizations:

- Illinois Congressional Delegation Members
- Illinois Legislative Members
- Washington, D.C. Office of the Governor
- 1994 Illinois Conservation Congress Delegates
- Public Libraries in Counties with Forest Legacy Areas Illinois State Library (Depository for Public Documents) Illinois Stewardship Advisory Committee Members
- Forest Legacy Subcommittee Members
- Illinois Council on Forestry Development Members
- Illinois Council on Forestry Development Task Group Members
- Illinois Department of Conservation Advisory Board Members
- Illinois Department of Conservation Habitat Stamp Land Acquisition Committee Members
- Illinois Endangered Species Board Members
- Illinois Nature Preserves Commission Members
- Illinois Urban Forestry Advisory Committee Members
- Illinois Christmas Tree Association
- Cooperative Extension Offices in Counties with Forest Legacy Areas
- Cooperative Extension Natural Resource Educators
- Illinois Farm Bureau (State Office)
- Illinois Farm Bureau Offices in Counties with Forest Legacy Areas
- Soil Conservation Service (State Office)
- Soil Conservation Service Offices in Counties with Forest Legacy Areas
- Agricultural Stabilization and Conservation Service (State Office)
- Agricultural Stabilization and Conservation Service Offices in Counties with Forest

Legacy Areas

- Rural Conservation and Development Coordinators
- County Board Chairpersons in Counties with Forest Legacy Areas
- Soil and Water Conservation District Offices in Counties with Forest Legacy Areas
- Association of Soil and Water Conservation Districts (State Office)
- Illinois Department of Conservation Land Sites in Counties with Forest Legacy Areas
- Illinois Department of Conservation Regional Offices
- Illinois Division of Forest Resources District Offices
- Illinois Department of Conservation Office and Division Managers
- Reporters and Outdoor Writers
- United States Forest Service State and Private Forestry, and National Forest Personnel
- Various Constituent Groups in Counties with Forest Legacy Areas

Forest Legacy Presentations, besides the public meetings, were given to the following groups or individuals:

- Directors - Illinois Association of Soil and Water Conservation Districts
- Forestry Committee--Illinois Association of Soil and Water Conservation Districts
- Illinois Farm Bureau President and Board Members
- ASCS County Executive Directors and SWCD Board members for Calhoun, Morgan, Jersey, Greene, Scott, and Madison counties
- ASCS county Committees in Winnebago, Ogle, Lee, and Boone counties
- Ogle County Planning Commission

Forest Legacy Publicity:

- Information about the Forest Legacy Program and the public review process was featured as a segment in an Illinois News Networks Illinois Byways Program. This program was distributed to 60 Illinois radio stations.
- A program on Forest Legacy was prepared by KWMU Radio and distributed to the Public Radio stations servicing Illinois (Springfield, Macomb, Peoria, Chicago, Quad cities, Champaign/Urbana, St. Louis, Carbondale, Rockford, Bloomington, Glen Ellyn, and Quincy). This program was also distributed to various Public Radio stations in Missouri and Iowa.
- Interviews were held with radio and television stations across the State for the development of Forest Legacy segments to be inserted as local news stories: WJBM-Alton, WIXN-Dixon, WMBD-Peoria, WNIJ-DeKalb/Rockford, WBBM-Chicago, WGN-Chicago, WMAQ-Chicago, WLDS-Jacksonville, WJBC-Bloomington and WROK-Rockford.
- A state-wide news release was prepared and distributed.

- Local news releases, specific for each of the Legacy Areas, were prepared and distributed.
- Articles about the Legacy Program were published in the following newspapers or newsletters:
 - **Effingham Daily News: Circulation-13,000**
June 18, 1994: Informational meetings about forest legacy program set
June 25, 1994: DOC seeks to save forest land
 - **Dixon Telegraph: Circulation-11,500**
June 19, 1994: DOC asks input on forest plan
June 26, 1994: Area landowners learn about "forest legacy"
 - **Peoria Journal Star: Circulation-106,368**
June 20, 1994: DOC asks input on forest plan
June 30, 1994: Some landowners are wary of Forest Legacy Program
 - **Joliet Herald News: Circulation-48,553**
June 20, 1994: Segment on Forest Legacy in column by Bob Maciulis
June 30, 1994: DOC seeking to save large tracts of forest land
 - **Alton Telegraph: Circulation-34,494**
June 21, 1994: Hearing set on Calhoun as Forest Legacy Area
June 22, 1994: Program offers landowners good way to preserve forests
 - **Rockford Register Star: Circulation-75,382**
June 23, 1994: Protection sought for Rock forests
 - **Bloomington Pantagraph: Circulation-51,800**
June 23, 1994: Legacy program to stem area forest loss
 - **Kankakee Journal: Circulation-30,500**
June 24, 1994: Conservation targets four forest tracts
 - **The Star: Circulation-63,048**
June 26, 1994: Segment on Forest Legacy in column by Bob Maciulis
 - **Outdoor Illinois: Circulation-40,000**
July 1994: Forest Legacies
 - **St. Louis Dispatch: Circulation-391,286**
July 4, 1994: Officials seek support for 'Forest Legacy'
 - **Aurora Beacon News-39,989**
June 30, 1994: DOC seeking to save large tracts of forest land
 - **Henry News Republican-2,845**
June 8, 1994: Illinois Forrests-Yesterday, Today and Tomorrow
 - **Jacksonville Journal-Courier-15,500**
June 22, 1994: State seeks to preserve forests
 - **Farm Week: Circulation-86,410**
June 27, 1994: DOC plans meeting on forest program
July 4, 1994: Forest program voluntary, permanent

Summary of Forest Legacy Public Meetings:

Public informational meetings were held in or near the four (4) proposed Forest Legacy Areas (FLA's). These meetings were held on June 23, 1994 at the Pere Marquette

Lodge regarding the Great Rivers Bluffs FLA; June 28, 1994 at the Brandywine Inn & Lodge near Dixon regarding the Rock River FLA; and June 29, 1994 at the Peppermill Restaurant in Morton regarding the Peoria Bluff and Mackinaw FLA's. All meetings began at 7 p.m. and ended at approximately 9 p.m. However, many people attending these meetings stayed after the formal meeting to discuss particular and for personal concerns with those Department of Conservation (DOC) and U.S. Forest Service (USFS) staff present.

All meetings were conducted by State Forester Stewart Pequignot, with the assistance of Section Managers Dick Little and Dave Gillespie; Regional Foresters Tom Lamer and Matt Siemert; District Foresters Tom Wilson, George Poe, Dale Donahoo, and Mark Brown; and DOC Land Acquisition supervisor Tom Flattery. Land acquisition officer Diane Neal from the Shawnee National Forest attended all meetings as the USFS representative.

The agenda for all of the meetings was the same. First Stewart Pequignot, using the slide program, gave a presentation that informed the audience about the Forest Legacy Program. This presentation was followed by a District Forester or Section Manager describing the Forest Stewardship Management Plan. Tom Flattery and Diane Neal then went through the appraisal/acquisition process that will be followed for Forest Legacy. At the conclusion of their presentation the meeting was then opened for questions and comments from those attending.

The most frequently asked questions, and the answers given were:

Q: Can the rights sold to the Federal Government be bought back at a future time by the landowner or future owners of the property, or sold by the Federal Government to another agency?

A: The rights acquired by the Forest Service are held in the name of the United States of America. The intent is to hold the rights in perpetuity. The Forest Service does not have the authority to sell or dispose of land. It would require an Act of Congress in order for any Federal Government entity to sell land or interest in land.

Q: What's the difference between the acquisition of property under the Forest Legacy Program and just buying the property?

A: Under the Forest Legacy Program, only certain rights a landowner is willing to sell are acquired. The landowner will receive payment for the right(s) he/she is willing to sell, continues to live on the property, work the portion of the property not in forest cover, and manage the forest land in the Legacy Program following the guidelines of the Forest Stewardship Plan. The property can be sold, other rights can be sold, and/or the property

can be passed to the next generation. If the entire property is purchased, the landowner will receive payment for the property, but will not have any of the benefits mentioned regarding the purchase of just landowner right(s) under the Legacy Program.

Q: Is the land acquired taken off the tax rolls; who pays the taxes on the land?

A: If the USFS acquires the property through a fee simple title, the land is removed from the tax rolls. However, Payment in Lieu of Taxes (PILT) will be made and the State will receive 25% of the National Forest receipts generated from the lands purchased in fee. If only certain rights are acquired from a landowner under the Legacy Program, the landowner will still have to pay taxes on the property as addressed by Illinois State Law. However, forest land will qualify for a lower tax rate of 1/6 its value as crop land under provisions of the Illinois Forestry Development Act, and therefore be taxed at a lower rate. There is also the possibility the land will be assessed at a lower rate for the landowner since a right or rights have been sold to another party, i.e. the USFS.

Q: Where does funding for the program come from, and where will the 25% state share come from?

A: Funding for the Legacy Program comes from Congress through an appropriation to the USFS. There is approximately \$6.7 million in next fiscal year's budget for this program. The local or state share can come from many sources. The State can pay cash; donate maintenance, management, and in-kind services costs for five years; donate land of the required value to meet the 25% cost figure; or the landowner can donate 25% of the payment he/she receives for the rights they sold back to the program.

Q: Who determined the four (4) proposed FLA's and their boundaries?

A: An evaluation of the forested areas of the State was conducted by the Forest Legacy Subcommittee to determine which areas need the protection afforded by the Legacy Program from the conversion of these areas to non-traditional forest uses. These four (4) areas were selected as the most critical and in need of such protection so that the unique character of these forest lands will remain in their present forest condition.

The proposed FLA's were then approved by the state Forest Stewardship Committee. Additional FLA's can be added in the future once our Assessment of Need is approved by the Secretary of Agriculture. The boundaries shown on the maps at the meeting are not final boundaries of the proposed FLA's. One of the purposes of the meetings is to get input from the public as to where those boundaries should be located. We welcome any suggestions as to the location of future FLA's, and the boundaries of the FLA's we are proposing now.

Q: Who will develop the Forest Stewardship Plan?

A - The local District Forester with the DOC, Division of Forest Resources, in conjunction with the landowner, will develop the Plan. The District Forester will meet with the landowner; determine the goals and objectives the landowner wants for his/her forest land. The District Forester will then prepare the stewardship Plan to meet those goals and objectives.

Q: Who will enforce the agreement, and can timber be harvested from the forest land in the program?

A: If the landowner does not sell the timber rights, timber can be harvested from the forest land under the guidance of the Forest Stewardship Plan. Parcels acquired under the Legacy Program will be monitored on a regular basis for compliance by a third party. Any irregularity will be noted by this third party. Depending upon the circumstances, any noncompliance issue will be resolved to the satisfaction of Memorandum of Understanding regarding the particular parcel and the Forest Stewardship Plan.

In general, positive comments were received at all three Forest Legacy public informational meetings. Positive comments ranged from extending the boundaries so additional forest land could be included in the Program to statements of support for a program that will help preserve forest cover.

At the public meetings held in Dixon and Morton, issues of concern were raised by representatives of the Farm Bureau. The Farm Bureau representatives were concerned about programs where the government acquires property or rights to property from private citizens and the possible difficulties this acquisition would create for adjacent landowners.

At the Morton meeting, several landowners, from the proposed Mackinaw River FLA, expressed considerable opposition to Forest Legacy. The sentiments of these landowners could best be summarized as anti-government.

Written Comments Received During The Public Review Process:

The following agencies or organizations submitted letters of support for the adoption and implementation of the Forest Legacy Program in Illinois:

- USDA Soil Conservation Service
- Illinois Chapter of the Walnut Council
- Heartland Water Resources Council of Central Illinois
- The Nature Conservancy-central Illinois Field Office
- Illinois Nature Preserves Commission
- Alton Lake Heritage Parkway Commission

- Great Rivers Land Preservation Association, Inc.
- Northwest Illinois Forestry Association
- Heart of Illinois Sierra Club
- Illinois Endangered Species Protection Board
- Peoria Park District
- Illinois Chapter The Wildlife Society
- Illinois Council on Forestry Development
- Illinois Tree Farm System
- The Nature Conservancy-Illinois Field Office
- The Illinois Chapter of the American Fisheries Society
- Southwestern Illinois Resource Conservation & Development, Inc.

Letters from landowners in support of the adoption and implementation of the Forest Legacy Program in Illinois emphasized the following points:

- Voluntary aspects of the program,
- Offered alternative to landowners being pressured to sell forestland for development,
- Would help stem the conversion of forestlands,
- Did not want to be denied the option of using this program to plan the future of their farm operations

Summarized below are written comments received that were critical or opposed to the Forest Legacy Program:

- The comment period was too short.
(Forty-five days is often the stand length of a comment period for such a program. A longer period of time would probably be more ideal, but impending deadlines for submission of the final AON dictated the 45 day public comment period.)
- Forest landowners are not adequately represented on the Forest stewardship committee and the Forest Legacy Subcommittee.
(The makeup of the Forest Stewardship Committee is dictated by provisions of the 1990 Farm Bill. Forest landowners are represented on this committee, and are represented on the Forest Legacy Subcommittee.)
- The Forest Legacy program will take land off the tax rolls.
(This concern was raised during the Public Meetings. A response to this comment can be found on in the Question and Answer portion of this Appendix.)
- The program should include an arbitration process to resolve conflicts between landowners and the federal government.
(While the AON does not create such a process, the Memorandum of Understanding

between the U.S. Forest Service, the IDOC and any other parties to the agreement would contain provisions to resolve conflicts.)

- Taxpayer's money should not be used to purchase land under a new program when there is still many areas that need this money. An example is the flooded areas from last summer's flood.

(Like all governmental programs of this type, program funds come from tax money. Funds for the legacy program are appropriated by Congress in the U.S. Forest Service budget for the expressed purposes of the Legacy program, and cannot be used for such activities as flood cleanup projects.)

- The Legacy program would encourage the Illinois Department of Conservation to use its powers of condemnation to connect Forest Legacy parcels in macrosite areas.

(This could occur in such areas. However, it has always been the policy of the IDOC to use its powers of condemnation quite sparingly and with a great degree of discretion.)

- Easements in perpetuity are too long - long term leases of 20,30, or 40 years would be better. The future is too uncertain; we do not have the right to dictate to our children or grandchildren what they should do with the land they inherit.

{Long term leases will not insure the continued existence of the forestland in question after the lease is complete. Only an easement in perpetuity will accomplish this goal. Since this is a voluntary program, each landowner when considering participation in the Legacy program must decide the answer to the second part of this concern.)

- Legacy properties will create trespass problems on adjacent private lands not enrolled in the Legacy Program.

(There are already laws, rules and regulations in existence that deal with trespass. Forest Legacy does not change any of these provisions of trespass. All of the parties to the MOU's will work with neighboring landowners to resolve any conflicts that arise as a result of the Legacy program.)

Action taken as a result of the public information meetings and written comment period:

- The AON text was amended to incorporate suggested changes or corrections.
- The section on Public Involvement was completed and made a part of the AON.
- Boundaries of the Great Rivers Bluffs and Peoria Bluffs Forest Legacy Areas were modified.
- The proposed Mackinaw River Forest Legacy Area was not included in the final AON submitted to the Secretary of Agriculture.

Text of Legal Advertisements:

Star Courier:

The Illinois Department of Conservation advises the public that it is seeking input on a draft Forest Legacy Assessment of Need. This document is being developed to allow the Department to participate in the Federal Forest Legacy Program. This program will be developed in accordance with the provisions of Title XII of the Food, Agriculture, Conservation, and Trade Act of 1990 and the guidelines established for administering the program.

Three public information meetings on the establishment of a Forest Legacy Program in Illinois will be held between 7:00PM and 9:00PM on the following dates and at the following locations: June 23, 1994 at the Pere Marquette Lodge, Pere Marquette State Park, Grafton, Illinois; June 28, 1994 at the Brandywine Inn Restaurant, 441 Illinois Route 2 (3 miles west of Dixon on Illinois Route 2), Dixon Illinois; June 29, 1994 at the Peppermill Restaurant, 1901 N. Morton Ave., Morton, Illinois.

