

# CHAPTER 1

## 1. PURPOSE AND NEED

This chapter explains the reasons for preparing the Final Environmental Impact Statement (FEIS), and includes an overview of the:

- Location and description of Midewin National Tallgrass Prairie.
- Nature of the decision to be made.
- Prairie planning documents.
- Forest Service planning process.
- Identification of issues, concerns and opportunities.

### 1.1. LOCATION AND DESCRIPTION

Midewin National Tallgrass Prairie is located in Will County, Illinois, about 45 miles southwest of Chicago, 15 miles south of Joliet, and 3 miles north of Wilmington, Illinois. (See Figure 1 for Map of Midewin and Prairie Parklands).

Midewin presently includes 15,080 acres of land that was part of the former Joliet Army Ammunition Plant (Joliet Arsenal). Three additional parcels on the perimeter have been acquired either through land exchange or purchase. Approximately 1,400 additional acres are legislated to be transferred to the Forest Service pending cleanup, and these areas have been included within the planning area, although these lands still remain under administration of the Army Department of Defense.

The Joliet Arsenal originated in 1940 as part of the national response to World War II and remained active through the Korean and Vietnam Wars. The Army acquired approximately 37,000 acres of lands that were formerly homesteads and agricultural fields and constructed one of the nation's largest munitions plants.

In June 1992, the Army confirmed its intentions to decommission the Arsenal, which sparked many public interests in the site. The surplus federal property included approximately 23,500 acres of essentially undeveloped land that captured the attention and interest of many people. Ideas for the future of Joliet Arsenal ranged from complete ecological preservation and restoration to full economic/industrial development.

The Joliet Arsenal Citizens Planning Commission (JACPC) was formed to develop a plan for the future of the decommissioned arsenal. The Commission consisted of 24 members representing various conservation organizations and State and local government bodies. They produced a concept map that included

two industrial parks covering 3,000 acres, a 910-acre National Veterans Cemetery, a 455-acre county landfill, and the 19,000-acre prairie. The Commission approved the concept map on May 30, 1995, and Congress ratified this land use plan in principle through enactment of the Illinois Land Conservation Act of 1995, thereby establishing the Midewin National Tallgrass Prairie.

Midewin National Tallgrass Prairie provides habitat for a rich assemblage of plants and animals including three species on the federal list for threatened and endangered species, over twenty species listed by the State of Illinois as watch list, threatened, or endangered, and twenty-six species recognized as Regional Forester Sensitive Species (RFSS) in the Eastern Region (R-9). The extent and diversity of habitats within Midewin provide some of the most significant wildlife habitat in northeastern Illinois.

Midewin is divided into an “east side” and a “west side”, with Illinois Route 53 dividing the two dominant land types. The west side includes approximately one-third of Midewin, most of which is characterized by a level outwash plain. Approximately two-thirds of Midewin lies east of Illinois Route 53, where the landscape is predominantly a rolling ground moraine (till plain). The land type division defines important differences in potential habitat and needs for protection of habitat. For example, the rare dolomite prairie habitat lies entirely within the west side.

Midewin is part of the Prairie Parklands (see Figure 1), an area of approximately 40,000 acres of lands important for habitat conservation owned by public, private, and corporate lands in Will and Grundy counties. The Illinois Department of Natural Resources administers the Des Plaines Conservation Area, Goose Lake Prairie State Park, and Heidecke Lake Fish and Wildlife Area; Will County manages several Forest Preserves within the Parklands; and corporate owners include Commonwealth Edison, General Electric, Exxon-Mobil, BPAmoco, Stepan, and Dow Chemical. In all, there are 22 nearby areas owned by state, county, and local governments, corporations, and interested private landowners. The Prairie Parklands provides a unique opportunity to protect, restore, and manage the largest prairie ecosystem east of the Mississippi River.

Midewin is the largest, contiguous unit of land within the Prairie Parklands. Given its relatively large size compared to the other protected lands in northeast Illinois, Midewin can provide opportunities unique to the Prairie Parklands that the smaller units may not be able to provide. In addition, the proximity of the other Prairie Parklands units provide opportunities for integrated planning such as the creation of trail linkages between the different units. Since many management issues span administrative boundaries and need to be addressed at a landscape scale, cooperation among the land managers within the Prairie Parkland is essential to the management of Midewin.