A draft of the Assessment of Need is available for public review at the following locations: Illinois Division of Forest Resources, 600 N. Grand Ave. West, Springfield, Illinois (217-782-2361); Regional Offices of the Illinois Department of Conservation (Sterling (815- 625-2968), Spring Grove (815-675-2385), Champaign (217-333-5773), Alton (618-462-1181), and Benton (618-438-6781), Illinois); Cooperative Extension Service Offices in the following Counties: Winnebago, Ogle, Lee, Peoria, Woodford, Tazewell, Mclean, Marshall, Calhoun, Greene, Jersey and Madison; and the following Public Libraries: Calhoun County-Brussels; Greene county-Carrollton, Roodhouse, Whitehall, Greenfield; Jersey County-Jerseyville; Madison County-Alton, Edwardsville, Bethalto, Wood River, and Glen carbon; Mclean County-Bloomington, Danvers, Gridley, Hudson, Lexington, Carlock, and Normal; Peoria County-Chillicothe, Dunlap, Princeville, Peoria Heights, Peoria, and Bartonville; Woodford County-El Paso, Eureka, Metamora, Minonk; Tazewell County-Pekin, Mackinaw, East Peoria, Creve Coeur, Deer Creek, and Washington; Marshall County-Henry, Lacon, Toluca; Winnebago County-Loves Park, Cherry Valley, Pecatonica, Rockford, and Winnebago; Ogle county- Leaf River, Polo, Byron, Rochelle, Forreston, Stillman Valley, Mt. Morris, and Oregon; and Lee County-Amboy, Dixon, and Franklin Grove.

Written comments on the draft assessment and Illinois' participation in the Forest Legacy Program should be sent to: Stewart Pequignot, Illinois Division of Forest Resources, P.O. Box 19225, Springfield, Illinois 62794-9225 (FAX:217-785-8277). To be considered, comments must be received by close of business July 15, 1994.

Alton Telegraph and Jacksonville Journal-Courier:

The Illinois Department of Conservation advises the public that it is seeking input on a draft Forest Legacy Assessment of Need. This document is being developed to allow the Department to participate in the Federal Forest Legacy Program. This program will be developed in accordance with the provisions of Title XII of the Food, Agriculture, Conservation, and Trade Act of 1990 and the guidelines established for administering the program.

A public information meeting on the Forest Legacy Program and the establishment of a Forest Legacy Area in Calhoun, Greene, Jersey and Madison Counties will be held between 7:00PM and 9:00PM June 23, 1994 at the Pere Marquette Lodge, Pere Marquette State Park, Grafton, Illinois.

A draft of the Assessment of Need is available for public review at the following locations: Illinois Division of Forest Resources, 600 N. Grand Ave. West, Springfield, Illinois (217-782-2361); Illinois Department of conservation Regional Office, 4521 Alton Commerce Parkway, Alton, Illinois 62002 (618-462-1181); Cooperative Extension service Offices in Calhoun, Greene, Jersey and Madison counties; Pere Marquette State Park, Site Superintendent Office, Grafton, Illinois (618-786-3323); and the following Public Libraries: Calhoun County-Brussels; Greene County-Carrollton, Roodhouse, Whitehall, Greenfield; Jersey County-Jerseyville; and Madison County-Alton, Edwardsville, Bethalto, Wood River, and Glen Carbon.

Written comments on the draft assessment and Illinois' participation in the Forest Legacy Program should be sent to: Stewart Pequignot, Illinois Division of Forest Resources, P.O. Box 19225, Springfield, Illinois 62794-9225 (FAX: 217-785-8277). To be considered, comments must be received by close of business July 15, 1994.

Lasalle News-Tribune, Bloomington Pantagraph, and Pekin Daily Times and Peoria Journal Star:

The Illinois Department of Conservation advises the public that it is seeking input on a draft Forest Legacy Assessment of Need. This document is being developed to allow the Department to participate in the Federal Forest Legacy Program. This program will be developed in accordance with the provisions of Title XII of the Food, Agriculture, Conservation, and Trade Act of 1990 and the guidelines established for administering the program.

A public information meeting on the Forest Legacy Program and the establishment of two (2) Forest Legacy Areas in Peoria, Woodford, Tazewell, McClean, and Marshall Counties will be held between 7:00 PM and 9:00PM June 29, 1994 at the Peppermill Restaurant, 1901 N.

Morton Ave., Morton, Illinois.

A draft of the Assessment of Need is available for public review at the following locations: Illinois Division of Forest Resources, 600 N. Grand Ave. West, Springfield, Illinois (217-782-2361); Illinois Department of Conservation Regional Offices: 2612 Locust, Sterling, Illinois (815-625-2968), and #8 Henson Place, Champaign, Illinois (217-333-5773); Illinois Department of Conservation District Office, 2960 Court St., Pekin, Illinois (309-347-5119); Cooperative Extension Service Offices in the following Counties: Woodford, Tazewell, McLean, and Marshall; and the following Public Libraries: McLean County-Bloomington, Danvers, Gridley, Hudson, Lexington, Carlock, and Normal; Peoria County-Chillicothe, Dunlap, Princeville, Peoria Heights, Peoria, and Bartonville; Woodford County-El Paso, Eureka, Metamora, Minonk; and Tazewell County- Pekin, Mackinaw, East Peoria, Creve Coeur, Deer Creek, Washington; and Marshall County-Henry, Lacon, Toluca.

Written comments on the draft assessment and Illinois' participation in the Forest Legacy Program should be sent to: Stewart Pequignot, Illinois Division of Forest Resources, P.O. Box 19225, Springfield, Illinois 62794-9225 (FAX: 217-785-8277). To be considered, comments must be received by close of business July 15 1994.

Dixon Telegraph and Rockford Register-Star:

The Illinois Department of Conservation advises the public that it is seeking input on a draft Forest Legacy Assessment of Need. This document is being developed to allow the Department to participate in the Federal Forest Legacy Program. This program will be developed in accordance with the provisions of Title XII of the Food, Agriculture, Conservation, and Trade Act of 1990 and the guidelines established for administering the program.

A public information meeting on the Forest Legacy Program and the establishment of a Forest Legacy Area in Winnebago, Lee, and Ogle Counties will be held between 7:00 PM and 9:00 PM June 28, 1994 at the Brandywine Inn Restaurant, 441 Illinois Route 2 (3 miles west of Dixon on Illinois Route 2), Dixon Illinois.

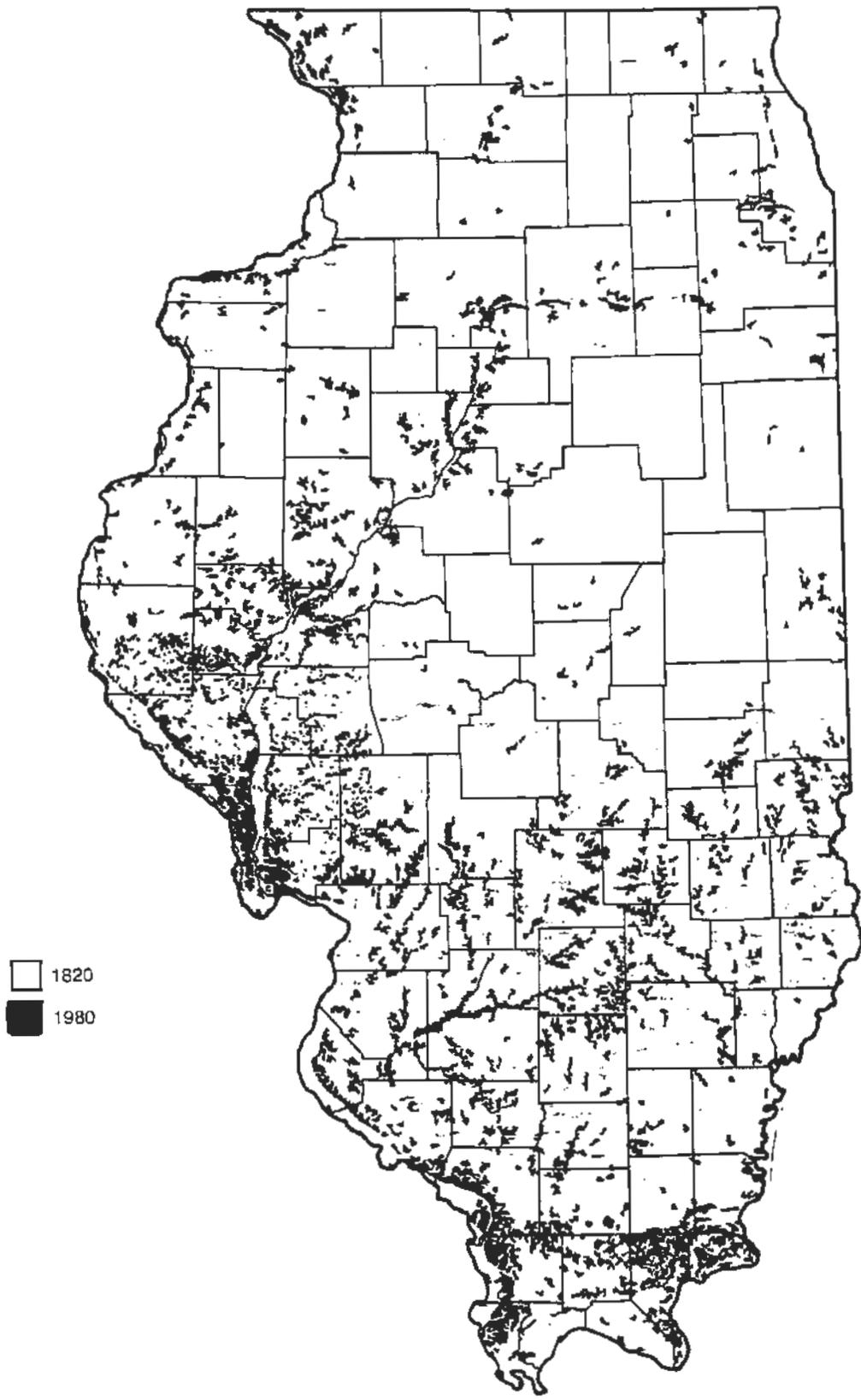
A draft of the Assessment of Need is available for public review at the following locations: Illinois Division of Forest Resources, 600 N. Grand Ave. West, Springfield, Illinois (217-782-2361); Illinois Department of Conservation Regional Office, 2612 Locust, Sterling, Illinois (815-625-2968); Cooperative Extension Service Offices in the Winnebago, Lee, and Ogle Counties; and the following Public Libraries: Winnebago County-Loves Park, Cherry Valley, Pecatonica, Rockford, and Winnebago; Ogle County-Leaf River, Polo, Byron, Rochelle, Forreston, Stillman

Valley, Mt. Morris, and Oregon; and Lee County-Amboy, Dixon, and Franklin Grove.

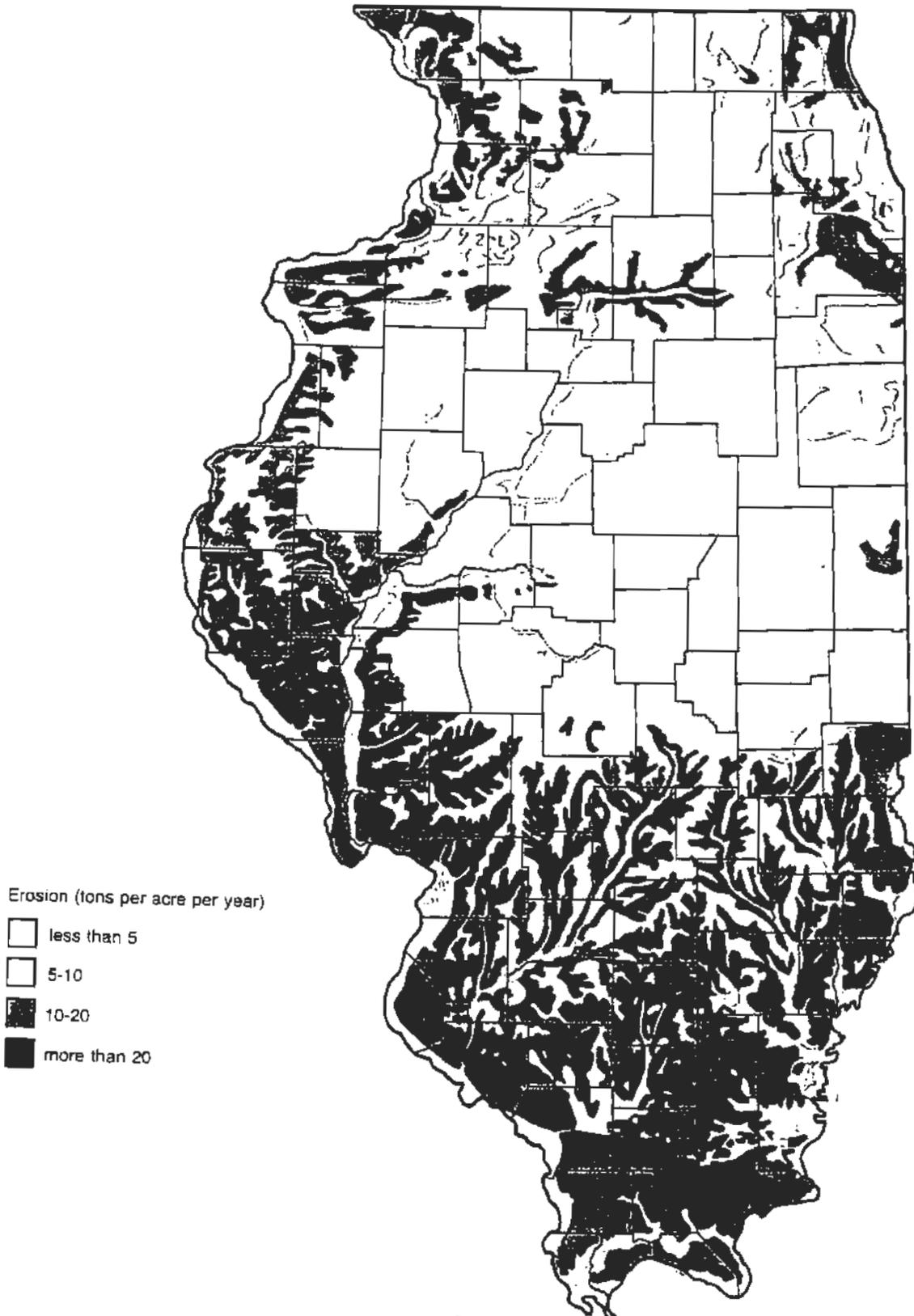
Written comments on the draft assessment and Illinois participation in the Forest Legacy Program should be sent to: Stewart Pequignot, Illinois Division of Forest Resources, P.O. Box 19225, Springfield, Illinois 62794-9225 (FAX: 217-785-8277). To be considered, comments must be received by close of business July 15, 1994.

AON Exhibit E: Resources Maps

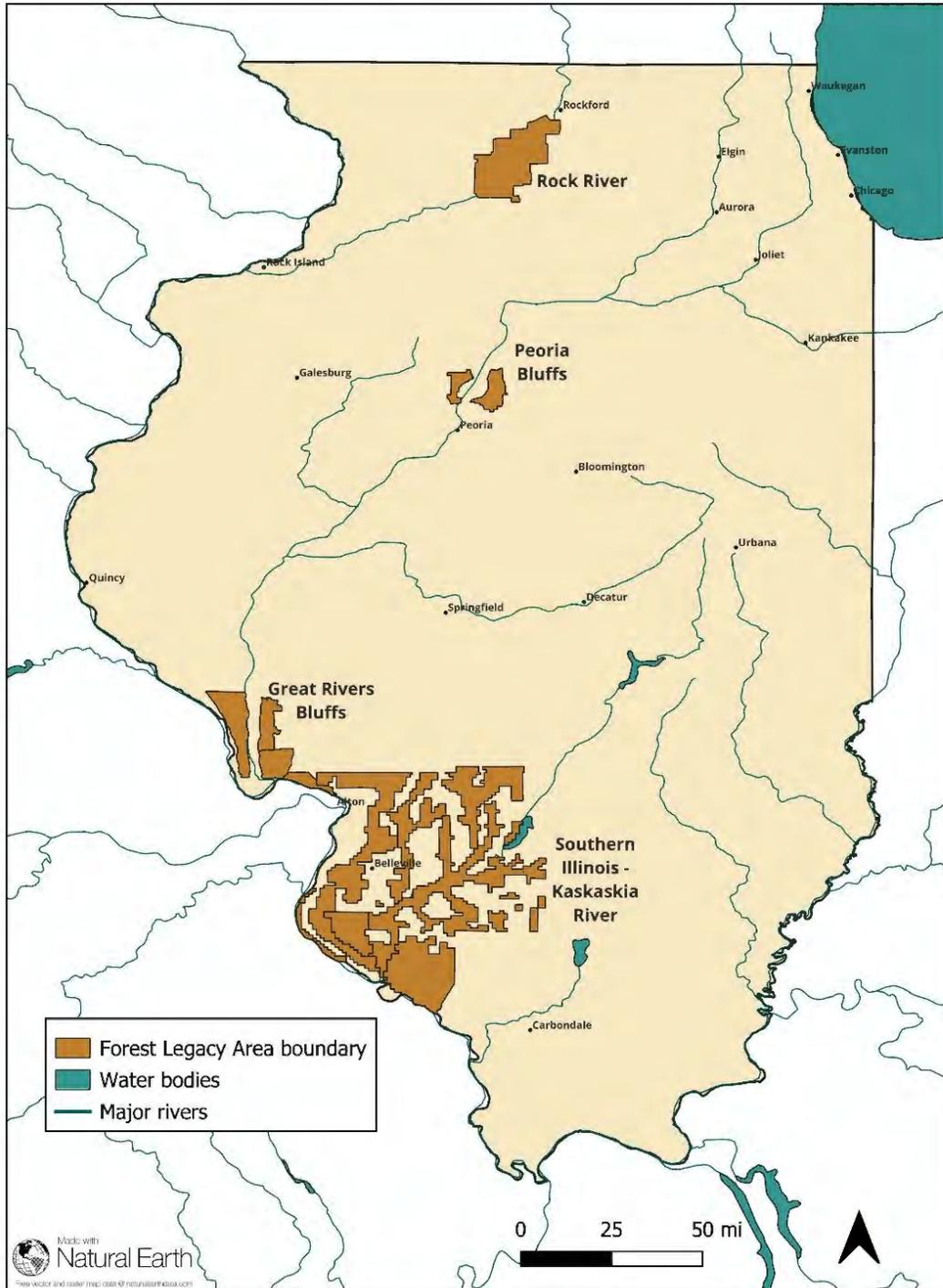
ILLINOIS FOREST COVER 1820 AND 1980



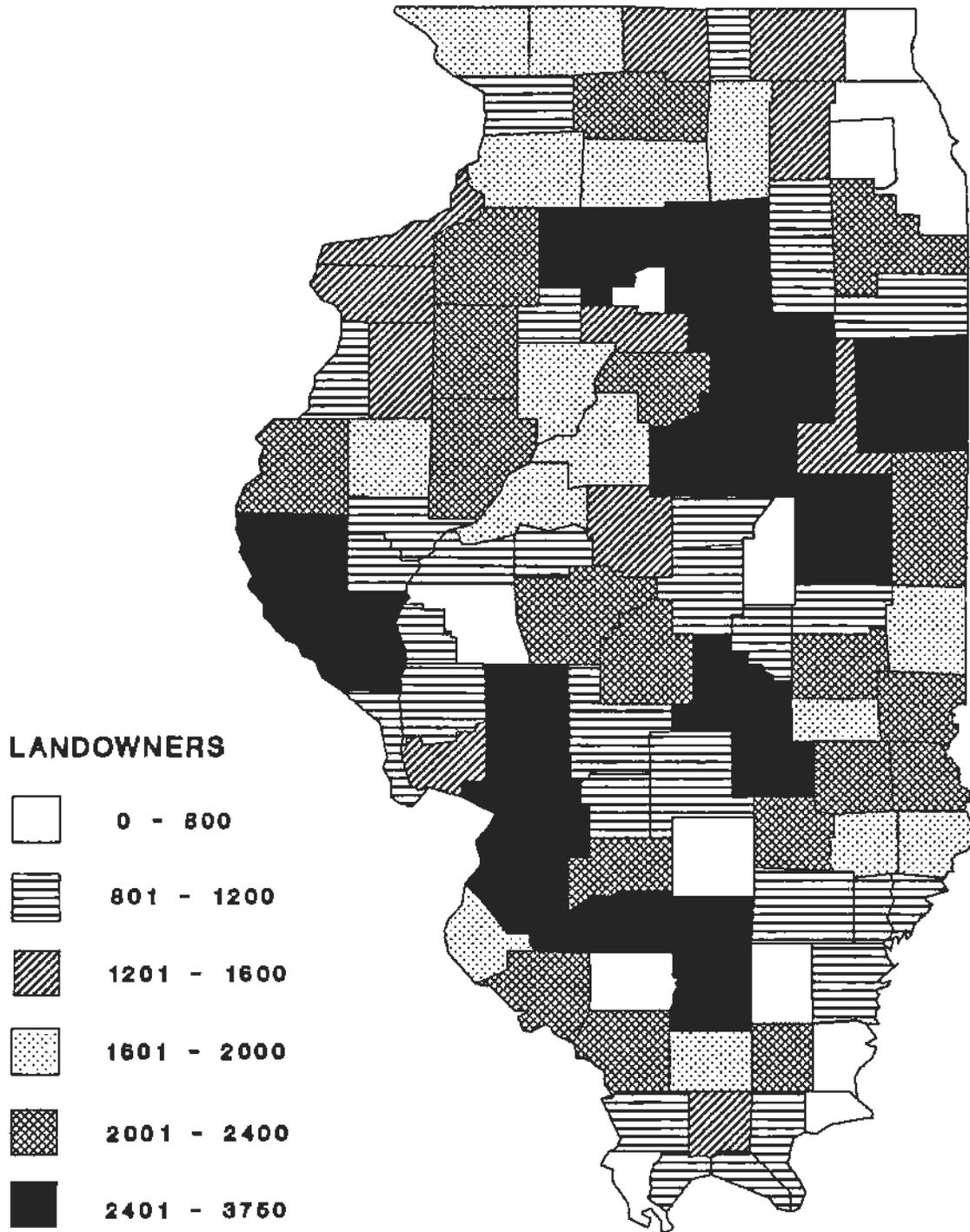
ILLINOIS EROSION RATES



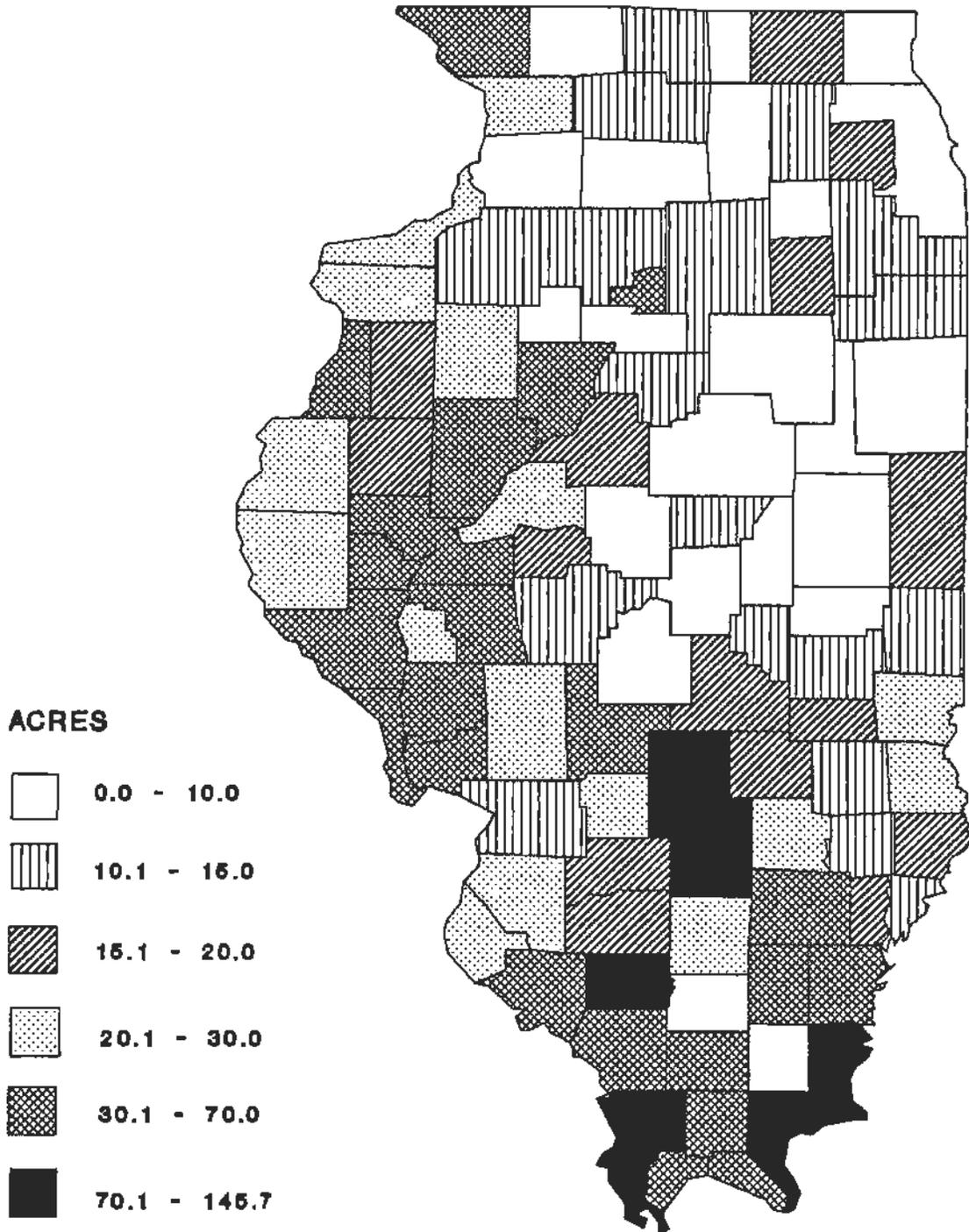
State of Illinois Forest Legacy Areas



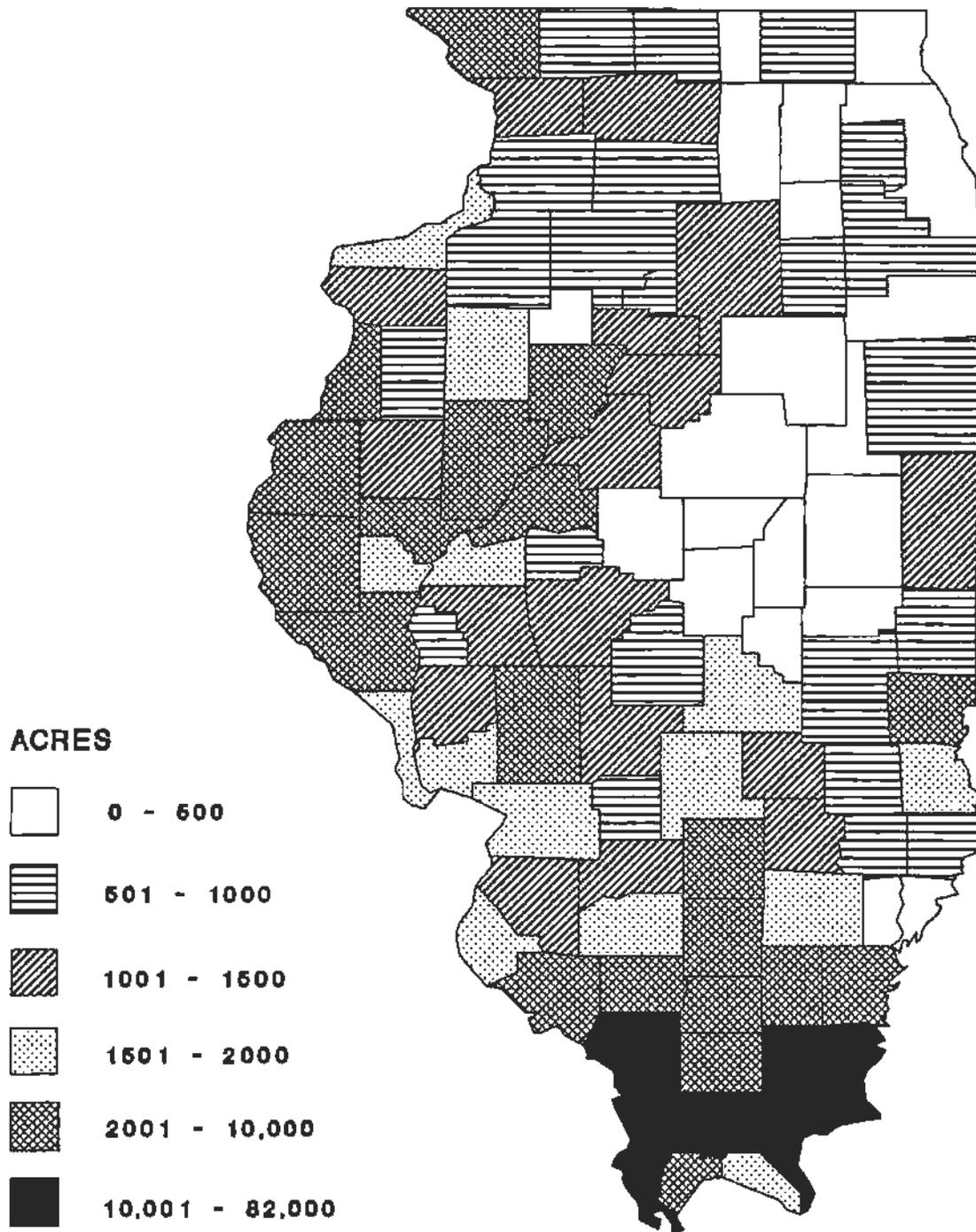
NUMBER OF LANDOWNERS WITH COMMERCIAL FORESTLAND