## 1.2. NATURE OF THE DECISION

The Army Department of Defense transferred 15,080 acres of the former Joliet Army Ammunition Plant or Joliet Arsenal to the USDA Forest Service in 1997. The Illinois Land Conservation Act, 1995 (ILCA) established the Midewin National Tallgrass Prairie with four basic purposes:

- (1) To manage the land and water resources of Midewin in a manner that will conserve and enhance the native populations and habitats of fish, wildlife, and plants.
- (2) To provide opportunities for scientific, environmental, and land use education and research.
- (3) To allow the continuation of agricultural uses of lands within Midewin consistent with section 2916 (b).
- (4) To provide a variety of recreation opportunities that are not inconsistent with the preceding purposes”.

This law authorized the Forest Service to manage Midewin as part of the National Forest System in accordance with all applicable laws, rules and regulations, and directed the Forest Service to develop a land and resource management plan in consultation with the Illinois Department of Natural Resources and local governments adjacent to Midewin, while also providing opportunities for the public to comment.

This FEIS describes alternatives for managing the Midewin National Tallgrass Prairie and discloses the environmental effects of all the alternatives considered.

Based on the analysis in this Final EIS, the Regional Forester will adopt an alternative to become the Land and Resources Management Plan (Prairie Plan), which will guide all management activities at Midewin for the next ten years. The four primary decisions that will be made in the Prairie Plan are:

- Multiple-use goals and objectives (36 C.F.R. §219.11 (b)).
- Management requirements (36 C.F.R. §219.27).
- Management area direction or prescriptions and guidance (36 C.F.R. §219.11(c)).
- Monitoring and evaluation requirements (36 C.F.R. §219.11 (d)).

These prairie lands with a negligible record of forest vegetation cover at Midewin are not considered forestland suitable for timber management per 36 C.F.R. §219.3 (at least 10% occupied by forest trees or formerly having such tree cover). No recommendations to Congress will be made for additions to the National Wilderness Preservation System or designating any potential area for wild and scenic rivers, due to the highly altered condition of lands and streams at Midewin resulting from its former use as the Joliet Army Ammunition Plant.

In June 1998, a Notice of Intent to prepare an Environmental Impact Statement for developing the Midewin National Tallgrass Prairie Land and Resource Management Plan was published in the Federal Register. The Notice described a proposal that reflected the concept map prepared by the Joliet Citizen's Planning Commission and described management to restore the prairie and to provide recreational opportunities compatible with restoration.

### **1.3. PRAIRIE PLANNING DOCUMENTS**

In accordance with the National Forest Management Act and related laws and regulations that apply to land and resource planning in the Forest Service, six alternatives have been developed from which a Prairie Plan may be selected. Those alternatives are described in Chapter 2 of this document. Alternative 4 (The Preferred Alternative) was developed into the Prairie Plan and is explained in detail in the Land and Resource Management Plan, a separate document.

The purpose of this Final Environmental Impact Statement (FEIS) is to disclose the benefits and significant environmental effects resulting from each of the six alternatives in accordance with the National Environmental Policy Act and other pertinent regulations. Chapter 3 of this FEIS describes the affected environment and discloses the environmental consequences of each alternative. The FEIS documents the information collected, analyzed and evaluated. The FEIS also narrows the scope of future analysis for subsequent projects and activities by providing direction and an estimate of effects.

The Prairie Plan provides direction and guidance to achieve the desired future condition through accomplishing the stated goals and objectives.

### **1.4. FOREST SERVICE PLANNING PROCESS**

Forest Service planning takes place at national, regional, and unit (i.e., Midewin National Tallgrass Prairie) levels. The principal laws and regulations that guide all three levels of planning are:

#### Laws

- The Forest and Rangeland Renewable Resource Planning Act (RPA), as amended by the National Forest Management Act (NFMA).
- The National Environmental Policy Act (NEPA).

#### Regulations

- National Forest Management Act- Planning Regulations: Title 36, Code of Federal Regulations, Part 219. (NOTE: New Planning Regulations are being developed; however, this plan was prepared under the 1982 NFMA planning regulations).
- The Council on Environmental Quality NEPA Regulations, Title 40, Code of Federal Regulations, Part 1500.

At the national level, the Forest Service prepares a revised renewable resources assessment every 10 years under the Resource Planning Act (RPA), and more recently has prepared the USDA Forest Service Strategic Plan, 2000 in compliance with the Government Performance Review Act (GPRA). Midewin National Tallgrass Prairie is one of 15 Forest Service units in the Forest Service Eastern Region. The Forest Service establishes policies and procedures at the regional level that guide the process and content of plans developed on each Forest Service unit. Ten steps outlined in the NFMA regulations have been followed to develop the Prairie Plan for Midewin:

1. Identify Issues, Concerns, and Opportunities -- The Prairie Supervisor is required to determine the major public issues, management concerns, and resource use and development opportunities to be addressed in the planning process, per 36 C.F.R. §219.12 (b).
2. Develop Planning and Decision Criteria —These criteria provide a framework to guide the planning process. They are essentially the standards for analysis and rules for evaluating all alternatives and selecting a preferred alternative. These criteria were outlined in the Analysis of the Management Situation document in 1999.
3. Inventory Data and Collect Information -- The prairie was classified into different vegetative communities. The inventory data and information used for analysis are explained in the Appendix E.
4. Analyze the Management Situation (AMS) -- The current management situation was analyzed in 1999 to estimate demand and supply capabilities and determine the range of possible opportunities.
5. Develop Alternatives -- Five “action” alternatives were developed to offer a broad range of ways to restore the prairie and provide recreation opportunities while maintaining populations of sensitive species. A “no-action” alternative was also developed and serves as a basis for comparison of the “action” alternatives.
6. Estimate Effects of Alternatives -- The six alternatives are compared based on the factors identified in the AMS.
7. Evaluate Alternatives -- Chapter 3 of this document evaluates the effects of the alternatives to help the Regional Forester decide which alternative provides the greatest net public benefit.
8. Identify the Preferred Alternative -- Based on the evaluation of the alternatives, Alternative 4 has been identified as the one that provides the best choice for future management of the Prairie. The Prairie Plan is a

more detailed document that explains the preferred alternative, and is a companion document to this FEIS.

9. Approve the Plan -- The Regional Forester will review the Final EIS and decide which alternative to select as the Prairie Plan. A Record of Decision will state the reasons for this choice.
  
10. Monitor and Evaluate – Once implementation of the Prairie Plan has begun, the resources and activities indicated in the monitoring section of the Prairie Plan will be tracked, costs, accomplishments, outputs, and environmental effects monitored, and a determination made if objectives are being met. Based on the results of monitoring and evaluation, changes to future management strategies and direction may be recommended so the prairie resources can be sustained over time.

Forest Service Planning results in two types of decisions; programmatic and site-specific. The Prairie Plan is a comprehensive programmatic plan that provides strategic direction to guide and direct activities at Midewin. Project plans are more narrowly focused and implement the broad direction of the Prairie Plan on a site-specific basis.

Future site-specific or project level analyses will “tier to” or reference the Prairie Plan and Final EIS and all the planning records. Project level NEPA analysis will focus on issues, alternatives, and environmental effects unique to the project. These analyses may be documented in either an environmental assessment or environmental impact statement, depending on the significance of the effects. Site-specific projects that affect wetlands will also need Army Corps of Engineers Section 404 permit approval before they are implemented.

## **1.5. ISSUES, CONCERNS, AND OPPORTUNITIES**

In June 1998, the Forest Service published a Notice of Intent to Prepare an Environmental Impact Statement for developing the Midewin National Tallgrass Prairie Land and Resource Management Plan. This federal notice began the formal public involvement process. In response to the federal notice and many public outreach efforts, the Forest Service received over 60 public comments. The significant issues used to develop the Prairie Plan were derived from many sources including:

- Focus Group Sessions.
- Coordination with and input from federal and state agencies, county governments, and partners.
- Public involvement at open house sessions.
- Discussions with employees.
- Knowledge gained from research on prairie ecosystems.

- Enabling legislation including the four purposes for Midewin.

The significant issues addressed in this document include:

- Providing for Human Health and Safety
- Managing Habitat for Sensitive Species
- Grassland Bird Habitat Requirements
- Contributions to Biodiversity
- Recreation Opportunities and Travel Management
- Bison and/or Elk Reintroduction
- Environmental Education and Research Opportunities

Each significant issue is described below and addressed in this FEIS. Key indicators are identified for each issue. These indicators help the reader compare the six alternatives by describing the effects of implementing each alternative.