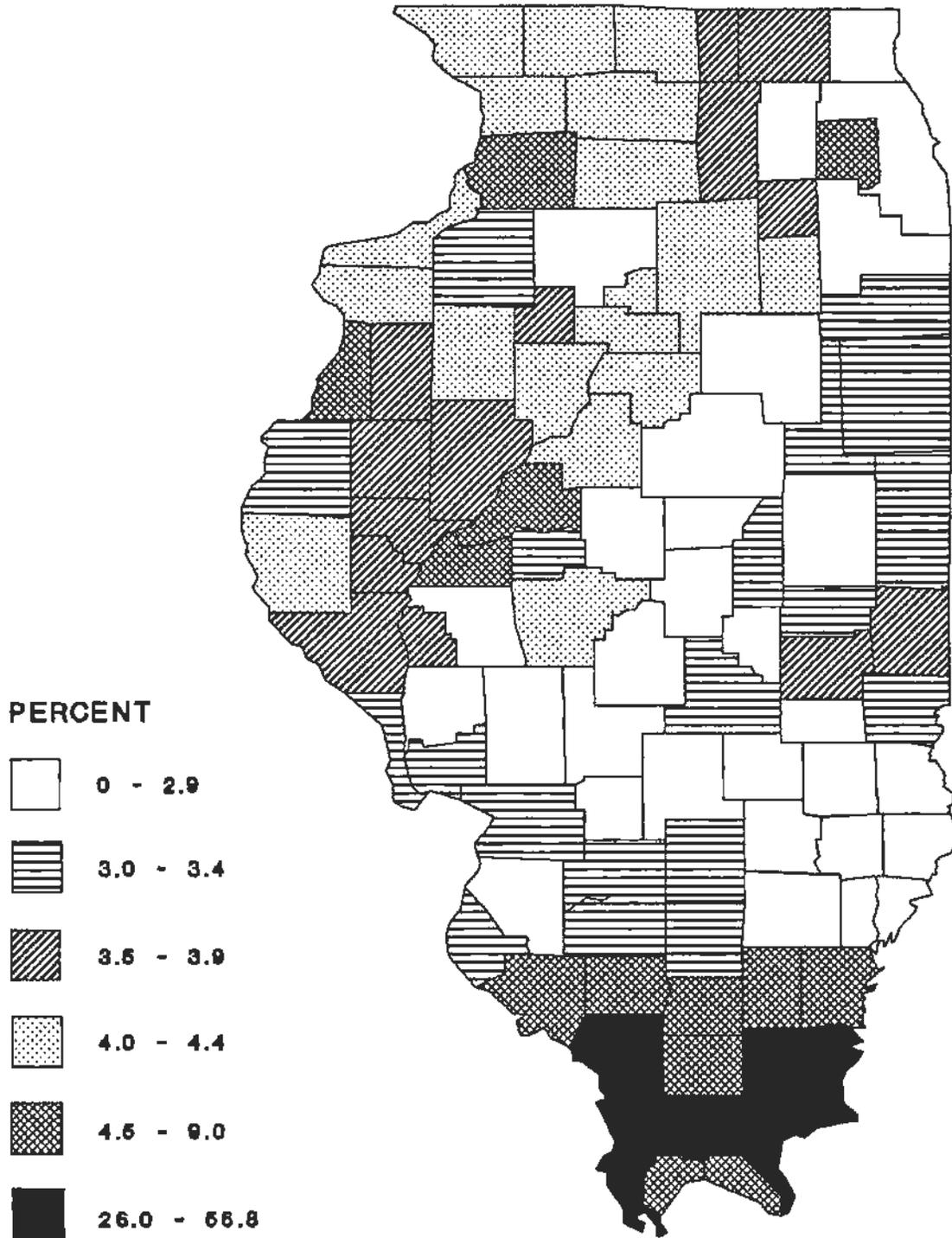
ACRES OF PRIVATE COMMERCIAL FORESTLAND PER OWNER



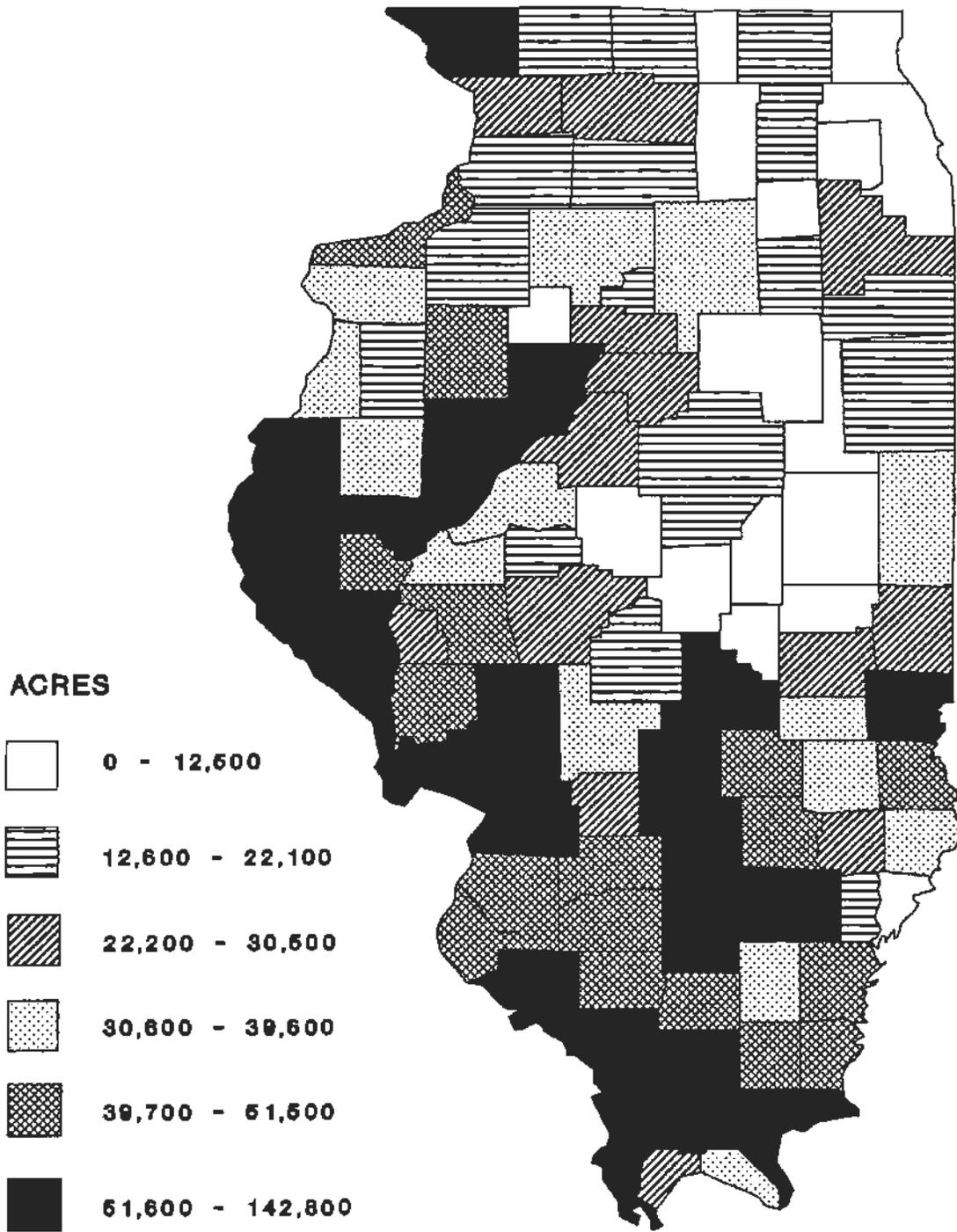
ACRES OF COMMERCIAL FOREST IN PUBLIC OWNERSHIP



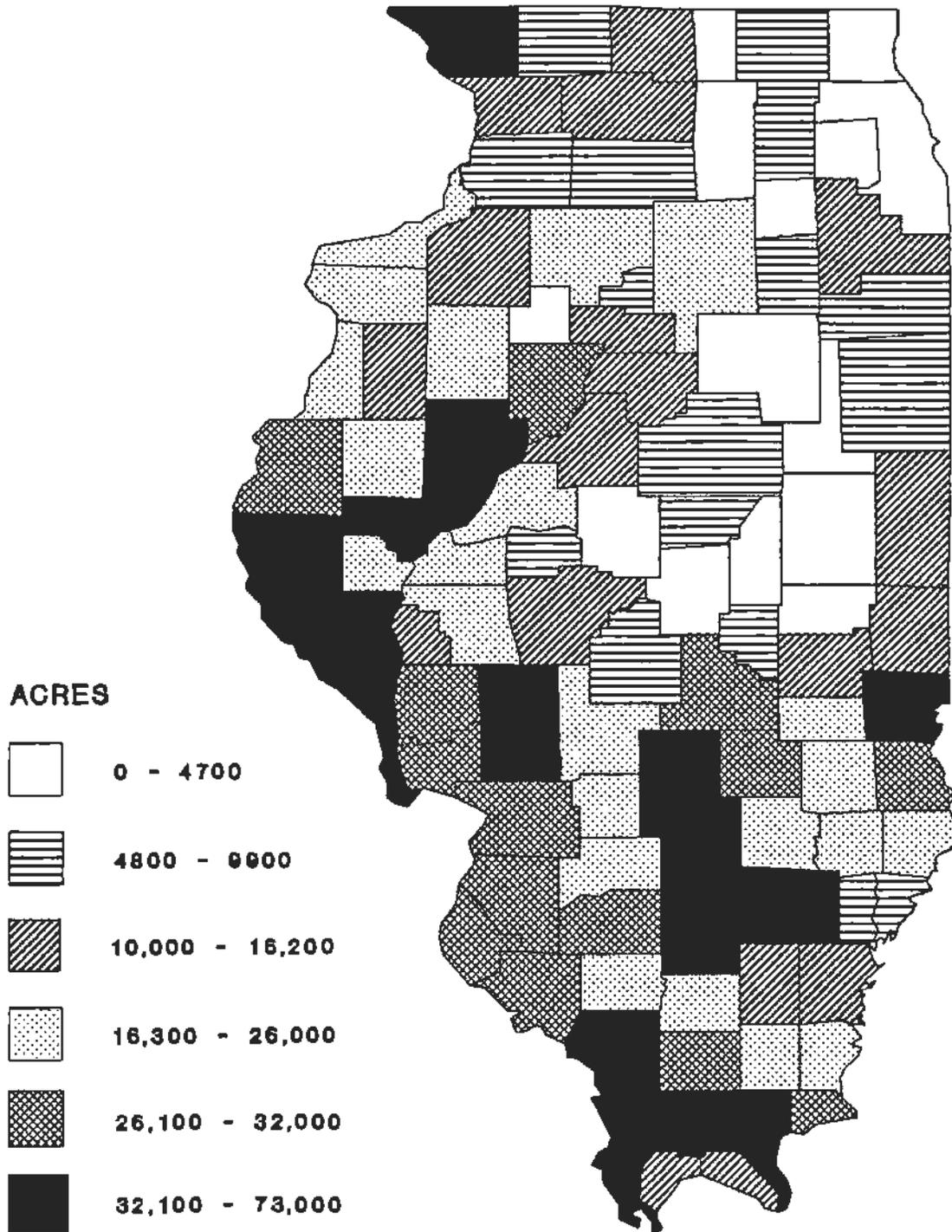
PERCENT OF COMMERCIAL FORESTS IN PUBLIC OWNERSHIP



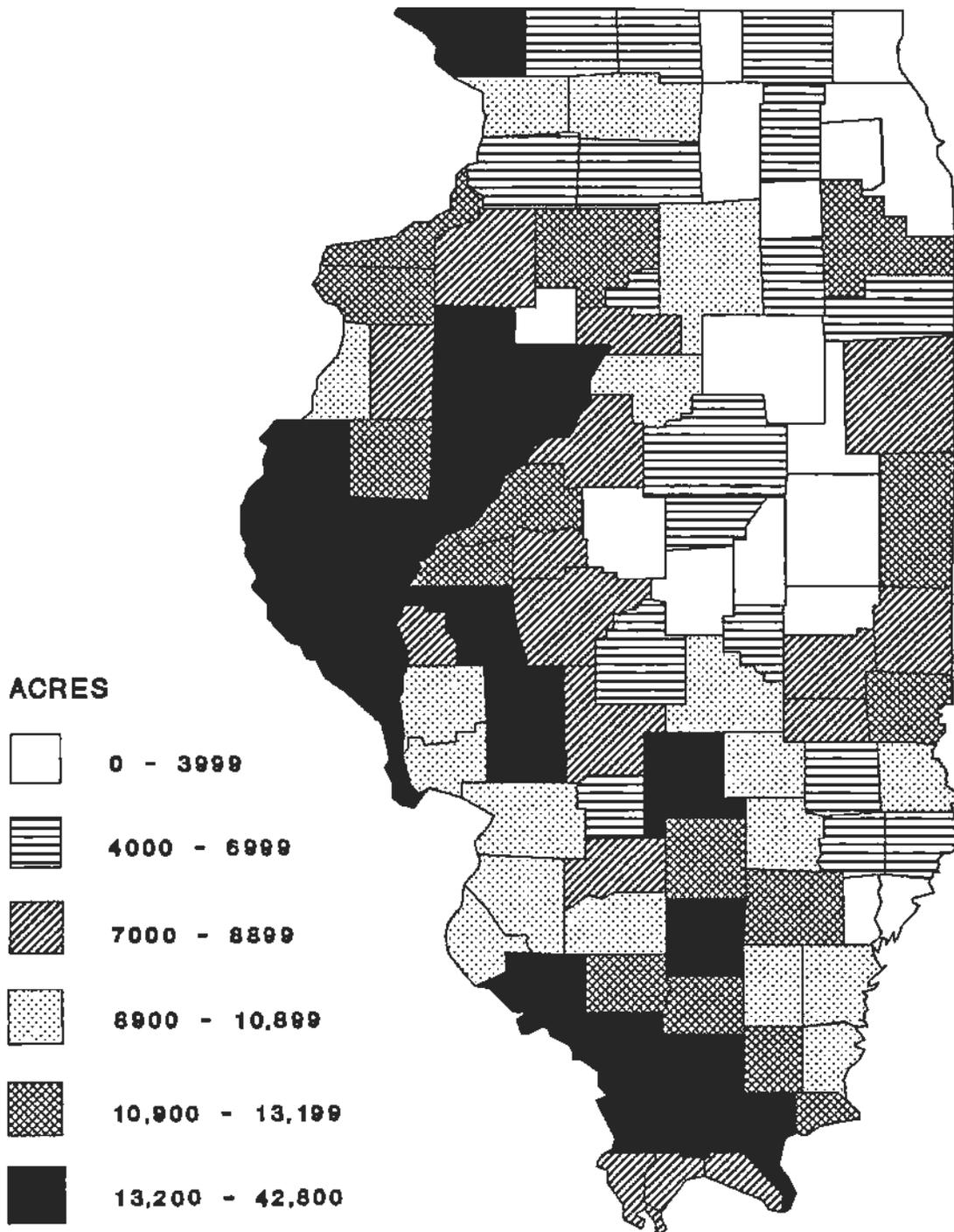
COMMERCIAL FOREST ACREAGE



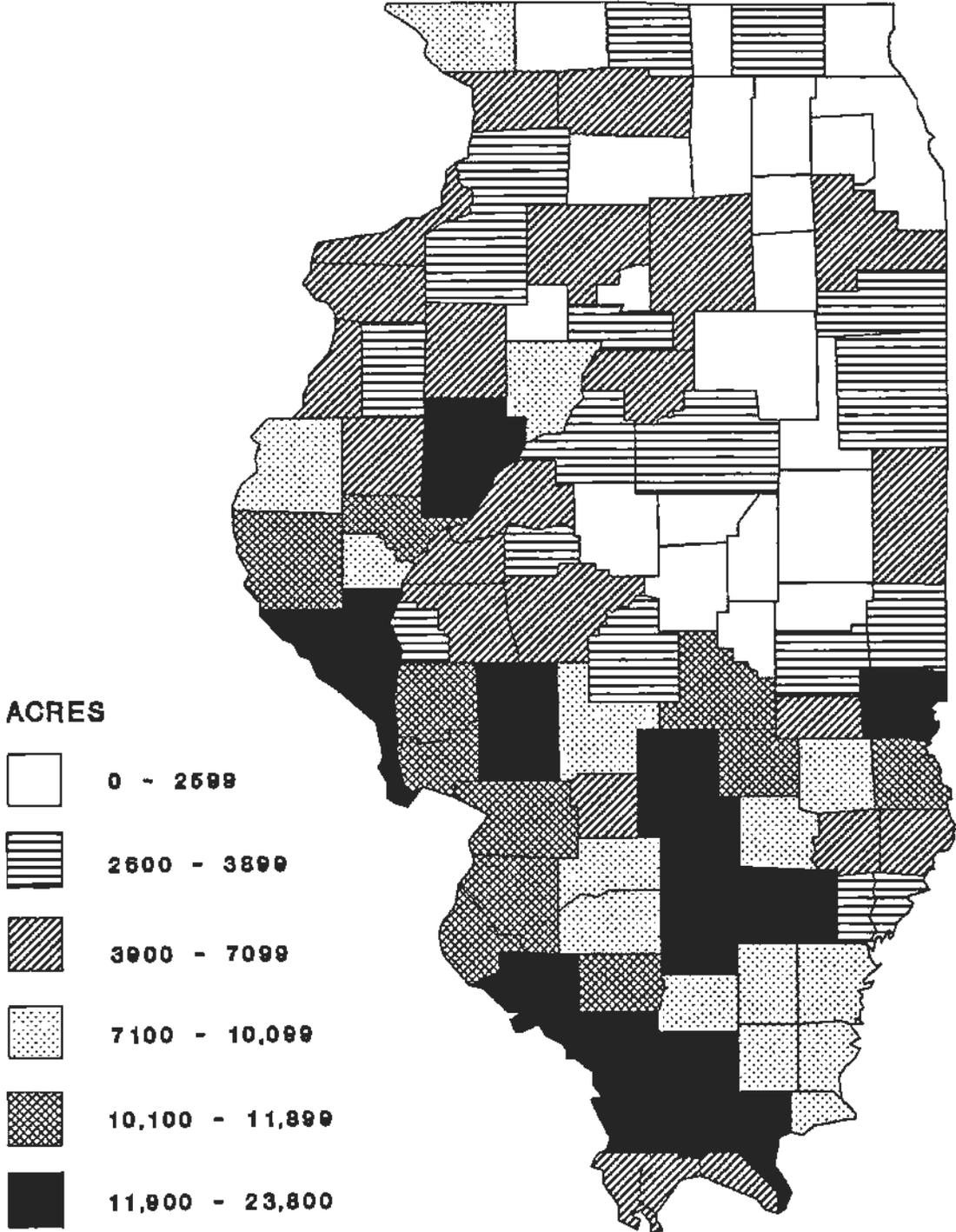
OAK-HICKORY FOREST ACREAGE



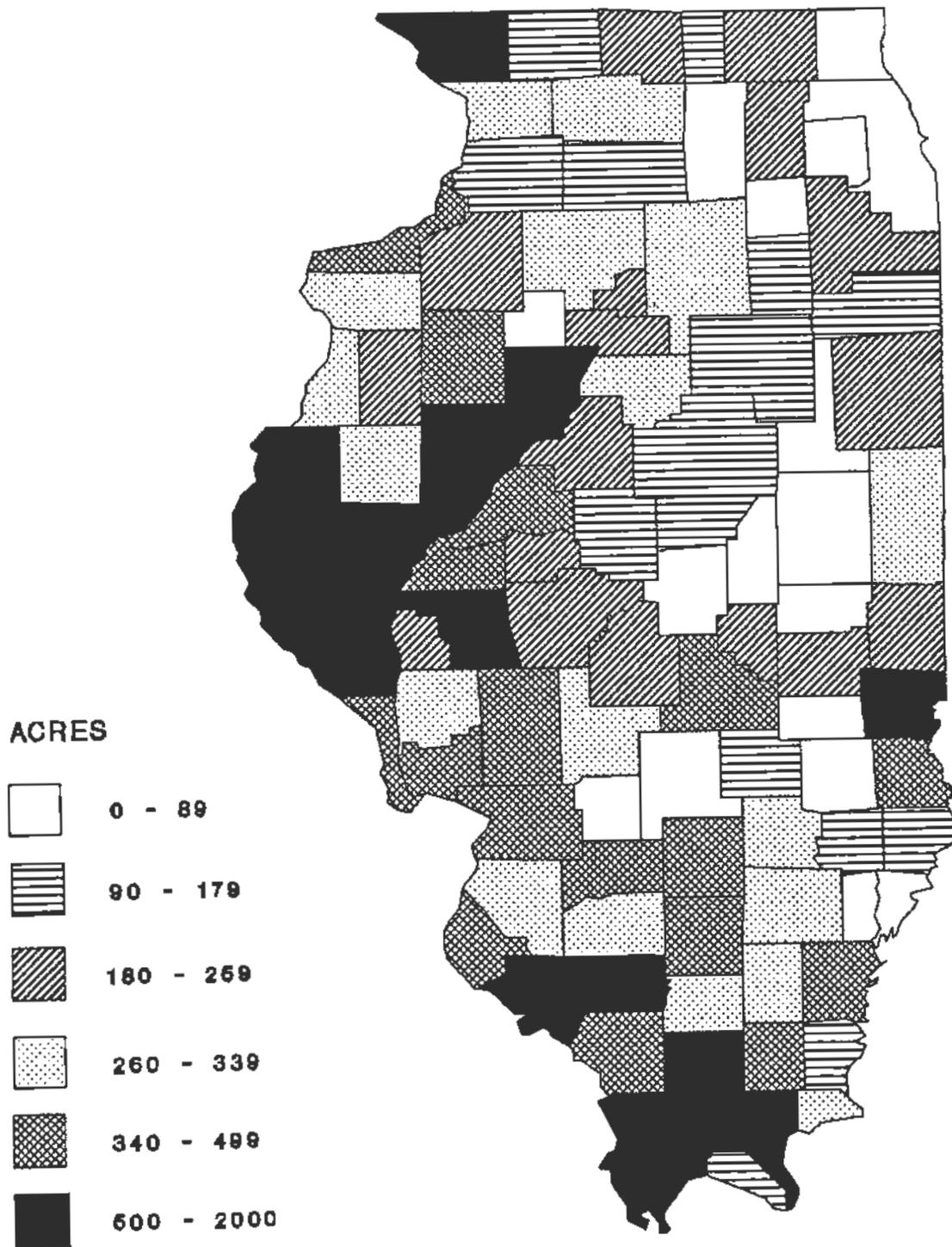
MAPLE-BEECH FOREST ACREAGE



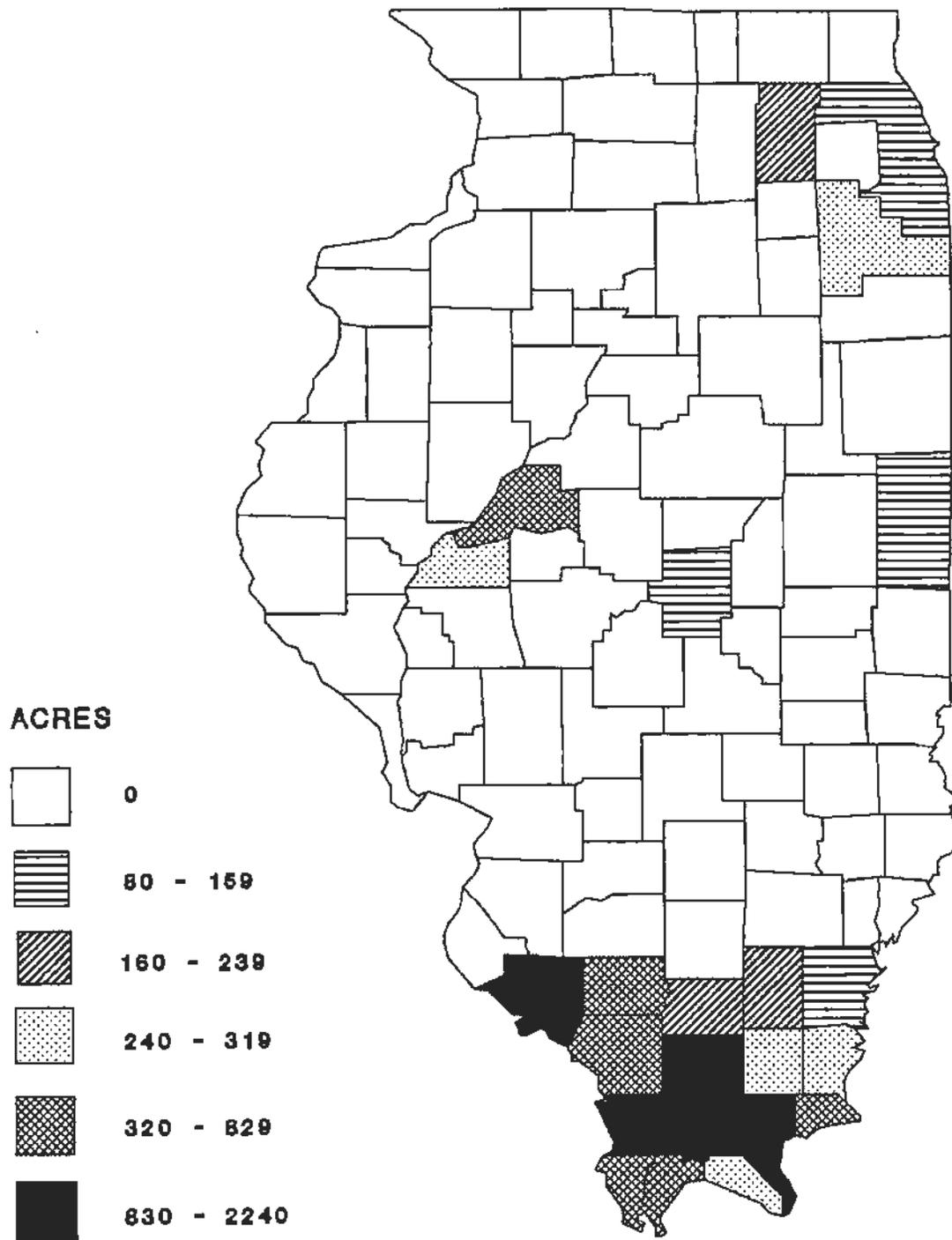
ELM-ASH-SOFT MAPLE FOREST ACREAGE



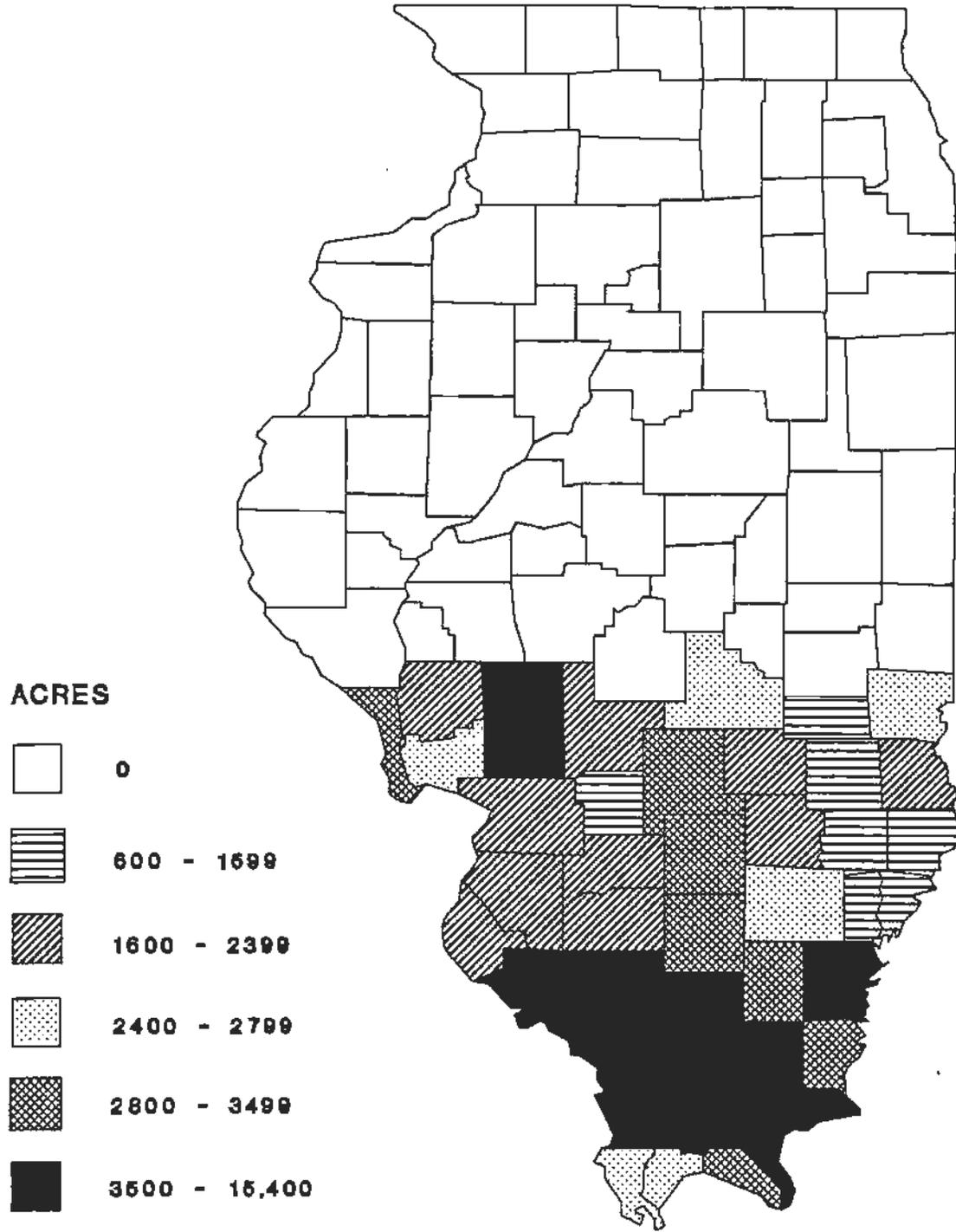
COTTONWOOD FOREST ACREAGE