#### **1.5.1. Issue: *Providing for Human Health and Safety***

**How can Midewin National Tallgrass Prairie assure the health and safety of visitors and staff, while providing access to the Prairie for recreational use, research, and resource management?**

The Forest Service must balance the risks of potential for harm to human health and safety with demand for access and use of the land. What is now Midewin National Tallgrass Prairie was once the Joliet Arsenal, where millions of tons of TNT based ammunitions were produced, packed and stored for over 50 years. The arsenal activities created a number of environmental hazards that must be remediated, including contamination problems and unsafe structures. Providing a safe and clean prairie environment for workers, volunteers, students and visitors will be a major challenge.

The arsenal sites with the greatest contamination problems were not transferred to the Forest Service and are being cleaned up by the Army and the EPA (Superfund or RCRA actions). Cleanup on Army sites will not be completed for years to come, and the Forest Service has a responsibility to cooperate with Army to maintain security. A high security fence encloses much of the property and tracts of land within Midewin, and all access points are gated and locked, restricting public access.

The Forest Service is taking a cautious approach to potential contamination or hazardous materials issues on lands that have been transferred to become Midewin National Tallgrass Prairie. The Forest Service has conducted confirmatory sampling for potential contaminants on Midewin. Results show that arsenic contamination occurs along the security fence and along rail beds, where an arsenic-based herbicide was used decades ago, and metals and other

contaminants have been detected at variable concentrations in sediment samples downstream from former arsenal facilities. As a precaution, in May 1998, the Forest Service declared a moratorium on any ground disturbing activity at Midewin. In order to obtain release from the moratorium, it must be established that specific sites and activities do not pose undue risks to prairie workers or the general public.

Lands that have been transferred to the Forest Service include many buildings and other structures and over 100 miles each of roads and railbeds. Many of these structures are in disrepair. In their present condition, they could be an attractive public nuisance and could pose unacceptable risks to public health and safety if they were accessible to the general public.

Most of the lands transferred from the Army to the Forest Service will need extensive rehabilitation before the general public can be permitted to enter without an escort or special permission. The work includes removing arsenal structures, roads, and railbeds. The associated hazards may be comparable to those of a construction site. Restoration of drainage and vegetation will also involve using agricultural or other heavy machinery, substantial vehicular traffic, and other potential safety hazards to visitors. Despite an extensive road network, there is currently no system with road signs and published maps to enable workers, volunteers, and visitors to easily travel around the prairie.

The Forest Service will continue to work with the Army, US Department of Agriculture, US Environmental Protection Agency, Illinois Environmental Protection Agency, US Fish and Wildlife Service, and Illinois Department of Natural Resources to resolve lingering contamination issues. Standards for soil remediation are presently being negotiated by a group of scientists representing these agencies. Final standards for ecological and human health will be put into the final Record of Decision (ROD) for the Joliet Army Ammunition Plant, which should be released by the Army Department of Defense within the next two years. Following release of the ROD by the Department of Defense, continued sampling and cleanup of contaminants or hazardous materials will be necessary at Midewin, as will limiting public access until risks are reduced to acceptable standards.

The Prairie Plan and future environmental analysis for site-specific projects at Midewin will tier to the final ROD for the former Joliet Army Ammunition Plant. Because the health and safety issue is so important, and that final ROD has not been published, the alternatives do not portray a range of different methods to address this issue.

No indicator measure is used to compare the alternatives for this issue. It is assumed that the USDA Forest Service Record of Decision for this FEIS will tier to the final ROD from the Army Department of Defense, and any mitigation measures will be adhered to. It is also assumed that the Forest Service will

continue to cooperatively restrict access to secure areas to provide for public health and safety.

### **1.5.2. Issue: *Managing Habitat for Sensitive Species***

**What types of habitat should be provided, how much should there be, and where should it be located to ensure conservation of sensitive species?**

<b>Indicator</b>	<b>Unit of Measure</b>
Habitat types for Sensitive Species	acres

At the center of this issue is whether the alternatives can sustain populations of 26 Regional Forester Sensitive Species and three species on the federal list of threatened and endangered species within the context of overall multiple use objectives (as required by 36 C.F.R. § 219.19 and related NMFA regulations). The enabling legislation, other laws and regulations, and public interests all expect habitat will be provided for native plants and animals and that their populations will be sustained. Potential habitat exists at Midewin for hundreds of native species, many of which are common in the surrounding area.