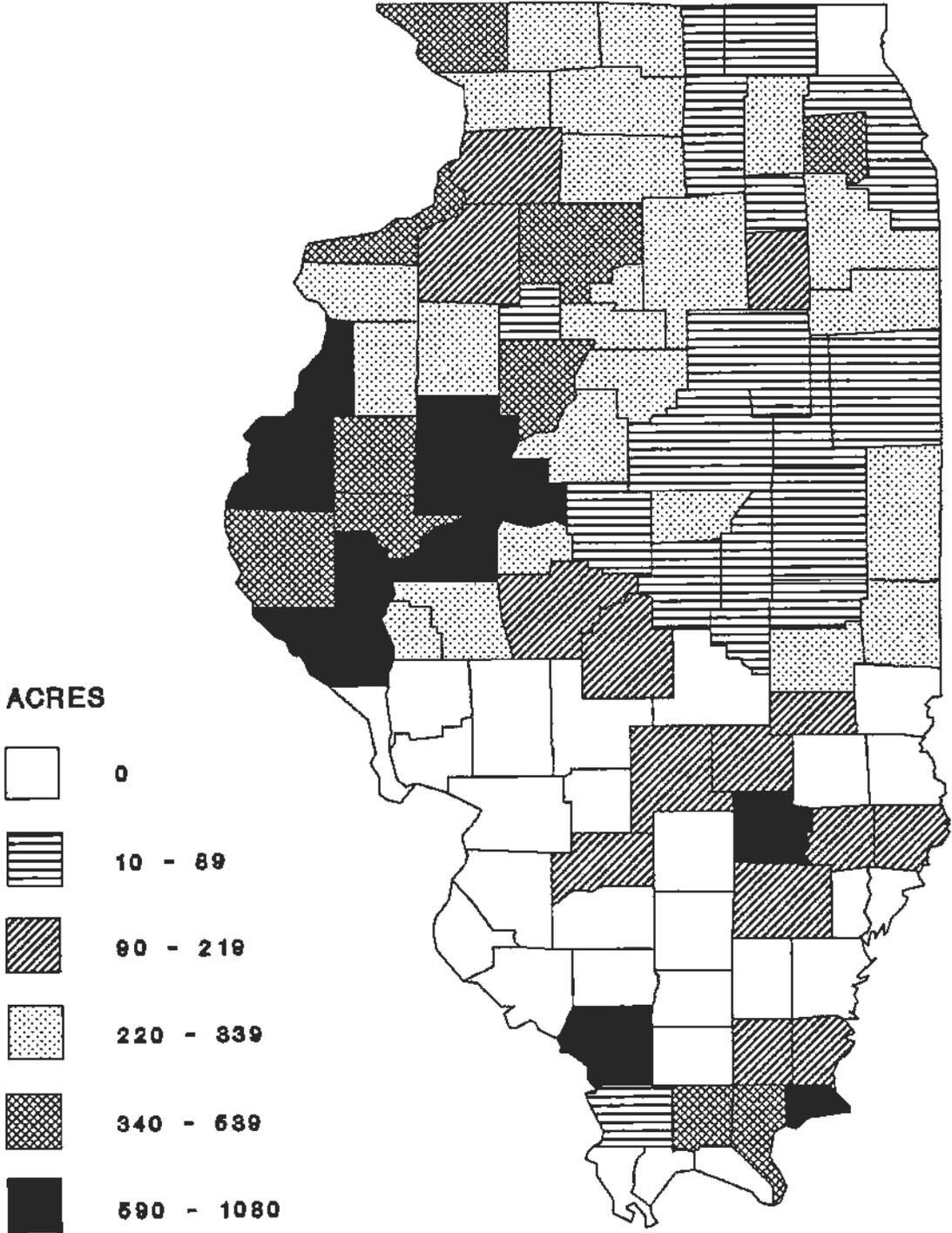
OAK-PINE FOREST ACREAGE



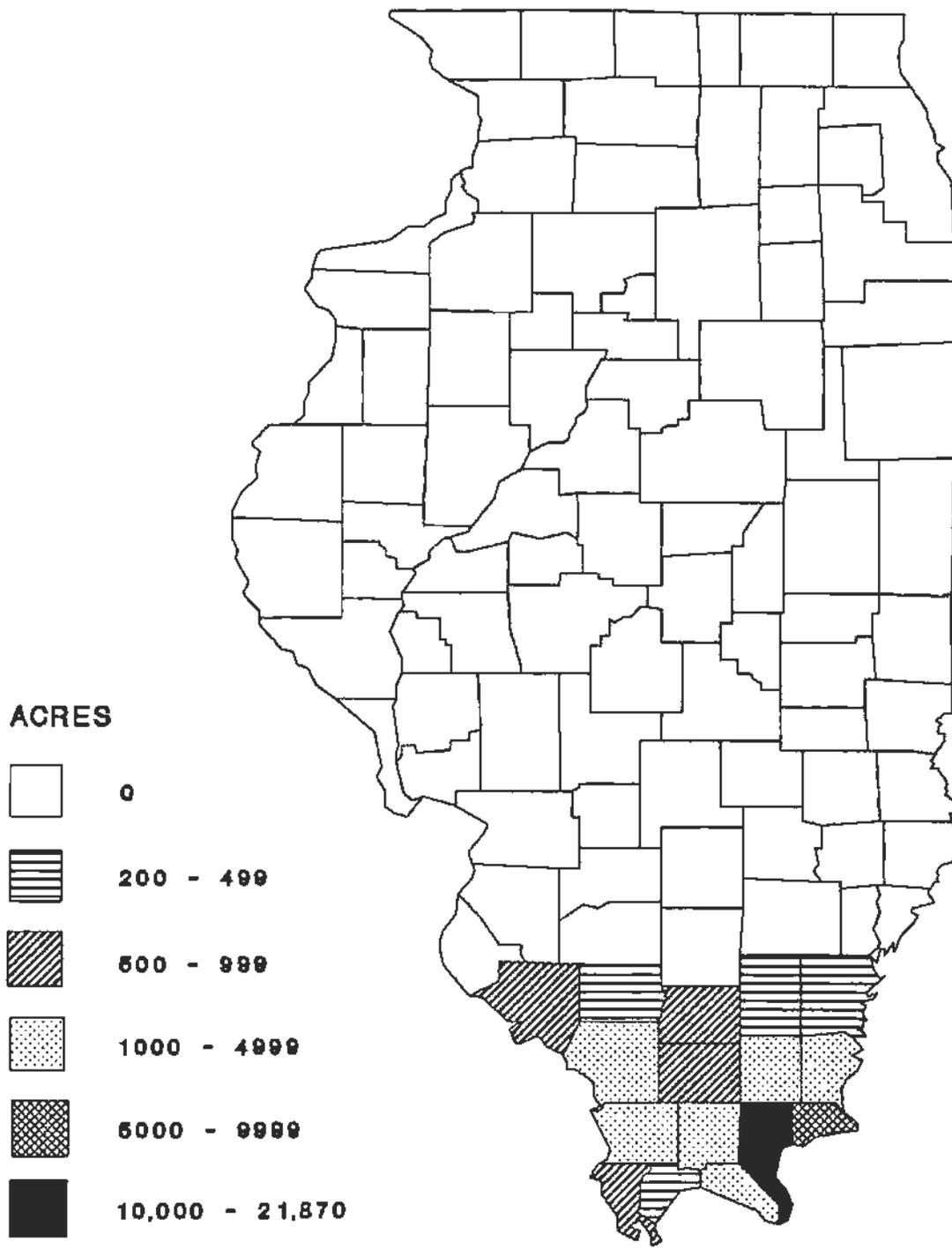
OAK-GUM-CYPRESS FOREST ACREAGE



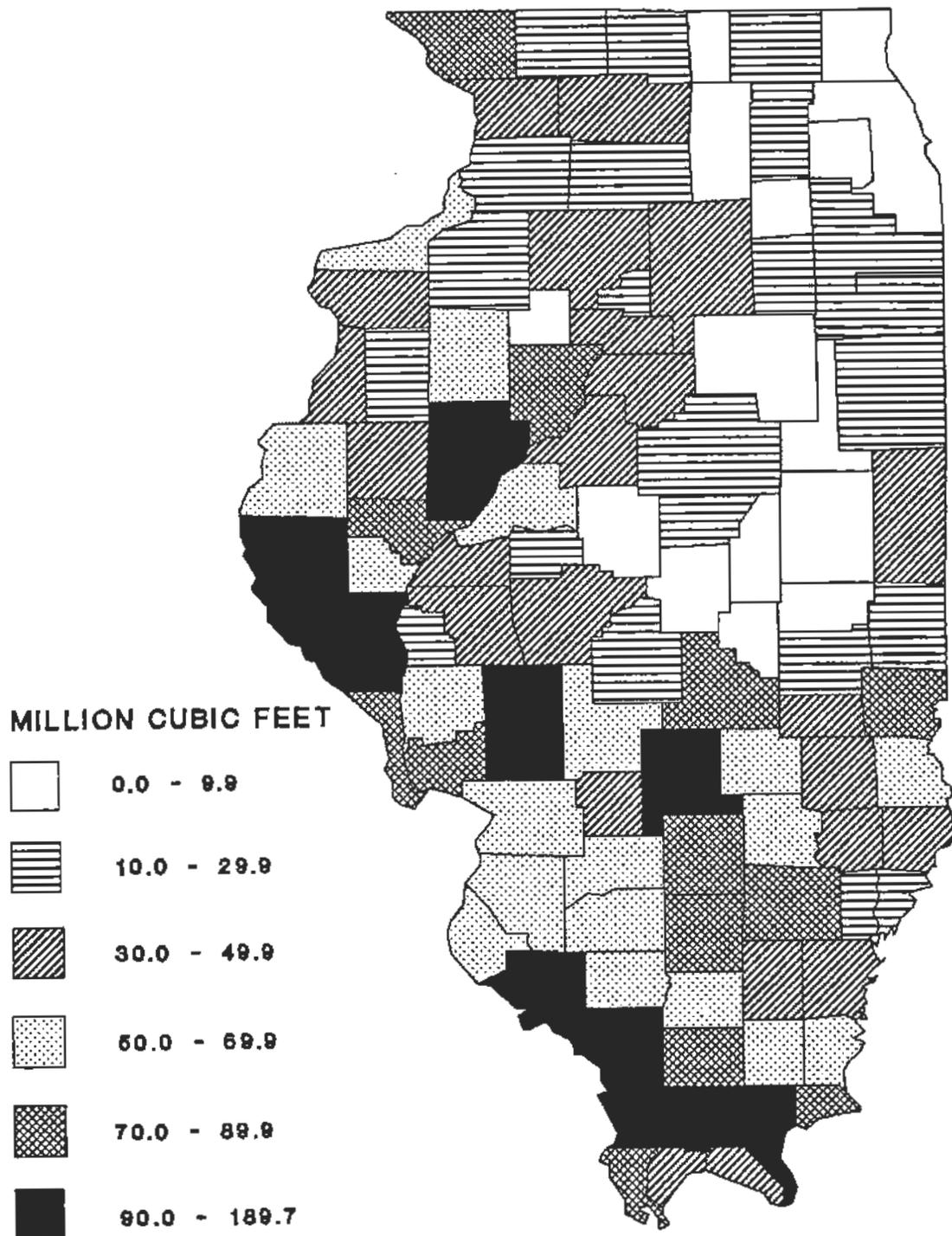
WHITE PINE FOREST ACREAGE



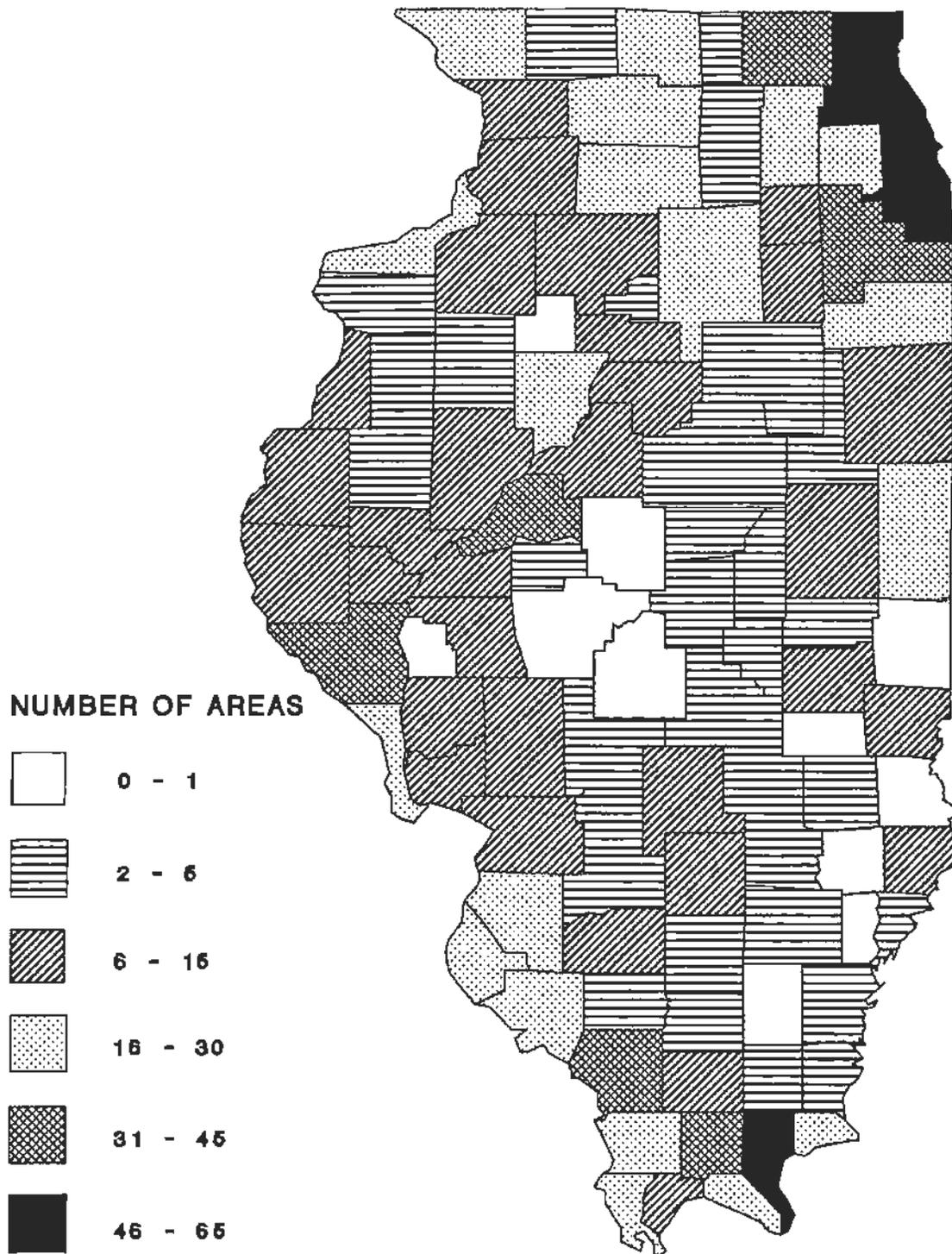
SHORTLEAF PINE FOREST ACREAGE



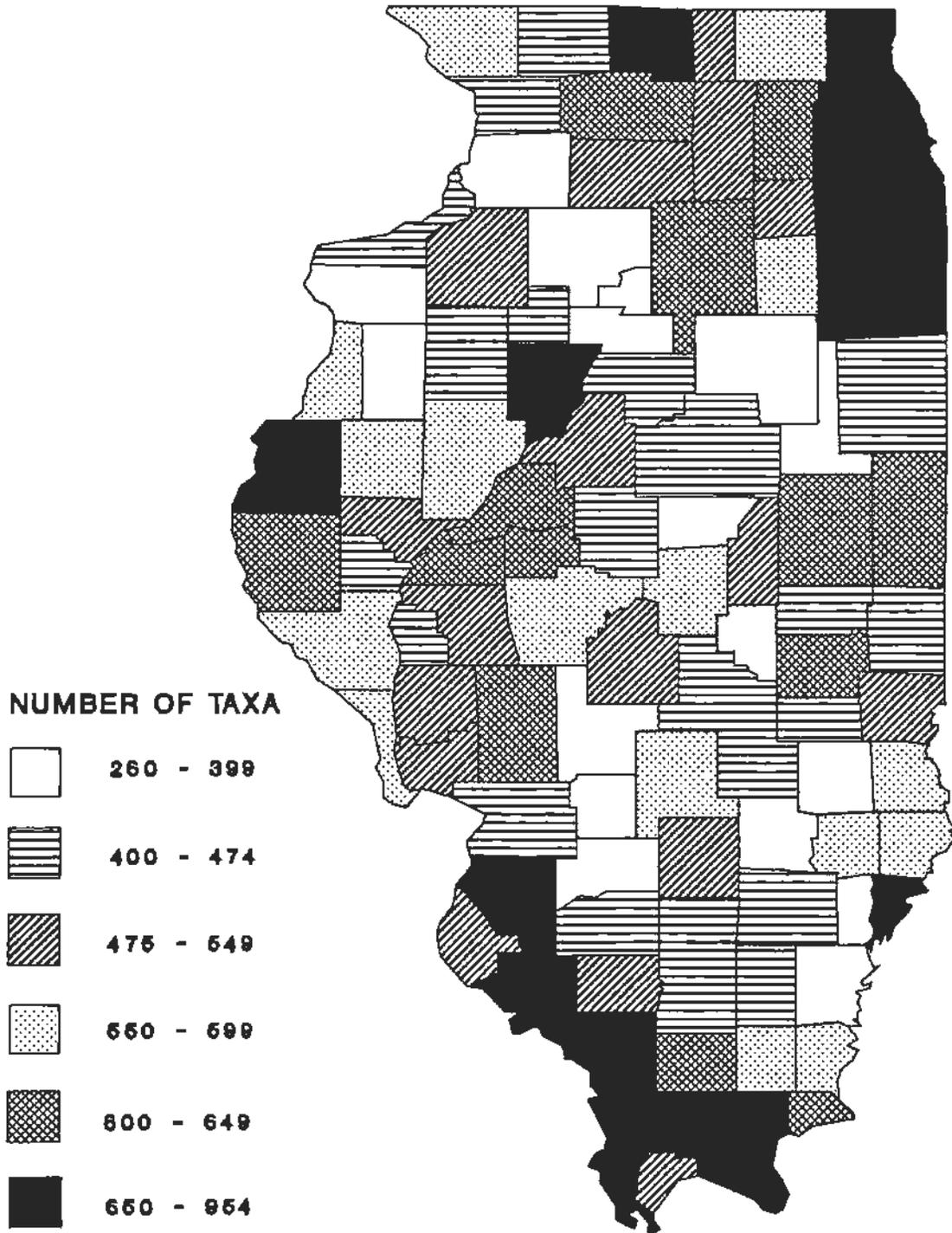
VOLUME OF GROWING STOCK FOR ALL TREE SPECIES



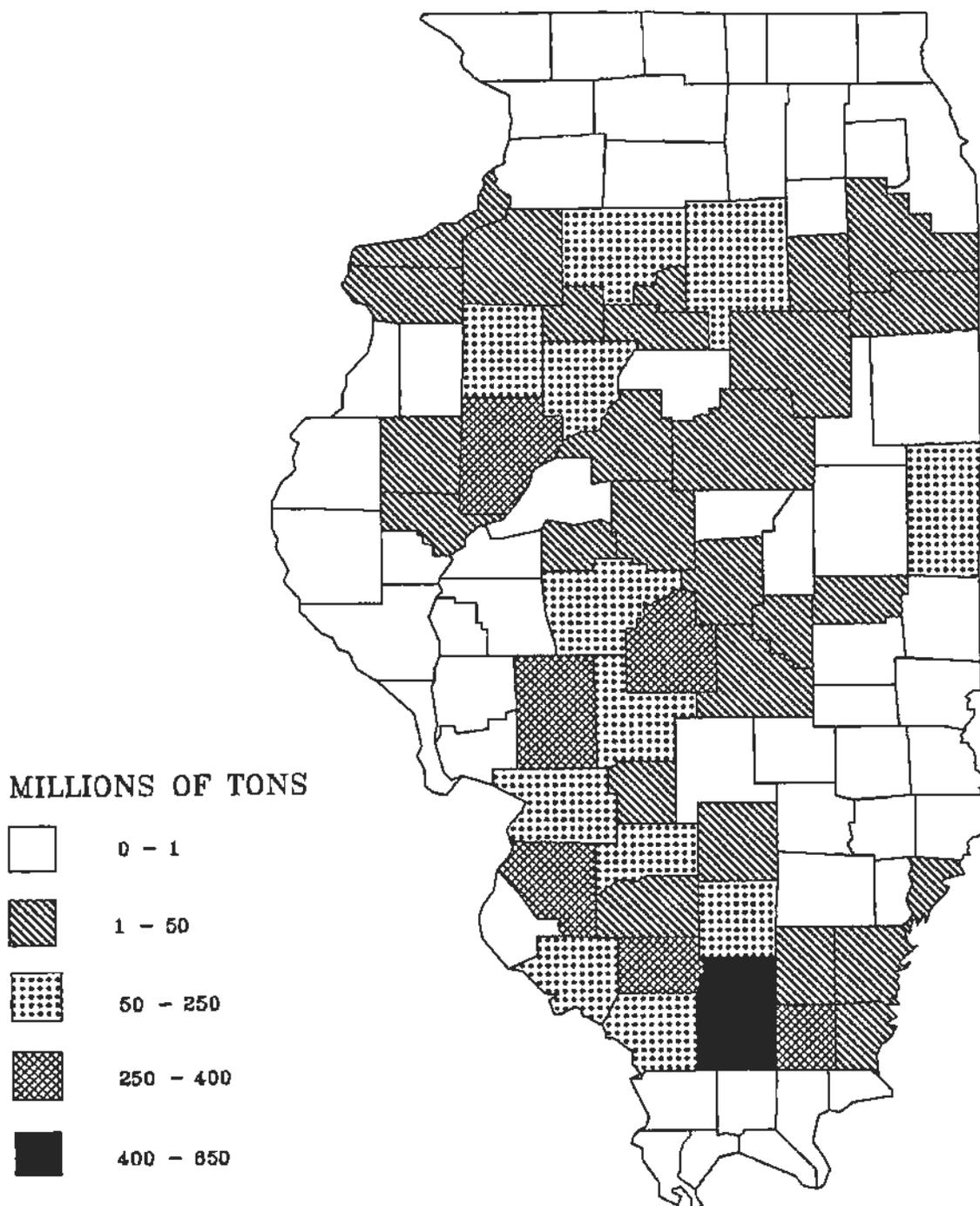
DISTRIBUTION OF NATURAL AREAS



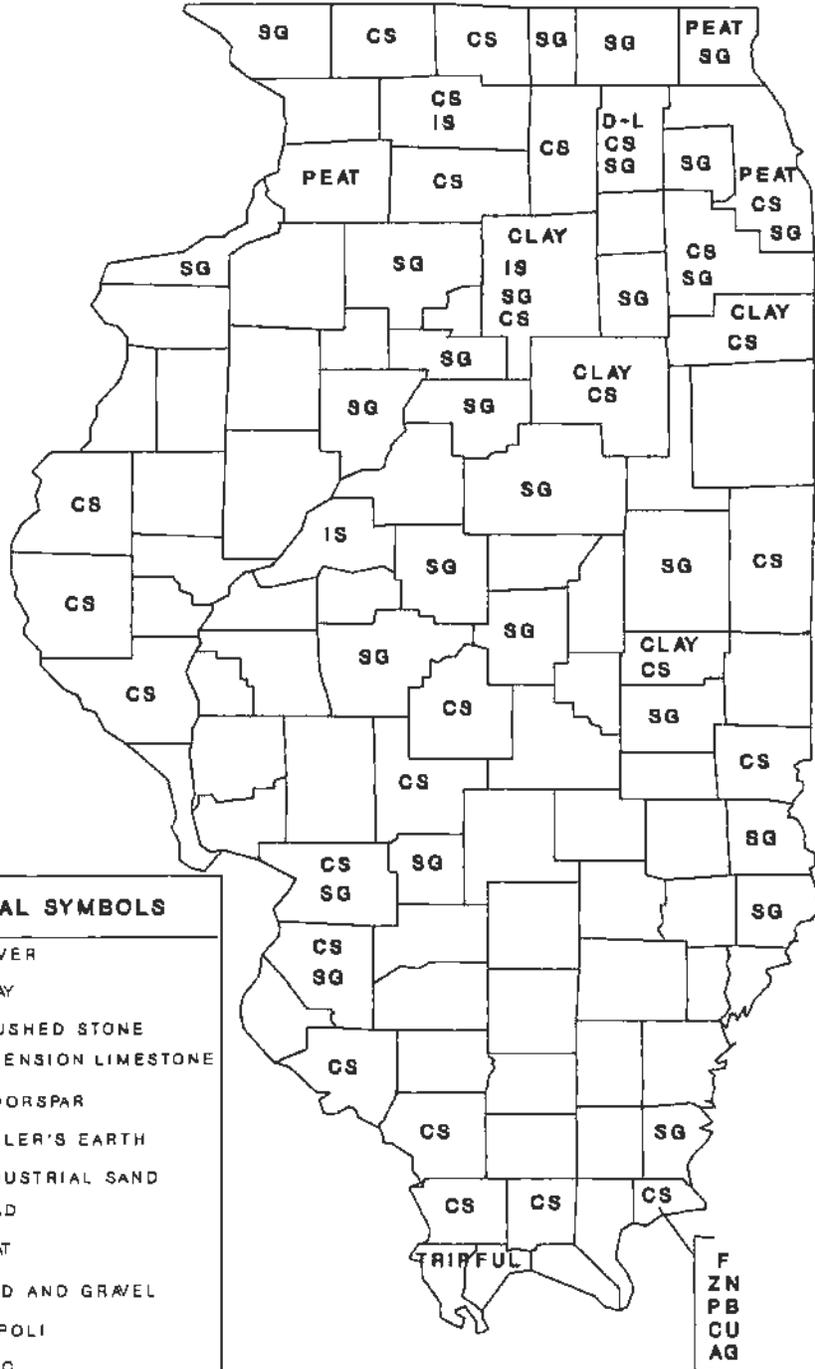
DISTRIBUTION OF NATIVE FOREST-ASSOCIATED TAXA



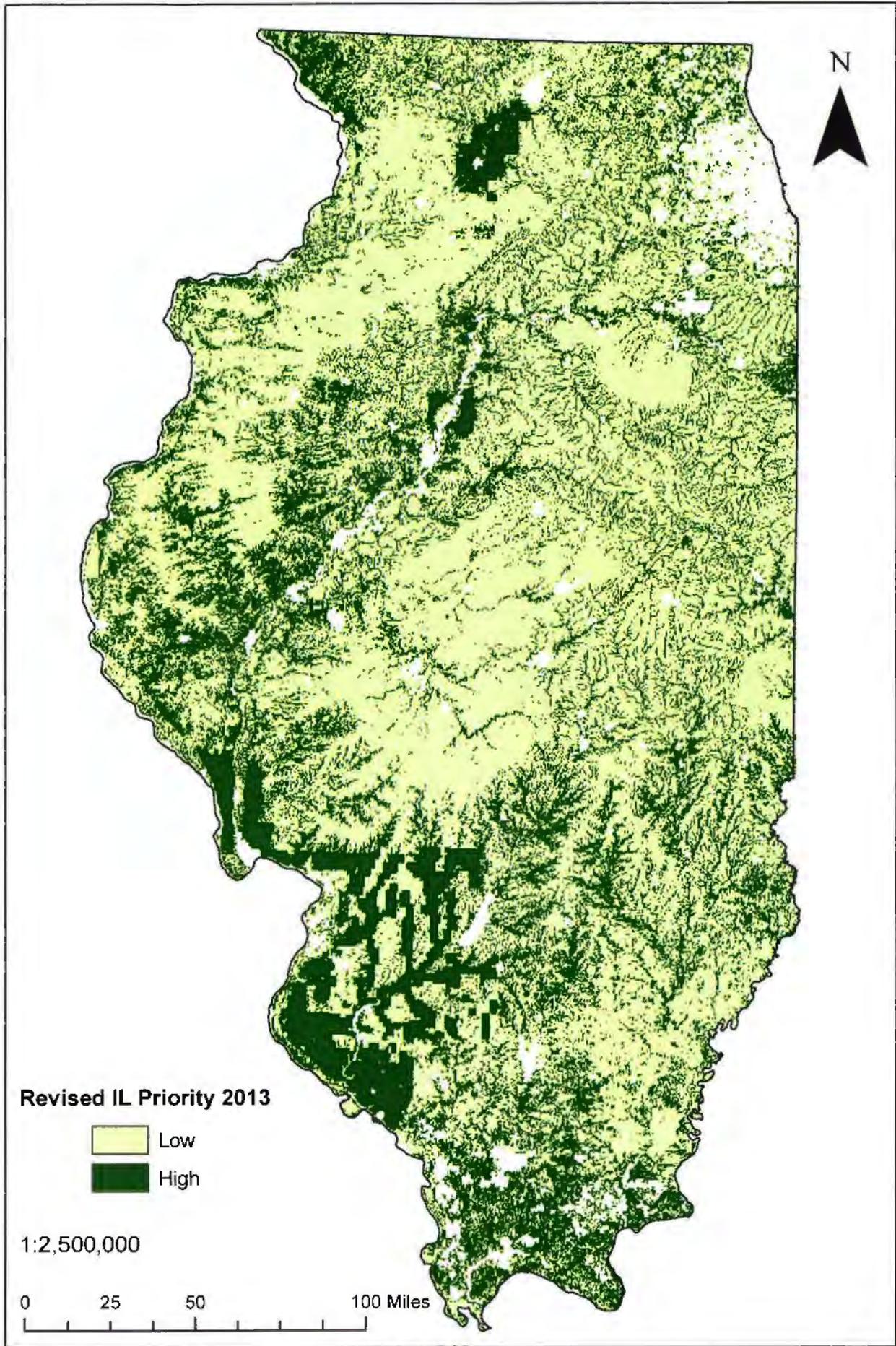
CUMULATIVE COAL PRODUCTION BY COUNTY, 1882-1984



ILLINOIS PRINCIPAL MINERAL PRODUCING AREAS



MINERAL SYMBOLS	
AG	SILVER
CLAY	CLAY
CS	CRUSHED STONE
D-L	DIMENSION LIMESTONE
F	FLUORSPAR
FUL	FULLER'S EARTH
IS	INDUSTRIAL SAND
PB	LEAD
PEAT	PEAT
SG	SAND AND GRAVEL
TRIP	TRIPOLI
ZN	ZINC



References

- American Forests. 2016. <http://www.americanforests.org/magazine/>
- American Public Works Association. 2014. Urban forestry best management practices for public works managers — urban forest management plan. American Public Works Association Press. 28 pp.
- Bailey, R.G. 1995. Description of the ecoregions of the United States. U.S. Department of Agriculture, Forest Service. Fort Collins, CO. [Available at: www.fs.fed.us/land/ecosysmgmt/].
- Butler, Brett J.; Butler, Sarah M.; Caputo, Jesse; Dias, Jacqueline; Robillard, Amanda; Sass, Emma M. 2018. Family Forest Ownerships of the United States, 2018: Results from the USDA Forest Service, National Woodland Owner Survey. Gen. Tech. Rep. NRS-199. Madison, WI: U.S. Department of Agriculture, Forest Service, Northern Research Station. <https://doi.org/10.2737/NRS-GTR-199>.
- Cleveland Travis, University of Illinois Extension, Home Yard and Garden Pest Newsletter, Issue 10, 09/11/2020, College of Agriculture, Consumer, and Environmental Sciences, University of Illinois, Urbana-Champaign, Illinois Natural History Survey
- Coder, K.D. 1996. Identified Benefits of Community Trees and Forests, University of Georgia Cooperative Extension Service - Forest Resources Publication FOR96-39.
- Collinge, S.K. 1996. Ecological consequences of habitat fragmentation: implications for landscape architecture and planning. *Landscape and Urban Planning*. 36:59–77.
- Collins, R.W., and J.E. Buhnerkempe. 1991. Large forest ecosystems of Illinois. Illinois Department of Conservation, Natural Heritage Division, Springfield.
- Crocker, Susan J.; Brand, Gary J.; Butler, Brett J.; Haugen, David E.; Little, Dick C.; Meneguzzo, Dacia M.; Perry, Charles H.; Piva, Ronald J.; Wilson, Barry T.; Woodall, Christopher W. 2009. Illinois' Forests 2005. Resour. Bull. NRS-29. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 114 p.
- Crocker, Susan J.; Butler, Brett J.; Kurtz, Cassandra M.; McWilliams, William H.; Miles, Patrick D.; Morin, Randall S.; Nelson, Mark D.; Riemann, Rachel I.; Smith, James E.; Westfall, James A.; Woodall, Christopher W. 2017 Illinois Forests 2015. Resource Bulletin NRS-113. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station.
- Fahey, R.T., Darling, L., Anderson, J., 2015. Sustaining our oaks: a vision for the future of oak ecosystems in Chicago Wilderness Region. Chicago Wilderness 40.
- Forman, R.T. 1995. Land mosaics: the ecology of landscapes and regions. Cambridge University Press, Cambridge, UK. 632 pp.
- Fuller, R.A., K.N. Irvine, P. Devine-Wright, P.H. Warren and K.J. Gaston. 2007. Psychological benefits of greenspace increase with biodiversity. *Biology Letters* 3(4):390–394.
- Hager, Aaron and Wiesbrook Michelle, University of Illinois Extension, Home Yard and Garden Pest Newsletter, Issue 05, 06/15/2020, Issue 08, 06/17/2017, College of Agriculture, Consumer, and Environmental Sciences, University of Illinois, Urbana-Champaign, Illinois Natural History Survey
- Hauer, R.J., and W.D. Peterson. 2016. Municipal tree care and management in the United States: a 2014 urban and community forestry census of tree activities. Special Publication 16-1. University of Wisconsin – Stevens Point. 71 pp.
- Haynes, R.H. 2003. An analysis of the timber situation in the United States: 1952 to 2050. Gen. Tech. Rep. PNW-560. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, Portland OR. 254 pp.
- Heske, E.J., S.K. Robinson, and J.D. Brawn. 1999. Predator activity and predation on songbird nests on forest-field edges in east-central Illinois. *Landscape Ecology* 14:345–354.
- Hildebrandt, R. 2016a. Tree City USA presentation, Illinois Arborist Association Northeastern Illinois Municipal Foresters Meeting, Arlington Heights, 2016.
- Hildebrandt, R. 2016b. Illinois urban and community forestry: Tree City USA: building sustainable communities. Presentation Association of Illinois Soil and Water Districts Annual Meeting, Springfield, 2016.
- Hildebrandt, R. 2008. Part I Macroeconomic impact of local urban and community forestry programs during major insect infestations. Illinois Trees A Quarterly Publication of the Illinois Arborist Association XXIV(1).
- Kuo, F.E. 2001. Coping with poverty: impacts of environment and attention in the inner city. *Environment and Behavior* 33:5–34.
- McNab, W.H., and P.E. Avers. 1996. Ecological subregions of the United States. WO-WSA-5. Washington, D.C.: U.S. Department of Agriculture, Forest Service. [Available at: www.fs.fed.us/land/pubs/ecoregions/].
- Miller, J.R. 2005. Biodiversity conservation and the extinction of experience. *Trends in Ecology and Evolution* 20(8):430–434. <https://experts.illinois.edu/en/publications/biodiversity-conservation-and-the-extinction-of-experience>.
- Miller, J.R., and R.J. Hobbs. 2002. Conservation where people live and work. *Conservation Biology* 16(2):330–337. <http://onlinelibrary.wiley.com/doi/10.1046/j.1523-1739.2002.00420.x/abstract>
- National Association of State Foresters. 2016. Forest and people: key threats and opportunities. National Association of State Foresters Northeast: <http://www.stateforesters.org/region/northeast>
- Nowak, D.J., and E.J. Greenfield. 2009. Urban and community forests of the North Central East Region – Illinois, Indiana, Michigan, Ohio, and Wisconsin. USDA Forest Service Northern Resources Station, State and Private Forestry, General Technical Report, NRS-54. 54 pp.
- Nowak, D.J., S.M. Stein, P.B. Randler, E.J. Greenfield, S.J. Comas, M.A. Carr, and R.J. Alig. 2010. Sustaining America's urban tree and forests. USDA Forest Service Northern Resources Station, State and Private Forestry, General Technical Report, NRS-62. 27 pp.
- Nowak, David J.; Hirabayashi, Satoshi; Bodine, Allison; Hoehn, Robert. 2013. Modeled PM2.5 removal by trees in ten US cities and associated health effects. (*JRNL*) *Environmental Pollution*. 178: 395-402.
- Nowak, David J.; Hirabayashi, Satoshi; Bodine, Allison; Greenfield, Eric. 2014. Tree and forest effects on air quality and human health in the United States. (*JRNL*) *Environmental Pollution*. 193: 119-129.
- O'Brien, J.G.; Mielke, S. Oak, and B. Moltzan. 2002. Sudden oak death: pest alert. NA-PR-02-02. Newtown Square: PA: U.S. Department of Agriculture, Forest Service, Northeastern Area, State and Private Forestry. 2 pp.
- Pyle, R.M. 1978. The extinction of experience. *Horticulture* 56:64–67
- Sass, L., R. Hildebrandt, and S. Key. 2010. Illinois' urban and community tree programs: an update of the protection, care, and management of our urban forests. Technical Report 2010 (52) Illinois Natural History Survey.
- Schwab, J.C. 2009. Planning the urban forests: ecology, economy, and community development. American Planning Association. Planning Advisory Service Report Number 555. 156 pp.
- Scott, L. 2019 The Morton Arboretum USFS Landscape Scale Restoration proposal.
- Turner, W.R., T. Nakamura, and M. Dinetti. 2004. Global urbanization and the separation of humans from nature. *BioScience* 54(6):585–590, [https://doi.org/10.1641/0006-3568\(2004\)054\[0585:GUATSO\]2.0.CO;2](https://doi.org/10.1641/0006-3568(2004)054[0585:GUATSO]2.0.CO;2)
- Ulrich, R.S. 1984. View through a window: my influence recovery from surgery. *Science* 224:420–421.