The Regional Forester Sensitive Species are the focus of concern because there is generally greater difficulty in providing them with the necessary habitat or conditions to sustain populations. Of particular interest are the leafy prairie clover and the upland sandpiper. Conservation assessments were drafted for each of the Regional Forester Sensitive Species that occur on Midewin. A panel of experts reviewed these assessments and a second panel evaluated each alternative's likelihood of being able to provide for populations over the next century.

### **1.5.3. Issue: *Grassland Bird Habitat Requirements***

**What amount and what structure of grassland habitat should be provided? What is the appropriate mix of restored prairie and agricultural grassland to meet the needs of grassland birds?**

<b>Indicator</b>	<b>Unit of Measure</b>
Short-stature grassland habitat	acres
Medium-stature grassland habitat	acres
Tall-stature grassland habitat	acres

Grassland birds are a concern because their populations have declined more in the past 25 years than any other group of North American birds. Many grassland birds have specific habitat requirements regarding size of habitat and structure of vegetation. Midewin supports some of the largest breeding concentrations of grassland birds in Illinois. The extensive permanent pastures, hayfields, and other grasslands maintained under Army administration provided both the area and diversity of habitat structure to meet the needs of many species of grassland birds. Midewin supports the largest breeding concentrations of both upland sandpipers and bobolinks in Illinois, two species that require somewhat different grassland types. In contrast, few grassland preserves in Illinois are of sufficient size to provide sufficient habitat for more than a few pairs of several grassland bird species with similar habitat requirements. Additionally, not all grassland birds will use restored prairie as breeding habitat. The upland sandpiper, for example, requires habitat of relatively short grasses (less than 4-12 inches). Although the upland sandpiper and other species did nest in native prairie in the past (based on reliable historical accounts), restored prairie vegetation is unsuitable for various reasons; not all of which are understood.

The management challenge is to maintain the different habitat suites of grassland birds on Midewin. Since not all grassland birds can be maintained in restored prairie, agricultural grasslands can be used to provide habitat for the other grassland bird species. Maintaining the right mosaic and acreage of short, medium, and tall stature grasslands is necessary to provide for viable populations of all grassland birds at Midewin.

#### **1.5.4. Issue: Contributions to Biodiversity in the Region**

**How much of the native prairie, wetlands and vegetation should be restored, where should it be done, and what management techniques should be used to accomplish the restoration?**

<b><i>Indicator</i></b>	<b><i>Units of Measure</i></b>
Dolomite Prairie restored	acres
Wetland restored	acres
Upland Prairie restored	acres
Native vegetation remnants restored/enhanced	acres

The Biodiversity Recovery Plan, 2000 prepared by the Chicago Region Council on Biodiversity recognized that Midewin could make unique and significant contributions to regional biodiversity through wetland restoration, dolomite prairie restoration, and grassland bird habitat improvement. Midewin has the unique ability to contribute to the biodiversity found in the tallgrass prairie ecosystem, an

ecosystem that was once wide spread in Illinois, the prairie state, but has all but disappeared. The tallgrass prairie is among the most endangered ecosystems in North America. The prairie ecosystem was a mix of plant communities including prairie, sedge meadow, marshes, fens, seeps, savannas, woodlands and even forests along rivers and streams. With its relatively large size compared to other protected conservation lands in northeastern Illinois, Midewin could sustain biological and ecological interactions between the different plant and animal communities at the landscape scale, especially for organisms that cannot persist indefinitely in small remnants scattered across the landscape. While existing prairie remnants (some as small as five acres) support a diversity of over 100 plant species, large prairies once hosted five to six hundred species. The biodiversity of flora and fauna includes over twenty species listed by the State of Illinois as watch list, threatened, or endangered species.

Prairie lands were greatly altered decades ago by draining wetlands, cultivating crops and pasture grasses, suppressing fire, planting trees, and building roads. Additional drastic changes occurred when the Joliet Army Ammunition Plant was built and operated.