Appendices

Appendix A.

Illinois Wildlife Action Plan _ Implementation Guide & Woodland Campaign

[http://www.dnr.illinois.gov/conservation/IWAP/Documents/FinalDraft2015_FINAL_Revision%](http://www.dnr.illinois.gov/conservation/IWAP/Documents/FinalDraft2015_FINAL_Revision%204-18-16.pdf)

[204-18-16.pdf](http://www.dnr.illinois.gov/conservation/IWAP/Documents/FinalDraft2015_FINAL_Revision%204-18-16.pdf)

Appendix B.

Illinois Silvics Manual

http://mypage.siu.edu/eholzmue/index_files/ilbmp.htm

Appendix C.

Realizing the Forests' Full Potential: Assessment and Long-Range Action Plan for Forest Resources in Illinois, 1999

http://ifdc.nres.illinois.edu/wp-content/uploads/2013/10/ifdc_assessment-and-long-range-action-plan_1999.pdf

Appendix D.

Illinois Consulting Foresters Directory

<http://www.ilforestry.org/resources/Documents/Publications/tfb-nres-202-16.pdf>

Appendix E.

Family Forest Ownerships of the United States, 2018: Results from the USDA Forest Service, National Woodland Owner Survey

<https://www.nrs.fs.fed.us/pubs/postprint/NRS-GTR-199/>

USDA National Woodland Owner Survey Dashboard (NWOS-DASH)

<https://ffrc.shinyapps.io/NWOSdashboard/>

Appendix F.

STS Slow the Spread of the Gypsy Moth

<https://gmsts.org/index.html>

Appendix G.

Illinois DNR Statewide Comprehensive Outdoor Recreation Plan

<https://www2.illinois.gov/dnr/pages/scorp.aspx>

Appendix H.

Additional Endorsed References

Crocker, S.J., G.J. Brand, B.J. Butler, D.E. Haugen, D.C. Little, D.M. Meneguzzo, C.H. Perry, R.J. Piva, B.T. Wilson, and C.W. Woodall. 2009. Illinois' forests 2005. Resource Bulletin NRS-29. USDA Forest Service, Northern Research Station, Newtown Square, PA. 114 pp.

Guyon L.J., and J. Edgington. 2004. Illinois report on sustainable forest management: criteria and indicators. Summary report prepared for the Illinois Forestry Development Council, Urbana. 59 pp.

Hayek, J. A., 2015. Illinois directory of consultants foresters. Technical Forestry Bulletin NRES-202. University of Illinois Forestry Extension. 31 pp.

Illinois Forestry Development Council. 1999. Realizing the forests' full potential: assessment and long-range action plan for forest resources in Illinois. Illinois Forestry Development Council. 60 pp. (Appendix)

Illinois Forestry Development Council. 2005. Critical issues facing Illinois forests and forestry. Illinois Forestry Development Council. 16 pp.

Nowak, D.J., and E.J. Greenfield. 2009. Urban and community forests of the North Central East Region – Illinois, Indiana, Michigan, Ohio, and Wisconsin. USDA Forest Service Northern Resources Station, State and Private Forestry, General Technical Report, NRS-54. 54 pp.

Appendix I.—List of tree species, Illinois, 2015 (copied from Illinois Forests 2015 USFS Resource Bulletin NRS-113 Crocker et al. 2017)

Common name	Genus	Species
boxelder	<i>Acer</i>	<i>negundo</i>
black maple	<i>Acer</i>	<i>nigrum</i>
Norway maple	<i>Acer</i>	<i>platanoides</i>
red maple	<i>Acer</i>	<i>rubrum</i>
silver maple	<i>Acer</i>	<i>saccharinum</i>
sugar maple	<i>Acer</i>	<i>saccharum</i>
Ohio buckeye	<i>Aesculus</i>	<i>glabra</i>
ailanthus	<i>Ailanthus</i>	<i>altissima</i>
serviceberry spp.	<i>Amelanchier</i>	spp.
pawpaw	<i>Asimina</i>	<i>triloba</i>
river birch	<i>Betula</i>	<i>nigra</i>
American hornbeam, musclewood	<i>Carpinus</i>	<i>caroliniana</i>
mockernut hickory	<i>Carya</i>	<i>alba</i>
bitternut hickory	<i>Carya</i>	<i>cordiformis</i>
pignut hickory	<i>Carya</i>	<i>glabra</i>
pecan	<i>Carya</i>	<i>illinoensis</i>
shellbark hickory	<i>Carya</i>	<i>laciniosa</i>
shagbark hickory	<i>Carya</i>	<i>ovata</i>
black hickory	<i>Carya</i>	<i>texana</i>
northern catalpa	<i>Catalpa</i>	<i>speciosa</i>
sugarberry	<i>Celtis</i>	<i>laevigata</i>
hackberry	<i>Celtis</i>	<i>occidentalis</i>
eastern redbud	<i>Cercis</i>	<i>canadensis</i>
flowering dogwood	<i>Cornus</i>	<i>florida</i>
cockspur hawthorn	<i>Crataegus</i>	<i>crus-galli</i>
downy hawthorn	<i>Crataegus</i>	<i>mollis</i>
hawthorn spp.	<i>Crataegus</i>	spp.
common persimmon	<i>Diospyros</i>	<i>virginiana</i>
Russian-olive	<i>Elaeagnus</i>	<i>angustifolia</i>
American beech	<i>Fagus</i>	<i>grandifolia</i>
white ash	<i>Fraxinus</i>	<i>americana</i>
black ash	<i>Fraxinus</i>	<i>nigra</i>
green ash	<i>Fraxinus</i>	<i>pennsylvanica</i>
pumpkin ash	<i>Fraxinus</i>	<i>profunda</i>
blue ash	<i>Fraxinus</i>	<i>quadrangulata</i>
honeylocust	<i>Gleditsia</i>	<i>triacanthos</i>
Kentucky coffeetree	<i>Gymnocladus</i>	<i>dioicus</i>

(Appendix I. continued)

Common name	Genus	Species
butternut	<i>Juglans</i>	<i>cinerea</i>
black walnut	<i>Juglans</i>	<i>nigra</i>
eastern redcedar	<i>Juniperus</i>	<i>virginiana</i>
larch spp.	<i>Larix</i>	spp.
sweetgum	<i>Liquidambar</i>	<i>styraciflua</i>
yellow-poplar	<i>Liriodendron</i>	<i>tulipifera</i>
Osage-orange	<i>Maclura</i>	<i>pomifera</i>
cucumbertree	<i>Magnolia</i>	<i>acuminata</i>
prairie crab apple	<i>Malus</i>	<i>ioensis</i>
apple spp.	<i>Malus</i>	spp.
white mulberry	<i>Morus</i>	<i>alba</i>
red mulberry	<i>Morus</i>	<i>rubra</i>
water tupelo	<i>Nyssa</i>	<i>aquatica</i>
blackgum	<i>Nyssa</i>	<i>sylvatica</i>
eastern hophornbeam	<i>Ostrya</i>	<i>virginiana</i>
Norway spruce	<i>Picea</i>	<i>abies</i>
white spruce	<i>Picea</i>	<i>glauca</i>
jack pine	<i>Pinus</i>	<i>banksiana</i>
shortleaf pine	<i>Pinus</i>	<i>echinata</i>
red pine	<i>Pinus</i>	<i>resinosa</i>
eastern white pine	<i>Pinus</i>	<i>strobus</i>
Scotch pine	<i>Pinus</i>	<i>sylvestris</i>
loblolly pine	<i>Pinus</i>	<i>taeda</i>
American sycamore	<i>Platanus</i>	<i>occidentalis</i>
balsam poplar	<i>Populus</i>	<i>balsamifera</i>
eastern cottonwood	<i>Populus</i>	<i>deltoides</i>
bigtooth aspen	<i>Populus</i>	<i>grandidentata</i>
quaking aspen	<i>Populus</i>	<i>tremuloides</i>
American plum	<i>Prunus</i>	<i>americana</i>
black cherry	<i>Prunus</i>	<i>serotina</i>
cherry and plum spp.	<i>Prunus</i>	spp.
chokecherry	<i>Prunus</i>	<i>virginiana</i>
Douglas-fir	<i>Pseudotsuga</i>	<i>menziesii</i>
white oak	<i>Quercus</i>	<i>alba</i>
swamp white oak	<i>Quercus</i>	<i>bicolor</i>
scarlet oak	<i>Quercus</i>	<i>coccinea</i>
northern pin oak	<i>Quercus</i>	<i>ellipsoidalis</i>
southern red oak	<i>Quercus</i>	<i>falcata</i>
shingle oak	<i>Quercus</i>	<i>imbricaria</i>
overcup oak	<i>Quercus</i>	<i>lyrata</i>

(Appendix I. continued)

Common name	Genus	Species
bur oak	<i>Quercus</i>	<i>macrocarpa</i>
blackjack oak	<i>Quercus</i>	<i>marilandica</i>
swamp chestnut oak	<i>Quercus</i>	<i>michauxii</i>
chinkapin oak	<i>Quercus</i>	<i>muehlenbergii</i>
cherrybark oak	<i>Quercus</i>	<i>pagoda</i>
pin oak	<i>Quercus</i>	<i>palustris</i>
willow oak	<i>Quercus</i>	<i>phellos</i>
chestnut oak	<i>Quercus</i>	<i>prinus</i>
northern red oak	<i>Quercus</i>	<i>rubra</i>
Shumard oak	<i>Quercus</i>	<i>shumardii</i>
post oak	<i>Quercus</i>	<i>stellata</i>
Texas red oak	<i>Quercus</i>	<i>texana</i>
black oak	<i>Quercus</i>	<i>velutina</i>
black locust	<i>Robinia</i>	<i>pseudoacacia</i>
black willow	<i>Salix</i>	<i>nigra</i>
sassafras	<i>Sassafras</i>	<i>albidum</i>
baldcypress	<i>Taxodium</i>	<i>distichum</i>
American basswood	<i>Tilia</i>	<i>americana</i>
winged elm	<i>Ulmus</i>	<i>alata</i>
American elm	<i>Ulmus</i>	<i>americana</i>
Siberian elm	<i>Ulmus</i>	<i>pumila</i>
slippery elm	<i>Ulmus</i>	<i>rubra</i>

Appendix J.—List of invasive plant species monitored by NRS-FIA on P2 invasive plots, 2007 to present. An asterisk indicates species found in the inventory. (copied from Illinois Forests 2015 USFS Resource Bulletin NRS-113 Crocker et al. 2017)

Tree Species

ailanthus (*Ailanthus altissima*)
black locust (*Robinia pseudoacacia*)* chinaberry (*Melia azedarach*)
Chinese tallowtree (*Triadica sebifera*)
Norway maple (*Acer platanoides*)*
paulownia, princess tree (*Paulownia tomentosa*) punktree, melaleuca (*Melaleuca quinquenervia*) Russian-olive (*Elaeagnus angustifolia*) saltcedar (*Tamarix ramosissima*)
Siberian elm (*Ulmus pumila*)*
silktree, mimosa (*Albizia julibrissin*)

Shrub Species

autumn-olive (*Elaeagnus umbellata*)*
common barberry (*Berberis vulgaris*)
common buckthorn (*Rhamnus cathartica*)*
European cranberrybush (*Viburnum opulus*)*
European privet (*Ligustrum vulgare*)
glossy buckthorn (*Frangula alnus*) Japanese barberry (*Berberis thunbergii*)*
Japanese meadowsweet (*Spiraea japonica*)
multiflora rose (*Rosa multiflora*)*
nonnative bush honeysuckles (*Lonicera* spp.)*

Vine Species

English ivy (*Hedera helix*)
Japanese honeysuckle (*Lonicera japonica*)*
Oriental bittersweet (*Celastrus orbiculatus*)*

Herbaceous Species

Bohemian knotweed (*Polygonum ×bohemicum*)
bull thistle (*Cirsium vulgare*)
Canada thistle (*Cirsium arvense*)*
creeping jenny (*Lysimachia nummularia*)*
dames rocket (*Hesperis matronalis*)*
European swallow-wort (*Cynanchum rossicum*)
garlic mustard (*Alliaria petiolata*)*
giant knotweed (*Polygonum sachalinense*)
Japanese knotweed (*Polygonum cuspidatum*)
leafy spurge (*Euphorbia esula*)
Louise's swallow-wort (*Cynanchum louiseae*)
purple loosestrife (*Lythrum salicaria*)
spotted knapweed (*Centaurea stoebe* ssp. *micranthos*)

Grass Species

common reed (*Phragmites australis*)
Nepalese browntop (*Microstegium vimineum*)*
reed canarygrass (*Phalaris arundinacea*)*



*Illinois Forestry Development Council
Illinois Forest Action Plan: 2020 - 2030*