We will need to use management practices that mimic historic disturbance regimes to maintain the ecosystem. These practices include cattle grazing to keep grasses short for grassland bird habitat; mowing, prescribed burning, the occasional use of herbicides to control noxious and invasive plants; integrated pest management, removing woody vegetation, and removing drain tiles or ditches.

#### **1.5.5. Issue: *Recreation Opportunities***

**What types and amounts of recreation developments and opportunities should be provided, and where should they be located? What amount and type of road and trail access is appropriate for recreational?**

<b><u>Indicators</u></b>	<b><u>Units of measure</u></b>
Diversity of recreation opportunities	Number & types of recreation facilities
Potential for user conflict	Trail miles and type of use proposed
Motorized tour route	Availability

A restored prairie ecosystem may generate a large demand for recreational opportunities. To a large extent, the demand for recreation on Midewin is due to its close proximity to Chicago and surrounding suburbs. Will County has a large population that is expected to almost double in the next 20 years. Demand for deer and other hunting opportunities is increasing. Nature watching is a rapidly growing recreational interest. Other recreation interests include hiking, bicycling, and horseback riding.

Managing travel and access is an important element in providing recreation experiences. Some users may want relatively primitive experiences, and others expect to rely on motorized transportation. When the public learns of the new recreation opportunities at Midewin, levels of visitor use may become fairly high and the potential for conflict between users may develop. The mix of recreation uses and motorized and non-motorized travel routes has been examined and is addressed in the various alternatives.

Many recreational developments and recreational opportunities are possible at Midewin. A visitor center could be built to provide interpretation and learning opportunities for a large number of annual visitors. Other visitor facilities could include campgrounds, picnic areas, shelters, toilets, etc. Many miles of roads and rail beds constructed by the Army will no longer be needed or are considered unsafe. Parts of the existing transportation facilities could be used for administrative and recreational purposes, while the majority could be decommissioned and rehabilitated.

#### **1.5.6. Issue: *Bison and Elk Re-introduction***

##### **Should Bison and/or Elk be re-introduced to the prairie ecosystem?**

Early public interest of Midewin sparked the idea of re-introducing bison and/or elk to the prairie ecosystem, to replace cattle that graze grassland pastures today and maintain important grassland habitat for sensitive grassland bird species such as the upland sandpiper. All alternatives in the Final EIS allow for future re-introduction of bison and elk, but definite plans or provisions for their re-introduction are not included in any alternative because it is too early to make this decision now. See “Actions Not Ready for Decision” in Chapter 2 for more information.

#### **1.5.7. Issue: *Environmental Education and Research Opportunities***

##### **How should opportunities for education and research be provided?**

The enabling legislation calls for Midewin to provide opportunities for education and research. The public is keenly interested in education and research opportunities and interim programs are either underway or being developed. Education, research and natural resource interpretation will be integrated into current and future public use of Midewin.

Research and education programs can be provided without making special land allocations in the alternatives. All alternatives provide for education and research opportunities. See “Elements Common to All Alternatives” for more discussion.

### **1.5.8. Other Topics Raised But Not Addressed in this FEIS**

The public raised a number of additional topics and issues or potential opportunities that are not addressed in detail by the alternatives for the reasons given below:

The following public comments have been treated the same way in all alternatives through Prairie Plan Standards and Guidelines:

- Use of All Terrain Vehicles, Snowmobiles and other motorized recreation vehicles – This type of use is considered not compatible with legislated purposes of Midewin and will not be allowed, i.e., motorized recreation vehicles may negatively affect wildlife and destroy investments in prairie restoration.
- Plant collection – Guidelines for plant collection have been established in the Prairie Plan.
- Removing all bunkers – Direction in the Prairie Plan discussed bunker removal when feasible.
- Introducing the Prairie Chicken or other species – Prairie Plan standards and guidelines outline direction for species introduction.
- Providing a Native American village interpretive site – Prairie Plan standards and guidelines for special uses and recreation/interpretation offer direction if a proposal is brought forward.
- Falconry – This type of recreational use is not compatible to legislated purposes for protection of wildlife resources.
- Dog Trialing – This type of recreational use is not compatible with legislative purposes to protect wildlife resources.

Public comments that are outside of the jurisdiction of the Forest Service

- Will County Landfill – This facility is being planned by Will County and the Forest Service has no jurisdiction or authority for this land.